

## Darwin Initiative Main: Annual Report

To be completed with reference to the “Project Reporting Information Note”:  
(<https://www.darwininitiative.org.uk/resources-for-projects/information-notes-learning-notes-briefing-papers-and-reviews/> ).

It is expected that this report will be a **maximum of 20 pages** in length, excluding annexes)

**Submission Deadline: 30<sup>th</sup> April 2023**

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### Darwin Initiative Project Information

Project reference	28-021
Project title	Improving coastal resilience and ecosystem services through biodiversity restoration
Country/ies	Philippines
Lead Partner	International Institute of Rural Reconstruction (IIRR)
Project partner(s)	Zoological Society of London (ZSL), Municipal Government of Guinayangan, Quezon
Darwin Initiative grant value	£499,985.00
Start/end dates of project	September 1, 2021 – August 31, 2024
Reporting period (e.g. Apr 2022 – Mar 2023) and number (e.g. Annual Report 1, 2, 3)	April 2022 – Mar 2023 Annual Report 2
Project Leader name	Julian Gonsalves, Ph.D.
Project website/blog/social media	<a href="https://www.facebook.com/iirrasia/">https://www.facebook.com/iirrasia/</a>
Report author(s) and date	Julian Gonsalves, Ph.D., Darwin John C. Raymundo, Daryll Macaraig, Jofel Coching; April 28, 2023

### 1. Project summary

The project Improving coastal resilience and ecosystem services through biodiversity restoration, also known by its acronym “ICORE,” seeks to demonstrate how a small municipality can restore and improve coastal ecological resilience and reduce poverty. Mangrove and coastal ecosystems will be rehabilitated by creating more bio-diverse and multi-strata bio-shields, that support livelihoods and protect local communities from climate change risks. To reduce habitat destruction, fishing communities will be empowered to shift to climate resilient agriculture systems and practices that are gender-sensitive and agro-biodiversity rich. The local government, education sector, and the community are key actors and partners in these coastal ecosystems enriching efforts.

The project will address five threats to biodiversity and society: a) loss of agricultural species and genetic diversity, b) illegal cutting of coastal tree species; c) unregulated coastal development, d) siltation and sedimentation, and e) climate change risks. By addressing these key threats, the project will contribute to the improvement of the condition of the following ecosystems: a) mangroves, b) seagrass beds, c) coastal saline rainfed lowlands, and d) coconut-based agro-ecosystems particularly family farms and homesteads. In the process, the project will help

improve the quality of life and the resilience of the community with preferential options for women and youth.

The project rationale takes root in the fact that despite being one of the 17 megadiverse countries, poverty remains high in rural areas, particularly among fisherfolks and rural farmers. Guinayangan in the province of Quezon is a third-class municipality composed of 54 barangays (villages) with 45,155 people and a poverty incidence of 24.55% (2015 census). The project works in 14 coastal barangays within the municipality (Figure 1).

### Municipality of Guinayangan



## 2. Project stakeholders/ partners

The project is characterized by a significant engagement of the local government and partnerships with national research institutions and universities. Another unique feature is the project approach to building on learning opportunities provided by the past and current work on mangroves by the Zoological Society of London (ZSL) in the Philippines.

A Y1 review and Y2 planning workshop for project partners was conducted last May 2022 in the IIRR campus in Silang, Cavite. Outputs of this workshop are summarized in a report (Annex 4).

After the May 2022 national and local elections, a courtesy call and orientation for the newly-elected municipal mayor and the Sangguniang Bayan (SB) (Municipal Council) was conducted to introduce the project and provide updates on its progress.

An MOU was signed between IIRR and Department of Natural Resources Region 4-A (DENR R4A), while a MOA between IIRR and the Guinayangan Municipal Local Government Unit (MLGU) on the ICORE project was also signed.

The Bureau of Fisheries and Aquatic Resources (BFAR)'s National Brackishwater Fisheries Technology Center (NBFTC) was tapped to assist the project in the development of oyster aquaculture in the municipality. The NBFTC in turn brought in Agriculture Sustainable Initiative Inc. (ASIN), the research arm of a major commercial oyster sauce manufacturer, as a private sector partner in the oyster enterprise.

The project has also partnered with the Cavite State University Bee Research, Innovation, Trade, and Extension Center (CvSU BRITE Center) to introduce stingless bees as an additional source of income for households and serve as a pollination agent for mangrove species. A research study on

At the community level, the project has had active participation from 14 fisherfolk groups, with their members being engaged in various meetings, trainings, and workshops.

By the end of February 2023, a Y2 review and Y3 planning workshop was conducted in Prieto Diaz, Sorsogon, attended by project partners. This also served as a cross-visit for the participants since the municipality's award-winning mangrove ecopark is a prime example of a successful community co-managed local conservation area. The workshop report is presented in Annex 5.

### **3. Project progress**

#### **3.1 Progress in carrying out project Activities**

The second year of the project concentrated on building upon the gains of the first year, specifically (1) expansion to other aspects of sustainable mangrove resource management, (2) further improvement of coastal agro-biodiversity, and (3) livelihood diversification.

Most activities have been completed in time, save for a few that are in progress at the time of this report. Most of the planned activities have been completed, and the rest have been initiated and are on-going.

#### **3.2 Progress towards project Outputs**

**Output 1. Total of 330 hectares of coastal areas with sparse mangrove cover rehabilitated, protected, and sustainably managed through community-led initiatives.**

A Mangrove Boundary Standardization Workshop was conducted to delineate the mangrove forest cover within the entire municipality of Guinayangan. The standardized boundary is used as the basis for the location of the mangrove Local Conservation Area (LCA). The workshop was attended by representatives from the DENR, BFAR, MLGU officials, and the ICORE Project Team. From the workshop and succeeding mapping activities and meetings, Guinayangan's total mangrove area has been estimated to be 397.7 ha, all of which were lobbied for inclusion in the LCA (Annex 6).

From the 14 coastal barangays included in the project, only 7 barangays were assessed to have ecologically appropriate areas for mangrove rehabilitation and outplanting. These include barangays Salacan, Arbismen, Calimpak, Dancalan Caimawan, Capuluan Central, Capuluan Tulon, and Cabong Norte. From the target of 30 hectares mangrove area expansion, a total of 7.9 ha was identified for active mangrove outplanting (Annex 7), adjusted from the 4.5 ha total identified in Y1. A potential outplanting site in Brgy. Manlayo was dropped due to a possible conflict in land use since the area is included in a proposed road construction.

To enhance community awareness on mangroves and ensure a science-based approach to rehabilitation, Mangrove and Beach Forest (MBF) trainings were conducted in 12 coastal barangays from July to August 2022. These trainings were led by IIRR, ZSL, and LGU staff from the Municipal Agriculture Office (MAO) and Municipal Environment and Natural Resources

Office (MENRO). The topics discussed included mangrove taxonomy and ecology, mangrove nursery establishment, outplanting, monitoring and maintenance. Results of the Mangrove Community Structure Survey (MCS) conducted in Y1 were also discussed to highlight the 23 mangrove species found in Guinayangan. The participants also joined in field demonstrations and hands-on trial nursery establishment and outplanting. The total number of participants were 120 community members from 12 coastal barangays, composed of 52 females and 68 males.

Mangrove rehabilitation plans were created for each coastal barangay with identified outplanting sites in consultation with community members. From the 7 coastal barangays, there is an estimated potential mangrove rehabilitation cost of PhP 1.75M. Most of these are intended for nursery and seedling production with PhP 1.32M, while the remaining PhP 0.45M is allotted for outplanting activities. The plans were created in cooperation with the Training of Trainers (ToT) graduates, and rehabilitation and outplanting activities will be done until April 2024. These are presented in Annex 7.

A total of 7 mangrove nurseries were established in the coastal barangays with identified outplanting sites. 127 (82 women, 45 men) community members participated in the nursery setup and bagging of seedlings, with a total of 91,000 seedlings bagged and kept in the nurseries. The mangrove species bagged included *Sonneratia alba*, *Avicennia marina*, *Ceriops decandra*, *Ceriops tagal*, *Bruguiera parviflora*, and *Rhizophora stylosa*. The breakdown of number of seedlings and species per barangay is presented in Annex 8.

A desktop inventory and mapping of brackishwater fishponds was conducted to determine potential and additional areas for mangrove rehabilitation across the entire municipality and a significant area of non-operational fishponds with full mangrove cover can be potentially reverted (through an administrative process) to mangroves. A request was made to BFAR to conduct a field validation survey on the status of these fishponds. It was found out that a total of 122.30 ha of fishponds under a Fishpond Lease Agreement (FLA) contract were classified as abandoned, undeveloped, and underutilized (AUU) and this includes a total of 29 ha of abandoned FLA ponds located in Brgys. Cabong Norte and Salacan. The detailed FLA inventory is presented in Annex 9.

Consultation meetings for the establishment of the Mangrove Local Conservation Area (LCA) were held July 2022 and August 2022, held together with ZSL, IIRR, and MLGU officials. During the first consultation meetings across the 14 coastal barangays, the basic concepts of what an LCA is were presented and discussed with community members. Details on the potential coverage of the LCA were also discussed with the local community. A draft ordinance was then developed based on the results of the first consultation meetings. During the second consultation meetings, the sample version of the LCA ordinance was presented and deliberated with the local community, taking into consideration all their suggestions and proposed revisions. Provisions on the general prohibitions and regulated activities within the LCA were also discussed. The Technical Working Group (TWG) was created, and its members identified during the second consultation meetings. The participants of the consultation meetings were people's organization presidents of 14 coastal barangays and the BLGU officials with a total of 60 participants (4 females and 56 males). The feedback of the participants were collated and forwarded to MENRO office to aid in the drafting of the LCA ordinance.

Presentation of the draft LCA ordinance in 14 coastal barangays was held in December 2022. Provisions of the ordinance were discussed to community members and barangay officials to solicit their comments and feedback. A total of 490 community members (300 females and 190 males) participated, with fisherfolk and barangay officials in attendance. Majority of the community members agreed with the provisions in the draft ordinance, with minimal suggestions for revisions. The LCA ordinance was endorsed to the SB and has passed the 3rd reading session by January 2023. The draft ordinance is presented in Annex 10.

A management planning workshop for the mangrove LCA was conducted in February 2023. The workshop was participated in by the MLGU, BLGU and PO presidents. Key components of LCA management plan were formulated, including the vision, mission, objectives, and a 3-year strategic plan. The LCA management body was also created and respective roles of the members were included in the management plan. The management plan is planned to be finalized by May 2023, and the draft is presented in Annex 11. Adoption of the management plan is targeted by June 2023.

A training on Mangrove Ecopark Establishment and Management was conducted in March 2023 with a total of 19 participants (7 women, 9 men) from the LGU (Office of the Vice Mayor, MTO, MENRO, MAO, and MPDO), and ICORE project staff. The training included lectures and field visits highlighting best practices on mangrove ecopark establishment. Participants learned the basic concepts of mangrove biology and ecology, ecoparks and ecotourism, and the overall process in the establishment and management of mangrove ecoparks. Sites visited were ZSL's Centers of Learning (CoLs) including the Katunggan It Ibajay Ecopark, Leganes Integrated Katunggan Ecopark, and Sagay City's Suyac Island Mangrove Ecopark where the participants learned from the CoLs' experiences. During the training, the participants were able to identify and list down their planned interventions and activities for the improvement of Guinayangan's mangrove boardwalk. These activities, as agreed upon by the participants and ICORE project team, were grouped and prioritized as next major workshops into (a) Site Development Planning, (b) Product Development Workshop, and (c) Business Planning. A detailed report of the training is presented in Annex 12.

A mangrove planting activity was done in cooperation with the MENRO during International Women's Day, where 218 women and 32 men planted 529 seedlings in Brgy. Calimpak, in an area covering 0.5 ha. The project also provided technical assistance to 1 barangay's self-funded mangrove planting activity.

