Darwin Initiative: Final Report

To be completed with reference to the "Writing a Darwin/IWT Report" Information Note: (https://www.darwininitiative.org.uk/resources-for-projects/reporting-forms-change-request-forms-and-terms-and-conditions/).

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

Darwin Project Information

Project reference	26-025
Project title	Eco-village approach to enhance socio-ecological resilience in Cabo Verde
Country(ies)	Cabo Verde
Lead organisation	University of Cabo Verde - UNICV
Partner institution(s)	Cabo Verdean Ecotourism Association ECOCV National Directorate of Environment DNA Bangor University, Ocean Science School Association for the Development of São Francisco ADSF Civil Movement '350 Cabo Verde' ViaggieMiraggi
Darwin grant value	£ 275,486.00
Start/end dates of project	01 April 2019 - 30 March 2022
Project leader's name	Adilson Filomeno Carvalho Semedo
Project website/blog/social media	Facebook @raizazulcaboverde Youtube @Raiz Azul Instagram @raizazul_ecoturismo_cv
Report author(s) and date	Adilson Semedo (UNICV) Edita Magileviciute (ECOCV) Elyane Dias (UNICV) Ronan Roche (Bangor University) Roberta Badovini (ECOCV)

1 Project Summary

The main purpose of this project is to reduce the negative environmental footprint, increase the value of marine and coastal biodiversity and enhance quality of life within coastal communities on the capital island of Santiago, Cabo Verde. The island is home to 56% of the country's population. With over 70% of the population living on the coast, Santiago has no marine protected/managed areas although households are highly dependent on decreasing marine resources. Data on the state of marine resources are scarce especially on non-commercial marine species and the overall state of the coastal habitats. In addition, the domestic waste system is very basic especially in rural locations; while waste recycling processes in their inception. This project engages vulnerable community members to co-monitor health of marine and coastal ecosystems, introduces set of practical skills for more sustainable use of local resources, and aims to set up the first marine protected area in Santiago Island. The first

sustainable rural waste management (with a focus on plastic and glass recycling) and an income generating system will be created to increase sustainability of the process. The establishment of an eco-network/ a new eco-tourism destination (in development) promotes sustainable tourism in our country and strengthens capacity for the self-empowerment, boosting local employment in four coastal villages (Porto Rincão, Porto Mosquito, Gouveia and São Francisco).

2 Project Partnerships

The Eco-Village/Raiz Azul (acronym) is a collaborative project led by the Cabo Verdean Institution University of Cabo Verde Uni-CV and co-managed in partnership with the local NGO Cabo Verdean Ecotourism Association ECOCV. Technical expertise is boosted by international partners Bangor University (UK), and ViaggieMiraggi (Italy). In Y1, the lead organization communicated on a regular basis with the ECOCV, in formal and informal means. In Y2 our communication happens on a regular base too, but stressed by issues related to funds transfers. In Y3, we kept a formal communication by e-mails. On 20 May 2021, ECO-CV requested a meeting with the rectory of UNI-CV to discuss the status of the project. The meeting was held on the 20th of the same month and the issue of delays in the transfer of funds and communication between the main partners were discussed. The communication and professional relationship problems that UNI-CV had with ECO-CV were unexpected and hard to cope with the lack of cordiality, so that the members of Uni-CV Eco-Vila staff won't to make a partnership with ECOCV again in the future.

The joining with international partner's communication was done via skype/emails on regular and cordial basis along Y1, Y2, and Y3. Dr. Ronan Roche was involved via WhatsApp/emails in conception of the social vulnerability study and climate changes and in the production of graphical and statistical data about the social/economic study (Y1, Y2, Y3), ViaggieMiraggi (Italy) visited Cabo Verde in March 2021 and March 2022 to attend project workshops.

Uni-CV team have had 5 meeting during January/March 2022 with National Directorate for the Environment in which we discuss the preparation of socioeconomic, tourism and biodiversity reports, planning and management plans including a monitoring plan and ecotourism and business plans for the Baía de Inferno and Monte Angra Natural Park (Santiago). During Y1, Y2, and Y3 the relationship with the national environmental directorate was cordial and productive.

Over the three year we strengthen the partnerships build with a range of national and local organizations and community groups in each target village, on municipal level, nationally and internationally. More specifically with: CERMI and Electrosol Ltd is responsible for the production and installation of recycling machines; the EU funded Project Xalabas was approached to compliment eco-network development; AAVCV Association of the Travel Agencies of Cabo Verde joined in to support the development and marketing of the eco-network. We strengthen active collaboration with the women's cooperative SULADA to empower women's participation

and income generating activities in the target community of Gouveia, we continue our work with the School of São Francisco to upscale plastic and glass recycling and environmental education in that community; Municipality of Santa Catarina of Santiago continues to be an active supporter and collaborator for the development of locally managed glass recycling process in Porto Rincão. Municipality of Praia joins us for the waste management in São Francisco and the set-up of the eco-recycling centre in that community. Association for the Development of Rincão continues to provide a valuable support in communicating our messages to local community and implementation of activities in Rincão. The same happens with Association for the Development of Porto Mosquito, which was engaged in collect local subscriptions for the Marine Protected Area proposal of Baía do Inferno, and in the preparation of local meeting with fisherman and fish saleswomen. The national representative of the Italian organization 'Persone come noi' and OMCV (Women's organization of Cabo Verde) approached us to collaborate in marketing of artisanal products; University Jean Piaget of Cabo Verde and partner ECOCV developed a joint project for the installation of the information panel in Baía do Inferno (funded by the French Embassy); BIOSFERA Cabo Verde, CIIMAR - Interdisciplinary Centre of Marine and Environmental Research, Spanish NGO Edmaktub were active collaborators during during the first marine expedition to assess the biodiversity of Baía do Inferno, the first MPA in development for Santiago Island; CAVIBEL, the national representative of Coca Cola company, is a partner in the plastic waste recycling and corporate responsibility.
During the quarter 2 of Y3, UNI-CV establish a collaboration with the partner LANTUNA association and the Maio Biodiversity Foundation with a view to implementing the "Guardiões do Mar" project in the communities of Rincão, Porto Mosquito and Gouveia.
Most of the exchange involves discussions and consultations for the achievement of relevant outputs. The main partners are involved in all project stages, including the production of the annual reports for Y1 and Y2 and this final Report.

3 Project Achievements

Please fill in Annex 2 – summary of progress against the project logframe.

This section (3.1- 3.3) is the main narrative report on project achievement and should be a flowing paragraphed presentation written in a formal style. Sub-sections reflect the progress against the project's logic and offer the opportunity to provide some narrative to complement the logframe. We do not require a summary at the start, just clear reporting under 3.1 to 3.3. Please ensure that you clearly refer to evidence to support the narrative.

3.1 Outputs

Did the project achieve its intended Outputs? Address each output in turn, identifying the baseline condition, change recorded to project end, and the source of evidence for this change. Consider:

- What Outputs did you set in your application?
- Did the project achieve its Outputs as laid out in the logical framework? Use the indicators in your logframe to demonstrate progress/success for each Output. Concentrate on the actual changes **achieved** rather than listing a series of activities undertaken. Activity does not necessarily mean a change has occurred.
- Did the project encounter problems, either anticipated or unexpected, in achieving the Outputs? If so, had you identified these in the assumptions of your original logframe? How were they resolved?

Please support comments with reference to evidence and logframe indicators.

Output 1 (Implemented and reported by ECOCV and partners)

General and plastic waste management and income generating system developed and adopted in the four coastal villages by the end of the project.

