



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)

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Darwin Initiative Project Information

Project reference	27-010
Project title	Community-led stewardship and conservation of the Ometepe Island Biosphere Reserve
Country/ies	Nicaragua
Lead organisation	Fauna & Flora International (FFI)
Project partner(s)	Biometepe (Cooperativa de Agroturismo Rural y Conservación Sostenible de la Biodiversidad de Ometepe R.L.) Network of Agro-ecological Producers of Ometepe (RAPO)
Darwin Initiative grant value	£ 299,496
Start/end dates of project	1 July 2020 – 30 June 2023
Reporting period	Annual Report 3: 1 April 2022 – 31 March 2023
Project Leader name	Co-Project Leads: Angelica Valdivia - FFI Country Director, Nicaragua, and Alison Gunn, FFI Senior Programme Manager, Central America
Project website/blog/social media	https://www.fauna-flora.org/projects/improving-sustainable-use-natural-resources-ometepe
Report author(s) and date	Alison Gunn, Angelica Valdivia, Eduardo Gomez, Osmar Sandino, Henry Duffy (FFI) Keyla Mena, Carlos Barrios, Norlan Zambrana (Biometepe) April 2023

1. Project summary

Ometepe Island is a UNESCO Biosphere Reserve and Important Bird Area, whose wetlands and humid and dry forests support ~150 bird species. Biodiversity-rich habitats cover 32% of the island, providing ecosystem services to c.42,000 people, including water and regulating services for small-scale subsistence farming on which >50% of islanders rely. Clearance of land for agriculture and illegal extraction of forest resources threaten Ometepe’s wildlife - including its globally important population of yellow-naped parrot (listed as Critically Endangered in 2021) - and ecosystem services that underpin local livelihoods. Threats have worsened since 2018, as socio-political instability has hindered already-weak environmental law enforcement and decimated tourism, prompting many islanders to return to farming. Livelihoods and food security are further at risk due to unpredictable weather patterns and Ometepe’s vulnerability to increasingly frequent natural disasters (FAO, 2015; Herrera, et al. 2018).

Fauna & Flora International (FFI) works across the Ometepe Island Biosphere Reserve strengthen local capacity for biodiversity conservation and the sustainable management of natural resources – through our local partner Biometepe, and local community groups. Through this project we have worked strengthen community-led species conservation and forest protection and with >400 farming families to promote widespread uptake of agroecological production across the island - generating measurable improvements in year-round production, resilience to local impacts of climate change and for biodiversity.



2. Project stakeholders/ partners

Fauna & Flora’s partnerships in this Darwin Initiative project include:

Biometepe (Cooperativa de Agroturismo Rural y Conservación Sostenible de la Biodiversidad de Ometepe R.L.): Biometepe is FFI’s main local project partner. Biometepe is a community cooperative, founded in 2018, focused on biodiversity conservation, sustainable livelihoods, environmental governance and conservation tourism on the island. Biometepe’s role in this Darwin-funded project has been formalised through annual sub-grant agreements. In Y1, Fauna & Flora undertook a Partner Due Diligence process, including a Finance and Governance review, and has been working with Biometepe to support organisational capacity development in line with the associated needs assessment, thereby helping to ensure successful project delivery.

Biometepe technical specialists and field staff lead many of the project’s field-level conservation and biological monitoring activities, alongside the provision of agroecological extension support to farmers and community outreach. Biometepe’s President (female) is a member of the project’s Steering Committee.

Network of Agroecological Producers of Ometepe (RAPO): RAPO was formed in 2017 and has an active membership of 25 farmer families (seven women-led) from five farming communities across the island. RAPO aims to pioneer and promote sustainable production compatible with conservation and the experiences of RAPO’s farmers in trialling new agroecological practices for Ometepe informed the design of the project’s approach.

RAPO is a key platform for fostering farmer-to-farmer learning and to promote uptake of agroecological practices amongst new farmer families through this project. RAPO’s role in the project is also as a platform through which Ometepe’s agroecological farmers can foster alliances and linkages with local markets for the ecological produce being harvested.

Additional collaborations:

Nicaraguan government departments: The project aligns with national government strategies to increase food security and improve farm productivity, promote conservation, and encourage sustainable production and agroecology. Fauna & Flora’s agreed annual workplans with six key Nicaraguan government departments encompass the development of joint strategies and activities

for biodiversity conservation and the promotion of agroecology on Ometepe. Key government departments for this project are: **MARENA** (Ministry of Environment and Natural Resources), **INTA** (Institute of Agricultural Technology), **INTUR** (Institute for Tourism), **INIFOM** (Institute for Municipal Development), and **MEFCCA** (Ministry of Family, Community, Cooperatives & Associative Economy). In Y3, permits for wildlife research and conservation activities on Ometepe (with emphasis on yellow-naped parrot and migratory birds) were issued by MARENA in October 2022 for the period October 2022 to September 2023 (see Annex 4).

Drinking Water Committees ('CAPs'): Drinking Water Committees (nine 'CAPs' in total, one per community) are in charge of the drinking water system and are responsible for the administration and collection of tariffs, as well as maintenance and improvements to the supply network. Through the project, Fauna & Flora is helping to four CAPs to develop and implement freshwater monitoring protocols, to inform improved management of upstream water catchments and to strengthen communities' understanding of upstream ecosystem services and benefits.

ANÁHUAC, R. L. is a nascent community cooperative focused on conservation and sustainable development, including the promotion of agro-eco-tourism products and services. ANÁHUAC's operations focus on the department of Rivas, with possibility to extend operations nationwide. The cooperative is made up of young professionals in tourism and agricultural sciences. Anahuac provides FFI with the opportunity to scale up the reach of this project on Ometepe to additional municipalities on the Nicaraguan mainland - reaching farmers and communities in three municipalities in Rivas and one in Chinandega.

Antonio de Valdivieso International University (UNIAV): In September 2020, Fauna & Flora entered an agreement with UNIAV to support collaborative scientific research and student placement projects linked to species and ecosystem conservation in the Ometepe Island Biosphere Reserve (a copy of the agreement was provided as a supporting document to our Y1 Annual Report).

Self Help International (SHI) is a US-registered non-profit organisation working to alleviate poverty and promote self-reliance by assisting the rural poor, small-scale farmers and related enterprises. In Y3, SHI continued to train Biometepe extensionists and farmers on quality seed production and maize seed selection, and established three plots for the production of high genetic quality seed to benefit more Ometepe farmers.

3. Project progress

3.1 Progress in carrying out project Activities

Output 1. Community-led Forest protection and wildlife conservation strengthened

Activity 1.1 Strengthen and replicate existing community-led forest protection efforts on Ometepe, building protocols and incentives for groups, farmers and young people involved in community-led patrols.

Coordination has continued with the four community commissions (30 members, 45% women) for the protection of the forests across six sites on Ometepe (Mérida/Santa Cruz, Bague / Madroñal, La Palma/Corozal, Peña Inculca, Las Cuchillas and Pull). During Y3, **360 forest protection patrols** were conducted by these community commissions (24 of them with the accompaniment of the authorities), bringing the total number of patrols across the three years of the project to **600**. The patrolled area covers **2,150 ha** of forest, with a focus on key sites for the conservation of the Critically Endangered yellow-naped parrot (YNP) and for reducing illegal timber extraction and forest fires. An example patrol report is provided in Annex 4a and a schematic map of the area patrolled is provided in Annex 4b. Compiled data will be provided as an annex to our final report.

Activity 1.2 Reforest four priority sites through propagation of seedlings in two community-run nurseries and planting of native forest/fruit trees (11 species /12 varieties).

During the project, **60 ha of forest** have been reforested in the **Peña Inculca Wildlife Refuge**, through dispersed tree planting and natural regeneration. 24,000 trees and native forest plants have been planted, including *Sterculia apetala*, *Brosimum alicastrum*, *Gliricidia sepium*, *Bursera simaruba*, *Ceiba pentandra*. Monitoring confirms a survival rate of 80%, which corresponds to **19,200**

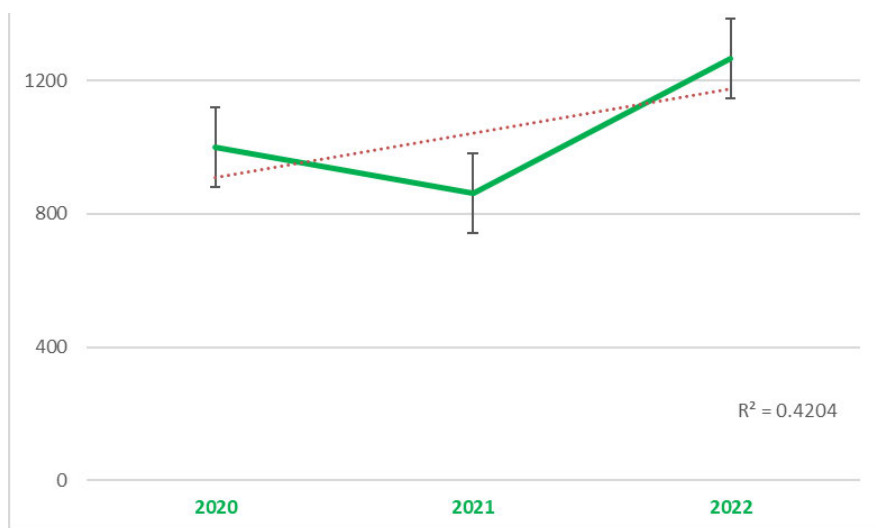
plants. This work is supported by ongoing management practices, including thinning to reduce competition between plants for nutrients, space and sunlight.

During the project, **50 ha** of agricultural land has also been planted with native and fruit trees - as live fences, windbreaks and scattered trees. A total of 36,794 plants have been planted - with the participation of a total of **160 farmers**, of which 40% are women, including private farmers. Monitoring confirms a survival success rate of 68%, which corresponds to **25,020 plants**.

Across forest areas and agroecological farm areas, 44,220 saplings therefore continue to grow.

Activity 1.3 Strengthen the protection and ecological monitoring of the yellow-naped parrot population on Ometepe, through community patrols and incentives.

YNP Nest monitoring: Eight members of the Biometepe team have been involved in leading monitoring of yellow-naped parrot (YNP) nests. The team continued to work with 15 landowners, 30% of whom are women - including the indigenous community of Peña Inculca, the as well as two Farmer Cooperatives located on the flanks of Maderas Volcano National Park (Carlos Díaz Cajina Agricultural & Rural Tourism Cooperative and Alejandro Álvarez Triguero Cooperative) - to help them identify and protect roosting and nesting trees from the threat of poaching. The nest identification and monitoring season started in October 2022 and extends beyond the date of this report (i.e. at time of writing nests are still active and chicks have not yet fledged). To date, during Y3, a total of 159 active nests were recorded across six monitored locations - 251 chicks hatched, of which 163 fledged successfully (monitoring database is provided in Annex 4c). 20 community members participated in this nest monitoring activity (100% male).



YNP Population census:

During the July 2022 census period, counts were made in six sites and total of 1,267 YNP individuals were recorded. The sites with the largest YNP populations were Peña Inculca and Mérida.

Fig1. YNP population census data

Activity 1.4 Train three community members in Monitoring Neotropical Birds in Winter (MoSI) protocols and conduct annual monitoring of overwintering neo-tropical migratory birds.

In Y3, three MoSI migratory bird monitoring stations (that had been established with FFI support in 2007) were reactivated in San Miguel, Santo Domingo, and Peña Inculca. **Eight members of the community were trained in MoSI protocols**, including the placement of mist nets, ringing, taking measurements and biological information of birds, processing of information in the field database. Through the project, **24 young people** (from communities including Mérida, Bague, San José del Sur and Altagracia) have been trained and participated in monitoring of migratory birds - **5 trainings** across both migratory bird census and MoSI methods have been delivered, including identification and use of applications (Ebird, Merlin) on migratory and resident birds.

In Y3 the MoSI stations operated throughout the migratory season (October – April). Using the MoSI protocol (which includes mist netting and ringing), **49 species of migratory and resident birds** have been recorded to date. A notable record was the recapture - in Peña Inculca - of a flycatcher (*Myiarchus tyrannulus* – resident species) that was first ringed in 2007 by Fauna & Flora – we are working with lead national ornithologists to publish this record of this >16 year-old bird, which also provides an indication of the value and health of the old growth forest at this site, and the success of its protection. The database is provided in Annex 4d.

Activity 1.5 Design protocols for farmer-led monitoring of birds, insects (including pollinators) and other wildlife, and support their implementation on farmers cultivated and forested lands.

The updated farmer-led monitoring protocol encompasses monitoring of pollinating and control insects that benefit of farming practices. In Y3, farmer-led monitoring was carried out in **54 agroecological plots**, with 540 repetitions (average of 10 per plot), involving **38 farmers** (9 women and 29 men) from 10 communities across the island (image from interactive map, with linked photos of plots, is provided in Annex 4e and can be accessed – with care - [REDACTED]). The monitoring of beneficial insects (pollinators, controllers and biological predators) in 2022 began in the months of July to September, which is the prime growing season. On-farm bird monitoring was carried out in parallel to the MoSI season described in Activity 1.4. Templates and data from the on-farm monitoring are available in Annex 4f.

Activity 1.6 Strengthen community engagement in monitoring freshwater quality/flow, updating and implementing protocols in collaboration with existing network of Drinking Water Committees.