On-site mangrove rehabilitation and conservation plans have been completed for 7 of the 14 coastal barangays. A Deputized Environment and Natural Resource Officer (DENRO) training for 8 MLGU staff and 1 IIRR local staff was organized in partnership with Haribon Foundation and facilitated by DENR R4A. The deputation papers of the 8 MLGU staff are currently being processed and they would be tapped to train a larger cadre of community members to increase knowledge on coastal law enforcement.

A University of the Philippines-Los Baños (UPLB) undergraduate student conducted a study on mangrove avifauna for his thesis, with a full report to be shared to the project after his defense in mid-2023. The avifaunal surveys would provide the framework for birdwatching as one of the activities in the existing and proposed mangrove ecoparks.

**Output 2. 700 hectares of coastal agro-ecosystems in 14 villages in Guinayangan are utilized for regenerative agriculture including promotion of agro-biodiversity.**

A seasonal planning workshop was facilitated by staff from the Provincial Agriculture Office (PAO) last July 2022 and attended by farmer and fisher group leaders (7 women, 17 men).

Researchers from the University of the Philippines-Los Baños Institute of Plant Breeding (UPLB IPB) conducted a site visit and training, providing a detailed technical report on their findings and providing advice on better agricultural practices for the sites visited (Annex 13).

Distribution of almost a dozen types/species of fruit trees, roots and tuber crops and vegetables has been completed, with an additional 44 beneficiaries in 3 barangays this year, bringing the total to 361 beneficiaries since the project started. Continued monitoring of farm inputs are being done through household visits and Farmer Learning Group (FLG) meetings. This is part of the on-going Participatory Action Research (PAR) with FLGs to assess the suitability and acceptance of select crops and initiatives, aimed at identifying and propagating crops that perform well in saline coastal areas.

Community and household level studies undertaken in the past months have indicated that overall, a high tree survival rate (at least 80%) has been achieved. More importantly, the community members have reported that fruit types introduced were adapted to coastal areas and growth rates were good. It should be noted that the project attempted to ensure both intra- and inter-species diversity at homestead levels. Beneficiary locations have also been plotted during monitoring trips to assess the extent of distribution within the 1-km. coastal zone of the project barangays. This allows us to see gaps that would need further interventions as the project moves forward. Note that this map only shows beneficiaries that have been geotagged and not the total distribution of beneficiaries. The map is presented in Annex 14.

Project innovation funds were used to re-introduce small livestock agro-biodiversity to the target coastal villages. Special emphasis was provided on the selection of species known to be climate hardy and could be raised on low carbon foot print diets (locally sourced feeds from the coastal environments), namely purebred stocks of the Quezon native black pigs (sourced from

a government research station). Initially, 7 boars were secured and placed in two village-based decentralized propagation/ breeding center. Another 16 gilts also native but locally sourced and were distributed to 5 women beneficiaries in each of 5 barangays. Each village was provided one of the boars for upgrading local stocks. These clusters of five women growers in each barangay is designed to contribute to the reintroduction and subsequent conservation of livestock agro-biodiversity. In Y3, another 5 villages will receive other breeds of native pigs. This initial stock is programmed for breeding and repopulating the target barangays with native breeds (restoring animal biodiversity).

Ducks are of special relevance to coastal communities because of their hardiness but are not commonly found in Guinayangan. A highlight of Y2 has been the re-introduction of two species of ducks to local communities. Muscovy and mallard ducks were distributed to 114 beneficiaries in 10 barangays. Muscovy ducks are a vanishing species in rural Philippines and are valued as dual-purpose birds. Each family received at least one pair of Muscovy duck (also known to be incubate eggs of the mallard breeds). Planting materials of perennial sources of forage crops were also distributed along with the ducks to ensure an adequate, low-cost supply of feeds. With this setup, sustainability of homestead level production is envisaged.

In Y2, feeding systems were organized through seed production efforts of finger and pearl millets and sorghum and pigeon pea and rice bean (specifically for the purpose of feed supplementation). Through this approach, the project expects to support the international 2023 campaign of the Year of the Millets via the introduction of these species where they did not exist before. As with other crops, these will be subjected to Participatory Action Research (PAR) that features informal field testing.

Home gardens were also used a platform for the conservation of agro biodiversity of nutritional importance. A total of 30 beneficiaries (24 were women) were provided with diversity kits of vegetable seeds. They are the custodians of agrobiodiversity. The distribution of diversity kits is an approach to restoring and/or enriching local vegetable biodiversity especially indigenous vegetables. With these, community-level food systems are nutritionally enhanced.

The project has in the second year achieved a threefold increase in the species diversity of vegetables and root and tuber crops in at least half of the target barangays, with both inter- and intra-species diversity promoted.

In all target barangays, a twofold increase in the number of varieties of root and tuber crops was achieved in two years. The secondary purpose of these crop cultivar introductions was for food and feed purposes (the primary being the re-introduction of vegetable biodiversity in coastal areas. The project has identified thirty homestead custodians of crop biodiversity in 8 of the target barangays (with the yet to be covered by this survey). A special emphasis on root and tuber crops involved the distribution of colored-flesh, high antioxidant varieties of sweet potato.

The project has already achieved its goal of a 10% increase in species biodiversity as a result of this combined approach featuring small livestock, fruits, root and tuber crops and vegetables for homesteads.

**Output 3. Around 1,000 poorest households in 14 coastal villages with improved livelihood security and resilience resulting from regenerative agriculture and sustainable use of resources found in the designated multiple-use mangrove forests.**

Commodity prioritization was conducted through FGDs with women community members, and several commodities were identified for further development. These are: coconut by-products, buri palm (*Corypha utan*), banana and jackfruit.

The banana and jackfruit enterprises are part of ensuring the sustainability of economic benefits from the major effort to distribute these planting materials in Y1 and Y2. These are expected to provide the raw materials for enterprises that are currently being tested for commercial production by women's groups going into Y3.

A coconut by-products enterprise planning meeting was also conducted with predominantly women farmer leaders to determine possible products. The project is also coordinating with the MAO in its coco coir production runs to test processing rate and quality.

A community-managed savings and credit association (COMSCA) has been initiated in 2 barangays. This provides members access to emergency funds as well as capital for livelihoods. The project seeks to replicate this initiative in the other barangays. This is planned to be scaled out to the remaining project barangays come Y3.

The project is also emphasizing small livestock species as food-based enterprises. Meetings were held with native pig and chicken raisers from the project barangays to revitalize their organizations. Sangguniang Kabataan (Youth Council) (SK) were also organized and briefed on their own chicken raising project. With over 100 households in 8 villages having received ducks in Y2, the project envisages that this will form the basis for new enterprise opportunities moving forward, namely duck meat and processing of duck eggs (salted eggs and *balut*). It is also seen that the native pigs that were distributed would form a viable enterprise once local populations are established. Two target coastal villages received native chicken breed as part of an associated project for women and youth (supported by a small grant from the London Stock Exchange Group Foundation (LSEG). This effort to support biodiversity-based enterprises currently involves a recognized Philippine heritage breeds, the *Banaba* and the *Paraokan*, to be followed in Year 3 with an emphasis on the *Daraga* breed. This approach to enterprises is expected to support the conservation through sustainable use of these important Philippine heritage breeds. At the end of Year 3 it is envisage that coastal villages could supply the rest of the municipality with eggs, chicks, and meat.

To improve tropical leaf nutrition and provide supplementary income to those without access to land or space, supplies for vegetable growing were distributed to 154 beneficiaries in 5 barangays. Some of these beneficiaries also received vertical container garden stands (16 units in 3 barangays).

Beekeeping as a livelihood source for those residing near the mangrove areas is currently being explored. In cooperation with the CvSU BRITE Center, stingless bees were deployed in two barangay mangrove areas. This was supplemented by training for 7 participants from three barangays and a staff from the MAO. The trainees are targeted to deploy beehives in their respective mangrove areas during the 1st quarter of Y3 as part of a wider research and extension partnership with the BRITE center.

Oyster production is a potential enterprise sector that is being explored after initial expert assessments were undertaken. A one-day training and site visit was conducted by the NBFTC to present the concepts of oyster aquaculture, assess community reception, and determine the suitability of the area to support oyster aquaculture. A water quality assessment was then conducted by BFAR R4A staff. Upon invitation of the NBFTC, researchers from ASIN (the research arm of a major local oyster sauce manufacturer) also did a site visit later to the two barangays. It is seen that a tripartite agreement between the IIRR, the MLGU, and ASIN will be drafted to formalize the partnership in developing an oyster production enterprise in the municipality.

**Output 4. Knowledge and good practices derived from project are shared widely to the public as well as to various agencies of the government within Guinayangan and in the province to mobilize policy, funding and public support.**

A project communications plan has been developed in cooperation with UPLB Development Communications interns and the Municipal Planning and Development Office (MPDO) (Annex 15). The communications plan was further refined to address knowledge gaps that were seen during the baseline studies, and an appropriate IEC campaign strategy was formulated, such concentrating in the barangays where public knowledge of mangrove and agro-biodiversity conservation was low.

A workshop on multimedia materials development was also facilitated by the UPLB interns and was attended by women, youth leaders, and staff of the LGU. This was conducted in the hopes of training the trainees facilitate their own information campaigns within their groups in the future.

Communication activities such as "Bakhwamustan" (portmanteau of the Filipino words for mangrove, "bakhaw," and greeting, "kamustahan") activities were conducted in 3 barangays to get feedback on the IEC materials currently being distributed. Participants were also asked about their preferred medium for IEC materials, with many expressing interest in short

informational videos on social media platforms. A summary of the Bakhawmustan activities is presented in Annex 16.

Five of the barangays with exceptional mangrove characteristics (several barangays play host to *Camptostemon philippinensis*, categorized in the IUCN's Red List as Endangered) were profiled and the key information is planned to be put on information boards and posted in the communities with the assistance of the MTO and MENRO. A sample billboard design is presented in Annex 17.

Lectures and token mangrove planting activities were done in coordination with the SK of 2 barangays and were attended by 37 youth. Lecture sessions were also conducted for 1 high school and 1 college, with a total of 514 students (327 women, 187 men) participating.

Various information and promotional materials were distributed in Y2. Project t-shirts were printed and distributed to the community, while the project video is in the final stages of production. A 2023 tidal calendar was also produced by ZSL. This provides information on the timing of tides, useful for scheduling mangrove-related activities.

Printed information materials on mangrove conservation and regenerative agriculture were also distributed to schools and farmers, respectively. The regenerative agriculture materials were mostly given parallel to the distribution of planting materials. A table of IEC activities and materials distributed are presented in Annex 18.

The project has to date contributed 3 articles to the DI newsletter, highlighting how it is engaging the local communities on agro-biodiversity conservation, the role of women in gleaning in seagrass areas, and promoting coastal resource management.

In Y1 the project developed three source books ((1) Fostering participation and socially inclusive approaches among coastal communities, (2) Conserving agro biodiversity: Useful practices for coastal areas, and (3) Achieving Nutrition, Livelihood and Ecosystem Conservation objectives for small scale aquaculture in coastal areas). These source books were compiled from secondary materials that IIRR produced in the past and are important educational platforms. In Y2, these books were reviewed by Dr. Don Macintosh (Professor and IUCN consultant), Dr. Dindo Campilan (IUCN Asia Director) and Dr. Meryl J. William (Former Director General of World Fish) who wrote and submitted contributions for the Preface and Foreword. These books will be prepared for widespread distribution and sharing in Y3 via various channels.

The ICORE sites in Guinayangan have already emerged as a platform for international training events that IIRR hosts every year This includes one on Climate Smart Villages undertaken with the support of International Development Research Center Canada (IDRC). ICORE sites have also been featured in visits of Dr. Danny Hunter of the Alliance Bioersivity & CIAT and Dr. Jon Hellin of the ClimBeR initiative, both new global initiatives under the ONE CGIAR program. Both ClimBeR and FRESH are supporting IIRR work in the Philippines with an overlap with ICORE in some cases. Some of the project sites are also being featured in a video (under production) being prepared by IIRR and ClimBeR on anticipatory climate change adaptation perspectives.