Completed. Overall, the development of the first in Cabo Verde, community-based waste management and the installation of the recycling machines made a significant difference in the reduction of glass and plastic waste in target communities. The whole process of practical recycling and communication was so successful that other islands and projects aim to replicate

(UNEP project to start at the end of 2022 that will pilot our experience in Brava, Maio and Sal islands). We also contributed to the Operational and Strategic Plan for the Management of waste in Santiago Island the management of domestic waste at the community level. The process is led by ANAS- National Agency for Water and Waste.

One of the key achievements is that we showed that it is possible to recycle in Cabo Verde; it is possible for the community to lead the process; it is possible to reduce domestic waste through recycling and it is possible and profitable to use recycled materials.

Indicator 1.1 Baseline surveys were conducted in Y1 in all four project communities: Sao Francisco, Rincão, Porto Mosquito and Gouveia (DI Y1 Annual report and accompanying supplements). In Y3 field surveys were repeated in the two communities Sao Francisco and Rincão where the glass and plastic recycling machines were installed, as based on the community consultations and surveys in Y1 and Y2. Due to limited budget the machines were installed in the newly established Ecocenters for recycling of glass and plastic in two communities (A15; A35; A26; A22; A29) and officially opened in Y3. In Y3 we focused on building capacity for the management of ecocenters and the operation of the recycling machines (A1; A9; A10; A11;); developing and testing products made from recycled glass sand and plastic to support sustainability on community level and raised awareness, introduced new options to the local tourism and civil construction markets (A13; A9). In Gouveia, the ecocenter for artisanal arts and crafts – traditional fabric 'pano de terra'- was established in Y3. We introduced a new collection of marine toys 'Bitxu di mar' that are made with traditional African fabric and stuffed with reused plastic bags and other soft plastic waste, therefore contributing to the plastic waste reduction in the community (A20).

In addition to project communities, in Y3, the waste separation expanded on the island level. As a result of the awareness campaign glass waste separation started in Praia in collaboration with the Tambake (eco-shop and restaurant) where the eco-point was set up for general public to deliver glass bottles. The community of Fonte Lima (Municipality of Santa Catarina) collected almost one tone of glass waste during the clean-up campaign and delivered to Eco center of Rincão for recycling. In May, over 20 scouts of Sao Francisco joined plastic recycling at the ecocenter. In August, in Sao Francisco, the plastic recycling machines (produced by CERMI), unfortunately broke due to the manufacturer's fault. This caused delays for community level plastic recycling. It was resumed at the end of January 2022, and now is successfully in operation. Glass recycling machine in Rincão operated on a regular basis (A35; A22; A6). The glass recycling machine was also installed in Sao Francisco in January 2022. In less than two months the observable reduction of glass waste in that community was recorded (A6). In addition, in both communities, containers in the public spaces were installed to collect glass and plastic (A14). In Sao Francisco, door to door collection and awareness on recycling was introduced and is led by the local team.

The reduction of plastic waste in Sao Francisco did not show the quantifiable difference. (A6) The capacity of the machines is small, therefore to see the change requires more time. In addition, the machine manufacturer's delays and follow up repairs had an impact on the effectiveness of the process. Thus, more active recycling started just in February 2022, however several products have been produced and the CO2 sequestration was estimated for each item. (A13).

To support long-term sustainability of Sao Francisco ecocenter, we established and officially registered a community enterprise Ekonatura; logo and the online Facebook site were created (A25; A23). Number of training sessions were delivered on the operation of recycling machines, health and safety, delivering education programs, management of small business and accounting (A11). In Rincão, after the numerous consultations with various community groups, the decision was made to hand over the management of the ecocenter to the women's Association of Fish Sellers of Rincão which has over 20 members. The module for the management of the center was developed (A33). ECOCV continues to collaborate with both communities.

Indicator 1.2 Since Y1 regular updates were communicated on project Facebook, Youtube and Instagram pages, partner websites and social media sites of various collaborators. Responsible waste disposal and recycling are always included in general presentations of the project/national communication. An education program for schools have been developed (A19). In Y3 over 40 children and 6 teachers from Safende (Praia) led by a member of 350 Cabo Verde visited the

ecocenter of São Francisco for sessions on plastic pollution and climate change; In March 200 schoolchildren and 5 teachers from local school of Sao Francisco learnt about recycling and waste management. 47 schoolchildren from Plateau, Praia participated in the exhibition of recycled products at the National Palace of Culture and the discussion on the recycling, climate change and conservation of natural resources (A4). In June, the eco-centre of Rincão received over 25 children with hearing deficiency and their teachers. They were introduced to the process of glass recycling, and later shared their experience in drawings. On the Oceans Day over 30 children and representatives of Municipality of Santa Catarina visited eco-centre of Rincão for education program. In November, the challenge was organised in partnership with local school in Rincão were almost 40 children tool part in collecting glass waste and participated in drawing competition “Future of Rincão is Clean’(A5). For Sao Francisco, the roll up on glass recycling was produced in English and Portuguese to facilitate communication with international visitors (A30). Overall, there is high preparedness of civil society, especially in capital Praia, for recycling. In March we organized and exhibition of recycled products, the power of communities and the public talk on climate change and recycling in capital Praia, National Culture Palace (A4). Over the last 2 years, we received requests from islands of Sao Vicente, Brava, Sal and Boa vista to recycle their glass waste, but at this stage, this is not feasible due to the limited capacity of the machines and costs of transportation. Number of publications have been made years in various national and international media platforms.

The project progress, educational materials and call to recycle plastic and glass were also shared by various collaborators including: movement against pollution in CV, embassies of Portugal and Netherlands, Municipality of Santa Catarina, private businesses such as Tambake, Impar, Girassol Tours, Tecnicil/Agua Trinidade; Forum of Youth for Climate Change, Simili, School of professional training in Mindelo EPFFP, National Culture Palace, CV Island Info Tours, Sal International. In September representatives of the UN in Cabo Verde visited the eco-centre of Rincão and later invited to present our recycling experience at the opening of the eco-point at UN headquarters in Praia (A35; A22). In March, after the opening of the Ecocenter of Sao Francisco we received the call from the First Lady of Cabo Verde with congratulations on the initiative. In Y3 101 posts of our activities were published on project Raiz Azul social media sites that included topics on biodiversity, waste management, ecotourism. Total 247 in three years.

The poster presentation on the community-based recycling and climate change was accepted for the IUCN APAC congress in Rwanda in July 2022. It will summarise our work over the last 3 years on the implementation of DI funded project. Poster is currently in preparation(A31). In November 2021, our work on recycling was communicated during the Cabo Verde Ocean Week in Mindelo, session on waste management. The 2-year progress was presented at the conference organised by the Centre of African Studies, University of Porto, Portugal (A28).

Indicator 1.3 The active collaboration with private companies started in Y2 and continued throughout Y3. In April, the collaboration with Cavibel (the representative of Coca Cola in Cabo Verde) was reinitiated as part of their social and environmental responsibility program. They transported 14 tones of glass bottles to the Ecocenter Rincão for recycling and agreed to continue delivering glass bottles. In September Tecnicil/Agua. Trinidade (one of the major producers of plastic packaging/bottles in Cabo Verde) agreed to finance the production of more powerful plastic shredder (100kg/h) that will be installed in the Ecocenter of Sao Francisco in May 2022. The talks were reinitiated with JMD Metal Trade to confirm their commitment to buy and export shredded PET plastic flakes. 600kg of recycled sand and 10kg of shredded PET plastic were delivered to SoPlacas to produce (for free) another type of bricks with the mixture of shredded plastic. The bricks were tested at LEC. That quality bricks can be used to pave public surface with lighter weight such as pedestrian pavements. The bricks produced in Y2 just with glass sand were of top quality and suitable for any works in civil construction (ELEVO Group Tests). In January, we IMO Boa Esperança agreed to produce (for free) construction blocks with 100% recycled glass sand (A13). The blocks were tested at LEC. The results showed that block qualify is suitable for the secondary construction such as partition walls. In both cases, bricks (with an addition of PET plastic) and blocks, require more experimentation to finalize the formula for wider use in the national civil construction. Results to date are highly promising. The recycled glass sand is a quality product for the civil construction, especially in Cabo Verde, where illegal sand extraction is a growing environmental problem.