During Y3, Fauna & Flora continued supporting the drinking water committees (CAPs) to implement the freshwater monitoring protocol, identify macroinvertebrate species, develop strategies to improve water catchment and play a leading role in engaging the wider community in the conservation of ecosystems and freshwater sources. In Y3, three additional CAP members were trained (in addition to the nine in Y1), and these 12 people (8% women) from 4 communities continue to collect information on the types of aquatic insects that are observed near and in the water catchment areas. A new species record for *Euthyplocia sp* is reported to Nicaragua - belonging to *efimeras* (mayflies) a key as bioindicator of freshwater health - collected at La Palma waterfall. The main species groups recorded are shown in Annex 4g.

Activity 1.7 Create series of 6 targeted biodiversity conservation awareness messages for Ometepe, disseminate through talks at local schools, community events and other fora.

During Y3, the 6 key conservation messages designed and selected in Y1 were used in talks in schools, workshops, awareness-raising events, plays, and at a municipal fair in September 2022, competitions and other events, involving a total of **513 people** (children and adults; of the total, 49% were women).

Messages were also shared through Biometepe's social networks, through which an estimated 48,970 people were reached. Social networks have become a tool that allows collaborative learning and involves spaces for information exchange, and we have worked to obtain greater visibility amongst local communities through appropriate digital platforms.

Activity 1.8 Hold Ometepe contest in Youth Leadership in Conservation, to inspire and nurture future conservationists, and hold twelve youth fora using Arts and audio-visuals.

During Y3, 6 new schools were reached, and 16 talks were delivered, reaching 328 adolescents (49% female). Talks focused on the conservation of natural resources, with emphasis on the protection of the yellow-naped parrot.

Activity 1.9 Analyse changes in knowledge, attitudes and behaviours regarding biodiversity conservation on Ometepe amongst islanders.

At the end of Y3, **25 interviews** were conducted to explore the perception, knowledge and attitudes of beneficiary farmers. 95% of farmers interviewed reported that the agroecological practices applied on their farms were contributing to a reduction in their vulnerability to the effects of climate change; with crop diversification, live fences, no burning and forest conservation contributing significantly.

Output 2. Sustainable agroecological production adopted by Ometepe's farmers.

Activity 2.1 Deliver nine training modules for Biometepe's agroecological extensionist team on crop diversification, soil conservation, use of mycorrhizae, composting, agroforestry and biodiversity conservation.

In Y3 the Biometepe agroecological team expanded by one further team member (now 7 people: 2 specialists, 5 technicians; 6 male, 1 female). As part of their ongoing professional development, during Y3 the Biometepe team received training in 16 topics related to agroecology (list available on request), delivered by Nicaragua's Ministry for Rural Development (MEFCCA), Institute for Agricultural Technology (INTA), Self Help International (SHI) and FFI. Training topics include those relating to the development and use of 'bio-inputs' based on the cultivation of microorganisms including mycorrhiza and entomopathogenic fungi to improve soil health and productivity.

Activity 2.2 Provide agroecological training and extension support to 200 farming households to improve productivity, competitiveness and ecological benefits, and reduce vulnerability to climate impacts.

The Biometepe agroecological team continued to provide ongoing agroecological extension support to 252 beneficiary farming households (26% women), through on farm visits and training (including training related to use of bio-inputs and pest control). The register of beneficiary farms and practices is provided in Annex 4h.

69% of the 252 beneficiary farming households are now using bio-inputs of some kind (compost, vermiculture leachate, banana leaf leachate, cultivated mycorrhiza) in their crops. One beneficiary farmer from the community of La Palma participated in the IVth national contest in agro-technological innovation in Chinandega 2022 - his bio-input leachate of banana rachis, under the name ORGANICK, won second place in category IV for 'alternative inputs for the increase of production'.

Activity 2.3 Provide beneficiary farmers with the tools, seeds and other resources necessary for the adoption of new biodiversity-friendly practices and technologies

In coordination with Institute of Agricultural Technology (INTA), the project supports farmers to improve their production through the provision of tools and seeds/seedlings of improved varieties, in the context of the 'triple crisis' of Covid, the socio-political context and impacts of extreme weather events. In the delivery of improved seeds, a total of **160 producers** have benefited in La Flor, Moyogalpa, San Lazaro, Santa Teresa, Las Pilas, Mérida, Madroñal, Bague, La Palma and Corozal communities, delivering two to three varieties of seeds per producer.

Activity 2.4 Deliver fire awareness talks and training for farmers across at least ten communities on Ometepe.

21 fire awareness talks have been delivered across 10 communities, for the prevention and control of fires (reaching **670 farmers**).

According to the authorities' official registry, no forest fires have occurred during the project period. However, community-led patrols have recorded three sites affected by agricultural burns, covering an area of ~40ha (two in Y1 covering ~30ha; one in Y2 covering ~10ha Y3 11.8 ha). None of the forest fires were in the areas protected and patrolled by the Community Commissions supported by the project. These data indicate a significant reduction compared to the baseline of 150 ha affected by fire pre-project in 2019.

Activity 2.5 Support RAPO's bimonthly meetings and help Network members to design and deliver 6 training modules per year to encourage the adoption of agroecological practices.

FFI and Biometepe have continued to support the Network of Agro-ecological Producers of Ometepe (RAPO), through regular meetings and trainings. The project has helped RAPO become visible as a leading organization in the field of agroecology - at the same time, RAPO members have consolidated their technical and organizational knowledge, able of motivating participation and leading field events. and farmer-to-farmer exchanges. Through Y1-Y3, 13 training sessions (list available on request) have been delivered for the 25 RAPO members (11 women and 14 men) to strengthen their skills and abilities to promote the adoption of agroecological techniques, plus sessions on organisational strengthening, techniques for the production of bio-inputs, and marketing of agroecological products and market systems development (see Output 3).

Activity 2.6 Facilitate peer learning through farm open-days and exchange visits (>6 per year, including one visit to successful agroecological model in mainland Nicaragua).

In July 2022, the project facilitated an exchange visit between RAPO farmers, Biometepe and the community cooperative ANAHUAC, which took place in the mainland municipality of Tola in July

2022 (15 participants: 3 from ANAHUAC, 9 from RAPO, 4 from Biometepe; 20% women). Supported by INTA, this knowledge exchange enabled RAPO members to share their experience of agroecological techniques, the production of bio-inputs, community entrepreneurship to access niche markets at local and departmental level, as well as impacts on farm income. A further exchange visit with Anahuac which took place in La Palma, Ometepe in March 2023 (11 participants). Minutes from these exchanges are provided in Annex 4i.

In total during Y3, 14 field days were also organized, with the participation of 362 people (35% women), from various communities on the island and other localities of Nicaragua.

Activity 2.7 Evaluate progress and impact through agricultural practices survey and participatory socioeconomic impact assessment of target households.

At the end of Y3, Biometepe repeated the agricultural practices survey and socioeconomic impact assessment conducted in Y1. Information was compiled from Biometepe's technicians' records, and they also interviewed a sample of 10% of beneficiary farmers, to monitor uptake and efficiency of agroecological practices and technologies applied, their contribution to the conservation of biodiversity on the farms, and impacts on the welfare of their families. The resulting report is provided in Annex 4j.

As before, the evaluation looked at farmer demographics, size of farm plots, area under different production systems, type/extent of agroecological practices applied, and number of farmers desisting from burning agricultural land. Key changes included uptake of agroecological practices: 84% of farmers now do not use fire to clear their land (2021 baseline 45%); 84% desist from burning and incorporate stubble as part of their soil management practices (2021 baseline 62%); 83% and 74% practice crop rotation and diversification, respectively (2021 baseline 57% and 42%); 69% are applying some sort of organic soil improver (compost, vermiculture leachate, soil mycorrhiza – 2021 baseline 45%). Overall, the total area that the 252 farmers cultivate is 1,460 ha, of which currently 1,010 ha are being managed with some agroecological practices (at least 6 practices applied by each producer); i.e. 69% of the producers' areas. Beneficiary farmers perceive multiple benefits of agroecological techniques on soil health, including higher fertility (89% of respondents), better harvests (78%), less soil erosion (44%) and 'more life in the soil' 67%. 95% of those surveyed indicated that they felt that agroecological practices - such as diversification, reforestation, avoiding burning, and live fences - were helping them to reduce their vulnerability to economic shocks and local impacts of climate change.

Output 3. Stronger, equitable relationships established between agroecological producers and market system actors.

Activity 3.1 Drawing on expertise within project team, review and select market sub-sectors on Ometepe that best meet economic and biodiversity criteria for 'Participatory Market Systems Development'.

Completed in Y2.

Activity 3.2 Deliver market literacy training, to include approaches for engaging key actors and empowering marginalised actors in the market chain.

Activity completed in Y1. However, FFI is providing ongoing support and helping to empower marginalised actors – including RAPO members - to develop their products and enterprise initiatives. Following the workshop under Activity 3.3, FFI delivered training to marginalised actors in business development, market literacy and commercialisation of production/processing to build their capacities to engage in the market. This included training in the application of the *Business Model Canvas* to aid business development (for the 25 RAPO members - 9 women, 16 men) and training sessions to improve negotiation techniques, market access and manufacturing standards and best practice (for 10 producers – 5 women, 5 men). This ongoing accompaniment and training allowed these beneficiaries to develop skills to market their production at different levels of markets and generate tools for negotiation.

Activity 3.3 Facilitate participatory market mapping, capacity assessment and action planning workshops (3 days) for each market sub-sector.

As reported in our HYR3, in July 2022 FFI facilitated the participatory market mapping workshop involving 20 actors across the banana market chain (suppliers, processors, inputs, transporters, intermediaries and buyers) – see meeting minutes in Annex 4k. The mapping process identified that there are: ~2,500 banana producers on the island (i.e. all farmers grow bananas to a greater or lesser degree, hence the choice of this crop for the mapping process), 80 intermediaries, 100 processing facilities (e.g. for frying banana chips, either at cottage or industrial scale), 130 buyers (100 in Nicaragua, 10 from Honduras, 15 from El Salvador, 5 Guatemala), including large corporate buyers (e.g. Walmart, La Fritanguera) and 2 ‘green’ organic markets. Additional service providers were identified including: local community transport providers on Ometepe (mule loaders and local bus companies), micro-finance service providers (Financiera FDL), and agroecological input providers. This mapping process helped to empower marginalised actors to forge alliances with other market actors, and identify opportunities to realise the potential to generate added value for actors within the current and potential market chain - including drawing on the technical support of state agencies (INTA & MEFCCA), financing within the market for improved irrigation, crop varieties, processing and communications, and responding to market demand from the tourism sector for agroecological products. As a result of the workshop, a short-term workplan was agreed between market actors, alongside the identification of needs for market chain improvements, collaborative decision-making and training.

Activity 3.4 Provide training in quality control, storage, handling and processing, alongside mentoring beneficiary producers in developing market relationships, meeting market demand and negotiating higher market prices.

The project is also working with marginalised actors to support the development and marketing of specific initiatives within the banana/plantain market chain: ‘Organick’, a platano-derived liquid fertilizer, ‘Frituras Sabor Ometepe’ fried plantain chips, ‘Finca Mi Tierra’ products and ‘Red de Agroecológico Productores de Ometepe’ products. Three training sessions were delivered on adding market value to produce - 20 participants (8 women, 12 men), 12 participants (6 women, 6 men) and 7 participants (5 women, 2 men) respectively. Marginalised actors (beneficiary farmers, RAPO members and others) have been supported to adopt food safety techniques for production processes and are promoting their safety techniques to other initiatives, exchanging knowledge and experiences. RAPO has equipment and tools to process fried plantain/banana chips in 50g, 100g and 250g bags, with improved hygiene and packaging. The products (chips, flours and liquid fertilizers) have been accepted by local consumers both in the green market as well as in schools and communities. Market initiatives are succeeding in improving equitable relationships and exchanging experiences. These experiences have been shared with other groups working with farmers on mainland Nicaragua, including ANAHUAC R.L.

Activity 3.5 Hold triannual monitoring meetings with market actors and facilitate visits for producers and traders to mainland markets to better understand value chains for their products.

Three follow-up visits to the market subsectors were conducted. Within the results and scope of these visits we found that the initiatives are interacting and establishing future strategic alliances to improve their marketing processes. Technological improvements focused on the supply chain of raw materials, especially bananas, within the established agreements there are demands to institutional actors to collaborate with. Themes of technical assistance in the value chain, training in product processing, financing and organizational development so that the actors can interact and improve their income taking into account the care of biodiversity on the island of Ometepe.

Activity 3.6 Evaluate progress and impact through facilitation of annual evaluation workshop for beneficiary producers and market actors (alongside Activity 2.7).

In January 2023, a two-day session was held to help market actors evaluate the impact of their market actions. The sessions involved 23 agroecological producers (RAPO members and other actors - 10 women, 13 men). Initial results indicate improvement of income from sales of agroecological products, added value to the production of materials and bio-inputs as well as working in alliances with institutions that provide technical assistance. Within this process, we worked with beneficiaries to analyse their market activities, frequencies, volume sold as raw material vs. value-added products (chips, flours and fertilizers) and type of sales (including importance of

understanding the companies that are buying) as indicators of current and potential demand for these products and to the product (see Annex 4l).

Output 4. Ometepe as a model of conservation and sustainable development is known by stakeholders in Nicaragua, bird specialists and agroecological communities.

Activity 4.1 Collate results from environmental monitoring, conservation actions, socioeconomic and KAP surveys.