### 3.3 Progress towards the project Outcome

The indicators for the Outcome are an adequate gauge for project progress. Overall, the project is on track for the Outcome to be achieved by the end of funding. Progress against the indicators are listed below.

0.1. Within 3 years, the current 300 has (Y0 baseline) of degraded mangrove forests in Guinayangan are rehabilitated, protected and sustainable managed; with an added 10% expansion in forest cover, increasing total area to 330 hectares; resource management is done fully by fishers' organizations with 30% women membership.

With the mangrove standardization workshop and with the MPDO leading, it was found that the LGU has a total of 397.7 ha of mangroves forests, all for inclusion in the LCA. Of the project's 14 coastal barangays, only 7 barangays have appropriate mangrove outplanting sites, covering a total area of 10.6 ha. Enrichment planting is programmed for some of the municipality's existing mangrove areas to reach the project's target of 30 ha rehabilitated. Large-scale planting in the identified outplanting sites will commence in the 1<sup>st</sup> quarter of Y3.

Abandoned fishponds that have started to revert to mangroves abound, as those found in Brgys. Salacan and Cabong Norte (totalling 29 ha), and these can be included in conservation plans by the LGU and lobbied for administrative reversion. This 29 ha is only a small portion compared to the 122 ha of abandoned FLA ponds across the entire municipality. The administrative reversion of the abandoned FLA ponds is not part of the approved project activities although the municipality has expressed interest in pursuing administrative reversion of some of these abandoned ponds given the significant hectarage that might be available for conversion. These AUU FLAs can be lobbied for reversion by the project in collaboration with DENR and BFAR, and will offer the project another means of meeting the target area for mangrove expansion. However, the administrative reversion of FLAs back to mangrove forests may take longer than the project timeframe.

Women in the fisherfolk groups engaged by the project to spearhead community-based resource management make up 34% of total membership (Annex 19), with emerging all-women groups such as that in Brgy. Cabibihan.

0.2. Within 3 years, species diversity in coco-based family farms and homesteads located in 700 hectares of coastal agro-ecosystems has improved by 10%; increasing agri-based livelihood options for farming households by 20% (50% of which, managed by women) due to more available crops & animals as household assets.

A total of 379 beneficiaries have been provided agricultural inputs, and 251 of these are women or 68% of the total. This brings the total beneficiaries to 696 to date, with 405 females engaged (58%). The total area engaged by the project in crop diversification and regenerative agriculture practices is currently being estimated, but note that there is already a wide area covered by the distribution, with distinct clusters.

Towards the end of the Y3 and certainly after the project ends, the current 5 villages and additional 5 villages with native pig distribution are expected to be significant producers of meat and piglets. No deaths have been reported nor any incidence of African Swine Fever (ASF) on the current distribution, demonstrating the value of these hardy local breeds. The additional 5 barangays will receive 25 native pigs by Y3 (again externally-sourced native big boars). In this manner the project expects to restock at least 10 of 14 of the coastal barangays with improved quality native black pigs.

With Y2 having been devoted to duck biodiversity, Y3 will focus on native chicken breeds. Ten villages will be provided with three breeds of native chicken (*Banaba*, *Paraokan* and *Daraga*) as a way of enhancing poultry biodiversity. As with ducks, the process will be inclusive and targeted to the poor and fisherfolks primarily. By the end of Y3 we expect that these villages will serve as sources of organic poultry (meat and eggs) and as sources of day-old chicks for distribution in the municipality, with over 100 women targeted to raise the three breeds of native chicken.

0.3. By Y3Q3, 50% increased level of appreciation by coastal communities of biodiversity conservation as nature-based solutions to managing climate-change risks & vulnerabilities.

By the end of Y2, a total of 696 beneficiaries have received fruit tree and/or livestock in 12 barangays. As such there is a cluster of recipients with a better understanding of the role of trees and crops within homestead areas in coastal areas where normally interventions are mostly related to fishing related livelihoods. To that extent a focus on agriculture including agro-biodiversity is somewhat unique with of considerable educational value for coastal communities.

The 1 km coastal zone was specifically chosen to maximize the bioshield function and food/feed contributions of the fruit trees, RTBs, and other understory crops within the previously monocropped coconut farming systems that characterized Guinayangan's coastal barangays.

Positive reception during distribution of ducks and native pigs highlights the appreciation of community members for diversified livestock. The project hopes that these native pigs are raised sustainably, without the use of antibiotics, growth hormones and feed additives, to serve as models for other outlying coastal municipalities as local enterprises

A total of 1,487 participants have joined in the project's educational and communication campaigns, included are 551 youth engaged. With the project reaching this number of people, it

is expected that these on-going activities are helping increase awareness and appreciation for biodiversity conservation within Guinayangan at the community and local government levels. Prior to this project, some barangays showed a lower level of awareness mangrove conservation and the need for agro-biodiversity, as showed in the KAP survey, reported in Year 1.

Communication strategies in Y3 will include the production of 3 to 4 educational primers on each of the four output areas. These primers are designed for local government officials to convey the links between biodiversity conservation and poverty.

### **3.4 Monitoring of assumptions**

Outcome Assumption 1: Host country remains politically stable and supportive to mangrove and agro-biodiversity conservation; policy environment and related legal frameworks remain unchanged during the project.

Comments: No change in assumption. After the national and local elections, the country and municipality both had a smooth turnover of government, so there is no change in outlook with regards to policy and legal frameworks for the project.

Outcome Assumption 2: Provincial and municipal policy environment continues to support environmental conservation despite growing demand for land use conversion for infrastructural development and agricultural plantations.

Comments: No change in assumption. The LCA ordinance providing protection for the existing mangrove stands. The municipality is also spearheading the call for reversion of abandoned fishponds back to forest land to the regional and national BFAR and DENR offices, although seeing the results of this initiative may be well outside of the project's timeline.

Outcome Assumption 3: Communities and local governments in coastal areas covering the 300 hectares of mangrove forests have agreed to support interventions to protect and conserve mangroves in their respective localities.

Comments: No change in assumption. Local communities are actively supporting mangrove conservation activities engaged in enrichment planting

Outcome Assumption 4: Land-owners, farming households, and local government have collaborated to improve production systems and practices in 700 hectares coastal agro-ecosystems utilizing regenerative agriculture.

Comments: No change in assumption. Reception to regenerative agriculture practices continued to be positive.

Outcome Assumption 5: Local government policy & decision makers are actively pursuing best options for increasing community resilience of coastal communities using participatory approaches.

Comments: No change in assumption.

Output 1 Assumption 1: Project incentives for women community members on seedlings collection, propagation, outplanting and maintenance of mangroves reforestation sites in place; Community groups applying learnings in mangroves conservation science.

Comments: No change in assumption. The project is currently engaging a greater number of women in its mangrove nursery activities.

Output 1 Assumption 2: Legislated policies & programs are in place: establishing LGU support to inclusive & participatory coastal governance; MFARMC implementing its mandates other than patrolling & law enforcement (e.g., planning & recommending fishery-related ordinances)

Comments: Even with the participation of several MFARMC members in project activities, the inactivity of the MFARMC leadership has made it challenging to engage it in conservation activities. A reorganization is much needed, and the project is advising the MLGU on said initiative. The project is now concentrating on partnering with fisherfolk organizations for its mangrove conservation efforts, and the MAO and MENRO offices for matters of forest and coastal law enforcement and legislation.

Output 1 Assumption 3: Local government has allocated resources (human & financial) for engaging its constituents in participatory process of and inclusive coastal governance.

Comments: No change in assumption. The MLGU regularly allocates personnel and resources to assist in the implementation of project activities and continues to closely work with IIRR staff in the implementation of said activities

Barangay officials were also crucial in identifying beneficiaries and mobilizing community members to participate in project activities.

### **3.5 Impact: achievement of positive impact on biodiversity and poverty reduction**

With the project's increased engagement of community members on the importance of mangrove conservation and agro-biodiversity through community trainings, meetings, and information campaigns, there is an increased awareness and appreciation for coastal resources in the project barangays. In addition, as a result of the project's activities and cross-visits to other areas of the Philippines, there is now heightened interest on mangrove conservation on the part of the local government. There is a notable increase in understanding of issues, needs, and opportunities for mangrove conservation among MLGU members resulting from visits to other parts of the country (Sorsogon and Panay Island) with successful conservation initiatives. The mangrove resources are now valued by the various decision-making bodies of the local government, with a convergence of services to approach emerging tourism, environment, agriculture, and fisheries initiatives. These efforts are likely to continue beyond the project time frame with credit and ownership of mangrove efforts eventually accruing to the LGU.

There is also an enhanced recognition of the need to conserve and maintain a diversity of livestock, fruit tree and vegetables species within coastal homesteads of relevance to local food and feed systems (humans and livestock needs) and in the context of climate change. The diversification and intensification associated with this approach is helping confer resilience at household level. At the community and local government level, the value of planting high density mixes of fruit trees, in otherwise monocropped coconut farming systems is being highlighted. These new systems are biodiverse and have considerable value with food, nutrition, and livelihood co-benefits

Local communities are now actively engaged and learning about the value of raising of native breeds of small livestock (ducks, native pigs and native chickens) using low-cost and small carbon foot print, additive-free diets. These systems help women conserve biodiversity, serve to accumulate natural assets, help improve household diets and local food systems e.g., with a number of women in coastal barangays growing ducks (plus native chickens and pigs in Y3) the project has helped to glamorize native breeds of animals and demonstrate their value as an inclusive, gender responsive, and anticipatory climate adaptation measure.

## **4. Project support to the Conventions, Treaties or Agreements**

The project supports the Aichi Targets through the following activities:

- Promotion of agro-biodiverse and sustainable agricultural practices through regenerative agriculture by continued distribution of different varieties of crops and livestock to farmer-fishers with the goal of reducing pressure on coastal resources (AT7, AT10, AT13, AT14)
- Increased awareness for biodiversity conservation through community meetings, trainings, and distribution of information materials (AT1)

- Identification of mangrove areas for conservation and rehabilitation to preserve species diversity, including the setup of nurseries in several barangays (AT11, AT13, AT15)
- Ensure ecosystem services are preserved through community engagement, specially of women and youth (AT14, AT1)

In response to the Philippine Biodiversity Strategic Action Plan (2015-2028), the project has contributed:

- An initial 7.99 ha to the target 30 ha for rehabilitation, on top of the planned protection of the existing 300 ha of mangroves. Community structure surveys have also shown 23 species of mangroves in the municipality (Conservation Target #3).
- 50% of genetic diversity of cultivated plants and farmed, starting with the different varieties of fruit trees, vegetables, and Roots, Tubers and Bananas (RTBs) being introduced. In addition, important efforts were made to widen the genetic diversity base of small livestock with the introduction of native pigs, two breeds of native chicken (*Banaba* and *Paraokan*) and two species of ducks (Muscovy and mallard) (Conservation Target #4)
- Protection of existing mangrove and agro-biodiversity areas to preserve ecosystem services the local conservation area planning (Ecosystem Services Target #7)

The project contributes to the Nagoya Protocol's goal of preserving genetic diversity through its promotion of species diversity (both inter- and intra-species) of fruits, banana, root and tuber crops, and small livestock, as well as the identification of mangrove species to be prioritized for rehabilitation efforts.