In Y3, with the co-financing from the Embassy of the Netherlands in Senegal and The Cooperation of Portugal in Cabo Verde, solar panels were been installed in the Eco-centres of Rincão and Sao Francisco. The company Electrosol delivered the installation and training on maintenance in both communities. The energy is sufficient to operate all recycling machines. Ventilation system was also installed in both ecocenters to improve health and safety conditions by reducing the dust during recycling process.

Indicator 1.4 (Implemented and reported by Uni-CV) As part of the output 1 - General and plastic waste management and income generating system developed and adopted in the four coastal villages by the end of the project of ECOVILA projet, Universidade de Cabo Verde carried out complementary evaluation analyzes of microplastics in the stomach contents of fish with commercial value, Cephalopholis taeniops (n=10) caught by fishermen from the Porto Mosquito community in the first quarter of 2022. In this second evaluation phase, the selected species was the grouper, Cephalopholis taeniops (Figure1), a species with high commercial value in Cabo Verde. C. taeniops is considered a carnivorous species, its distribution is restricted to the West African coast, from Western Sahara to Angola, including the islands of Cabo Verde and São Tomé and Príncipe (Tariche, 2002), and has recently been identified in the Mediterranean, in the Gulf of Sirte, Líbia and the island of Lampedusa (Tariche et al, 2014). Usually found on rocky bottoms, and sometimes on sandy bottoms, at depths varying between 20 and 200 meters (Tariche, 2002).

The methodology for evaluating microplastics was the same used in the study in 2020 and is the one being carried out by the University of Cabo Verde in the IMPLAMAC project (https://implamac.com/pt-pt/), in order to carry out a comparative study on posteriori. Briefly, the methodology consists of using the method of biological digestion using KOH (potassium hydroxide) on the entire gastrointestinal, filtration of the solution using a metal and/or cellulose filter less than 100 µm sieve and then detect number, type and colors using stereo-microscope.

From the analysis of the samples (n=10), 7 individuals of C. taeniops with a length between 27-29 cm had microplastic in the stomach contents (2-3 items/individuals) with a prevalence of fibers, and of blue and red color. The results of the present study corroborate with the analyzes carried out in 2020, on the species landed in the community of Rincão and with the study carried out in the year 2020 by Pereira & Abu-Raya on the species of C. taeniops landed at the fishing pier in the city of Praia (Santiago). On the first study carried out in January and February of 2020, with the as Sparisoma cretenses, Selar crumenophtalmus and Pseudupeneus prayensis landed in the community of Rincão ,16 individuals were sampled, and a total of 46 plastic fibers were found, with a predominance of blue fiber and a higher occurrence in the species *P. prayensis*.

In order to continue the microplastic monitoring program in the coastal zone of Cabo Verde, the University of Cabo Verde (UniCV) will continue to analyze microplastics in the sediment of the sandy beaches of the archipelago (namely on the islands of São Vicente, Santa Luzia, Boavista, Santiago and Fogo) and in the stomach contents of fish landed on the fishing piers of Santiago and São Vicente. All results are being shared with national institutions namely IMar and DNA.

Output 2. (Implemented and reported by Uni-CV and partners)

Stakeholders and target community members increased knowledge on value of local marine biodiversity and have developed a set of practical skills for more sustainable use of local ecosystem services by the end of the project.

Completed but not fully achieved. We developed several training and awareness actions on the value of biodiversity in the communities covered by the project and we successfully carried out baseline studies during years 1, 2, and 3 that allowed us to know the socio-ecological perceptions of fishermen and fish sellers in the communities. The baseline study methodology was a success so that other projects developed on the island of São Vicente by the NGO Biosphere replicated it in the baseline study of the Calhau-SV community.

One of the key achievements is that we showed that for most 75% of fishermen and fish sellers are aware of the need to protect marine biodiversity and that it is possible to consider these publics as promoters of conservation.

Indicator 2.1 Over the period July 2020-February 2021, 15 Uni-CV students, 10 local fishers, have been trained in participatory marine biodiversity monitorig with the focus on marine megafauna (whale and dolphin surveys and marine birds). With data received with the information on artisanal fisheries in Gouveia, Rincão and Porto Mosquito villages from INDP, National Institute for Fisheries Development (now renamed as the IMar- Institute of the Sea) in Y1, and also using the candidate list of potential indicators (ecological and socio-economic) produced by Dr. Ronan Roche (Bangor University) in Y1, we apply the socio-ecological questionnaires in Y1, Y2, and Y3 to assess the viability and challenges of artisanal fisheries (fishers (100% men) and fish sellers (100% women) in target fishing villages and the control site outside the project area **(B1)**. The Conservation Awareness in the Communities of Gouveia, Porto Mosquito, Porto Rincão and Porto Ribeira da Barca – Data from the Socio-Economic Studies of Years 1 and 2 of the Eco-Vila Project, were discuss in VI International Congress on Environmental Education for Portuguese-Speaking Countries and Communities, which took place in Sao Vicente (SV) in 2-5 November 2021 **(B2).**

For the part of monitoring the biological indicators of climate change, you can say that it was not possible to do it because we have not yet received the temperature sensors, but that we are analyzing the proposal to implement it with the partners of the University of Cape Verde and be inserted as an activity in the PNBIMA monitoring plan.

Indicator 2.2 Initially, we agreed with the partners that the workshop would take place in September, but due to the changes and the installations in the new Campus of the University of Cabo Verde, which took place during the months of August and September, it was rescheduled to December (Y3Q3). However, elections for the new Uni-CV Rector took place between December and January, so we again postponed the organization of the workshop. We decided to hold a final project workshop in May 2022.

Indicator 2.3 In Year 1, taking invitations and opportunities from various institutions the project team and partners participated in awareness raising events at the National Museum of Archaeology, local community gathering in Alto Gloria; beach clean-up event at Quebra Canela (organised by the EU delegation in Cabo Verde); private school Ell-CV; celebration of the international children's day in Porto Mosquito (organised by the target Municipality of Ribeira Grande de Santiago). All the activities included introduction to the global and national marine and coastal biodiversity; threats and potential solutions.

With an invitation of NGO ADAD in partnership with PRCM (funded by MAVA and Wetlands International) project to reduce impact of coastal construction and development we delivered presentations at the University Jean Piaget in Praia and the Delegation of the Ministry of Environment and Agriculture in Tarrafal (North of Santiago Island) on the problems of coastal constructions/development on marine megafauna and coastal communities. With an invitation from the Ministry of Maritime Economy, in partnership with Civil movement 350 Cabo Verde and Poupart Design, we also participated in the celebration of the Ocean Day (presentation on marine biodiversity and conservation). The participation and contributions were communicated on the project social media site: Facebook @raizazulcaboverde

In Y2, the Eco-Vila project seeks to capture aspects of social vulnerability and the ability to adapt to climate change in the coastal communities involved in the project. Although some aspects are related to the information from the existing questionnaire instruments, there are two possible ways to assess this in the project. The first is to try to directly quantify the aspects related to the five domains of adaptive capacity. The second is to capture highly relevant information, but less directly related to the five domains described above. The quantitative study has the participation of the international consultant of the Eco-Vila project, Professor Ronan Roche, from the University of Bangor (Wales), one of the project partners, and was coordinated locally by Professor Adilson Semedo (Uni-CV).