During the period of the project, many efforts have been made to collect a wide range of monitoring information – both biological (on migratory and resident birds, beneficial/pest insects, yellow-naped parrot nests and populations, freshwater quality) and socioeconomic/perceptions (uptake of new practices, markets for agroecological products, beneficiary farm income, indicators and perceptions of well-being). The compilation of project monitoring information is strengthening local and scientific knowledge as a foundation for sound local decision-making. A key aspect of project design is that the majority of monitoring has been implemented by local people, embedding knowledge and motivation within the communities the project aims to serve. With the technical support that both Fauna & Flora and Biometepe have provided in the design and implementation of project monitoring, there is now improved local capacity for continued use of monitoring tools – such as Survey123 for water quality monitoring.

In Y3, Fauna & Flora supported a three-month internship between November 2022 and January 2023, focused on learning from academic studies linking biodiversity assessments to specific agricultural interventions, drawing from evidence of the biodiversity impact that sustainable agriculture interventions have both on-farm and in the wider landscape. This internship identified ways to improve experimental design appropriate to conservation projects (i.e. with limited time-frames and budgets), as well as challenges within this, and proposed recommendations for the feasible application of such approaches within this project in Ometepe. The report from this internship is provided in Annex 4m and FFI's Agricultural Landscapes team is drawing upon this body of work to inform appropriate applications within FFI's programmes.

Activity 4.2 Disseminate findings, outputs and lessons learned amongst stakeholders, through national workshop, local meetings and distribution of materials

In March 2023, the project team held a workshop to share results and lessons learned (meeting minutes provided in Annex 4n). 60 different stakeholders (25% women) participated in this event, including: decision-makers (municipal mayors, INTA's technology transfer and biotechnology directors, MARENA's departmental delegates); project beneficiaries (RAPO members, CAPs and farmer cooperative leaders); and partners (Fauna & Flora, Biometepe, Anahuac). The event was streamed live from the [Ometepe Biosphere Reserve Facebook](#) page. During the event the project team shared lessons from important aspects of the project, and these results motivated the audience to continue working together. A number of local leaders also spoke and highlighted project successes from their perspective, including: Altagracia municipal mayor, Aurora Alvarez; Bague CAP president, Mardonio Castillo; RAPO president, Jaritza Morales; INTA Extension Director, Pedro Pablo Benavidez; and ANAHUAC R.L President, Brandon Ríos. Key themes of the feedback shared included the value of coordination amongst the project's diverse stakeholders, the importance of NGO support to local institutions (such as the CAPs), and the potential for continued application of the agroecological expertise gained during the project.

Activity 4.3 Disseminate project outputs and lessons learned via FFI's networks in the UK and globally

The project also disseminated learning through Fauna & Flora's UK and global networks. In September 2022, the UK-based project lead presented learning from the project back to the Biodiversity Challenge Fund Expert Committees at their cross-Expert Group event in Oxford (see Annex 4o). Experiences from the project on working in partnership to deliver conservation impact were shared by the UK-based project lead through an internal partnership working group in December 2022 (23 participants) and will be shared with external stakeholders at a dedicated symposium in May 2023. In January 2023, the intern hosted by FFI's Agricultural Landscapes team shared learning from his internship through an internal working group session, bringing together specialists on monitoring & evaluation, agriculture, and livelihoods (8 participants, 5 female, 3 male

– see Annex 4m). Preparations are underway for our Climate & Nature Linkages team to share the project experiences, as an example of locally led adaptation, at a Canadian forum linked to Earth Day in April 2023.

3.2 Progress towards project Outputs

Output 1. Community-led forest protection and wildlife conservation are strengthened, supported by greater public engagement and action.

- *Baseline condition:* Biosphere Reserve status had raised local awareness of ecological dependencies. Grassroots commitment to conserving Ometepe’s natural heritage was strong. Limited capacity to protect and conserve the island’s natural resources.
- *Current condition:* Active community involvement in environmental monitoring and conservation actions. Four Community Commissions (established in Y1, 30 members, 45% female) conduct regular forest protection and fire prevention **patrols across 2,150 hectares of forest** (evidence from Commission patrol records). **110 hectares have been planted with 44,220 native forest and fruit trees** (evidence from Biometepe agroextension records). **600 farmers better understand their ecological dependencies** (evidence from socioeconomic survey and CAP meeting minutes), which increases their capacity to influence local level resource management decisions.
- *Likelihood of achieving Output:* Achieved (targets exceeded).

Indicator 1.1 Area of forest and wetland habitat within core/buffer zones protected through community-led patrols (baseline 900 hectares; target 1,500 hectares at EoP).

- **2,150 ha** of forest continue to be protected through community-led patrols (600 ha in Mérida and Santa Cruz, 750 ha in Bague and Madroñal, 400 ha in La Palma and Corozal, 200 ha in the Peña Inculca Wildlife Refuge, 125 ha in Pull and 75 ha in Las Cuchillas) – as evidenced by patrol reports (example patrol report provided in Annex 4a and a schematic map of the area patrolled is provided in Annex 4b. Compiled data will be provided as an annex to our final report).

Indicator 1.2 Area of land reforested or under agroforestry in the agricultural buffer zone and number of native forest and fruit trees planted (targets: 75 ha and 30,000 trees by EoP).

- **60,794** native forest and fruit trees planted (average sapling survival rate ~73% = **44,220** saplings) across **110 ha**, of which: 19,200 inside the core protected areas (including Peña Inculca Wildlife Refuge) and 25,020 in agricultural buffer zone (75% of beneficiary farmers have assigned areas for reforestation and/or live fences on their farms). Species planted include: *Sterculia apetala*, *Brosimum alicastrum*, *Gliricidia sepium*, *Bursera simaruba*, *Ceiba pentandra*, plus fruit trees.

Indicator 1.3 Number of islanders (beneficiary farmers, school children, youth, wider community) engaged in ecological monitoring and associated conservation actions (targets: 100 in Y1, 200 in Y2, 250 by EoP, of which at least 40% female).

- **~350** islanders actively engaged (38% female): **30** members of Community Commissions; **160** people involved in reforestation efforts; **15** private landowners involved in YNP protection; **24** community members involved in YNP monitoring and **46** more in migratory bird monitoring; **38** farmers involved in on-farm bio-monitoring, **12** CAP members involved in freshwater monitoring and conservation, **25** RAPO members promoting biodiversity-friendly farming practices amongst their peers.

Indicator 1.4 Increase in number of islanders (of a proportional and gender balanced sample of beneficiary farmers, school children, youth, wider community) who are able to articulate the connections between conservation, the water cycle and their livelihoods, between project start and end.

- **~870** islanders with improved understanding and knowledge of links between ecological dependencies and local livelihoods: including 95% of all beneficiary farmers, CAP members,

plus young people and students engaged in conservation contests and awareness event, including the YNP festival (**328** in Y3, ~50% female). Evidence from register of beneficiary farmers involved in biomonitoring (Annex 4h), CAP meeting minutes, socioeconomic survey (Annex 4j) and records of awareness events.

Output 2. Sustainable agroecological production is adopted by Ometepe's farmers, generating livelihood and biodiversity benefits and strengthening local adaptation to climate change.

- *Baseline condition:* FFI-supported agroecological production (pre-project) produced measurable benefits for 75 farming families, in year-round production and resilience to local climate impacts (Mena, 2018). However, these benefits were insufficient to foster new social norms and promote widespread uptake of agroecological production across the island.
- *Current Condition:* Farmers from 252 farming households (HHs) have accessed agroecological extension support and have improved knowledge, skills and resources to sustainably improve their agricultural production (evidence from Biometepe extension support records). 90% of beneficiary farmers are implementing at least six agroecological practices on their plots, and 92% are reporting financial profits. 25 farming households actively participate in the RAPO peer learning network, providing a basis to adapt and support each other in the short and long term (evidence from RAPO meeting minutes).
- *Likelihood of achieving Output:* Largely achieved (some targets exceeded).

Indicator 2.1 No. of female and male farmers trained in agroecological practices (baseline 26 women, 62 men; target 380 of those identified as most vulnerable and/or farming priority sites for conservation by EoP, of which at least 40% female).

- **450** farmers (30% female) across ten farming communities trained in agroecological practices, via 34 training sessions (24 in Y1; 10 in Y2). **600 farmers** from 252 farming HH have received on-farm agroecological support and training (~2 visits/month/HH); 26% of beneficiary farms are led by women. Evidence from register of beneficiary farmers (Annex 4h).

Indicator 2.2 No. of farming households (HH) identified as most vulnerable and/or farming near forest/wetland areas who have adopted agroecological production (baseline: 40HH; target: 200HH, by EoP).

- **252 beneficiary farming** HH have access to the necessary skills and resources to implement new agroecological practices to improve yields and resilience. Y3 surveys show that 90% of beneficiary farmers are - now implementing at least six agroecological practices on their plots (increasing from 90% implementing >3 in Y2) - e.g. 84% have stopped agricultural burning, 84% incorporate stubble, 75% reforesting areas on their farms (through planting forest trees and/or allowing natural regeneration), 84% are mulching to improve water retention of the soil, 69% are using organic inputs (compost, liquid fertilizer from vermiculture or mycorrhiza). As a result, 92% of beneficiary farmers report that their farms are generating financial profits. Evidence from register of beneficiary farmers (Annex 4h).

Indicator 2.3 No. of hectares of existing agricultural land applying agroecological practices (baseline: 220 ha; target: 1,000 ha by EoP. Total agricultural land is ~10,400 ha).

- Across the beneficiary farms, agroecological practices are now being applied across **1,010.40 ha** – i.e. 69% of the total area of these farms (see Annexes 4h and 4j)

Indicator 2.4 Reduction in no. of new incursions into forest by beneficiary farmers / in forest areas adjacent to beneficiary farmers' fields, between start of engagement with farmers to project end (baseline: 60 incursions observed in 2018; target: 30% year-on-year reduction).

- Due to sensitivities in collecting data on-the-ground relating to incursions, and lack of government Support for collecting such data, progress against this indicator will be assessed through EoP analysis of Global Forest Watch data.

Indicator 2.5 No. of farmers actively sharing agroecological practices and experiences and promoting conservation to other farmers, through RAPO participation (baseline: 25; target: 60 by EoP, of which at least 35% female).

- Membership of the RAPO network has remained stable during the project period. Accordingly, **25 farming families actively** participate in RAPO's peer-to-peer network, 28% of which are female-headed households. Farmer-to-farmer learning exchange has enabled RAPO members to reach a further **50 other farmers** to share their agro-ecological practices and experiences, including 15 farming families in the municipality of Tola in mainland Rivas.

Indicator 2.6 Percentage of beneficiary farmers reporting decreased vulnerability of their plots /crops to the local impacts of climate change (target: 80% by EoP, of which at least 50% female).

- In the Y3 agricultural practices survey (subset of 25 beneficiary farmers interviewed): 95% report that agroecological practices (including use of living fences, diversified/phased planting, and not clearing/burning standing forest) are increasing the resilience of their farms to the effects of climate change and economic shocks (including reduced crop losses due to 2021 drought and enhanced production offsetting effects of the pandemic and inflation); 90% report improved soil health (with increased levels of organic matter and nutrients, and intense and diversified biological activity); 78% report improved harvests (evidence in Biometepe survey report, Annex 4j). 92% of beneficiary farmers report that their farms are generating an increase in their financial profits of between 40-70%.

Output 3. Stronger and more equitable relationships established between Ometepe's agroecological producers (farmers and primary processors) and other agricultural market system actors.

- *Baseline condition:* Agroecological production is not driven by the current or potential market. Knowledge of the market systems is limited, and agro-ecological farmers do not have equitable relationships with agricultural market actors.
- *Current condition:* Work under this Output was significantly affected by the pandemic in Y1 and Y2, as markets were suppressed. Nevertheless, market sub-sectors for PMSD and key actors in the market chains have now been identified, with a focus on the market chains for fresh bananas, processed banana chips/flour and banana by-products (high potassium liquid fertilizer made from banana flower stems). RAPO, as one of the more marginalised actors, has better understanding of market systems and PMSD process (evidence from RAPO meeting minutes). Evidence of change at system level comes from strengthened alliances between producers and buyers/intermediaries, so they are better able to negotiate prices, discuss supply quantities and quality, with verbal agreements made regarding the supply of banana chips/flour to local stores and schools.
- *Likelihood of achieving Output:* Partially achieved.

Indicator 3.1 Percentage of agroecological producers (farmers and primary processors) reporting improved relationships with other market actors (target: 40% by March 2020; 80% by EoP of which at least 30% female).

- Of the 25 members of RAPO (44% female), **52%** have obtained better market prices for their bananas (as fresh fruit, or derived products) from local buyers. Of the 5 RAPO members engaged in the production of banana chips/flour, **60%** report improved relationships and communication with their buyers, leading to more robust supply, presentation/packaging and variety of their products (see Annex 4l).

Indicator 3.2. Percentage of agroecological producers reporting a net increase in income from agricultural produce (target: 40% by March 2020; 80% by EoP, of which at least 40% female).

- Of the 15 members of RAPO surveyed (48% female), **100%** report an increase in their net income from their agricultural produce, reporting an average increase in income of 87% (evidence in RAPO's databases).

Output 4. The case of Ometepe Island Biosphere Reserve as a model of conservation and sustainable development is widely known by key stakeholders in Nicaragua, migratory bird specialists and agroecological communities.