## 5. Project support to poverty reduction

The project is expected to have both direct and indirect impacts on poverty reduction, local food systems and availability of nutrient-dense food sources at household levels in the target coastal barangays. A major project focus is the conservation and protection of mangrove and associated ecosystems, with the impact of well-conserved mangroves on gleaning and fishing already recognized. Mangroves and seagrass areas are now starting to be valued as a natural resource that protect natural communities and provide ecosystem services including food and livelihoods. A study undertaken by a School for International Training intern showed that local communities relied heavily on gleaning during the pandemic, both for home consumption and a source of income (Annex 20).

Another project focus is the strengthening of the natural asset base (coastal agro-biodiversity). Communities in coastal areas in Guinayangan, like elsewhere in the Philippines, are among the poorest. A significant portion of the population are fisherfolk while others are landless marginal workers and engaged as laborers in fishing and coconut-based agriculture.

The project approach is to address biodiversity through a focus on crops of food and nutrition relevance. This is why homestead are receiving so much attention: diversification and intensification with primarily food related crops and small livestock. Fruit trees and small livestock are viewed as economic natural assets of special relevance to women and the poor with access to primary homestead spaces. Starting from Y1, incremental intensification of homesteads has been pursued since the project started. By Y3, the poorer fisherfolk households within the 1 km coastal zone will receive special attention, with inputs specifically targeting them and their circumstances such as lack of access to land or alternative livelihoods.

The approach the project has taken is expected to deliver direct benefits impacts on household food security and income through multiple commodities: climate-hardy fruits, bananas, root and tuber crops, indigenous vegetables, and a diverse range of small livestock. It must be noted that these interventions are being undertaken in coastal environments requiring careful choice of crop and livestock species. Thus, distribution of crops, livestock and vegetables has factored in cultural preference, soil, and micro climate variability. Initial results have been encouraging with short terms benefits accruing (root and tuber crops, vegetables and ducks) and medium-term (native pigs and bananas) and long-term impacts (from fruit trees). With 8 barangays covered in Y1 and Y2, the rest of community members will have access to seeds and planting materials and small livestock (ducks and eggs).

## 6. Gender equality and social inclusion

Please quantify the proportion of women on the Project Board <sup>1</sup> .	50% of the project board (3 out of 6) are women
Please quantify the proportion of project partners that are led by women, or which have a senior leadership team consisting of at least 50% women <sup>2</sup> .	The MLGU is led by a woman mayor, with 40% of the heads of offices (2 out of 5) regularly engaged by the project led by women  The ZSL leadership team is composed of 3 men

The distribution of small livestock also provides a gender- and socially-inclusive means of developing natural assets for women, youth, and the poor.

In Y2, the project increased its efforts to not just ensure women’s representation in training courses (gender sensitive) but also tried to target women (gender responsive programming) with crops and livestock that they can manage and market. This included vegetables, fruits, native pigs and ducks as primary biodiversity commodities. In Y3, an extensive campaign will be on native chicken breeds for distribution to at least the barangays (at 10 women per barangay for at least 10 barangays) following a similar successful campaign for two species of ducks distributed to over 100 women in 8 villages. These trees and small livestock are natural economic assets of special relevance to women in coastal areas. Women manage these economic assets and because of the small size of operations (usually raised on low carbon foot print approaches) they are expected to be able to sustain these operations.

There was an extended effort to prioritize women in the mangrove nursery activities, with a total of 82 women participating and getting paid for the bagging activities (65% of beneficiaries). Feedback from Y2 is generally positive, that women are the primary beneficiaries of the project.

In order to ensure social inclusion of fishers and women in general, the project decided to focus on households in the 1-kilometer coastal zone where most of the fisher families are located. To minimize or counteract the risks of “elite capture” by the barangay “elite,” typically ten to twenty households were targeted to ensure benefits accrue to a wider section of each barangay. This approach appears to have worked especially well in Y2 but a few challenges remain when benefits sometimes do not reach the very poor (as when distribution is not carefully supervised or monitored).

A focus on food-based enterprises (food preservation and food processing) is further expected to open new opportunities. In Y3, introduced fruit trees crops (jackfruit, banana and *santol*) were prioritized because of their special relevance to women. The same can be said about the enterprises focused on coconut-by products planned for Y3.

## 7. Monitoring and evaluation

An initial M&E framework was conceptualized during the Y1 planning workshop in cooperation with the project partners and is currently being reviewed by IIRR, incorporating the latest Standard Indicators provided by the Darwin Initiative.

IIRR continues to conduct weekly meetings to plan daily activities and assess progress. Quarterly project reviews are also conducted to check progress against the logframe. Monthly project management team and project implementation team meetings among the partners are also conducted to ensure proper delivery of activities, either through face-to-face meetings or online.

<sup>1</sup> A Project Board has overall authority for the project, is accountable for its success or failure, and supports the senior project manager to successfully deliver the project.

<sup>2</sup> Partners that have formal governance role in the project, and a formal relationship with the project that may involve staff costs and/or budget management responsibilities.

The project's indicators have been dovetailed into the new Standard Indicators set by the Darwin Initiative, as presented in Annex 3.

## **8. Lessons learnt**

The project was built on the premise that small municipalities can play important role in influencing public opinion, environmental awareness and conservation action in coastal areas. As result of a combination of approaches that the project has deployed, change is on the way. The municipality's mangrove board walk is now on the local ecotourism map. The mayor and her team celebrated International Women's Day with a symbolic mangrove replanting. Bulletin boards featuring the rich mangrove biodiversity of the municipality are in the process of being set up. It has taken 18 months to reach to this stage.

The importance of coastal agriculture and associated biodiversity is also now being acknowledged. Instead of agriculture being viewed as a threat to biodiversity, this project is demonstrating how agroforestry (trees, crops, and livestock) can enhance biodiversity in coastal ecosystems. Ecological connectivity in coastal landscapes are just beginning to be understood. A five-to-seven-year time frame might be the best for such project to deliver outcomes at landscape level. Responsible stewardship at community level involves investment of time and longer commitment. This project would therefore likely have to identify a follow-through project

Project-derived desktop mapping exercises in target villages have been an important instrument in informing the local government about the importance of the rich mangrove diversity in each of the coastal. There is now a wider understanding at the local government levels of the need to declare these as Local Conservation Areas. The capacities of local governments to operationalize science-based coastal governance has increased significantly in Y2.

Community level environmental governance remains weak in most villages. Weak implementation of policies, laws, and regulations on top of inadequate land and resource use remains an important challenge. This requires attention in Y3, and beyond the project. With the municipality opening to local tourists there are some risks for unregulated coastal development. This might be addressed through future workshops or trainings for local government officials to strengthen their capacity for zoning and planning.

The MLGU-sanctioned entities such as the MFARMC can play a vital role in bridging the gap between the local government and fisherfolk. However, strong grassroots organizations that can withstand shifts in political power are an important base for community-based conservation efforts.

As stated in Section 7 of this report, elite capture of project benefits is a challenge that has been with the project from the start. Better social and geographic targeting of households is currently being pursued. Decentralization of distribution channels for agricultural and livelihood inputs, working closely with community-based organizations, and careful monitoring by project staff are some of the solutions to this problem of ensuring equitability. However, it would be important to state that progress is being made to ensuring greater inclusiveness in Y2.

Homesteads and home gardens within are important platforms for the conservation of agro-biodiversity. There are custodians of biodiversity in each community and with targeted attention they can serve as important genetic pools for trees, crops, and small livestock. This is important to emerge as an important project contribution to the wider academic and development community. The project team and the local government are now understanding the value of both inter- and intra- species diversity and are learning that coastal homesteads are pivotal an effort to conserve biodiversity through sustainable use. It is safe to say that the loss of agricultural species and biodiversity has been stopped.

Fish pond aquaculture and charcoal production is on a rapid decline. On the other hand, coastal ecotourism is emerging as a viable alternative livelihood for the communities. This rapidly growing sector and its attendant infrastructure (ecoparks, camping, and family managed hotels) is envisaged by the project as an important source of employment and livelihood.

## **9. Actions taken in response to previous reviews (if applicable)**

Feedback in the original award letter was already addressed in the Y2 half year report.

Project partners responded positively to the review, with efforts made to address the issues raised.

Any delays in project activities against the logframe are explained in detail in Annex 1.

Women's participation in project activities has significantly increased, and this is discussed in greater detail in section 6 of this report.

To address the feedback that the project needs to report against Outcome Indicators rather than simply focusing on the completion of Output activities, a more comprehensive accounting against the Outcome indicators is presented in section 3.3.

## **10. Risk Management**

The project has not had to address any new risks during the previous year.

## **11. Other comments on progress not covered elsewhere**

Documentation on selected beach forest "super-spreader" species have been initiated with the lead of Dr. Jurgenne Primavera. These easy-to-propagate species, such as *Millettia pinnata* and *Calophyllum inophyllum*, are those with two or more characteristics such as (a) high fruit and seed production, (b) high germination rates, (c) short germination period, and (d) wide distribution range. Data gathered by Dr. Primavera over the years include fruit and seed sizes, germination trials, nursery rearing, and outplanting of saplings, of which averages and standard deviation were computed for these super-spreader beach forest species. Beach forest species conservation is planned for Y3.

Assisted natural regeneration is one aspect of ecosystems management that the project can focus on. These natural regeneration methods are of special relevance to Guinayangan given the large area of abandoned fish ponds that are now reverting to mangroves. As the project is about coastal resilience and ecosystem services through biodiversity restoration, agricultural biodiversity and climate smart agriculture also receive attention.

## **12. Sustainability and legacy**

The project has reached a greater audience within the municipality, as evidenced by the number of new beneficiaries in Y2. The introduction of small livestock with a give back program ensures sustainability at the community level and room for greater engagement. In addition, the community clusters of planting materials ensures an adequate

By emphasizing institutionalization of conservation and socio-economic policies at the municipal level through legislation, the project ensures its positive gains continue even after it ends.

At least four other barangays will be targeted in Y3 to ensure that the local fishing community will have sustainable and easy access to genetic stocks (biodiverse and locally adapted) of crops and livestock of relevance to livelihood and food security. This approach of ensuring that in target communities there are 20 to 30 households who serve as sources of seeds, planting materials and small livestock, helping ensure inclusivity and sustainability.

## **13. Darwin Initiative identity**

Every effort is exerted to ensure that the Darwin Initiative and the UK government is recognized as the funding source for this project. All information materials and social media posts feature the Darwin Initiative logo prominently and/or specifically mention the Darwin Initiative as the funding agency. The project area continues to be clearly designated as distinctly supported by the Darwin initiative and is recognized as such by the local government, ZSL and other IIRR partners.

The project has partnered with ZSL, which has implemented Darwin Initiative projects within the country prior, so the Darwin Initiative is already known in the Philippines, especially amongst science-based organisations and the academe.

The project does not have a standalone social media account, and activity highlights are posted in the IIRR-Asia Facebook page, with emphasis on the project funding from Darwin Initiative.

#### 14. Safeguarding

Has your Safeguarding Policy been updated in the past 12 months?	No
Have any concerns been investigated in the past 12 months	No
Does your project have a Safeguarding focal point?	No
Has the focal point attended any formal training in the last 12 months?	No
What proportion (and number) of project staff have received formal training on Safeguarding?	Past: 0% Planned: 10%
Has there been any lessons learnt or challenges on Safeguarding in the past 12 months? Please ensure no sensitive data is included within responses.	None.
Does the project have any developments or activities planned around Safeguarding in the coming 12 months? If so please specify.	Designation of Safeguarding focal person, and if possible, training on Safeguarding.

#### 15. Project expenditure

**Table 1: Project expenditure during the reporting period (1 April 2022 – 31 March 2023)**

Project spend (indicative) since last Annual Report	2022/23 Grant (£)	2022/23 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Monitoring & Evaluation (M&E)				
Others (see below)				
<b>TOTAL</b>	<b>GBP171,11</b>	<b>GBP171,11</b>	<b>0%</b>	

**Table 2: Project mobilising of matched funding during the reporting period (1 April 2022 – 31 March 2023)**

	Matched funding secured to date	Total matched funding expected by end of project
Matched funding leveraged by the partners to deliver the project.		