In Y3, we repeat this study and the report **(B3)** aims to present the results of the indicators of vulnerability caused by climate changes carried out in the fishing communities of Gouveia, Porto Mosquito, Porto Rincão and Porto Ribeira Barca, in January 2022, which was based on the application of a questionnaire survey to fishermen and fish saleswomen from these communities. With these analyzes, the promoters of the Eco-Vila Project have the opportunity to diagnose the evolution of several fundamental socio-ecological aspects in year 2 and 3 of the project. In Dezember 2021, we present the scientific communication about Social vulnerability to Climate Change in the Communities of Gouveia, Porto Mosquito, Porto Rincão and Porto Ribeira Barca – Santiago, Cape Verde, in XXII Meeting of the Environmental Studies Network of Portuguese-Speaking Countries – REALP: Global theme of the Meeting: Current challenges of environmental research in Portuguese-speaking countries - resilience strategies in a context of crisis, at Praia (CV) **(B4).**

Also, in Y3, in June, as part of the commemorations of Biodiversity and Environment day, the 3rd year graduation students in Biological Sciences, accompanied by the UniCV team of the ECOVILA project, gave lectures to 25 students, 13 girls and 12 boys, from the 1st to the 6th grade of Basic Schools of the fishing communities of Porto Mosquito and Porto Rincão. Environmental Education and the dissemination of the first marine protected area on the island of Santiago (PNBIMA - Natural Park of Baía do Inferno and Monte Angra) were central themes of these presentations. They addressed topics such as: the problem of garbage/types of waste/decomposition time; Microplastics/marine environment and food chain; The importance of green spaces and the preservation of marine and coastal species. In September, in partnership with the NGO Lantuna, we carried out the cleaning campaign in Rinção, which involved the members of the Uni-CV project, 10 undergraduated students from the Social Sciences, Biological Sciences and Statistics courses, and 50 elements from the community, 20 women and 30 men.

Indicator 2.4 In Y2, through local association we promote the presentation of the new national fisheries management plan, which was prepared by ECOCV and partner, in Porto Mosquito and Rincão. The process of Introducing tailor made system for the self-monitoring of artisanal fishing catch, biodiversity on the individual level in partnership with IMar, Biosfera, Fundação Maio Biodiversidade, is still in progress and late in its execution.
In July and August, The University of Cape Verde, in partnership with the NGO Lantuna and the Instituto Marítimo Portuário, joined forces and organized training actions on sustainable fishing and safety at sea in the community of Porto Mosquito and in the community of Porto Rincão. The training took place on the 31st of July and the 1st of August and on the 7th and 8th of August. In Porto Mosquito 13 fishermen and 1 fish seller took part, while in Porto Rincão 33 fishermen were involved in the two days of work.

Indicator 2.5 In Y1, during the collaborative workshop at Uni-CV, the potential options to test different fishing techniques were discussed among the main project partners and collaborators from IMar and DGRM (National Directorate for the Management of Marine Resources). The field tests with local fishers were conducted in Rincão and Porto Mosquito villages. Fishing techniques, effort, catch composition and weight were recorded. Poor sea conditions influenced the number of days at sea. One of the key achievements of the test survey was strengthened relationship with artisanal fishers in target communities. In Y2 UNICV contact the IMar (formerly INDP) and the BIOSFERA Association in order to adapt the methodologies developed and implemented in São Vicente and in the protected marine area of Santa Luzia to the communities of Porto Mosquito, Rincão and Gouveia.

Link to 2.4. In Y3, the training actions were framed in the promotion of participatory monitoring and diversification of income-generating activities introduced to improve the self-management of fishing practices and reduce pressure on over-exploited marine resources. A discussion was also opened about and about the list of cetaceans, seabirds and sharks that fishermen observe, and the common name they use to designate them was collected. The training actions also discussed the issues of law and security in the sea labour.

Indicator 2.6 in Y1 during the trial eco-tours with the artisanal fishers, the concept of collecting data on marine megafauna was introduced to both local fishers and travellers. In September, the Uni-CV macroalgae specialist ran the assessment to identify algae species in the project zone of

Gouveia - Porto Mosquito. In Y2 and Y3 we work with partners and with the implementation of Guardiões do Mar project in Santiago. Till it becomes real, with the activities carried out in points 2.4 and 2.5, we started a program called «Voices and Faces of Sustainable Fishing» involving all the participants in training actions related in 2.4 and 2.5. On January 2022, GEF/PNUD financed the project in which UNICV is the partner of the NGO Lantuna entitled “Sustainable Fisheries and Management of Marine Resources in the Baía do Inferno and Monte Angra Natural Park (PNBIMA). This project will ensure the continuity of these activities in the post ECO-VILA project. Overall, we did not make progress in introducing snorkelling surveys led by local fishers, and in involving more females in the participatory monitoring especially encourages to learn snorkelling and monitoring of shallow coastal zones.

Output 3 (Implemented and reported by Uni-CV and partners)

The first MPA/LMMA proposed on the capital island of Santiago and submitted for the integration into the National PA system by the end of the project.

Completed. On the second half of 2020, the project ECO-VILA, (Acronym: Raiz Azul finalized a technical proposal for the creation of the protected area Parque Natural Baia do Inferno that was submitted to the National Environment Directorate (DNA). The delimitation of it was approved by the Council of Ministers of 4 and March 2021, and published in Regulatory Decree no. 2021, of April 9 (I Serie - n. 37, of the “B.O.” of the Republic of Cape Verde.

One of the key achievements is that Santiago Island has now it first MPA, and Uni-CV make an agreement with DNA to led the process of elaboration of planning and management plans including a monitoring plan and ecotourism and business plans for the Baía de Inferno and Monte Angra Natural Park (Santiago). Likewise, it allows Uni-CV, as responsible for the elaboration of the planning, to build scenarios for the dialogue between actors and institutions and formulate policies and actions of socio-environmental management of PNBIMA, starting from the application of principles and governance methods participatory, based on a systematic approach applied to socio-environmental management, which, in the short and medium term, makes local actors the primary and central agents, both in fisheries and conservation.

Indicator 3.1 In Y1The first marine biodiversity research expedition was conducted in Baia do Inferno in October 2019 by a team of researchers from Uni-CV, ECOCV, Biosfera Cabo Verde, CIIMAR (Portugal) and Edmaktub (Spain) in collaboration with the community of Porto Rincao. Surveys utilized the following methodology: belt transects, photo-quadrants, baited camera trials, opportunistic exploration at 35+m depth (scuba diving), drone mapping of the area. The data was complemented by the socio-ecological surveys and the first geological survey. The baseline data showed high occurrence of commercially valuable fish species, lobsters, endemic corals and molluscs. The area also represents important fishing grounds for local artisanal fishers.

In Y2 it was completed. We surveyed remaining historical data on the Baía do Inferno using the documentary / bibliographic survey technique and the technique of interviewing 4 local fishermen with significant roles in the communities of Rincão and Porto Mosquito. The bibliographic / documentary research confirmed that there is not much written data about the Bay, except for the works of Woldzimierz Szymaniak (2014; 2015). In the collected interviews, we collected stories and passages related to the fishermen's private life and not so much about the Baía do Inferno. During the months of June-September, we added this to a qualitative research about cultural aspects that connects the communities of Porto Mosquito and Porto Rincão to the marine environment, such as food, sexual division of work, religiosity and leisure.