- *Baseline condition:* Pre-project, FFI's programme had helped stimulate national and international recognition of the island's natural, cultural and touristic values, resulting in Ometepe's designation as a UNESCO Biosphere Reserve in 2010 and expansion of its core protected areas. The project aligned with national government strategies (of MARENA, INTA, MEFCCA, Ministry of Agriculture and Institute of Forestry) to increase food security and improve productivity (of farms and kitchen gardens), promote conservation, and incentivise sustainable production and agroecology.
- *Current condition:* Project's approach - to promote community-led conservation and reduce local vulnerability to climate change - align with Nicaraguan government strategies and project activities are incorporated into agreed annual workplans with seven government departments. MARENA has approved research permits for YNP and migratory bird monitoring on an annual basis. Data on migratory birds has been shared with the Institute of Bird Populations and the Audobon Society to form part of international MoSI database. Project experiences and lessons have been shared nationally (2 lesson sharing meetings, a webinar, plus additional meetings with stakeholders) and internationally (through Fauna & Flora working group, internship and CNL meeting).
- *Likelihood of achieving Output:* Partially Achieved.

Indicator 4.1 No. of decision makers, influencers, NGO partners, donor agencies and other stakeholders in Nicaragua who have access to project outputs and lessons learned from Ometepe (target: 60 by end of Y2, 100 by EoP, of which at least 40% female).

- **171 stakeholders** (~30% women) have received project information and lessons through participation in three national lesson sharing meetings (120 participants across Y2 & Y3) and one exchange of experiences in Chinandega (NW Nicaragua – 51 participants) – including stakeholders from national government departments (INTA, MEFCCA, MARENA, INTUR, INIFOM), municipal authorities, NGOs (ANAHUAC, Biometepe) and community leaders.

Indicator 4.2 No. of people across FFI's global staff and partner networks who have accessed project outputs and lessons learned from Ometepe (target: 50 by end of Y2, 80 by EoP).

- **38** staff and partners have accessed project outputs and lessons (staff from FFI's Social Equity, Agriculture and Enterprise team, Social Equity & Rights team, Climate & Nature Linkages team, Science team, Americas & Caribbean team, Communications team, and one partner in Belize) mainly through email correspondence and meetings. Further dissemination is planned in Y4.

3.3 Progress towards the project Outcome

We consider the indicators below to be adequate for measuring the intended Outcome.

Outcome: Ometepe's forest and wetland habitats and wildlife, including globally important populations of resident and migratory birds, are protected by community-led conservation and sustainable livelihood practices.

- *Likelihood of achieving Outcome:* Highly likely.

Indicator 0.1 Reduction in number of hectares of habitat in core zones of the Biosphere Reserve lost to agricultural encroachment or affected by anthropogenic fire.

- *Baseline condition:* Average 58 hectares p.a. forest cover loss, with 150 ha affected by fire in 2019. End-of-project [EoP] target: 50% reduction.
- *Current condition and sources of evidence for change:* According to the authorities' official registry, no forest fires have occurred in Y1, Y2 or Y3. However, community-led patrols have recorded six sites affected by agricultural burns, covering an area of ~52ha (two in Y1 covering ~30ha; one in Y2 covering ~10ha; three in Y3 covering 11.8 ha). None of the forest fires were in

the four areas protected and patrolled by the Community Commissions supported by the project. Field observations will be verified by remote sensing data from Global Forest Watch in Y4.

Indicator 0.2 Indices of forest and wetland health and biodiversity, including populations of resident and migratory birds, stable or increasing by EoP compared to baseline.

- **Baseline condition:** Baseline bird surveys conducted in November 2020 and recorded 31,860 observations of 124 bird species (32 migratory species).
- **Current condition and sources of evidence for change:** Follow up surveys in November 2021 recorded 138 bird species (32 migratory species), with initial MoSI monitoring in Y3 recording 35 species of migratory bird – in Y4 the project team will analyse this recent MoSI data with that collected at these sites from 2007). Freshwater monitoring has identified 22 families/subfamilies of macroinvertebrates (including a new species record for Nicaragua) and used to create a standard Freshwater Health Index for the network of community-led freshwater monitoring across the island. Monitoring data shows a reduction in wildlife poaching levels, to near zero in patrolled forest areas - due to both increased levels of protection and more consistent application of fines by the police (however some poaching pressure persists). The project team are working on an analysis of patrol records, which will be available alongside our final reports.

Indicator 0.3 Percentage of target household members reporting improvements in food, income security and community-defined indicators of wellbeing, and improved understanding of links between wellbeing and biodiversity protection (target: 80% by EoP, of which at least 50% female).

- **Baseline condition:** Baseline data collected from sample of 30% of target households (HH) in January 2021 on demographics, household income (recognising that only 50% of HH were maintaining financial records), food security and wellbeing. 60% of HH reported a 20% profit in 2019, increasing to 40% in 2020.
- **Current condition and sources of evidence for change:** **92%** of surveyed agroecological producers (37% female) reported a net increase in their income from agroecological products (raw material and processed products) to end of Y3 (see Annex 4j).

3.4 Monitoring of assumptions

All outcome and output level assumptions remain true.

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

Impact: Ometepe Island Biosphere Reserve is successfully demonstrating how innovative, integrated approaches to biodiversity conservation and ecosystem-based landscape management can generate long-term environmental, economic and social benefits.

Biodiversity: The change expected by project end is that forest cover and biodiversity would be stable or increasing due to reduced agricultural encroachment (driven by multiple livelihood benefits derived by farmers applying agroecological approaches, reducing the need for additional agricultural land), reforestation, agroforestry, and community-led patrols deterring illegal deforestation and extraction of forest resources. Project activities have measurably strengthened agroecological practices and improved climate resilience in 10% of the farms on Ometepe (thereby reducing demand amongst beneficiary farmers for additional farmland), contributed to the reforestation of land (both on-farm and within core protected areas of the Biosphere Reserve), and reduced illegal activities across 2,150 ha of forest protected by community patrols.

Linked to this, the project logic expected that resident and over-wintering neo-tropical migrant bird populations would be stable or increasing by project end, whilst decreases in agricultural run-off and erosion would lead to improvements in freshwater quality in key watercourses. Project activities have generated robust data on resident and migratory bird populations, on-farm biodiversity (including pollinator populations) and freshwater quality, with all indicators stable within the project timeframe.

To date, the project has engaged more than 350 islanders in the protection, monitoring and restoration of Ometepe's habitats and species (including yellow-naped parrot), across 2,150 hectares (8%) of the island. Baseline data on indices of forest and wetland health and biodiversity, including populations of resident/migratory birds and freshwater quality, was collected in Y1.

Ongoing monitoring indicates a reduction in wildlife poaching levels in patrolled forest areas compared to 2020 and no forest fires have been recorded across four patrolled sites. 870 people have a better understanding of the links between forest, soil and water conservation and their livelihoods.

Poverty: This Darwin project is contributing to a reduction in poverty (SDG1) by building the resilience of all of Ometepe's residents, either directly or as indirect beneficiaries of sustained ecosystem services, and reducing their vulnerability to climate-related extreme events and other economic, social and environmental shocks. The project's Theory of Change incorporates: the scaling-up of climate-smart agroecological production to increase livelihood resilience and reduce demand for land (Output 2); and improving access to and equity of local agricultural markets to increase income and alleviate poverty (Output 3). Farmers in 252 households (HH) have improved knowledge, skills and resources to sustainably improve their agricultural production; applying methods compatible with forest, water and soil conservation. As a result of reduced input costs (e.g. through locally produced 'bio-inputs' and year-round harvests, more than half of beneficiary farmers are achieving profits of 65%. Project actions are also contributing to increased family integration – the agro-ecological model generates year-round work (and therefore income) on the farms, reducing migration pressures of young people from farming families to seek work elsewhere. Diversified and phased planting / harvesting cycles also serve to improve both the food security and diet of rural families. Beneficiary farmers' results are already providing a reference for other farms and producers in the area, both inside and outside Ometepe.

4 Project support to the Conventions, Treaties or Agreements

The project supports Nicaragua's compliance with its obligations under the CBD and aligns with national strategies for biodiversity conservation, food security and community development and climate adaptation. Fauna & Flora is in regular contact with MARENA's senior management led by Dinorah Chamorro, CBD focal point in Nicaragua, most recently through meetings and communications about the joint Fauna & Flora and MARENA work plans for 2023, which include activities under this Darwin project. In order to comply with national regulations on the operations of NGOs in Nicaragua, Fauna & Flora maintains regular contact with the Ministry of International Affairs and all our work is governed by agreed workplans with relevant government departments - **MARENA** (Ministry of Environment and Natural Resources), **INTA** (Institute of Agricultural Technology), **INTUR** (Institute for Tourism), **INIFOM** (Institute for Municipal Development), and **MEFCCA** (Ministry of Family, Community, Cooperatives & Associative Economy). Although the project activities do not directly relate to CITES, the data from the monitoring of yellow-naped parrot populations will inform Fauna & Flora's broader work on Ometepe, which addresses illegal trade in this CITES Appendix I-listed species.

5 Project support to poverty reduction

Nicaragua is classified by the World Bank as a lower middle-income country, and rural poverty is high (UNDP, 2019). On Ometepe, the impacts of socioeconomic instability (since 2018), the Covid pandemic (since 2020), and the associated collapse of tourism, have driven many islanders back to subsistence agriculture and contributed to a spike in illegal poaching of wildlife and natural resources (Urtecho, 2019). Worsening economic and livelihood conditions and food insecurity have been exacerbated in recent years by unpredictable weather patterns and Ometepe's vulnerability to increasingly frequent natural disasters (FAO, 2015; Herrera, et al. 2018).

This Darwin project is contributing to poverty reduction (SDG1) by strengthening the resilience of all Ometepe residents, either directly or as indirect beneficiaries of sustained ecosystem services, and reducing their vulnerability to climate-related extreme events and other economic, social and environmental shocks. The project's Theory of Change incorporates: scaling up climate-smart agroecological production to increase livelihood resilience and reduce demand for land (Outcome 2); and improving access and equity of local agricultural markets to increase incomes and alleviate poverty (Outcome 3).

The direct beneficiaries of the project are smallholder farmers in Ometepe. The project has already met its objective of ensuring that > 10% of all farming households in Ometepe (252 HH) have increased capacity to manage their land and natural resources in ways that sustain and improve their livelihoods and resilience to climate change, while reducing biodiversity loss and land and ecosystem degradation (Altieri, 2019; Gaudin et al. 2015; Jose, 2009; Mena, 2019; Sistla, et al. 2016). Beneficiary farmers perceive multiple benefits of agroecological techniques – for example in generating year-round income and in increasing the fertility and productivity of their plots (89% of respondents) – and as a result, 92% of beneficiary farmers report that their farms are generating increased financial profits. Furthermore, 95% of those surveyed indicated that they felt that agroecological practices - such as diversification, reforestation, avoiding burning, and live fences - were helping them to reduce their vulnerability to economic shocks and local impacts of climate change.

The project is also benefiting the residents of Ometepe, who have strengthened their capacity to directly protect and conserve the natural resources and ecosystems of the Biosphere Reserve. Through active participation in environmental monitoring and conservation actions, the project has already achieved its goal of more than 250 islanders having a better understanding of their ecological dependencies (870 to date), improving their ability to influence resource management decisions at the local level (according to Danielsen, et al., 2010, 2014). Community members are motivated to participate in forest and species protection through strengthened social norms (including community commissions established in the first year), increased understanding of biodiversity values and livelihood benefits associated with healthy ecosystems, and incentives linked to agroecological support.

The project has exceeded its target of reaching at least 380 farmers (600 to date, from 252 farms; 26% women) - especially those known to be vulnerable and/or near forest/wetland areas - who have accessed agroecological extension support and have the knowledge, skills and technologies to sustainably increase their agricultural production. These farmers will benefit from access to peer-to-peer learning networks, which will provide a basis for them to adapt and support each other in the short and long term. They begin to benefit from new, stronger and more equitable relationships with market players, which will manifest itself in better conditions and prices for their products at the end of the project.

As a result, the project is likely to exceed its goals of improved food security and income and other community-defined welfare indicators (target: 200 farm households, ≥50% women; to date, 252 farm households in ten communities, ≥26% women), due to increased crop diversity and quality, reduced input costs, year-round harvesting, and increased resistance to pests, diseases, and extreme weather events (Altieri et al. 2015). Dissemination of learning is already facilitating the adoption of agroecological approaches in Ometepe and mainland Nicaragua.

6 Gender Equality & Social Inclusion

Please quantify the proportion of women on the Project Board ¹ .	The project steering committee is made up of 11 people (5 women and 6 men), as follows: <ul style="list-style-type: none"> • Fauna & Flora (5 people; 2 women, 3 men) • Biometepe (3 people; 2 women, 1 man) • RAPO (1 woman) • CAPs (2 men)
Please quantify the proportion of project partners that are led by women, or which have	Fauna & Flora’s Country Director is a woman. Biometepe’s President is a woman.