Total additional finance mobilised by new activities building on evidence, best practices and project (£)	
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**16. OPTIONAL: Outstanding achievements or progress of your project so far (300-400 words maximum). This section may be used for publicity purposes**

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

It is safe to say that as a result of the project and associated meetings, campaigns, and programs a momentum has been generated to conserve biodiversity in coastal area of Guinayangan with special emphasis on mangroves and agro-biodiversity. The coastal areas of Guinayangan are receiving greater attention than before, and this results in a higher priority for the need to conserve mangroves. The aspects of agro-biodiversity are also receiving attention but more from the utilitarian perspectives (food and livelihood), and not just their environmental and nutritional co-benefits. However as known this kind of transformation is an incremental process and more attention will be given in Y3.

File Type (Image / Video / Graphic)	File Name or File Location	Caption, country and credit	Online accounts to be tagged (leave blank if none)	Consent of subjects received (delete as necessary)
				Yes / No
				Yes / No
				Yes / No
				Yes / No
				Yes / No

## Annex 1: Report of progress and achievements against logframe for Financial Year 2022-2023

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
<p><b>Impact</b></p> <p>Climate resilience and local community well-being in Guinayangan, Philippines improved through community-based mangrove rehabilitation and agro-biodiversity conservation in coastal agriculture supported by effective legal mechanism and law enforcement action.</p>		<p>Diversification of crop varieties to prevent loss of genetic material, with initial establishment of redistribution schemes for farmer beneficiaries to help disseminate planting materials to the greater community.</p> <p>On-going development of enterprise options based on identified priority commodities</p>	
<p><b>Outcome</b></p> <p>Community-based management of coastal zones and agro-biodiversity in agriculture effectively enhances mangrove ecosystem services, provides sustainable livelihood options, and increases community resilience in 14 coastal communities in Guinayangan, Philippines</p>	<p>0.1. Within 3 years, the current 300 has (Y0 baseline) of degraded mangrove forests in Guinayangan are rehabilitated, protected and sustainable managed; with an added 10% expansion in forest cover, increasing total area to 330 hectares; resource management is done fully by fishers' organizations with 30% women membership.</p>	<p>Identified 7.9 ha in 7 barangays for mangrove reforestation</p> <p>Established 7 community-managed mangrove nurseries</p> <p>Membership in the municipal mangrove management body is yet to be finalized</p>	<p>Large-scale mangrove reforestation activities by community members</p> <p>Enrichment planting in existing mangrove stands</p>
	<p>0.2. Within 3 years, species diversity in coco-based family farms and homesteads located in 700 hectares of coastal agro-ecosystems has improved by 10%; increasing agri-based livelihood options for farming households by 20% (50% of which, managed by women) due to more available crops &amp; animals as household assets.</p>	<p>Continued distribution of different varieties of bananas, fruit trees, root crops and livestock forage materials</p> <p>Distribution of small livestock, i.e., Muscovy ducks, mallards, native chickens, and pigs</p> <p>Continued engagement and monitoring of FLGs</p> <p>Ongoing PAR to test community acceptance and viability of crops</p>	<p>Continued monitoring and re-distribution of planting materials and livestock as part of the return scheme</p> <p>Continued distribution of native chickens</p>

	0.3. By Y3Q3, 50% increased level of appreciation by coastal communities of biodiversity conservation as nature-based solutions to managing climate-change risks & vulnerabilities.		
<p><b>Output 1.</b> Total of 330 hectares of coastal areas with sparse mangrove cover rehabilitated, protected, and sustainably managed through community-led initiatives</p>	<p>1.1. By Y3Q1, outplanting efforts (50% of which done by women) using appropriate species selection and science-based techniques within the 330 hectares target for rehabilitation area is completed with 40% survival rates.</p> <p>1.2. By Y3Q3, 14 village level and 1 MFARMC level mangrove management plans promulgated where at least 30% of women participated in the deliberations and approval.</p> <p>Indicator 3. By Y2Q3, 330 hectares of mangrove officially declared “local conservation areas” as legislated by the LGU.</p> <p>1.4. By Y2Q3, a legislation by the LGU promulgated with accompanying support program to 3 appropriate sites for: 1) research and education, 2) ecotourism and 3) associated sustainable livelihood.</p> <p>1.5. By Y2Q3, 14 village-level Mangrove Protection Associations (“Bantay Gubat”) established in the coastal barangays totaling 140 members trained on coastal law enforcement, deputized and resourced by Y2Q2.</p>	<p>A total of 7.9 ha of mangrove areas suitable for reforestation has been identified in 7 of the 14 coastal barangays.</p> <p>Law enforcement activities on the ground have not been initiated pending ratification of ordinance identifying of conservation areas and release of deputation papers of those trained as wardens.</p> <p>DENRO training completed for 8 community and MGLU staff.</p> <p>Mangrove planting activities as part of bigger IEC event (International Women’s Day celebration) covering 0.5 ha.</p>	
Activity 1.1 Project Inception meeting-workshops towards MoA signing with LGU, POs,, DA, DENR, DepEd, and BFAR to agree on implementation roles and resource-sharing mechanisms		<p>MOU signed between IIRR and DENR Region 4A</p> <p>Y1 review and Y2 planning workshop</p> <p>Y2 review and Y3 planning workshop</p>	<p>Y3 review and Y4 planning workshop within the 4th quarter of Y3</p> <p>Pending MOU with BFAR Region 4A</p>

Activity 1.2. Baseline bio-physical assessment, and spatial mapping of mangroves; and identification of rehabilitation areas using MCS survey	Completed in Y1 FLA inventory in partnership with BFAR completed	Additional surveys to be conducted to generate a more comprehensive mangrove species list and determine extent of <i>Camptostemon philippinensis</i>
Activity 1.3. Trainers Training on Mangrove and Beach Forest Rehabilitation and Conservation in ZSL Panay learning sites including development of in-situ mangrove rehabilitation plan	Completed in Y1 (Trainer's Training). Mangrove rehabilitation and conservation trainings have been replicated in all 14 coastal barangays for local resource managers and the community	Beach forest conservation training
Activity 1.4. Organizing and/or strengthening coastal people's organizations (POs)	In progress.	Community meetings to bolster project buy-in and mangrove awareness
Activity 1.5 Formation or strengthening of Local Mangrove co-management body (comprised of LGU, POs, DENR, other key stakeholders)	In progress. Management body membership has been identified and their functions defined	Institutionalization of management body with the passing of the LCA ordinance  Formalizing management body LCA management plan
Activity 1.6. Review and execute in-site mangrove rehabilitation and conservation plan	In progress. Mangrove rehabilitation plans have been completed in 7 barangays	Mangrove planting from Y3Q1 onwards
Activity 1.6.1 Establishment of on-site community nurseries	Completed.	Further bagging of seedlings should there be an external demand
Activity 1.6.2 Mangrove outplanting by various groups following science-based protocols	Site selection for mangrove planting has been completed for 7 of the coastal barangays.  0.5 ha replanted during an IEC activity	Planting in identified reforestation sites starting Y3Q1, with enrichment planting in the remainder of the municipality's mangrove stands
Activity 1.6.3 Monitoring and maintenance	In progress. Regular monitoring of nurseries in partnership with community members	Establishment of rehabilitation area monitoring system in partnership with MENRO and community
Activity 1.7. Workshops by Mangrove Co-Management Body to draft municipal ordinance to establish the Local Conservation Area	Completed	Submission of ordinance to mayor for final approval
Activity 1.8 Filing and lobbying of draft municipal ordinance to create the mangrove LCA.	In progress. The LCA boundaries are being finalized for inclusion in the ordinance; ordinance has passed	Submission of ordinance to mayor for final approval

	through the SB hearings and the mayor has already provisionally approved it	
Activity 1.9 LCA Management Planning-workshop following approval of ordinance	Completed prior to approval of ordinance	Implementation of management plans arising from the planning workshop
Activity 1.10 Adoption of LCA Management Plan by Sangguniang Bayan	Completed in Y1	
Activity 1.11 Formation, training and deputation of Community Forest Guards/Bantay Gubat	In progress. Training for 8 LGU and community members and 1 IIRR staff completed in cooperation with DENR R4A and Haribon Foundation	
Activity 1.11.1 Identification, composition and orientational meetings	Completed in Y1	
Activity 1.11.2 Basic law enforcement training following the DENR Wildlife Enforcement Officers (WEO) Training including safety and security, safeguarding rights of offenders and SOPs in patrolling.	In progress. Training for 8 LGU and community members and 1 IIRR staff completed in cooperation with DENR R4A and Haribon Foundation	Further strengthening of BFARMCs needed, identification of local resource managers Environmental law trainings for community members
Activity 1.11.3 Deputation of Bantay Gubat by LGU and DENR	In progress. Awaiting release of deputation papers from DENR R4A	
Activity 1.11.4 Provision of basic enforcement equipment and paraphernalia	Completed. Radios, life vests, and other patrolling equipment have been purchased but not yet distributed due to need to formulate monitoring and patrolling plans.	Distribution of equipment to law enforcement elements once management plan is ratified
Activity 1.11.5 Continuing foot monitoring and patrolling	Not completed. No monitoring and patrolling plans have been formulated for the deputized wardens pending finalization of the LCA ordinance identifying law enforcement delineating priority areas for conservation	Monitoring plan to be formulated and implemented
Activity 1.12 Mangrove Eco-Park Management Training and Planning-Workshop (including management plan documentation)	Completed	Ecopark Management and Planning Workshop after proposed Site Development Planning Workshop
Activity 1.13. Construction of mangrove boardwalks and other facilities	In progress. Materials have been purchased to set up information billboards in the coastal barangays.	Conduct Site Development Planning workshop, with a Site Development Plan produced.

		A Site Development Planning workshop needs to be conducted with LGU prior to any constructions. A Site Development Plan also needs to be formulated as this would be the basis for mangrove ecopark establishment.	Construction of basic bamboo-based viewing decks managed and maintained by the barangays to highlight local mangrove resources
Activity 1.14 Soft-launching and opening			Formal launching activity for the municipality's existing mangrove boardwalk
Activity 1.15 Monitoring and maintenance of mangrove ecopark		In progress. Planning meetings with the MENRO and MTO were conducted to identify and prioritize upgrades to the existing mangrove boardwalk	Upgrading of signages and information materials on the boardwalk
Activity 1.16. Post-baseline mangrove assessment using MCS survey			
<b>Output 2.</b> 700 hectares of coastal agro-ecosystems in 14 villages in Guinayangan are utilized for regenerative agriculture including promotion of agro-biodiversity	<p>2.1. By Y3Q3, 30% of households have adopted farming practices following regenerative agriculture principles</p> <p>2.2. By Y3Q3, 30% of households increased species diversity of their farms by 20%</p> <p>2.3. By Y1Q3, 14 community and women groups formed, capacitated for participatory action researches to generate gender-sensitive in multiple benefits on technological approaches</p> <p>2.4. By Y3Q4, knowledge sharing dissemination events reaching 30% of households in coastal agro-ecosystems.</p> <p>2.5. By Y2Q4, 30% of coastal farming households from Y0 baselines incorporated native plants and animals (Quezon breed of native pig, Camarines chicken, Philippine mallard duck)</p>	<p>A total of 696 beneficiaries in 14 barangays have received various planting materials to date and continue to be engaged in FLGs and PAR (Annex X)</p> <p>Estimation of hectareage allocated to diversified crops ongoing.</p> <p>The project is continuing to work with existing community groups (Annex XX).</p>	