Indicator 3.2 As reported in Y1, we made a meeting with the village Porto Rincão in March 7 2000, with the national, municipal stakeholders. After that all meeting are forbidden due to Covid pandemic. We schedule this public meeting to very soon it is allow for the authorities. Meanwhile, in August we carry out awareness raising and signature collection campaigns in the communities of Rincão, Porto Mosquito with the aim of sensitizing them to the need to actively participate in the process of building the MPA. We appealed, due to the limitations of the pandemic, the cooperation of leaders of community associations that allowed us to contact individually as members of the indicated communities. We collected 392 personal signatures, with will be added to our MPA proposal.

Indicator 3.3 the final proposal was submitted to governmental authorities in November 2020.

Indicator 3.4 The presentation on the potential first MPA in Santiago was introduced to the national stakeholders at the workshop organised by BIOTUR/ UNDP-DNA to identify gaps in the marine and coastal Cabo Verde and propose new marine protected areas. The process of the presentation of the proposal for the establishment of the MPA was discussed with the representatives of the National Directorate of Environment (DNA) and with the target Municipalities of Ribeira Grande de Santiago and Santa Catarina and IMar. The MPA concept was presented and the support for the establishment of the MPA was welcomed.

In Y2 We met with the Minister of Environment and Agriculture and with the National Director of the Environment at the Ministry of Agriculture and Environment, in Praia, on January 15, 2021. At this meeting, a national monitoring committee was formed as the objective to submit a joint proposal for the Baia do Inferno Maritime Protected Area. We participated in two meetings of this monitoring committee, in the National Directorate for the Environment, on the Presidency of the National Director Mr. Alexandre Nesky. On March 4, the Council of Ministers approved the delimitation of the Natural Park of Baía do Inferno and Monte Angra - PNBIMA, located on the island of Santiago, being promulgated in the Official Bulletin of April 5, 2021.

In March 2022 Uni-CV sign the protocol with BIOTUR/ UNDP-DNA, which aims to prepare socio-economic reports, the Planning and Management Plans, including the monitoring plan and the Ecotourism and Business Plans for the Baía de Inferno and Monte Angra Natural Park (Santiago).

Indicator 3.5 Throughout the Y1 most of the press/social media communication about the Baia do Inferno included the notion that this Bay is the first MPA in Santiago, currently in development. The message was very intense during the first marine biodiversity expedition in Baia do Inferno, and the message was communicated nationally via TV, Radio and social media sites.

In June 2020, we participated in the public presentation and in the public exhibition of the proposal for MPA in the Baia de Inferno by Associação Lantura and University of Jean Piaget at the Palácio da Cultura, in Praia, as partner of its proposal. After delivering our MPA proposal to governmental authorities in November we use social media to raise the importance of the MPA network in Cabo Verde and local uptake of the prospective MPA in the Baia do Inferno. In March we prepare a newspaper article, published in April 21. We also use Uni-CV website to advertise the creation of Natural Parque do Monte Angra e da Baia do Inferno.

In 25-26 November 2021 we present the paper entitled “The Multiple Appropriations of the Bay of Hell in the Neighboring Fishing Communities and the Challenge of PNBIMA's Collaborative Governance” in II International Colloquium - Social Sciences and global disruptions: challenges, repositioning and possibilities for new responses that took place at Praia (CV) **(B5).**

Output 4. (Implemented and reported by ECOCV and partners)

Completed. A new rural ecotourism destination/ eco network linking four eco-villages developed to boost local employment, promote sustainable travel, and enhance capacity for long-term employment for the target community groups by the end of the project.

The new destination eco-tour Raiz Azul that includes all four project villages already operational with the international travel agencies booking tours in April; and our Italian partner ViaggieMirragi planning tours in June and August (www.viaggiemiraggi.org/viaggio/viaggio-capo-verde-santiago

Indicator 4.1 Based on the mapping of natural and cultural resources number of info materials, posters, road posts, panels have been developed and installed in project communities. (DI Annual reports Y1 and Y2 and supplemental materials that accompanied these reports)

Indicator 4.2 The reduction of the ecological footprint with regards to glass and plastic waste was assessed as compared to the baselines established in Y1 (A6). Glass waste was reduced by 39% in Rincão and by 47% in Sao Francisco (estimates by weight). The evaluation of fishing

effort and target fish species was conducted by UniCV via questionnaire surveys. We mapped the data and identified the main fishing grounds.

We cannot confirm the reduction of illegal practice by 30%. However, during a 3-year period to reduce extractive activities, we focused on participatory biodiversity monitoring with artisanal fishers, introduced codes of conducts for the observation of marine species including whales and dolphins, turtles, birds, raised value of biodiversity by communicating concept of oceanic blue carbon to various groups of stakeholders (A3). Materials to sustain knowledge long-term were included in the ecotourism manual (A16) and the equipment kit (A32). In Y3, participatory monitoring surveys and training of marine biodiversity with local fishers resulted in rare sightings of marine megafauna: leatherback turtle, pygmy killer whales, and dwarf sperm whales being the first live confirmed sighting of this species in Cabo Verde (A24). In June, with the grant of the WCS/SofarOcean, we received the underwater drone ROV Trident. We also constructed BRUV (Baited remote underwater video) to gather more data on the state of habitats and species in the project area. Project locations in Gouveia, Rincão, Sao Francisco and Baia do Inferno (MPA) were explored (A12). In September, the second round of beach cleanliness assessment (Clean Coast Index) was completed on the beach of Sao Francisco.

Currently we are in discussion with the Director of the School of the Sea (EMar), responsible for the maritime and fisher training. The objective is to develop a certified program for artisanal fishers to diversify their activities/income though marine ecotourism. Our experience over the last 3 years of DI project will serve as a basis for this training.

Indicator 4.3 Number of training modules for community guides were delivered in Y1 and Y2 (DI Y1 and Y2 annual reports and supplements). In Y3 we focused on strengthening practical experience of community guides. Due to decrease in tourism during Covid-19 pandemics and slow return, they did not have many chances to test skills in practice. In April, guides from Praia (project Xalabas) visited Rincão. Our community guides had opportunity to practice guiding skills and present their community to visitors. In June the project was presented to the World Bank representative as part of the diagnostics of the Blue Economy in Cabo Verde. June-July, the professional tour guide run the evaluation of the trails and community guides (A34). In December-February, tourism intern from ISCEE, as part of graduation project run a final evaluation of the community guides in Rincão and Sao Francisco. (A7)

Community guide's / backpacks and boat kits (participatory marine monitoring) were prepared. These include biodiversity monitoring guides, health and safety guidelines on the boat and first aid (A32). The kits were distributed to the representatives of all four communities during the final workshop in March. In July-August we supported and facilitated the participation of four community guides (Rincão and Sao Francisco) in the certified nature tour guide training program organised by the Institute of Tourism and Project BIO-TUR (National Directorate of Environment).

In March Y3 we organised final workshop for the ecotourism and recycling parts of the project. It was led by ECOCV and our international partner ViaggieMiraggi. The Manual of Ecotourism for community guides was presented (A16). Participants from all four communities received a copy, in addition to ecotour and biodiversity monitoring kits (A32).