¹ 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.

a senior leadership team consisting of at least 50% women ² .	RAPO's President is a woman. CAPs are led by men.
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Fauna & Flora strives to ensure gender equality in all its work. The project team builds on existing institutional policies and guidance, including Fauna & Flora's position paper "Gender in Conservation" (FFI, 2019). We recognize that women and men interact with biodiversity and natural resources differently and therefore have different skills, knowledge and perspectives. In Ometepe, as in other rural areas of Nicaragua, women tend to have more domestic responsibilities, fewer rights, more limited access to and control over productive resources and land, and less voice in decision-making than their male counterparts. In general, Nicaraguan culture does not recognize women's important role in and contribution to subsistence agriculture and cash crops. As a result, women are often excluded from access to agricultural extension services, including training, demonstration plots and farmer-to-farmer learning opportunities. In Ometepe, Fauna & Flora has already found that, when invited and included in activities alongside the men, the women in the farm households are active and willing participants, eager to put new knowledge and skills into practice and pass them on to other members of their household. So far in the project, in terms of gender role distribution, we have multiple cases of women proposing that their husbands continue working on the farm while they themselves participate in project activities and training.

Moreover, RAPO is reducing inequality and inequity, allowing women to have a balanced role in the work commissions, management and productive positions. Indeed, women stand out in the areas of adding value to production and marketing, and during Y3, a young woman occupies the presidency and women occupy the positions of coordinators of the processing and finance commissions. RAPO members are leading local market processes, participating in green market processes, and exchanges of experiences. Most of the positions are occupied by women at the board of directors level and other production processes, both in primary production and value-added production.

To assess the potentially gender-differentiated impacts of the project, data collection and monitoring of all relevant indicators have been consistently disaggregated by gender, as shown throughout this report. This includes the number of farms headed by women and the number of women playing a decision-making role in RAPO, women's participation in the application of agroecological practices and technologies, and the number of women participating in conservation actions, e.g. through community commissions.

In Y3, the role and contribution of women in conservation actions and market development activities has been remarkable. Women members of RAPO play a key role, actively participating in organizational processes, value-adding and market processes as well as in agricultural activities, thus contributing to the family economy. During Y3, surveys conducted among RAPO members showed that women prioritize the development of agroecological products and the recording of production and sales costs, and - at the farm level - the production of compost. Surveys in Y3 also showed that women are; prioritizing food production for their families; diversifying small-scale production including backyard animals, vegetable gardens and others; adding value to production to generate higher incomes (chips, corn products, milk by-products and others), and adding value to production to generate higher incomes. See Output indicators 2.1, 3.1 and 3.2 for further evidence related to this paragraph.

In addition, it is critical that our women's empowerment approach also involves men to ensure that women can influence decisions about the management of family farms without exposing them to the risk of gender-based violence. As a positive example, we are seeing women in farming families prioritizing family diets and food security, convincing their husbands to diversify their crops, implement agroecological practices (to reduce pests and vulnerability to extreme weather events) and explore new market opportunities. In addition, as a result of women's strong participation in project activities, the men in their households are actively encouraging them to raise awareness and lead their family's knowledge of agroecological practices and conservation actions.

² 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.

7 Monitoring and evaluation

The Steering Committee is responsible for monitoring and adaptive management, in accordance with the project's Theory of Change. The project monitoring and evaluation plan is designed to capture and provide evidence of change at key stages of the project's impact pathway, based on the project's logical framework and indicators. No significant changes have been made to the project monitoring and evaluation plan and associated data collection methods and tools. Fauna & Flora and Biometepe staff are responsible for data collection and analysis.

Detailed monitoring protocols have been developed during the project cycle to assess changes in habitat health and biodiversity throughout the project, including the annual YNP population census, protocols for monitoring neotropical migratory birds, and local protocols for monitoring agricultural plots by farmers and for monitoring water quality and flow in priority watercourses. Under Biometepe's leadership, baseline data on agricultural practices and knowledge, attitudes and perceptions have been collected to assess changes from baseline to the end of the project.

All protocols and information generated are shared among project partners. This includes sharing project information, monitoring methods and learning with government and other stakeholders, including those working in other agricultural landscapes in mainland Nicaragua.

In February 2023, two of the FFI Nicaragua team travelled to FFI's head office in the UK to undertake technical training in Monitoring, Evaluation and Learning (MEL) to develop their key skills and help improve how we apply MEL in our projects. Bringing their learning back to this project has enabled us to reflect on the information being generated, in what form (qualitative, quantitative, where stored, etc), the methods and technologies that we are using to collect data, and the analyses required to better evidence cause and effect in our projects. Fauna & Flora recognises the need to accompany project teams and partners to improve how we design and apply MEL within our projects. During the final 3 months of the project we will be working to review the information generated through this project to better draw inferences of its impact and strengthen our evidence for change, and apply this for future effective and adaptive project management.

8 Lessons learnt

Lessons from previous years still apply. New lessons learnt this year include:

☺ *Importance of effective local partnerships and relationships:* Community support for this project has endured, thanks to the healthy and productive partnership between Fauna & Flora and Biometepe, and positive relationships with broader community stakeholders and project beneficiaries (through RAPO, CAPs and other outreach activities). Furthermore the development and design of the project was based on substantial and prolonged engagement with local stakeholders, essential under the current conditions in which NGO's operate in Nicaragua. Fauna & Flora has been an umbrella for Biometepe to develop and strengthen its institutional systems, while Fauna & Flora has the support of Biometepe in the territory, achieving an effective symbiosis.

☹ *Design of project monitoring indicators.* Whilst the indicators of biodiversity impact within this project are logical and monitoring protocols are well designed, the fact that a range of biodiversity targets mean that there is a considerable amount of work to measure and track progress against these indicators. Also, the level of analysis needed to infer cause and effect, and tease out project impact from external factors, is considerable. Additional work on the monitoring framework at outset would have helped avoid misunderstanding relating to sources of verification. Furthermore, more budget was required to cover the costs of certain monitoring activities (e.g. MoSI). We are working on improving management of monitoring information generated, with FFI's Science team supporting on improved design of databases.

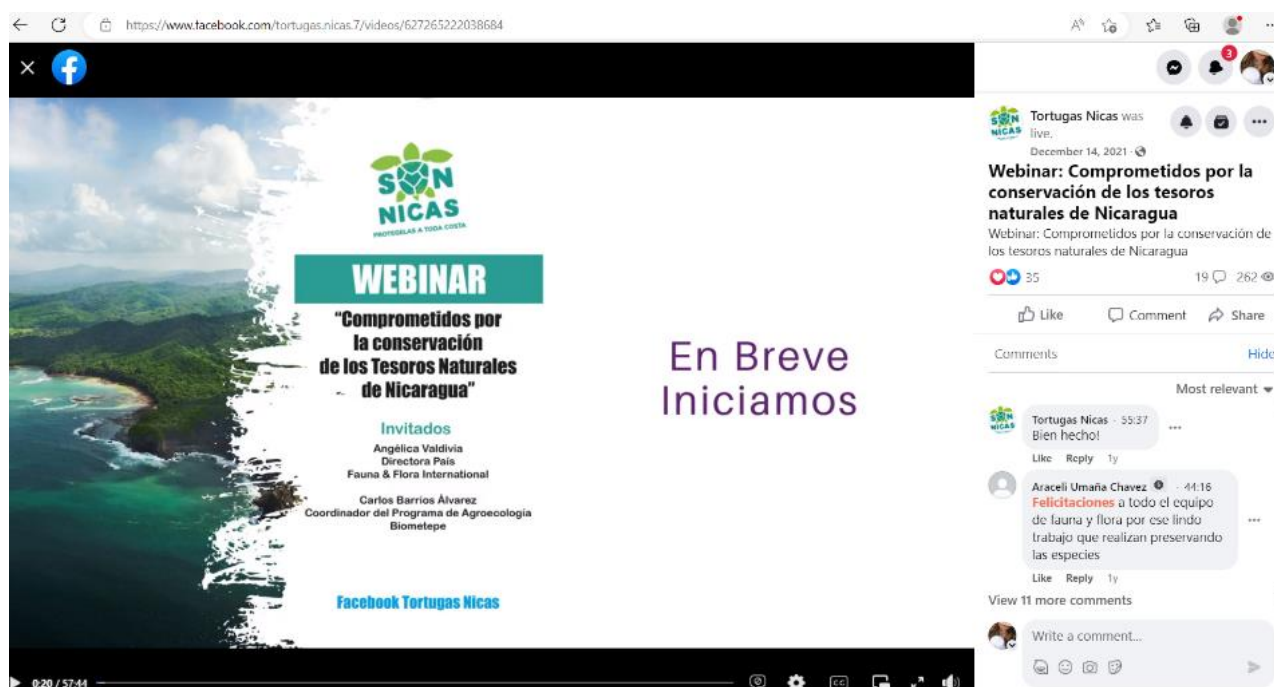
9 Actions taken in response to previous reviews (if applicable)

Reviewer Comment 1:

A report is written up per patrol and an example report is provided as in Annex 4a. We can provide a compilation of all patrol reports with our final report, if needed.

Reviewer Comment 2:

Data on the number of webinar attendees came from the Facebook generated performance insights into Facebook Live attendees (>500) and subsequent views (262).



Reviewer Comment 3:

As requested by the Reviewer, this information is provided in Annexes 4c, d, f, and h.

Reviewer Comment 4:

The project is engaging community members on the issue of forest fires through the fire awareness talks and training delivered across more than ten communities on Ometepe. The project is also engaging local people in patrols to reduce the incidence of forest fires in key forest areas compared to pre-project levels through the Community Commissions. We therefore believe that the project includes locally appropriate interventions to engage community members on this issue.

10 Risk management

During Y3, there have been no risk events that have necessitated significant adaptations to the project, and there are no changes to the risks already shared with Darwin by the project.

Nevertheless, during Y3, the project team have worked with Fauna & Flora’s International Health Safety & Security (HSS) Manager to complete a HSS Audit to identify needs and gaps in security and safety processes for our operations in Nicaragua – across standard operating procedures, contingency plans, incidence response and training needs. Following a prioritisation process, we are now updating relevant procedures and training as needed.

11 Other comments on progress not covered elsewhere

N/A

12 Sustainability and legacy

Profile: Government support for project actions have enabled us to increase the profile of the project locally and nationally. The project has generated knowledge and capacity for the application of agroecological practices, knowledge sharing and community-based conservation actions. It has capitalised upon interest amongst farmers and other local stakeholder to apply these approaches on their farms, both those on Ometepe and in mainland Nicaragua, as evidenced by rapid increase in

uptake at the start of the project and the stated interest of stakeholders (farmers, farmer networks, community cooperatives and INTA) in Tola and Chinandega to apply similar approaches.

Open access: Experiences and lessons from the project have been shared with island stakeholders, decision makers and through relevant national and regional fora. Locally, this has been achieved through the relationships and networks established by Fauna & Flora on Ometepe - through Biometepe, RAPO, among farmer beneficiaries and through broader community events. At a national level, we have responded the interest of municipal authorities and NGOs working in other districts of mainland Nicaragua to learn from the project experiences and replicate the project approach - in Y2 and Y3 the project shared experiences were through nine events and farming communities in mainland municipalities are now replicating both agroecological practices and YNP conservation actions. We have also articulated with the Regional Commission for Agricultural Research and Innovation for the Pacific region of Nicaragua, which was established as a forum for government, private sector and NGO actors to share experiences and research on new agroecological practices and technologies and to inform the development of new initiatives. All outputs produced in relation to capacity building and awareness raising are made available in appropriate formats to facilitate knowledge sharing and access.

Exit strategy & Legacy: This project has employed a progressive approach, combining institutional capacity building and training of partners and beneficiaries, with promotion of sustainable livelihood activities and associated benefits, and strengthening of peer networks. The sustainability of biodiversity benefits is underpinned by the project's focus on building conservation capacity, raising awareness and reducing drivers of biodiversity loss. Continuing to partner with local community cooperatives, including Biometepe and Anahuac, to build their institutional and technical capacity to deliver well designed, effective and impactful conservation, is fundamental to our longer-term exit strategy. Alongside this, project strategies to support sustainable livelihoods, generate market-driven systemic change, and increase islander resilience, along with actions to motivate community-led conservation, became increasingly relevant and necessary in the context of the Covid pandemic. Consequently, the after-effects of the "shock" of the Covid pandemic may require additional investment to continue the project's legacy of safeguarding biodiversity and sustainable livelihoods on Ometepe for years to come.

13 Darwin Initiative identity

This Darwin Initiative project is part of the integrated Fauna & Flora conservation program in Ometepe, however, the project has a clear identity among project partners and stakeholders. In all meetings with government departments, Darwin Initiative and UK government support for shared priority activities is acknowledged and recognised. Through these links we continue to build understanding of the Darwin Initiative's objectives and approach among project stakeholders in Nicaragua.

A dedicated page on the Fauna & Flora website (<https://www.fauna-flora.org/projects/improving-sustainable-use-natural-resources-ometepe>) acknowledges the support of the Darwin Initiative. Neither the project nor FFI Nicaragua have dedicated social media channels, however, dissemination of project activities (meetings, events, experience exchanges) and achievements are done through the [Ometepe Biosphere Reserve Facebook page](#) and via [Biometepe's Facebook page](#), using the hashtag [#DarwinInitiative](#). Posts are also linked to Fauna & Flora using the hashtag @FaunaFlora. Wherever possible and appropriate, we have explicitly publicized the Darwin Initiative and its support for this project, using the Darwin Initiative and UK Government logos on invitations to meetings and workshops, on participant lists, and on awareness materials and other publications resulting from the project.