	2.6. By Y3Q2, 14 village level community and women groups are scaling up the extension services and engaged the government support.		
Activity 2.1. Community meetings and project implementation workshops with coastal POs and village councils		Completed in Y1	Continued engagement of coastal communities through meetings and house to house visits
Activity 2.2. Participatory rapid appraisals and field assessments		In progress. Regular monitoring conducted for beneficiaries	Continued monitoring of beneficiaries and FLGs
Activity 2.2.1. Field profiling of farming practices, landscapes and resources		Completed in Y1	
Activity 2.2.1. Population sampling and estimation studies of key indicator species		Completed in Y1	
Activity 2.2.3. Deskwork: developing coastal agri-fishery profile; and gender-differentiated baselines		Completed in Y1	
Activity 2.3. Formulation of strategies for inclusive regenerative agriculture practices in coastal agroecosystems.		Training conducted by UPLB-IPB	Scaling up of information campaign for regenerative agriculture
Activity 2.3.1. Meetings & dialogues with government agencies and other NGOs (e.g., Phil. Native Animals Development Program, Organic Agriculture program, AMIA)		Site visit by staff from the UPLB-IPB, Climber, and Alliance Bioversity	Further engagement of technical partners
Activity 2.3.2. Planning workshop with technical experts		Completed in Y1	
Activity 2.4. Writeshops: field guides and protocols development (participatory action research [PAR] protocols, technological guides & extension materials, social learning approaches)		Completed in Y1	
Activity 2.5. Organizing and/or strengthening village-level interest groups		In progress. On-going monitoring of FLGs	Continued monitoring of FLGs
Activity 2.5.1. Community-level prioritization exercises: identifying best-bet regenerative agriculture practices (technologies to most likely provide multiple benefits)		In progress.	Continued community-level discussions and feedbacking as part of FLGs to determine appropriate regenerative agriculture practices
Activity 2.5.2. Community meetings: formation of interest groups to carry out PAR, planning meetings		In progress. On-going monitoring of FLGs and PAR	Continued monitoring of crop progress in cooperation with farmers
Activity 2.5.3. Community trainings: PAR protocols, social learning approaches		In progress	PAR protocols development ongoing as crops are being tested by beneficiaries

Activity 2.6. Municipal-level seasonal climate advisory workshops and planning during start/end of rainy and dry seasons.	In progress. A seasonal planning workshop was conducted last July 2022.	Another workshop is planned for April 2023
Activity 2.7. Participatory development and management of innovations funds for regenerative agriculture promotion		
Activity 2.7.1. Workshop: setting up of funds management system	Completed. Workshops on innovation fund use in native pig and chicken production	
Activity 2.7.2. Community meeting: orientation on funds utilization and management; prioritization exercises for fund utilization	In progress. COMSCA trainings were conducted in 2 barangays	Continuation of COMSCA trainings for the other project barangays
Activity 2.7.3. Roll-out of fund: support to PAR, establishment of community-based production support facilities (e.g. nurseries, propagation/breeding centers, water harvesting facilities)	Distribution of diversified planting materials to 379 beneficiaries  Distribution of Muscovy ducks and mallards to	Reintroduction of native chickens and subsequent upgrading of local lines
Activity 2.7.4. Fund utilization monitoring meetings & site visits		
Activity 2.8. 2 cycles of season-long PAR by interest groups (onsite experiments/testing, status updating, data gathering and analysis, knowledge synthesis)	In progress. A seasonal planning workshop was conducted last July 2022	A second workshop is scheduled for April 2023
Activity 2.9. On-site farmer-to-farmer social learning events (roving workshops, field visits, learning exchanges, harvest festivals)		Community custodians to receive seed diversity kits in Y3Q1 to further intensify their collection of local crops (and to help them serve as informal local seed producers of valuable climate and nutrition smart germplasm)
Activity 2.10. End-of-season community workshops: synthesis of PAR outputs & learnings.		FLG meetings and workshops in Y3 to collate PAR outputs and assess impacts
Activity 2.11. Regenerative agriculture appreciation workshops for partners: share learnings and generate policy & program support		
Activity 2.12. Participatory rapid appraisal (endline assessment).		Preliminary assessment of project impacts
Activity 2.13. cost-benefit case studies on coastal regenerative agriculture practices.		Case studies/success stories on regenerative agriculture

Activity 2.14. Writeshop: synthesis of project outputs and learnings; publish outputs in international R&D platforms (e.g., CCAFS)			
<b>Output 3.</b> Around 1,000 poorest households in 14 coastal villages with improved livelihood security and resilience resulting from regenerative agriculture and sustainable use of resources found in the designated multiple-use mangrove forests	<p>3.1. By Y2Q4, community and women's groups have identified 3 prioritized agri-fishery commodities with high market demand and potential for enterprise and developing operational plans.</p> <p>3.2. By Y3Q1, 1 municipal level value-chain enterprise masterplan for 3 different prioritized agri-fishery commodities with market links developed with community and women's group.</p>	A total of 696 farmers have been targeted by the agricultural input distribution since the start of the project.	
Activity 3.1. Participatory rapid appraisal and field assessments		In progress. Cooperators in coastal areas are better targeted	Continued identification of suitable cooperators in project barangays
Activity 3.1.1. Livelihood & socio-economic assessment		Completed in Y1	
Activity 3.1.2. Stakeholders' analysis		Completed in Y1	
Activity 3.1.3. Deskwork and writeshop: coastal livelihood & socio-economic profile and baselines		Completed in Y1	
Activity 3.2. Field guide and protocols development workshop: livelihood & commodity prioritization exercise & value chains analysis		Completed in Y1	
Activity 3.3. Organizing and orientation workshops for enterprise-based groups: participatory value chains analysis, entrepreneurship, agro-enterprise development		Completed in Y1	
Activity 3.4. Prioritization exercise: identify agri-fishery commodities/products for value chain enhancement and enterprise development		Completed. Four major commodities identified (banana, langka, coconut by-products, oysters), along with several smaller commodities (nipa vinegar, pig, and poultry products)	Continued development of identified products through pilot testing
Activity 3.5. Participatory value chains assessment		Completed in Y1	
Activity 3.6. Multi-stakeholder dialogues and needs assessment workshops		In progress.	Continued meetings with stakeholders to identify needs as project moves forward

Activity 3.7. Needs-based mentoring and training of enterprise-based groups on value chains and enterprise development			
Activity 3.8. Quarterly multi-stakeholder meetings to monitor implementation of partnership agreements among value chain actors			
Activity 3.9. Rapid appraisal: livelihood & socio-economic assessment (endline)			
Activity 3.10. Case studies on coastal value chains & enterprises development; publish outputs in international R&D			Case studies; participation in national and international fora
<p><b>Output 4.</b> Knowledge and good practices derived from project are shared widely to the public as well as to various agencies of the government within Guinayangan and in the province to mobilize policy, funding and public support.</p>	<p>4.1. By Y3Q3, the Guinayangan MEMC is actively engaged in educating around 5,000 students and youth about the importance of the municipality's mangroves and coastal agro-ecosystems through on-site conservation education activities; community and women's groups are serving as knowledge resource in the process.</p>	<p>Community leaders have been identified and tapped to lead management and education efforts</p> <p>The project is coordinating with people's organizations to promote coastal agro-biodiversity conservation</p>	
	<p>4.2. By Y3Q3, local government and the MFARMC, together with community and women's groups have synthesized their learnings on the importance of rehabilitating and enhancing mangroves and coastal agro-ecosystems and are actively sharing their experiences to the general Guinayangan populace and neighboring coastal municipalities.</p> <p>4.3. By Y3Q4, at least 2 community representatives in each of the 14 villages assume a wider role in leading local community-based management and education efforts.</p>		
Activity 4.1. Participatory stakeholder mapping of key actors in facilitating behavioural change		Completed in Y1	

Activity 4.2. Knowledge, attitudes and perceptions (KAP) baseline survey.	Completed in Y1	
Activity 4.3. KAP workshops	Completed in Y1	
Activity 4.3.1. Baseline analysis and needs assessment	Completed in Y1	
Activity 4.3.2. Participatory development of behavior change models and strategies	In progress. Behaviour change strategies have been identified and corresponding activities are to be implemented	Continued implementation of behaviour change activities at the community level
Activity 4.4. Writeshops: multimedia materials development using project-derived outputs and learnings	Completed in Y1	
Activity 4.5. Roll-out and refinement of campaign strategy, particularly targeting youth and students	In progress. Continuing engagement of youth and students	Distribution of information materials and lecture sessions in elementary and high schools
Activity 4.6. Meetings with school administrators and socio-civic organizations (e.g., faith-based, interest groups) for conservation education campaigns	Completed in Y1	
Activity 4.7. Impacts and outcomes documentation		
Activity 4.7.1. Outcome mapping workshop; M&E protocols development		
Activity 4.7.2. Annual progress review and reporting	Completed. Annual review and planning conducted.	Y3 planning workshop
Activity 4.7.3. Outcome harvesting study: capturing contributions to municipal-level changes and development		
Activity 4.7.4. Writeshop and publishing of outcome harvesting outputs in R&D platforms.		
Activity 4.7.5. External monitoring & evaluation mission		
Activity 4.8. Writeshops:		
Activity 4.8.1. Development of policy briefs		
Activity 4.8.2. Development of field operational guides/manuals.		Engagement of consultants to write field guides and manuals
Activity 4.9. National-level policy workshop to present key learnings; policy implications, and project-derived outputs to key government agencies and decision-makers		

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

Project summary	SMART Indicators	Means of verification	Important Assumptions
<p><b>Impact:</b></p> <p>Climate resilience and local community well-being in Guinayangan, Philippines improved through community-based mangrove rehabilitation and agro-biodiversity conservation in coastal agriculture supported by effective legal mechanism and law enforcement action.</p>			
<p><b>Outcome:</b></p> <p>Community-based management of coastal zones and agro-biodiversity in agriculture effectively enhances mangrove ecosystem services, provides sustainable livelihood options, and increases community resilience in 14 coastal communities in Guinayangan, Philippines</p>	<p>0.1. Within 3 years, the current 300 has (Y0 baseline) of degraded mangrove forests in Guinayangan are rehabilitated, protected and sustainable managed; with an added 10% expansion in forest cover, increasing total area to 330 hectares; resource management is done fully by fishers' organizations with 30% women membership.</p>	<p>0.1.1 Site monitoring and assessment reports; 0.1.2 Resource inventory outputs; 0.1.3 Mangroves management plans; Municipal ordinances</p>	<p>Host country remains politically stable and supportive to mangrove and agro-biodiversity conservation; policy environment and related legal frameworks remain unchanged during the project.</p> <p>Provincial and municipal policy environment continues to support environmental conservation despite growing demand for land use conversion for infrastructural development and agricultural plantations.</p> <p>Communities and local governments in coastal areas covering the 300 hectares of mangrove forests have agreed to support interventions to protect and conserve mangroves in their respective localities.</p>
	<p>0.2. Within 3 years, species diversity in coco-based family farms and homesteads located in 700 hectares of coastal agro-ecosystems has improved by 10%; increasing agri-based livelihood options for farming households by 20% (50% of which, managed by women) due to more available crops &amp; animals as household assets.</p>	<p>0.2.1 Livelihood and agro-ecosystems profiling reports; 0.2.2 Coastal regenerative agriculture portfolio documentation; 0.2.3 Agri-fishery development/investment plans</p>	<p>Land-owners, farming households, and local government have collaborated to improve production systems and practices in 700 hectares coastal agro-ecosystems utilizing regenerative agriculture.</p>