Indicator 4.4 The new ecotourism destination, eco-network Raiz Azul, was presented during the final project workshop in Sao Francisco(A21). Trails in all four communities were mapped and signalization installed (DI Y2 Annual report and supplements). Two Raiz Azul eco-network trails in Sao Francisco, and the ecocenters of Gouveia and Sao Francisco will be included in the project 'Mapping of trekking trails of Santiago island' led by Ecovisao and the Ministry of Tourism. Most trails are regularly used by national travellers; international tours are booked for April, June, August. The three eco-centres (Gouveia, Rincão and Sao Francisco) were completed and officially opened to the public (A26; A27). The eco-centre of Gouveia is managed by women's cooperative Sulada and Municipality of Ribeira Grande de Santiago. To manage the eco-centre in Sao Francisco, a community enterprise 'Ekonatura' was registered in September. This business is be run by community members and facilitates sale of various products and service of the eco-centre and ecotourism. The management plan for the eco-centre of Rincão was finalized. The local women's association took responsibility over operation and management (A33). The Eco-centres in Rincão and Sao Francisco serve several purposes: recycling and ecotourism/ eco-network info hubs. To ensure sustainability in the long-term we developed range of products from recycled glass and plastic (A13). One of them are vases made from cement and

100% of recycled glass sand and some shredded plastic. April-August, a number of training sessions were delivered in both eco-centres to produce vases and other products (A9; A13).

In Y3 a video story was produced summarising the project progress over the last 2 years. In addition to Facebook and Youtube, the Instagram page we created https://www.instagram.com/raizazul_ecoturismo_cv/ with regular posts promoting new destinations in development. In April, the project was presented at the international conference "Sub-Saharan Africa and Sustainable Development Goals' organised by the University of Porto (Portugal) (A28). The emphasis was on the eco-network development and plastic/glass waste management prototypes. In July, the special video was produced and published on project and partner social media sites introducing the potential of eco-network 'Raiz Azul 'and the communities of the project. The products of the recycled plastic and glass sand were identified as one of the most feasible means to generate income on community level. This includes: vases and other household items; souvenirs to tourists (recycled plastic and artisanal crafts of Sulada); The demand nationally was already identified with shops in Praia and Sal 'Djuntamoarts' where two batches of Sulada/Raiz Azul collection of marine toys made with reused soft plastics are already on sale. Bricks, blocks and glass sand are being promoted for the national market of civil construction.

Successful sales of vases or marine toys are done directly at the Ecocenters of Sao Francisco and Gouveia or through various exhibitions such as at the Culture Palace in capital Praia (A4). Other income generating options include: excursions led by community guides (international tours already book for April, June and August), local cuisine and educational sessions at the eco-centres. The ecotourism info panels for 3 villages were produced and installed. The banners for the eco-centres were designed, printed, and installed. Currently, we are in the process to certify recycled glass sand with the National Institute of Quality Control, since it is a new product in the national market.

3.2 Outcome

Indicator 0.1 (Implemented and reported by Uni-CV and partners) The overuse of commercial marine species reduced and value of non-commercial species and habitats increased by at least 30% from the baseline established at the start of the project in the target inshore zones of the project area by the end of Y3.

At least 70% of target communities are aware of the need to protect the marine space and 90/% aware of dependence on fisheries. Regarding the availability of other job options, at least 50% of fishermen and fish seller's women indicated that they would not have these possibilities. Regarding their personal confidence in being able to work in another sector, 70% of fishermen and fish seller's women agreed that they could work in another sector if they needed to. About adaptability to possible legal changes, at least 60% of fishermen and fish seller's women were confident. However, in the question of long-term financial planning less of 50% of them have long term savings.
In the end of Y3, despite the fact that we have met some social conditions to mitigate the overuse of commercial marine species, the situations provided by Covid 19 accentuated the vulnerability of the target communities and fishing aimed at the subsistence of households was an important resource during this crisis. During this period the Government raise all restriction relate to fishing in Cabo Verde, in order to mitigate Covid 19 economic effects to households. It is our propose to continue to work this indicator in futures projects, now that the Covid 19 implications is less presents.

Indicator 0.2 (Implemented and reported by ECOCV and partners) General waste and macroplastic waste is managed (reused, reduced, recycled) and treated in at least 30% of households in four coastal villages by the end of the project from the current baseline of 0%.

In Y1, after the domestic waste assessment in four project villages, the decision was made to focus not only on plastic but also glass waste because of high quantities by weight and volume. Due to limited funding the glass and plastic recycling machines were installed in two communities. In both, glass waste was reduced by more than 30% as compared to the baseline. The reduction of plastic waste was not observed. The reasons are: the installation of plastic

recycling machines in Sao Francisco was delayed due to COVID 19 and manufacturer's failures. Thus, community-based plastic collection was also delayed till Q4 Y3. Now, all the components function 100%, and we expect that by the end of 2022 positive results can be recorded. As an example, some of the vases made with 100% recycled glass sand also contains 20-150 g of shredded plastic. It is equivalent 1 to 3 of HDPE type plastic bottles per vase depending on the size. The reduction of domestic waste was supported by various beach clean-up campaigns. For example, on the beach of Kural in Rincão, the trash dominated by plastic was reduced by more than 90% (A36) after the communal cleaning campaign. 18m3 of trash (mainly plastic) were collected. To note, even with regular clean up campaigns in communities, to change the behaviour on community level, which has been developed over generation, takes at least 5-10 years, sometimes longer. We continue to fundraise to reinforce all positive actions that have been initiated as part of DI project.

Indicator 0.3 (Implemented and reported by Uni-CV and partners) Marine and coastal area of at least 20 km2 under national and/or local level of protection increased on Santiago Island from the current baseline of 0%.

On the second half of 2020, the project ECO-VILA, (Acronym: Raiz Azul finalized a technical proposal for the creation of the protected area Parque Natural Baia do Inferno that was submitted to the National Environment Directorate (DNA). In Y2 we met with the Minister of Environment and Agriculture and with the National Director of the Environment at the Ministry of Agriculture and Environment on January 2021, and we took part in the national monitoring committee was formed as the objective to submit a joint proposal for the Baia do Inferno Maritime Protected Area. A new MPA was successfully established by Regulatory Decree No. 3/2021 of April 9, 2021, which approves the delimitation of this natural park, established that it has a total area of 21,096 ha, with 3,626 ha being the terrestrial part and 17,470 ha the marine part, located south of the fishing village of Porto Rincão (Municipality of Santa Catarina de Santiago) and to the northwest of the fishing village of Porto Mosquito (Municipality of Ribeira Grande de Santiago), combining landscape and geological values, biodiversity values, and human occupation values of the territory and natural tourism. This is the first MPA on Santiago Island.

Indicator 0.4 (Implemented and reported by ECOCV and partners) Income generating eco-tourism network created, linking at least four marginalised rural villages to socioeconomically benefit vulnerable groups (fishermen, fisherwomen, school dropouts, single mothers, heads of the poorest households), enhance and secure value of local biodiversity by the end of the project.

A new ecotourism destination was successfully established and is already being marketed (A21), with international tours booked for April, June and August. Regular visits from nationals also recorded. Three Ecocenters have been established. Initially the plan was to set up just one ecocenter. But due to the local need, diversity and distance among communities, we managed to establish three. Two of them Gouveia and Sao Francisco (A26; A27) already generate additional income through the sale of products from recycled glass and plastic. The eco-network and all four destinations combine local nature/biodiversity, culture and tradition; also link recycling and ecotourism. Ecocenters of Rincão and Gouveia are led by women's organizations. The community enterprise in Sao Francisco is mixed gender, but the production and sales are led by women. The value of biodiversity was enhanced through participatory monitoring with artisanal fishers and fish sellers, numerous training sessions and field work. Range of educational materials from species ID guides to the Codes of Conducts for the observation of marine megafauna.