14 Safeguarding

Has your Safeguarding Policy been updated in the past 12 months?	Yes (May 2022)
Have any concerns been investigated in the past 12 months	No



Does your project have a Safeguarding focal point?	[REDACTED] We are also in the process of recruiting a new Programme Assistant in Nicaragua, who will be trained as our in-country safeguarding focal point.	
Has the focal point attended any formal training in the last 12 months?	Yes. FFI has an internal Learning Management System, which enables online training in policies and procedures. All FFI staff are required to attend compulsory safeguarding training, including: Safeguarding essentials; FFI's Safeguarding Children and Vulnerable Adults Policy. Mandatory organisation-wide training on the update policy is therefore underway.	
What proportion (and number) of project staff have received formal training on Safeguarding?	Received: 78% [11]	Planned: 22% [3]
Has there been any lessons learnt or challenges on Safeguarding in the past 12 months? Please ensure no sensitive data is included within responses. N/A		
Does the project have any developments or activities planned around Safeguarding in the coming 12 months? If so please specify. Remaining project staff to complete their mandatory training.		

In addition to project-specific safeguarding measures, FFI's global work is underpinned by a set of overarching policies related to safeguarding, specifically:

FFI's Safeguarding Children and Adults at Risk Policy and Procedure; FFI's anti-bullying and harassment policy; The Fauna & Flora Whistleblowing Policy; and FFI's partner due diligence procedures include checking whether any safeguarding issues have arisen with the partner in question. The Safeguarding Children and Adults at Risk Policy and Procedure forms part of contracts and agreements with third party contractors and sub-contractors. In addition, we monitor updates to Government and Charity Commission guidance and revise our policies and procedures accordingly.

On social safeguards, Fauna & Flora has publicly available position papers on various critical topics, see the links below. Our Social Equity & Rights team supports Fauna & Flora regional staff and partners to adopt a holistic and people-centred approach to biodiversity conservation.

[Fauna & Flora 2013 Position-and-approach-to-conservation-livelihoods-and-governance \(fauna-flora.org\)](https://fauna-flora.org/)

[Fauna & Flora 2019 Position-on-free-prior-and-informed-consent-.pdf \(fauna-flora.org\)](#)

[Fauna & Flora 2019 Position on gender in conservation.docx \(fauna-flora.org\)](#)

[Fauna & Flora 2020 Position-on-rangers-and-human-rights.pdf \(fauna-flora.org\)](#)

[Fauna & Flora 2016 Displacement-and-restrictions-on-access-to-resources \(fauna-flora.org\)](#)

15 Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2021 – 31 March 2022)

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)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Monitoring & Evaluation (M&E)				
Others (see below)				
TOTAL		103,115.8	103,111.3	

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

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

This Darwin Initiative project has successfully catalysed strong community-led conservation actions, contributing to the long-term conservation of the Ometepe Island Biosphere Reserve. Local people have formed four Community Commissions, which are protecting over 2,150 ha of forest. More than 350 islanders are actively engaged in protecting and monitoring Critically Endangered yellow naped parrots, migratory birds, freshwater ecosystems and bio-indicators across the island's agricultural landscape. This is strengthening local knowledge and understanding of the island's wildlife and ecosystem services values and building social norms related to environmental protection. Ometepe residents now have strengthened capacity to directly protect and conserve the natural resources and ecosystems of the Biosphere Reserve and are better able to influence local-level resource management decisions.

Image, Video or Graphic Information:

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)
Image (high res available on request)	Photo1 Joint patrol Community Commission&Police	Community Commissions and Police conduct joint forest protection patrols on Ometepe, Nicaragua. Credit: M Juarez / FFI		No
Image (high res available on request)	Photo2 Freshwater Monitoring	Community-led freshwater monitoring in the Ometepe Island Biosphere Reserve, Nicaragua. Credit: O Sandino / FFI		Yes
Image (high res available on request)	Photo3 Reforestation in Pena Inculta	Local young people engaging in reforestation efforts in the Pena Inculta forest of the Ometepe Island Biosphere Reserve, Nicaragua. Credit: O Sandino / FFI		Yes
Image (high res available on request)	Photo4 Outreach in Schools	Biometepe giving talk about yellow naped parrots in local		No

		school, Ometepe Island, Nicaragua. Credit: K Barrios / FFI		
Image (high res available on request)	Photo5 RAPO members and produce	Members of Ometepe Network of Agroecological Producers display their value-added produce, Ometepe Island, Nicaragua. Credit: E Gomez / FFI		Yes

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2022-2023

NB. Please note that limited activities remain for “next period” as the project end date is 30 June 2023.

Project summary	Measurable Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
<p><i>Impact</i></p> <p>Ometepe Island Biosphere Reserve is successfully demonstrating how innovative, integrated approaches to biodiversity conservation and ecosystem-based landscape management can generate long-term environmental, economic and social benefits.</p>		<p>>350 islanders engaged in the protection, monitoring and restoration of Ometepe’s habitats and species, across 2,150 hectares (8%) of the island.</p> <p>Baseline data collected on indices of forest and wetland health and biodiversity, including populations of resident / migratory birds and freshwater quality. Monitoring against these indicators underway.</p> <p>~870 people (600 farmers and 270 other islanders) have better understanding of links between forest, soil and water conservation and their livelihoods.</p> <p>Reduction in wildlife poaching levels of up to 62% in patrolled forest areas compared to before Darwin Project. No forest fires recorded in four patrolled sites.</p> <p>Farmers from 252 farming households (HH) have improved knowledge, skills and resources to sustainably improve their agricultural production (applying methods compatible with forest, water and soil conservation).</p>	

		Diversified and phased planting / harvesting cycles are serving to improve food security and diet of rural families, and generate year-round work thereby reducing migration pressures for young people away from the island.	
<p>Outcome</p> <p>Ometepe's forest and wetland habitats and wildlife, including globally important populations of resident and migratory birds, are protected by community-led conservation and sustainable livelihood practices.</p>	<p>0.1 Reduction in number of hectares of habitat in core zones of the Biosphere Reserve lost to agricultural encroachment or affected by anthropogenic fire</p> <p><i>Baseline: average 58 ha p.a. forest cover loss, 150 ha affected by fire in 2019; target: 50% reduction by end-of-project [EoP].</i></p> <p>0.2 Indices of forest and wetland health and biodiversity, including populations of resident and migratory birds, stable or increasing by EoP compared to baseline.</p> <p><i>Baseline: Baseline bird surveys conducted in November 2020 and recorded 31,860 observations of 124 bird species (32 migratory species).</i></p> <p>0.3 Percentage of target household members reporting improvements in food, income security and community-defined indicators of wellbeing, and improved understanding of links between</p>	<p>0.1 According to the authorities' official registry, no forest fires have occurred in Y1, Y2 or Y3. However, community-led patrols have recorded six sites affected by agricultural burns, covering an area of ~52ha (two in Y1 covering ~30ha; one in Y2 covering ~10ha; three in Y3 covering 11.8 ha). None of the forest fires were in the four areas protected and patrolled by the Community Commissions supported by the project. Field observations will be verified by remote sensing data from Global Forest Watch in Y4.</p> <p>0.2 Bird surveys conducted in November 2022 to March 2023 recorded 54 bird species (35 migratory species). Freshwater monitoring has identified 22 families/subfamilies of macroinvertebrates.</p> <p>0.3 92% of surveyed agroecological producers (37% female) reported a net increase in their income from agroecological products (raw material and processed products) in the period 2020-2023.</p>	

	<p>wellbeing and biodiversity protection (target: 80% by EoP, of which at least 50% female).</p> <p><i>Baseline data collected from sample of 30% of target households (HH) in January 2021 on demographics, household income (recognising that only 50% of HH were maintaining financial records), food security and wellbeing. 60% of HH reported a 20% profit in 2019, increasing to 40% in 2020.</i></p>	
<p>Output 1. Community-led forest protection and wildlife conservation are strengthened, supported by greater public engagement and action.</p>	<p>1.1 Area of forest and wetland habitat within core/buffer zones protected through community-led patrols (baseline 900 hectares; target 1,500 hectares at EoP).</p> <p>1.2 Area of land reforested or under agroforestry in the agricultural buffer zone and number of native forest and fruit trees planted (targets: 75 ha and 30,000 trees by EoP).</p> <p>1.3 Number of islanders (beneficiary farmers, school children, youth, wider community) engaged in ecological monitoring and associated conservation actions (targets: 100 in Y1, 200 in Y2, 250 by EoP, of which at least 40% female).</p> <p>1.4 Increase in number of islanders (of a proportional and gender balanced sample of beneficiary farmers, school children, youth, wider community) who are able to</p>	<p>1.1 Weekly community-led patrols are now protecting 2,150 hectares of forest (750ha in Mérida and Santa Cruz, 600ha in Bague and Madroñal, 400ha in La Palma and Corozal, 200ha in the Peña Inculca Wildlife Refuge, 75ha in Las Cuchillas, and 125ha in Pull).</p> <p>1.2 In the last three years, a total of 110 ha of forest, with 60,794 native forest and fruit trees planted (average sapling survival rate ~73% = 44,220 saplings) of which 19,200 are in core protected areas such as in the Peña Inculca Wildlife Refuge, with species including <i>Sterculia apetala</i>, <i>Brosimum alicastrum</i>, <i>Gliricidia sepium</i>, <i>Bursera simaruba</i>, <i>Ceiba pentandra</i>, and 25,020 are in agroecological areas;)</p> <p>1.3 ~350 islanders actively engaged (38% female): 30 members of Community Commissions; 160 people involved in reforestation efforts; 15 private landowners involved in YNP protection; 24 community members involved in YNP monitoring and 46 more in migratory bird monitoring; 38 farmers involved in on-farm bio-monitoring, 12 CAP members involved in freshwater monitoring and conservation, 25 RAPO members promoting biodiversity-friendly farming practices amongst their peers.</p> <p>1.4. 870 islanders better understand their ecological dependencies. (~50% female). 95% of beneficiary farmers understand the linkages between agroecological practices and biodiversity benefits (see Annex 4i). 252 agroecological producers, 278 farmers strengthened their capacities,</p>

	articulate the connections between conservation, the water cycle and their livelihoods, between project start and end.	12 members of drinking water committees, 328 as part of festivals and audio-visual contests alluding to conservation.
Activity 1.1 Strengthen and replicate existing community-led forest protection efforts on Ometepe, building protocols and incentives for groups, farmers and young people involved in community-led patrols.	Four Community Commissions for forest protection established, working across six communities, and trained in patrol protocols. The total amount patrolled in the three years corresponds to 600 patrols, with 360 patrols in Y3. The patrolled area is maintained in a total of 2,150 ha of forest under protection, prioritising six key sites for the conservation of the Critically Endangered Yellow-naped Parrot (YNP) population.	Community Commissions to continue patrols.
Activity 1.2, Reforest four priority sites through propagation of seedlings in two community-run nurseries and planting of native forest and fruit trees (11 species / 12 varieties).	In the last three years, a total of 110 ha of forest (44,220 plants which have survived to date) of which 19,200 have been reforested in the Peña Inculca Wildlife Refuge, including <i>Sterculia apetala</i> , <i>Brosimum alicastrum</i> , <i>Gliricidia sepium</i> , <i>Bursera simaruba</i> , <i>Ceiba pentandra</i> . and 25,020 in agroecological areas	
Activity 1.3 Strengthen the protection and ecological monitoring of the yellow-naped parrot population on Ometepe, through community patrols and incentives.	Population census: YNP population 1267 individuals recorded in Y3 surveys. Of the total of 251 chicks born in the 159 active nests, 163 chicks have established themselves in the wild as a result of conservation efforts at these sites, representing a ratio of at least one chick per protected nest,	Analysis of datasets generated

	65% protection rate, of individuals that managed to fledge and evade extraction.	
Activity 1.4 Train three community members in MoSI protocols and conduct annual monitoring of overwintering neo-tropical migratory birds.	24 young people (16 male, 8 female) trained in bird identification. 8 community members with knowledge and skills to apply the protocol for migratory bird monitoring on Ometepe. 22 community volunteers actively monitoring in MoSI stations.	Analysis of datasets generated
Activity 1.5 Design protocols for farmer-led monitoring of birds, insects (including pollinators) and other wildlife, and support their implementation on farmers' cultivated and forested lands.	Protocol for farmer-led monitoring of biodiversity (birds & insects) on farm plots developed in Y1 and improved/updated in Y3. On-farm biodiversity monitoring data (on soil, birds, insects) collected across 54 agroecological plots, largely collected by young people. 38 producers (9 women and 29 men) participated.	Analysis of datasets generated
Activity 1.6 Strengthen community engagement in monitoring freshwater quality/flow, updating and implementing protocols in collaboration with existing network of Drinking Water Committees.	Protocol for local-led freshwater monitoring developed and implemented, incl. monitoring of macroinvertebrates as indicators of water quality. Twelve people from Drinking Water Committees (CAPs), including 8% women and from 4 communities, trained in application of protocols. Catalogue of freshwater invertebrates updated, including new record for <i>Euthyplocia sp.</i>	Analysis of datasets generated