	0.3. By Y3Q3, 50% increased level of appreciation by coastal communities of biodiversity conservation as nature-based solutions to managing climate-change risks & vulnerabilities.	0.3.1 KAP baseline survey results; endline surveys 0.3.2 Local Disaster Risk Reduction and Management Plan	Local government policy & decision makers are actively pursuing best options for increasing community resilience of coastal communities using participatory approaches.
<b>Output 1</b> Total of 330 hectares of coastal areas with sparse mangrove cover rehabilitated, protected, and sustainably managed through community-led initiatives.	1.1. By Y3Q1, outplanting efforts (50% of which done by women) using appropriate species selection and science-based techniques within the 330 hectares target for rehabilitation area is completed with 40% survival rates.	1.1.1 Mangrove community structure (MCS) survey reports	Project incentives for women community members on seedlings collection, propagation, outplanting and maintenance of mangroves reforestation sites in place; Community groups applying learnings in mangroves conservation science.
	1.2. By Y3Q3, 14 village level and 1 MFARMC level mangrove management plans promulgated where at least 30% of women participated in the deliberations and approval.	1.2.1 MFARMC Accomplishment reports; 1.2.2 Community-level mangroves management plans	Legislated policies & programs are in place: establishing LGU support to inclusive & participatory coastal governance; MFARMC implementing its mandates other than patrolling & law enforcement (e.g., planning & recommending fishery-related ordinances)
	1.3. By Y2Q3, 330 hectares of mangrove officially declared “local conservation areas” as legislated by the LGU.  1.4. By Y2Q3, a legislation by the LGU promulgated with accompanying support program to 3 appropriate sites for: 1) research and education, 2) ecotourism and 3) associated sustainable livelihood.  1.5. By Y2Q3, 14 village-level Mangrove Protection Associations (“Bantay Gubat”) established in the coastal barangays totaling 140 members trained on coastal law enforcement, deputized and resourced by Y2Q2.	1.3.1 Municipal and village ordinances; 1.3.2 Fisheries sector annual plans  1.4.1 Municipal ordinance  1.5.1 Training documentations and annual plans of deputized Bantay Gubat; 1.5.2 Annual accomplishment reports of MFARMC	Local government has allocated resources (human & financial) for engaging its constituents in participatory process of and inclusive coastal governance.
<b>Output 2</b>		2.1.1 Agro-biodiversity resources inventories & mapping reports;	On-site evidence-base of multiple benefits of location & context specific regenerative agriculture practices are

<p>700 hectares of coastal agro-ecosystems in 14 villages in Guinayangan are utilized for regenerative agriculture including promotion of agro-biodiversity.</p>	<p>2.1 By Y3Q3, 30% of households have adopted farming practices following regenerative agriculture principles</p> <p>2.2. By Y3Q3, 30% of households increased species diversity of their farms by 20%</p> <p>2.3. By Y1Q3, 14 community and women groups formed, capacitated for participatory action researches to generate gender-sensitive in multiple benefits on technological approaches</p> <p>2.4 By Y3Q4, knowledge sharing dissemination events reaching 30% of households in coastal agro-ecosystems.</p>	<p>2.2.1 Regenerative agriculture case studies and/or outcome harvesting outputs Regenerative agriculture case studies and/or outcome harvesting outputs</p> <p>2.3.1 Documentations of capacity building activities;</p> <p>2.4.1 Community and women's groups activity reports.</p>	<p>established; Local governments and key national agencies (DA, DENR, BFAR) are intensifying implementation of related programs (e.g., organic agriculture, agroforestry, climate-resilient agri-fishery value chains) to build on farmers' interests in farm diversification to pursue government's vision of transforming Quezon province into a progressive agriculture hub.</p>
	<p>2.5. By Y2Q4, 30% of coastal farming households from Y0 baselines incorporated native plants and animals (Quezon breed of native pig, camarines chicken, Philippine mallard duck)</p>	<p>2.5.1 Reports on population sampling and estimation studies</p>	<p>Coastal households fully understand the value and roles of agro-biodiversity conservation in sustaining agricultural production; project and government partners are rolling out support programs (e.g., Philippine Native Animals Development Program).</p>
	<p>2.6. By Y3Q2, 14 village level community and women groups are scaling up the extension services and engaged the government support.</p>	<p>2.6.1 Agri-fisheries development and investment plans</p>	<p>Local government's agriculture office has incorporated regenerative agriculture scaling in its investment plans.</p>
<p><b>Output 3</b></p> <p>Around 1,000 poorest households in 14 coastal villages with improved livelihood security and resilience resulting from regenerative agriculture and sustainable use of resources found in the designated multiple-use mangrove forests</p>	<p>3.1. By Y2Q4, community and women's groups have identified 3 prioritized agri-fishery commodities with high market demand and potential for enterprise and developing operational plans.</p>	<p>3.1.1 Value chain analysis outputs; 3.1.2 Enterprise development plans</p>	<p>Project and government support prioritized towards emerging practices with significant conservation &amp; gender contributions (e.g., native livestock/poultry production, backyard gardening, root and tuber crops production, and community-savings &amp; credit associations); community and women's groups have adopted an entrepreneurship mindset in pursuing sustainability of ecosystems conservation initiatives.</p>

	3.2. By Y3Q1, 1 municipal level value-chain enterprise masterplan for 3 different prioritized agri-fishery commodities with market links developed with community and women's group.	3.2.1 Livelihood profiling outputs; 3.2.2 Municipal ordinances on local economic development and investments promotion	Local government has adopted nature-based solutions as an important guiding principle in planning and developing the local economy and its sectors.
<b>Output 4</b> Knowledge and good practices derived from project are shared widely to the public as well as to various agencies of the government within Guinayangan and in the province to mobilize policy, funding and public support.	4.1. By Y3Q3, the Guinayangan MEMC is actively engaged in educating around 5,000 students and youth about the importance of the municipality's mangroves and coastal agro-ecosystems through on-site conservation education activities; community and women's groups are serving as knowledge resource in the process.	4.1.1 Status and accomplishment reports on conservation education	Administrators and decision-makers have included conservation education for students and youth as a key activity for Schools and youth organizations.
	4.2. By Y3Q3, local government and the MFARMC, together with community and women's groups have synthesized their learnings on the importance of rehabilitating and enhancing mangroves and coastal agro-ecosystems and are actively sharing their experiences to the general Guinayangan populace and neighboring coastal municipalities	4.2.1 Documentation of knowledge sharing and scaling events	Local champions have emerged and well capacitated as resource persons in inclusive and participatory coastal governance.
	4.3. By Y3Q4, at least 2 community representatives in each of the 14 villages assume a wider role in leading local community-based management and education efforts.	4.3.1 Local government-recognized community champions	Project partners from local governments and community groups are incentivized to share their experiences and performing as champions in coastal governance.
<p><b>Activities</b> (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>Mobilization and Project Inception  I. Staff recruitment and contracting  II. Team composition and refinement of project plan  III. Set-up field office  IV. Purchase of equipment</p> <p>Output 1: Total of 330 hectares of coastal areas with sparse mangrove cover rehabilitated, protected, and sustainably managed through community-led initiatives.</p>			

- 1.1. Project Inception meeting-workshops towards MoA signing with LGU, POs, DA, DENR, DepEd, and BFAR to agree on implementation roles and resource-sharing mechanisms
- 1.2. Baseline bio-physical assessment, and spatial mapping of mangroves; and identification of rehabilitation areas using MCS survey
- 1.3. Trainers Training on Mangrove and Beach Forest Rehabilitation and Conservation in ZSL Panay learning sites including development of in-situ mangrove rehabilitation plan
- 1.4. Organizing and/or strengthening coastal people's organizations (POs)
- 1.5. Formation or strengthening of Local Mangrove co-management body (comprised of LGU, POs, DENR, other key stakeholders)
- 1.6. Review and execute in-site mangrove rehabilitation and conservation plan
  - 1.6.1 Establishment of on-site community nurseries
  - 1.6.2 Mangrove outplanting by various groups following science-based protocols
  - 1.6.3 Monitoring and maintenance
- 1.7. Workshops by Mangrove Co-Management Body to draft municipal ordinance to establish the Local Conservation Area
- 1.8. Filing and lobbying of draft municipal ordinance to create the mangrove LCA
- 1.9. LCA Management Planning-workshop following approval of ordinance
- 1.10. Adoption of LCA Management Plan by Sangguniang Bayan
- 1.11. Formation, training and deputation of Community Forest Guards/Bantay Gubat
  - 1.11.1 Identification, composition and orientational meetings
  - 1.11.2 Basic law enforcement training following the DENR Wildlife Enforcement Officers (WEO) Training including safety and security, safeguarding rights of offenders and SOPs in patrolling.
  - 1.11.3 Deputation of Bantay Gubat by LGU and DENR
  - 1.11.4 Provision of basic enforcement equipment and paraphernalia
  - 1.11.5 Continuing foot monitoring and patrolling
- 1.12. Mangrove Eco-Park Management Training and Planning-Workshop (including management plan documentation)
- 1.13. Construction of mangrove boardwalks and other facilities
- 1.14. Soft-launching and opening
- 1.15. Monitoring and maintenance of mangrove ecopark
- 1.16. Post-baseline mangrove assessment using MCS survey

Output 2: 700 hectares of coastal agroecosystems in 14 villages in Guinayangan are utilized for regenerative agriculture including promotion of agro-biodiversity.

- 2.1. Community meetings and project implementation workshops with coastal POs and village councils
- 2.2. Participatory rapid appraisals and field assessments
  - 2.2.1. Field profiling of farming practices, landscapes and resources
  - 2.2.1. Population sampling and estimation studies of key indicator species
  - 2.2.3. Deskwork: developing coastal agri-fishery profile; and gender-differentiated baselines
- 2.3. Formulation of strategies for inclusive regenerative agriculture practices in coastal agroecosystems.
  - 2.3.1. Meetings & dialogues with government agencies and other NGOs (e.g., Phil. Native Animals Development Program, Organic Agriculture program, AMIA)
  - 2.3.2. Planning workshop with technical experts
- 2.4. Writeshops: field guides and protocols development (participatory action research [PAR] protocols, technological guides & extension materials, social learning approaches)
- 2.5. Organizing and/or strengthening village-level interest groups
  - 2.5.1. Community-level prioritization exercises: identifying best-bet regenerative agriculture practices (technologies to most likely provide multiple benefits)
  - 2.5.2. Community meetings: formation of interest groups to carry out PAR, planning meetings

- 2.5.3. Community trainings: PAR protocols, social learning approaches
- 2.6. Municipal-level seasonal climate advisory workshops and planning during start/end of rainy and dry seasons.
- 2.7. Participatory development and management of innovations funds for regenerative agriculture promotion
  - 2.7.1. Workshop: setting up of funds management system
  - 2.7.2. Community meeting: orientation on funds utilization and management; prioritization exercises for fund utilization
  - 2.7.3. Roll-out of fund: support to PAR, establishment of community-based production support facilities (e.g. nurseries, propagation/breeding centers, water harvesting facilities)
  - 2.7.4. Fund utilization monitoring meetings & site visits
- 2.8. 2 cycles of Season-long PAR by interest groups (onsite experiments/testing, status updating, data gathering and analysis, knowledge synthesis)
- 2.9. On-site farmer-to-farmer social learning events (roving workshops, field visits, learning exchanges, harvest festivals).
- 2.10. End-of-season community workshops: synthesis of PAR outputs & learnings.
- 2.11. Regenerative agriculture appreciation workshops for partners: share learnings and generate policy & program support.
- 2.12. Participatory rapid appraisal (endline assessment).
- 2.13. Cost-benefit case studies on coastal regenerative agriculture practices.
- 2.14. Writeshop: synthesis of project outputs and learnings; publish outputs in international R&D platforms (e.g. CCAFS)

Output 3: Around 1,000 poorest households in 14 coastal villages with improved livelihood security and resilience resulting from regenerative agriculture and sustainable use of resources found in the designated multiple-use mangrove forests.