3.3 Monitoring of assumptions

Outcome

O.1 fully valid; all the activities implemented in participatory manner including biodiversity monitoring and surveys and management measures. Local association gives total support in all process.

0.2 Fully valid; all the activities implemented in participatory manner including domestic waste separation, recycling and management measures; especially in Rincão, led by the local team of the ecocenter community members showing great initiative to collect glass waste and deliver for

recycling. The positive momentum was generated in the capital Praia and citizens are joining the initiative to recycle (media coverage; posts on Raiz Azul FB page; recycling machines).

0.3 The process of on the conception and presentation of MPA proposal was supported the majority of community members. All national and municipal stakeholders expressed full support and the first MPA of Santiago island was a direct result of projects activities.

0.4 Fully valid. Community based enterprise Ekonatura in Sao Francisco was a direct result of projects activities. All three ecocentres of Sao Francisco, Gouveia and Rincão are run by community members. ECOCV continues collaboration in the post project phase to ensure successful function of all the components developed and implemented during the last 3 years. Community meetings and training video/photo materials and lists of participation were posted on the Raiz Azul/Eco-village project FB page and over 2 GB of photos and videos are available upon request.

Outputs

1.1-1.4 Fully valid. Activities were implemented as planned (see section 3.2). The ecocenters for the recycling are in full operation and are led by community members; various products have been developed for sale to diversify their income. Private companies SOPLACAS, IMO Boa Esperanca, ELEVO group joined the project and provided support to produce and test the resilience of the bricks and blocks and physical attributes of the recycled glass sand; With the co-funding by the Cooperation of Portugal in Cabo Verde and Embassy of the Netherlands in Senegal the solar energy systems were installed in ecocenters of Rincão and Sao Francisco to strengthen sustainability of recycling and reduce environmental footprint through the reduction of greenhouse gas emissions.

2.1-2.2-2.3-2-5 Valid. Target communities actively participated in project activates throughout the 3 years of the project. The baselines assessment surveys have been completed, and targets communities are aware of the impact sustainable fishing will have on their incomes. 2.4-2-6 Not fully valid. Further experimentation with fishing techniques in Y3 was no possible due the Covid 19 situation and social stress it cause in fishing activities.

3.1-3.5 Fully Valid. Socio-ecological data was collected via questionnaire surveys. Both target communities Rincão and Porto Mosquito willingly participate in the process. MPA proposal has been presented to cabo verdean authorities. Equal engagement was received in Porto Mosquito and Rincão. Throughout newspapers articles and social media was raise the importance of the MPA network in Cabo Verde and local uptake of the MPA in the Baía do Inferno, always with emphasis on the participation of targets communities in this process. it is expected that in the near future target communities will begin to enjoy the added value that the creation of the park brings in all social dimensions.

4.1- 4.4 Fully valid. Target communities actively participated in project activities throughout the 3 years of the project implementation. The mapping of the eco-trails was completed and signalization has been installed with active participation of community guides. International tourism was suspended due to COVID-19 pandemics, however, the national tour agencies joined in to test parts of the eco-network in the post-quarantine phase. The new rural ecotourism destination, the eco-network Raiz Azul, was completed and is already being marketed nationally and internationally in collaboration with our Italian partner ViaggieMiraggi.

4 Contribution to Darwin Initiative Programme Objectives

4.1 Contribution to Global Goals for Sustainable Development (SDGs)

Goal 1 Target 1.1, 1.2, 1.5 and Goal 5 Target 5.1
Project livelihood diversification activities target households with financial challenges. The project links the community venture with the promotion of the eco-network as a new tourist destination in Cabo Verde. The eco-network structure is in development but for example part Porto Mosquito-Baía do Inferno has already started generating additional income to local families through test-eco tours. Families in Rincão hosted marine expedition to Baía do Inferno and benefit financially from the services provided. In addition, glass recycling machine that is installed in Rincão is already produce income that will be distributed to address community needs.

Goal 12 Targets 12.2 and 12.5 One of the project objectives directly address waste management gaps in the rural locations of Santiago Island with specifically developed actions to introduce domestic waste reduction, reuse or recycling strategies in the four coastal villages. The success could be replicated on the municipal and island level, or other islands of the archipelago. The domestic waste management is operational in the villages of Rincão and São Francisco; glass recycling machine has been installed and first recycled glass sand produced and tested by community members.
Goal 14 Targets 14.1 Reduction of marine pollution especially originating from land linked to waste assessment in all four target villages; beach clean-up campaign in São Francisco; installation of glass recycling machine in Rincão; 14.2 sustainable management of marine ecosystems linked to the establishment of the protected area; 14.4 end of destructive fishing practices linked to the established baseline on the impact of fishing practices and follow up actions to address this; 14.5 contribute to the conservation of at least 10% of coastal and marine areas links to the establishment of the first marine and coastal protected area in the island is Santiago which is in full progress.
Goal 15 Target 15.1
Illegal sand extraction in the coastal zone of Santiago Island continues to be a burning issue, including the three project villages: Gouveia, Rincão and Porto Mosquito. Most of the sand is sold for construction locally or in other municipalities. The ongoing removal of sand from the upper layer of soil not only destructs the beaches, but also facilitates the infiltration of salty water from the sea into the sub terrain aqua-ducts, lands of nearby farms. With the installation of the glass recycling machine in Rincão and production of 'legal sand' we aim to minimize such an anthropogenic impact to coastal ecosystems, and as it proves to be successful in Y3 of the project and so can be replicated in at least one more project village.

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

National Directorate of Environment (DNA) is the partner and collaborator of the project. CBD, CITES and CMS focal points for Cabo Verde work for DNA. The project contributes to CBD Articles: (1, 6, 7, 8, 10, 11, 12, 13, 17, 21, 22). More specifically: Article 6 - measures for to boost national conservation strategies and sustainable use of marine and coastal resources are being develop under the activities of outputs 2, 3 and 4 ; Article 7- baselines established and participatory monitoring is in development under the Outputs 2 and 4; Article 8 – in situ conservation of local biodiversity (Annexed reports A2 and A8), Article 14 - impact assessment and strategies to minimizing adverse impacts under the outputs 1, 2 and 3 (Annexed reports A3, A4, A5 and A8)
The project contributes to Aichi Biodiversity Targets (1, 2, 4, 6, 11, 15, 17, 18). The project approach encompasses the combination of strategies that directly links value of marine and coastal biodiversity with the sustainable use and income generating activities. Targeted communication campaign has already started in Y1 and was intensified in Y2 and will be strengthen in Y3 with the installation of info panels; community training program, and field tests to improve artisanal fishing practices.
Livelihood diversification activities (eco-network development/ profitable domestic waste recycling) work to improve status of natural resources will directly contribute to the CBD's thematic programme on island biodiversity, which emphasises the link between the loss of biodiversity, poverty and sustainable development. This project enhances efforts to reduce disturbance and prey depletion and conserve critical habitats of species listed in CMS Appendix I and II: Loggerhead turtles, oceanic manta rays, humpback whales, sperm whales; and CITES
All the above aligns with the commitment of the government of Cabo Verde to contribute towards the achievement of these goals.
The UNICV team collaborated, in March 2021, with DNA in the proposal of the Decree-Law that establishes measures for the conservation and protection of endangered and endemic flora and fauna species, as components of biodiversity and an integral part of the natural heritage of Cabo Verde. This new law proposal that will be submitted by DNA to the council of ministers will adapt and harmonize the best practices and international obligations of the State of Cabo Verde resulting from the country's accession to the CBD, the Nagoya Protocol, the CMS and the CITES.