<p>Activity 1.7 Create a series of six targeted biodiversity conservation awareness messages for Ometepe, and disseminate through talks at local schools, community events and other fora.</p>	<p>6 shortlisted environmental awareness messages, including "<i>Caring for our parrots is loving Ometepe</i>", selected and shared via social media, activities in schools and community events, including a community theatre and a local 'expo' fair in collaboration with INTUR and municipal authorities - reaching an estimated 847 adults and children (49% female) during the project, including 513 people in Y3.</p> <p>Biometepe social media reached 48,970 people.</p>	
<p>Activity 1.8 Hold an Ometepe-wide contest in Youth Leadership in Conservation, to inspire and nurture future conservationists, and hold twelve youth fora using interactive Arts and audio-visuals.</p>	<p>A total of 16 talks reaching 328 young people (49% female) through awareness talks on the conservation of natural resources, with emphasis on the protection of yellow-naped parrots.</p>	
<p>Activity 1.9 Analyse changes in knowledge, attitudes and behaviours regarding biodiversity conservation on Ometepe amongst islanders.</p>	<p>Respondents asked if forest protection is important for the wellbeing of the community, 100% answered yes. Among benefits identified were.</p> <ul style="list-style-type: none"> - Climate regulation (more rain, better temperature). - Better family health (better harvests, cleaner air, supply of wood and other resources). - Improved biodiversity (beneficial insects and birds, wildlife refuge, attracts tourism). 	<p>Analysis of datasets generated</p>

		<p>- Improved production (less competition from animals and insects for food that no longer attack crops, more stable climate, less soil erosion).</p>	
<p>Output 2. Sustainable agroecological production is adopted by Ometepe's farmers, generating livelihood and biodiversity benefits and strengthening local adaptation to climate change.</p>	<p>2.1 No. of female and male farmers trained in agroecological practices (baseline 26 women, 62 men; target 380 of those identified as most vulnerable and/or farming priority sites for conservation by EoP, of which at least 40% female).</p> <p>2.2 No. of farming households (HH) identified as most vulnerable and/or farming near forest/wetland areas who have adopted agroecological production (baseline: 40HH; target: 200HH, by EoP).</p> <p>2.3 No. of hectares of existing agricultural land applying agroecological practices (baseline: 220 ha; target: 1,000 ha by EoP. Total agricultural land is ~10,400 ha).</p> <p>2.4 Reduction in no. of new incursions into forest by beneficiary farmers / in forest areas adjacent to beneficiary farmers' fields, between start of engagement with farmers to project end (baseline: 60 incursions observed in 2018; target: 30% year-on-year reduction).</p> <p>2.5 No. of farmers actively sharing agroecological practices and experiences and promoting conservation to other farmers,</p>	<p>2.1 600 farmers from 252 farming HH have received on-farm agroecological support and training (~2 visits/month/HH); 30% of beneficiary farms are led by women.</p> <p>2.2 Of the 252 farming households, 90% now implementing six or more agroecological practices in Y3. 92% of beneficiary farmers report farms generating profits</p> <p>2.3 Agroecological practices are being applied across 1,010 ha of agricultural land. This is equivalent to 69% of the overall land area of the 252 beneficiary farmers' plots.</p> <p>2.4 Data being collated (see comment on Indicator 2.4 in section 3.2 of the report.</p> <p>2.5 As per the Y2 report, 25 farming families actively participate in RAPO's peer-to-peer network, 7 (28%) of which are female-headed households. Following farmer-to-farmer learning exchange involving 50 further farmers, 15 new farming families in the municipality of Tola in mainland Rivas are applying new agroecological practices.</p>	

	<p>through RAPO participation (baseline: 25; target: 60 by EoP, of which at least 35% female).</p> <p>2.6 Percentage of beneficiary farmers reporting decreased vulnerability of their plots/crops to the local impacts of climate change (target: 80% by EoP, of which at least 50% female).</p>	<p>2.6 95% of those interviewed indicated that the vulnerability to climate change has decreased with the use of agroecology, indicating that forest conservation, no burning, and live fences are the agroecological practices that contribute the most to reducing the effects of climate change.</p>
<p>Activity: 2.1 Deliver nine training modules for Biometepe's agroecological extensionist team on crop diversification, soil conservation, use of mycorrhizae, composting, agroforestry and biodiversity conservation.</p>		<p>During the project period, Biometepe's technical team (7 agronomists, one woman) has been trained in 16 different agroecology topics. As a result, the agroecology team has improved its capacities and the quality of the technical monitoring of agroecological farms.</p>
<p>Activity 2.2 Provide agroecological training and extension support to 200 farming households to improve productivity, competitiveness and ecological benefits, and reduce vulnerability to climate impacts.</p>		<p>In total 252 farming families have received technical assistance over the three years of the project, an average of two visits per month, 32 trainings were given directly to the agroecological families. By the Biometepe team ~600 people from 252 farming HH have received on-farm agroecological support and training (~2 visits/month/HH); 30% of beneficiary farms are led by women.</p>
<p>Activity 2.3 Provide beneficiary farmers with the tools, seeds and other resources necessary for the adoption of new biodiversity-friendly practices and technologies.</p>		<p>During the three years of the project, farmers have been supported with the provision of tools and seeds of improved varieties and seedlings for the adoption and improvement of production. The work in coordination with INTA has been essential to</p>

	ensure that the seed varieties provided (for annual crops, basic grains, vegetables, as well as fruit and forest plants/trees) are locally appropriate and recommended for Ometepe farmers, in terms of high nutritional value, ease of production and resistance to pests and diseases. This has benefitted 160 producers.	
Activity: 2.4 Deliver fire awareness talks and training for farmers across at least ten communities on Ometepe.	In coordination with MARENA, Fauna & Flora & Biometepe delivered 21 fire awareness talks, reaching 670 people.	
Activity: 2.5 Support RAPO's bimonthly meetings and help Network members to design and deliver 6 training modules per year to encourage the adoption of agroecological practices.	During the period from Y1 to Y3 of the project, 13 training sessions were held for RAPO members with the objective of strengthening skills and abilities in organizational strengthening, bio-inputs and market systems in order to promote the adoption of agroecological techniques. 25 RAPO members (11 women and 14 men) have participated in these processes.	Continue support to RAPO
Activity: 2.6 Facilitate peer learning through farm open-days and exchange visits (>6 per year, including one visit to successful agroecological model in mainland Nicaragua).	A total of 14 field days were organized and carried out, with the participation of 362 people (35% women), from various communities on the island and other locations in Nicaragua.	

<p>Activity 2.7 Evaluate progress and impact through agricultural practices survey and participatory socioeconomic impact assessment of target households.</p>	<p>In Y3, 252 producers in the implementation of agroecological practices and technologies in 10 communities of Ometepe. The total area worked by the 252 producers is 1,460 hectares, of which 1,010 ha are currently being partially managed with agroecological practices (at least 6 practices applied by each producer); that is 69% of the producers' areas. (see also Activity 1.9)</p>	<p>Analyse datasets generated.</p>
<p>Output 3. Stronger and more equitable relationships established between Ometepe's agroecological producers (farmers and primary processors) and other agricultural market system actors.</p>	<p>3.1 Percentage of agroecological producers (farmers and primary processors) reporting improved relationships with other market actors (target: 40% by March 2020; 80% by EoP of which at least 30% female).</p> <p>3.2. Percentage of agroecological producers reporting a net increase in income from agricultural produce (target: 40% by March 2020; 80% by EoP, of which at least 40% female).</p>	<p>3.1 52% of the raw material producers (banana fruit) who are members of RAPO, i.e.13 producers have obtained better market prices for the delivery of selected fruits to community buyers; three banana processors who are members of RAPO (3 out of 5 or 60%) report better communication with their clients, improved deliveries, product presentation and product variety (mixed chips).</p> <p>3.2 At the end of the project, 25 RAPO producers (100%) have improved their net income by 87%, receiving profits (52% men and 48% women) (see RAPO database).</p>
<p>Activity 3.1 Drawing on expertise within project team, review and select market sub-sectors on Ometepe that best meet economic and biodiversity criteria for 'Participatory Market Systems Development'.</p>	<p>In Y3, the following market subsectors were selected</p> <ul style="list-style-type: none"> - Commercialization of Banana raw material - Banana processing for the elaboration of banana chips and banana flour. - Elaboration of bio-inputs as alternatives for the commercialization of bio-inputs. 	<p>N/A</p>

<p>Activity 3.2 Deliver market literacy training, to include approaches for engaging key actors and empowering marginalised actors in the market chain</p>	<p>Market training and technical assistance were provided in Y1 to improve the relationship between the links in the chain, with follow up support provided in Y2.</p> <p>In Y3 RAPO market initiatives and other market subsectors trained have better understanding of PMSD and put into practice fair market techniques and are able to interact and establish strategic alliances with other actors. 25 producers (9 women 16 men) were trained in market development and 10 producers (5 women and 5 men) were trained in market access and negotiation skills.</p>	<p>Continue technical support to marginalised actors.</p>
<p>Activity 3.3 Facilitate participatory market mapping, capacity assessment and action planning workshops (3 days) for each market sub-sector.</p>	<p>As a result of the implementation of the Plantain Chain Mapping Workshop with market stakeholders in Ometepe, a document is available that identifies the main actions for marketing, processing and definition of strategies to increase the value added of plantain in local and national markets.</p> <p>31 participants were pre-selected, and a diverse market chain was identified (see Activity 3.3 in main report)</p>	<p>N/A</p>
<p>Activity 3.4 Provide training in quality control, storage, handling and processing, alongside mentoring beneficiary producers in developing market relationships, meeting market demand and negotiating higher market prices.</p>	<p>Producers have successfully adopted food safety techniques for their production processes and are promoting their food safety techniques to other initiatives,</p>	<p>Continue technical support to marginalised actors.</p>

		<p>exchanging knowledge and experiences. RAPO has equipment and tools to process food and products derived from the banana value chain.</p> <p>Three trainings were held in Y3 involving a total of 39 participants (see Activity 3.4 in main report).</p>	
Activity 3.5 Hold triannual monitoring meetings with market actors and facilitate visits for producers and traders to mainland markets to better understand value chains for their products.		Three follow-up visits to the market subsectors were organized every 3 months, within the results and scope of these visits we found that the initiatives are interacting and establishing future strategic alliances to improve their commercialization processes.	Continue technical support to marginalised actors.
Activity 3.6 Evaluate progress and impact through facilitation of annual evaluation workshop for beneficiary producers and market actors (alongside Activity 2.7).		The project's actions were evaluated with all market, social and governmental stakeholders.	Compile and analyse learning from process.
<p>Output 4. The case of Ometepe Island Biosphere Reserve as a model of conservation and sustainable development is widely known by key stakeholders in Nicaragua, migratory bird specialists and agroecological communities.</p>	<p>4.1 No. of decision makers, influencers, NGO partners, donor agencies and other stakeholders in Nicaragua who have access to project outputs and lessons learned from Ometepe (target: 60 by end of Y2, 100 by EoP, of which at least 40% female).</p> <p>4.2 No. of people across FFI's global staff and partner networks who have accessed project outputs and lessons learned from Ometepe (target: 50 by end of Y2, 80 by EoP).</p>	<p>4.1 171 participants in total have joined national lesson sharing meetings and exchanges (see Section 3.2) including government and municipal authorities, NGOs and communities.</p> <p>4.2 38 staff and partners have accessed project outputs and lessons (staff from FFI's Social Equity, Agriculture and Enterprise team, Social Equity & Rights team, Climate & Nature Linkages team, Science team, Americas & Caribbean team, Communications team, and one partner in Belize) mainly through email correspondence and meetings.</p>	

<p>Activity 4.1 Collate results from monitoring (of resident and migratory birds, forest cover, agroecological biodiversity and freshwater), conservation actions (patrols, reforestation), socio-economic and KAP surveys.</p>	<p>Data is being recorded in accordance with established project protocols and held in Excel / Survey 123 databases. Key variables and indicators from the collated data can be found in Activities 1.1-1.7 of the logframe and main report.</p>	<p>Fauna & Flora and Biometepe will work to analyse data from project activities and monitoring to strengthen inferences across datasets.</p>
<p>Activity 4.2 Disseminate findings, outputs and lessons learned amongst stakeholders through national workshop, local meetings and distribution of materials.</p>	<p>In March 2023, lesson sharing workshop held by Fauna & Flora and Biometepe with 60 stakeholders (25% women) see Activity 4.2 in main report for full list of stakeholders.</p>	<p>N/A</p>
<p>Activity 4.3 Disseminate project outputs and lessons learned via FFI's networks in the UK and globally, through digital media and internal and external presentations.</p>	<p>Key learning activities in Y3 included:</p> <ul style="list-style-type: none"> - Presentation to BCF expert committee - Fauna & Flora agriculture and biodiversity internship - Internal partnership working group at Fauna & Flora 	<p>Sharing of project experiences, as an example of locally led adaptation, at a Canadian forum linked to Earth Day in April 2023, in collaboration with FFI Climate & Nature Linkages team</p> <p>Sharing of project experiences through FFI's Impact Working Group.</p>