- 3.1. Participatory rapid appraisal and field assessments
  - 3.1.1. Livelihood & socio-economic assessment
  - 3.1.2. Stakeholders analysis
  - 3.1.3. Deskwork and writeshop: coastal livelihood & socio-economic profile and baselines
- 3.2. Field guide and protocols development workshop: livelihood & commodity prioritization exercise & value chains analysis
- 3.3. Organizing and orientation workshops for enterprise-based groups: participatory value chains analysis, entrepreneurship, agro-enterprise development.
- 3.4. Prioritization exercise: identify agri-fishery commodities/products for value chain enhancement and enterprise development.
- 3.5. Participatory value chains assessment
- 3.6. Multi-stakeholder dialogues and needs assessment workshops.
- 3.7. Needs-based mentoring and training of enterprise-based groups on value chains and enterprise development.
- 3.8. Quarterly multi-stakeholder meetings to monitor implementation of partnership agreements among value chain actors.
- 3.9. Rapid appraisal: livelihood & socio-economic assessment (endline)
- 3.10. Case studies on coastal value chains & enterprises development; publish outputs in international R&D platforms

Output 4: Knowledge and good practices derived from the project are shared widely to the public as well as to various agencies of the government within Guinayangan and in the province to mobilize policy, funding and public support.

- 4.1. Participatory stakeholder mapping of key actors in facilitating behavioural change.
- 4.2. Knowledge, attitudes and perceptions (KAP) baseline survey.
- 4.3. KAP workshops
  - 4.3.1. Baseline analysis and needs assessment
  - 4.3.2. Participatory development of behavior change models and strategies.
- 4.4. Writeshops: multimedia materials development using project-derived outputs and learnings.

- 4.5. Roll-out and refinement of campaign strategy, particularly targeting youth and students.
- 4.6. Meetings with school administrators and socio-civic organizations (e.g. faith-based, interest groups) for conservation education campaigns.
- 4.7. Impacts and outcomes documentation
  - 4.7.1. Outcome mapping workshop; M&E protocols development
  - 4.7.2. Annual progress review and reporting
  - 4.7.3. Outcome harvesting study: capturing contributions to municipal-level changes and development
  - 4.7.4. writeshop & publishing of outcome harvesting outputs in R&D platforms.
  - 4.7.5. external monitoring & evaluation mission
- 4.8. Writeshops:
  - 4.8.1. development of policy briefs
  - 4.8.2. development of field operational guides/manuals.
- 4.9. National-level policy workshop

## Annex 3: Standard Indicators

Table 1. Project Standard Indicators

DI Indicator number	Name of indicator using original wording	Name of Indicator after adjusting wording to align with DI Standard Indicators	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
OUTCOME LEVEL									
DI-B05	Within 3 years, mangrove resource management is done fully by fishers' organizations with 30% women membership.	Within 3 years, mangrove resource management is done fully by fishers' organizations with 30% women membership.	People	Organizations; Female membership		889; 34%		889; 34%	
DI-D01	Within 3 years, the current 300 ha (Y0 baseline) of degraded mangrove forests in Guinayangan are rehabilitated, protected and sustainable managed	Within 3 years, the current 300 ha (Y0 baseline) of degraded mangrove forests in Guinayangan are rehabilitated, protected and sustainable managed	Area, hectares	Protected/ non-protected areas					300
DI-D10	Within 3 years, species diversity in coco-based family farms and homesteads located in 700 hectares of coastal agro-ecosystems has improved by 10%	Within 3 years, species diversity in coco-based family farms and homesteads located in 700 hectares of coastal agro-ecosystems has improved by 10%	Area, hectares	Types sustainable agriculture practices.	70			70	700
DI-D11	By Y3Q3, 50% increased level of appreciation by coastal communities of biodiversity conservation as nature-based solutions to managing climate-change risks & vulnerabilities.	By Y3Q3, 50% increased level of appreciation by coastal communities of biodiversity conservation as nature-based solutions to managing climate-change risks & vulnerabilities.	People	Gender					
DI-D16	Within 3 years, increasing agri-based livelihood options for farming households by 20% (50% of which, managed by women) due to more available crops & animals as household assets.	Within 3 years, increasing agri-based livelihood options for farming households by 20% (50% of which, managed by women) due to more available crops & animals as household assets.	Households	Income					

DI Indicator number	Name of indicator using original wording	Name of Indicator after adjusting wording to align with DI Standard Indicators	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
DI-D12	Added 10% expansion in mangrove forest cover, increasing total area to 330 hectares	Added 10% expansion in mangrove forest cover, increasing total area to 330 hectares	Area, hectares	Reforested areas					
<b>OUTPUT LEVEL</b>									
DI-A03	By Y3Q3, local government and the MFARMC, together with community and women's groups have synthesized their learnings on the importance of rehabilitating and enhancing mangroves and coastal agro-ecosystems and are actively sharing their experiences to the general Guinayangan populace and neighboring coastal municipalities	By Y3Q3, number of community and women's groups along with the local government and the MFARMC, that have synthesized their learnings on the importance of rehabilitating and enhancing mangroves and coastal agro-ecosystems and are actively sharing their experiences to the general Guinayangan populace and neighboring coastal municipalities	Number	People's Organizations					
DI-A03	By Y1Q3, 14 community and women groups formed, capacitated for participatory action researches to generate gender-sensitive in multiple benefits on technological approaches	By Y1Q3, 14 community and women groups formed, capacitated for participatory action researches to generate gender-sensitive in multiple benefits on technological approaches				14		14	14
DI-B06	By Y3Q2, 14 village level community and women groups are scaling up the extension services and engaged the government support.	By Y3Q2, 14 village level community and women groups are scaling up the extension services and engaged the government support.							
DI-B01	By Y3Q3, 14 village level and 1 MFARMC level mangrove management plans promulgated where at least 30% of women participated in the deliberations and approval.	By Y3Q3, 14 village level and 1 MFARMC level mangrove management plans promulgated where at least 30% of women participated in the deliberations and approval.	Number	Barangay mangrove management plans; MFARMC level mangrove		7		7	14; 1

DI Indicator number	Name of indicator using original wording	Name of Indicator after adjusting wording to align with DI Standard Indicators	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
				management plans					
DI-B04	By Y2Q4, community and women's groups have identified 3 prioritized agri-fishery commodities with high market demand and potential for enterprise and developing operational plans.	By Y2Q4, community and women's groups have identified 3 prioritized agri-fishery commodities with high market demand and potential for enterprise and developing operational plans.	Number	Type of sustainable livelihoods		8		8	3
DI-B04	By Y3Q1, 1 municipal level value-chain enterprise masterplan for 3 different prioritized agri-fishery commodities with market links developed with community and women's group.	By Y3Q1, 1 municipal level value-chain enterprise masterplan for 3 different prioritized agri-fishery commodities with market links developed with community and women's group.	Number	Enterprise masterplan					1
DI-B07	By Y2Q3, 14 village-level Mangrove Protection Associations ("Bantay Gubat") established in the coastal barangays totaling 140 members trained on coastal law enforcement, deputized and resourced by Y2Q2.	By Y2Q3, 140 members trained on coastal law enforcement, deputized and resourced in 14 village-level Mangrove Protection Associations ("Bantay Gubat")	People	Gender		8; all male		8; all male	140
DI-B07	By Y3Q4, at least 2 community representatives in each of the 14 villages assume a wider role in leading local community-based management and education efforts.	By Y3Q4, at least 2 community representatives in each of the 14 villages assume a wider role in leading local community-based management and education efforts.	People	Community-based					28
DI-B10	By Y2Q4, 30% of coastal farming households from Y0 baselines incorporated native plants and animals (Quezon breed of native pig, Camarines chicken, Philippine mallard duck)	By Y2Q4, 30% of coastal farming households from Y0 baselines incorporated native plants and animals (Quezon breed of native pig, Camarines chicken, Philippine mallard duck)	Households	Type of livelihood	460	379		839	

DI Indicator number	Name of indicator using original wording	Name of Indicator after adjusting wording to align with DI Standard Indicators	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
DI-C08	By Y2Q3, 330 hectares of mangrove officially declared "local conservation areas" as legislated by the LGU.	By Y2Q3, 330 hectares of mangrove officially declared "local conservation areas" as legislated by the LGU.	Area, ha	Identified/ Protected		397.7		397.7	330
DI-C15	By Y3Q4, knowledge sharing dissemination events reaching 30% of households in coastal agro-ecosystems.	By Y3Q4, knowledge sharing dissemination events reaching 30% of households in coastal agro-ecosystems.	Number	Type of activity					
DI-C15	By Y3Q3, the Guinayangan MEMC is actively engaged in educating around 5,000 students and youth about the importance of the municipality's mangroves and coastal agro-ecosystems through on-site conservation education activities; community and women's groups are serving as knowledge resource in the process.	By Y3Q3, the Guinayangan MEMC is actively engaged in educating around 5,000 students and youth about the importance of the municipality's mangroves and coastal agro-ecosystems through on-site conservation education activities; community and women's groups are serving as knowledge resource in the process.	People	Gender		551; 187 male, 364 female			
DI-D03	By Y2Q3, a legislation by the LGU promulgated with accompanying support program to 3 appropriate sites for: 1) research and education, 2) ecotourism and 3) associated sustainable livelihood.	By Y2Q3, a legislation by the LGU promulgated with accompanying support program to 3 appropriate sites for: 1) research and education, 2) ecotourism and 3) associated sustainable livelihood.	Number of instruments	Policy typology (Local, National Policy); Typology of biodiversity provisions.	0	0		0	1
DI-D11	By Y3Q3, 30% of households have adopted farming practices following regenerative agriculture principles	By Y3Q3, 30% of households have adopted farming practices following regenerative agriculture principles	Households						
DI-D11	By Y3Q3, 30% of households increased species diversity of their farms by 20%	By Y3Q3, 30% of households increased species diversity of their farms by 20%	Households						
DI-D12	By Y3Q1, outplanting efforts (50% of which done by women) using	By Y3Q1, outplanting efforts (50% of which done by women)	Area, ha	Reforestation					

DI Indicator number	Name of indicator using original wording	Name of Indicator after adjusting wording to align with DI Standard Indicators	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
	appropriate species selection and science-based techniques within the 330 hectares target for rehabilitation area is completed with 40% survival rates.	using appropriate species selection and science-based techniques within the 330 hectares target for rehabilitation area is completed with 40% survival rates.							
DI-D16	Within 3 years, increasing agri-based livelihood options for farming households by 20% (50% of which, managed by women) due to more available crops & animals as household assets.	Within 3 years, increasing agri-based livelihood options for farming households by 20% (50% of which, managed by women) due to more available crops & animals as household assets.	Households	Income					

**Table 2. Publications**

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)
Gender segregated perspectives on fishing, food security and conservation	Newsletter article	Miranda Salters, Darwin Raymundo, Julian Gonsalves, Acer Araña, and Jonalyn Laco (2023)	Female	American	The Darwin Initiative, Peniciuk, UK	<a href="https://www.darwininitiative.org.uk/assets/uploads/FINAL-Darwin-Newsletter-March-2023-A-Watershed-Moment_compressed.pdf">https://www.darwininitiative.org.uk/assets/uploads/FINAL-Darwin-Newsletter-March-2023-A-Watershed-Moment_compressed.pdf</a>

## Checklist for submission

	Check
Different reporting templates have different questions, and it is important you use the correct one. Have you checked you have used the <b>correct template</b> (checking fund, type of report (i.e. Annual or Final), and year) and <b>deleted the blue guidance text</b> before submission?	✓
<b>Is the report less than 10MB?</b> If so, please email to <a href="mailto:BCF-Reports@niras.com">BCF-Reports@niras.com</a> putting the project number in the Subject line.	✓
<b>Is your report more than 10MB?</b> If so, please discuss with <a href="mailto:BCF-Reports@niras.com">BCF-Reports@niras.com</a> about the best way to deliver the report, putting the project number in the Subject line.	
<b>Have you included means of verification?</b> You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	✓
<b>Do you have hard copies of material you need to submit with the report?</b> 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.	
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see section 16)?	
Have you involved your partners in preparation of the report and named the main contributors	✓
Have you completed the Project Expenditure table fully?	✓
Do not include claim forms or other communications with this report.	