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

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Impact: Ometepe Island Biosphere Reserve is successfully demonstrating how innovative, integrated approaches to biodiversity conservation and ecosystem-based landscape management can generate long-term environmental, economic and social benefits.</p>			
<p>Outcome: Ometepe’s forest and wetland habitats and wildlife, including globally important populations of resident and migratory birds, are protected by community-led conservation and sustainable livelihood practices.</p>	<p>0.1 Reduction in number of hectares of habitat in core zones of the Biosphere Reserve lost to agricultural encroachment or affected by anthropogenic fire (baseline: average 58 ha p.a. forest cover loss, 150 ha affected by fire in 2019; target: 50% reduction by end-of-project [EoP]).</p> <p>0.2 Indices of forest and wetland health and biodiversity, including populations of resident and migratory birds, stable or increasing by EoP compared to baseline.</p> <p>0.3 Percentage of target household members reporting improvements in food, income security and community-defined indicators of wellbeing, and improved understanding of links between wellbeing and biodiversity protection (target: 80% by EoP, of which at least 50% female).</p>	<p>0.1 Remote sensing data from Global Forest Watch forest cover maps and deforestation alerts; Reports from community-led patrols; Direct observations of land use and agricultural encroachment in core/buffer zones.</p> <p>0.2 Annual population census of resident yellow-naped parrot (CR); Annual monitoring records of overwintering neo-tropical migratory birds from MoSI station; Report compiling data from farmer-led monitoring of birds/insects on farm plots and forest fringes (at project start and EOP); Collation of data from Drinking Water Committees and community-led monitoring of freshwater quality (incl. measures of sedimentation, invertebrates) and flow in rivers and wetlands (at project start and EoP).</p> <p>0.3 End-of-project Socio-economic Participatory Impact Assessment, with data disaggregated by gender; Knowledge, attitudes and practices (KAP) survey, with data disaggregated by gender (at project start and EoP).</p>	<p>The security situation in Nicaragua remains sufficiently stable for Fauna & Flora to continue ongoing operations.</p> <p>No new major drivers of deforestation emerge during the project.</p> <p>No major disruption to ecosystem function on Ometepe - through natural disasters, large-scale pollution or climate change - occur.</p> <p>Ometepe’s populations of migratory birds do not suffer significant decline due to threats in their breeding grounds in North America or on their annual migration.</p> <p>The without-project scenario would likely see worsening of all outcome indicators, in line with national declines in socio-economic conditions and increasing pressures on natural resources.</p> <p>The concession to build a Nicaragua Inter-Oceanic Canal, whose route would cut through Lake Nicaragua, remains dormant and/or does not adversely affect conservation and sustainable development on Ometepe.</p>

<p>Output 1. Community-led forest protection and wildlife conservation are strengthened, supported by greater public engagement and action.</p>	<p>1.1 Area of forest and wetland habitat within core/buffer zones protected through community-led patrols (baseline 900 hectares; target 1,500 hectares at EoP).</p> <p>1.2 Area of land reforested or under agroforestry in the agricultural buffer zone and number of native forest and fruit trees planted (targets: 75 ha and 30,000 trees by EoP).</p> <p>1.3 Number of islanders (beneficiary farmers, school children, youth, wider community) engaged in ecological monitoring and associated conservation actions (targets: 100 in Y1, 200 in Y2, 250 by EoP, of which at least 40% female).</p> <p>1.4 Increase in number of islanders (of a proportional and gender balanced sample of beneficiary farmers, school children, youth, wider community) who are able to articulate the connections between conservation, the water cycle and their livelihoods, between project start and end.</p>	<p>1.1 Reports from community-led patrols; Biometepe's annual conservation reports.</p> <p>1.2 Biometepe's annual agroecological programme reports.</p> <p>1.3 Biometepe's annual conservation reports; Information from community-led biodiversity/freshwater monitoring schemes; FFI's annual report for Ometepe Programme.</p> <p>1.4 KAP survey of beneficiary farmers, school children, youth, wider community, with data disaggregated by gender (at project start and EoP).</p>	<p>Island stakeholders continue willingness to cooperate on biodiversity conservation initiatives.</p> <p>Farming families perceive positive cost-benefit of agroforestry and reforesting land within the agricultural buffer zone and are therefore willing to reforest.</p>
<p>Output 2. Sustainable agroecological production is adopted by Ometepe's farmers, generating livelihood and biodiversity benefits and strengthening local adaptation to climate change.</p>	<p>2.1 No. of female and male farmers trained in agroecological practices (FFI-supported agroecological production (pre-project) produced measurable benefits for 75 farming families, in year-round production and resilience to local climate impacts (Mena, 2018). However, these benefits were insufficient to foster new social norms and promote</p>	<p>2.1 Records of training sessions and workshops.</p> <p>Current Condition: Farmers from 252 farm households (HHs) have accessed agroecological extension support and have improved knowledge, skills and resources to sustainably improve their agricultural production (evidence from Biometepe extension support</p>	<p>The current positive attitude, locally and nationally, to developing sustainable livelihoods and trialling new agricultural practices is maintained.</p> <p>Both female and male members of farming households will attend training and network meetings (assumption based on previous experience).</p>

	<p>widespread uptake of agroecological production across the island).</p> <p>2.2 No. of farming households (HH) identified as most vulnerable and/or farming near forest/wetland areas who have adopted agroecological production (baseline: 40HH; target: 200HH, by EoP).</p> <p>2.3 No. of hectares of existing agricultural land applying agroecological practices (baseline: 220 ha; target: 1,000 ha by EoP. Total agricultural land is ~10,400 ha).</p> <p>2.4 Reduction in no. of new incursions into forest by beneficiary farmers / in forest areas adjacent to beneficiary farmers' fields, between start of engagement with farmers to project end (baseline: 60 incursions observed in 2018; target: 30% year-on-year reduction).</p> <p>2.5 No. of farmers actively sharing agroecological practices and experiences and promoting conservation to other farmers, through RAPO participation (baseline: 25; target: 60 by EoP, of which at least 35% female).</p> <p>2.6 Percentage of beneficiary farmers reporting decreased vulnerability of their plots/crops to the local impacts of climate change (target: 80% by EoP, of which at least 50% female).</p>	<p>records). 25 farming households actively participate in the RAPO peer learning network, providing a basis to adapt and support each other in the short and long term (evidence from RAPO meeting minutes).</p> <p>450 farmers (30% female) across ten farming communities trained in agroecological practices, via 34 training sessions (24 in Y1; 10 in Y2). ~600 people from 252 farming HH have received on-farm agroecological support and training (~2 visits/month/HH); 30% of beneficiary farms are led by women.</p> <p>Indicator 2.2 No. of farming households (HH) identified as most vulnerable and/or farming near forest/wetland areas who have adopted agroecological production (baseline: 40HH; target: 200HH, by EoP).</p> <ul style="list-style-type: none"> 252 beneficiary farming HH have access to the necessary skills and resources to implement new agroecological practices to improve their yields. Y2 surveys show that 90% of beneficiary farmers are implementing at least three agroecological practices on their plots (e.g. 92% have stopped agricultural burning, 85% incorporate stubble, 28% are vermicomposting, 54% are mulching to improve water retention of the soil, 56% allowing natural forest regeneration). 	<p>Improvements to resilience brought about by agroecological approaches are able to withstand even the most extreme weather events, such as, for example, a recurrence of Hurricane Mitch-force winds, rainfall and storm surge.</p>
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<p>Output 3. Stronger and more equitable relationships established between Ometepe's agroecological producers (farmers and primary processors) and other agricultural market system actors.</p>	<p>3.1 Percentage of agroecological producers (farmers and primary processors) reporting improved relationships with other market actors (target: 40% by March 2020; 80% by EoP of which at least 30% female).</p> <p>3.2. Percentage of agroecological producers reporting a net increase in income from agricultural produce (target: 40% by March 2020; 80% by EoP, of which at least 40% female).</p>	<p>3.1 Documented outputs of Participatory Market Mapping workshops (baseline workshop in Yr1; quarterly monitoring meetings; final evaluation workshop Yr3).</p> <p>3.2 Agricultural practices survey (inputs & yield data – at project start and EoP); Farmer/trader sale volumes and price records.</p> <p>All relevant data disaggregated by gender.</p>	<p>Market actors are willing to work together to improve product quality, volume, diversity and timeliness.</p> <p>Market demand is not adversely affected by national economic/social instability.</p>

<p>Output 4. The case of Ometepe Island Biosphere Reserve as a model of conservation and sustainable development is widely known by key stakeholders in Nicaragua, migratory bird specialists and agroecological communities.</p>	<p>4.1 No. of decision makers, influencers, NGO partners, donor agencies and other stakeholders in Nicaragua who have access to project outputs and lessons learned from Ometepe (target: 60 by end of Y2, 100 by EoP, of which at least 40% female).</p> <p>4.2 No. of people across FFI's global staff and partner networks who have accessed project outputs and lessons learned from Ometepe (target: 50 by end of Y2, 80 by EoP).</p>	<p>4.1 Minutes from national lesson sharing workshop; minutes of meetings with national stakeholders; email communications with decision makers, influencers, NGO partners, donor agencies and other stakeholders.</p> <p>4.2 Distribution of hardcopies of project reports and case studies at learning events; download data from Google analytics for electronic copies of project reports and case studies - through FFI's internal (intranet, Yammer, email) and external (website, learning networks) communications channels.</p>	<p>Decision makers, partners and stakeholders are receptive to the learning generated by the project.</p>
<p>Activities</p> <p>1.1 Strengthen and replicate existing community-led forest protection efforts on Ometepe, building protocols and incentives for groups, farmers and young people involved in community-led patrols.</p> <p>1.2 Reforest four priority sites through propagation of seedlings in two community-run nurseries and planting of native forest and fruit trees (11 species / 12 varieties).</p> <p>1.3 Strengthen the protection and ecological monitoring of the yellow-naped parrot population on Ometepe, through community patrols and incentives.</p> <p>1.4 Train three community members in MoSI protocols and conduct annual monitoring of overwintering neo-tropical migratory birds.</p> <p>1.5 Design protocols for farmer-led monitoring of birds, insects (including pollinators) and other wildlife, and support their implementation on farmers' cultivated and forested lands.</p> <p>1.6 Strengthen community engagement in monitoring freshwater quality/flow, updating and implementing protocols in collaboration with existing network of Drinking Water Committees.</p> <p>1.7 Create a series of six targeted biodiversity conservation awareness messages for Ometepe, and disseminate through talks at local schools, community events and other fora.</p> <p>1.8 Hold an Ometepe-wide contest in Youth Leadership in Conservation, to inspire and nurture future conservationists, and hold twelve youth fora using interactive arts and audio-visuals.</p> <p>1.9 Analyse changes in knowledge, attitudes and behaviours regarding biodiversity conservation on Ometepe amongst islanders.</p>			

- 2.1 Deliver nine training modules for Biometepe's agroecological extensionist team on crop diversification, soil conservation, use of mycorrhizae, composting, agroforestry and biodiversity conservation.
 - 2.2 Provide agroecological training and extension support to 200 farming households to improve productivity, competitiveness and ecological benefits, and reduce vulnerability to climate impacts.
 - 2.3 Provide beneficiary farmers with the tools, seeds and other resources necessary for the adoption of new biodiversity-friendly practices and technologies.
 - 2.4 Deliver fire awareness talks and training for farmers across at least ten communities on Ometepe.
 - 2.5 Support RAPO's bimonthly meetings and help Network members to design and deliver 6 training modules per year to encourage the adoption of agroecological practices.
 - 2.6 Facilitate peer learning through farm open-days and exchange visits (>6 per year, including one visit to successful agroecological model in mainland Nicaragua).
 - 2.7 Evaluate progress and impact through agricultural practices survey and participatory socioeconomic impact assessment of target households.
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- 3.1 Drawing on expertise within project team, review and select market sub-sectors on Ometepe that best meet economic and biodiversity criteria for 'Participatory Market Systems Development'.
 - 3.2 Deliver market literacy training, to include approaches for engaging key actors and empowering marginalised actors in the market chain.
 - 3.3 Facilitate participatory market mapping, capacity assessment and action planning workshops (3 days) for each market sub-sector.
 - 3.4 Provide training in quality control, storage, handling and processing, alongside mentoring beneficiary producers in developing market relationships, meeting market demand and negotiating higher market prices.
 - 3.5 Hold triannual monitoring meetings with market actors and facilitate visits for producers and traders to mainland markets to better understand value chains for their products.
 - 3.6 Evaluate progress and impact through facilitation of annual evaluation workshop for beneficiary producers and market actors (alongside Activity 2.7).
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- 4.1 Collate results from monitoring (of resident and migratory birds, forest cover, agroecological biodiversity and freshwater), conservation actions (patrols, reforestation), socio-economic and KAP surveys.
 - 4.2 Disseminate findings, outputs and lessons learned amongst stakeholders through national workshop, local meetings and distribution of materials.
 - 4.3 Disseminate project outputs and lessons learned via FFI's networks in the UK and globally, through digital media and internal and external presentations.

Annex 3: Standard Indicators

Table 1 Project Standard Output Measures

Please note that revised Project Standard Indicators were not received with sufficient notice to be incorporated into this report, so previous Output Measures have been used. Progress against Darwin Initiative Standard Indicators will be included in our final reports (project end date is 30 June 2023).

Code No.	Description	Gender of people	Nation-ality of people	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during project
7	Number of training materials to be produced for use by host country	N/A	N/A	2	2	0	4	4
10	Number of individual field guides/manuals to be produced to assist work related to species identification, classification and recording	N/A	N/A	3	0	1	4	3
12B	Number of computer-based databases to be enhanced and handed over to the host country	N/A	N/A	0	0	1	1	1
14A	Number of conferences/seminars/workshops to be organised to present/disseminate findings	N/A	N/A	0	1	1	2	2
20	Estimated value (£'s) of physical assets to be handed over to host country(ies)	N/A	N/A	██████	██	████	██████	██████
23	Value of resources raised from other sources (i.e., in addition	N/A	N/A	██████	██████	██████	██████	██████

	to Darwin funding) for project work							
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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)
N/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 correct template (checking fund, type of report (i.e. Annual or Final), and year) and deleted the blue guidance text before submission?	✓
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	✓
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	N/A
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	✓
Do you have hard copies of material you need to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	N/A
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.	