4.3 Project support to poverty alleviation

ECOCV Outputs 1 and 4. Over the duration of the project, participants, mainly from four rural communities, received variable training from monitoring of marine biodiversity to waste management to hygiene and ecotour guiding. The new ecocenters already generate additional income to the community members through the sale of recycled products such as vases, souvenirs. Rough estimate is around 200 direct beneficiaries. But it is just a beginning. It took time to develop infrastructure and finalise the process of recycling, which was completely new initiative in rural communities but also in Cabo Verde. We started at zero, therefore the progress made in almost three years is significant.

In addition, over 30 people, mainly students or recent graduates from UniCV, UniPiaget, ISCEE undertook training and internship with our organization and partners and gained practical skills in tourism, waste management and biodiversity monitoring and research areas.

Indirectly, we estimated that around 40-50% households in each community benefited from project activities through various local services to the project, recycling, education.

The main groups of beneficiaries include: fishers and fish sellers, drivers, local cooks, farmers, professional tour guides, national consultants, producers of recycling machines, companies such as Cavibel and Tecnicil/Agua Trinidade whose glass/plastic waste the ecocenters recycled.

On wider scale, the positive impact is on the municipal level too. All the glass waste that would have been transported to landfills was recycled.

Uni-CV Outputs 2 and 3. In the 3 years of project the people who benefit directly from the training provided by us, each of the participants increased their knowledge, develop new skills and broaden their horizons: conditions that that favour and promote change of perspective and the improvement of one's living conditions. We also believed that the creation of MPA of Baia do Inferno will emphasize the scope of these gains and extend it to a larger number of households and over the municipal level. Y2 was mainly focused on minimise negative anthropogenic impacts through the reduced coastal pollution and more sustainable fishing practices, and in the conception and presentation of MPA proposal. Indicators developed within Output 2 have measured aspects of the social resilience of fishers and fish sellers within the target communities to respond to economic and environmental challenges. This is an important additional element of poverty alleviation the project addresses, that we continue to assess in Y3.

In addition, over 25 students or recent graduates from Uni-CV undertook training and gained practical skills in biodiversity monitoring and socio-economic research.

4.4 Gender equality

ECOCV Outputs 1 and 4. All project activities and training considered gender element. Higher percentage of unemployment in rural communities is recorded among females. Thus, the effort was made to encourage their participation. In Rincão, while participatory monitoring of marine biodiversity was led by fishers (men), the ecocenter for glass recycling was led by the local women. In Gouveia, while local men-fishers joined monitoring activities, we partnered with women's cooperative Sulada for the creation and management of Ecocenter. In Sao Francisco, a new community enterprise is of mixed gender. Their work is equitably divided depending on skillset, men support the maintenance and shredding, while women lead in sales and production. In Porto Mosquito, community guides/ fishers were active in monitoring, while women provided hospitality/food services for tourists during the development of eco-network. The project staff of ECOCV was 80% females, 70% of interns were females too.

Stating this, there was no gender bias in selecting project staff but rather the package of personal and professional skills, and experience to deliver tasks.

Uni-CV Outputs 2 and 3. Training actions, socio economic surveys, social vulnerability survey, collecting signatures for communities support for MPA proposal, guarantee equal access for women and men regardless of age, religion or social stratum.
Each year of the project, 107 different types of artisanal fishermen (those who fish with line and hook and/or net) was involved in the project and a balanced representation of the direct beneficiaries was sought. We will also include, in each year 107 itinerant fishmongers and those who sell fish in commercial establishments, single mothers and heads of families.

Socio-economic data allow skills assessment and needs was disaggregated by gender and age. The income category allow us to have a clearer perception of the financial situation of the selected audiences.
Our focus followed a complementary orientation in the approach to gender, aiming at strengthening trust and independence in their interactions, as basic conditions for the creation of egalitarian, equitable and fair family and work negotiation frameworks. We also gave special attention will be given to young fishermen “sem sem” (no formal education completed, no official certification as fishermen).
There was also no gender bias in selecting project staff but rather the package of personal and professional skills, and experience to deliver tasks.

4.5 Programme indicators

- **Did the project lead to greater representation of local poor people in management structures of biodiversity?**
- **Were any management plans for biodiversity developed and were these formally accepted?**
- **Were they participatory in nature or were they ‘top-down’? How well represented are the local poor including women, in any proposed management structures?**
- **How did the project positively influence household (HH) income and how many HHs saw an increase?**

ECOCV. Outputs 1 and 4

Most financial benefits were monitored through receipts that project staff filled in each time community member provided the service. Personal enquiries were made with our collaborators operating independently (e.g., excursions led by community guides)

Direct beneficiaries that received financial support for their services in each community include: payments from DI project funds, co-funders and other collaborators:

Teams of ecocenters in Sao Francisco and Rincão (total 10 individuals), each received monthly support of around 40 GBP each month / 20-30 hours (*minimum salary in Cabo Verde is around 100 GBP*). Each of them has, on average, the household of five. Period 12-16 months.

Sale of recycled products (vases, toys, souvenirs) more actively started in February 2022. Just as an example, one toy made by Coop.Sulada with recycled plastic sold to the shop in Sal for around 3,50 GBP. The batch includes 15 to 20 toys. The amount gained is divided by the members involved in the production. The newly established community enterprise Ekonatura has accounting system and records all the sales. In about 1,5 months they generated around 400 GBP.

Community guides in 4 communities (total 15 individuals) for the excursion each receives from 5 -15 GBP depending on duration; local artisanal fishers who supported participatory monitoring were paid per diems of around 50-60 GBP (including use of the boat). Over the period of 3 years, we made more than 40 boat trips. Local women and farmers that provide food during the fieldwork, community events and trainings in each community (8 individuals); each received around 3 GBP per person served/ average amount 6 per meal, thus 18 GBP per meal. Local carpenters, painters, drivers, workers that were involved in the installation of signalization, ecocenters and supporting materials. Payments vary depending on the job and duration.

We estimate that more than 200 community members and their families benefited directly from project activities and business created. From the overall community engagement, rough estimate of indirect beneficiaries would be over 40-50% of households per community.

Uni-CV Outputs 2 and 3. We noticed that the sense of the endogenous appropriation of marine space mirrors the social division of fishing work and we denote that the fishermen's public is the bearer of traditional knowledge and knowledge associated with the marine and terrestrial space that make up the PNBIMA. This had been based on the process of building the technical proposal for the creation of the marine protected area of Baia do Inferno, delivered to the National Directorate for the Environment in December 2020, within the framework of the aforementioned ECO-VILA project, which ensured the participation of all members of the communities (poor and

very poor, men and women) that surround the park through a) its involvement in the meetings that discussed the importance of the AMP, held in 2019 and 2020; b) the participation of 3 fishermen in the underwater survey carried out in October 2019; c) the participation of 107 fishermen and 107 fish sellers in the 2019, 2020, 2021 baseline studies; and d) collecting 300 signatures from community members in October 2020.

However, even though the ECO-VILA Project has encouraged the effective participation of communities in this process, and they responded positively, it came from the “outside-in” and was not a “bottom-up” initiative.

4.6 Transfer of knowledge

ECOCV. Outputs 1 and 4. 5 community guides and 1 ECOCV staff (2men and 4 women) received a formal certification of nature guides through the training led by BIOTUR (Ministry of Environment and Agriculture and the Institute of Tourism of Cabo Verde). All caboverdean.

Uni-CV Outputs 2 and 3. The project constituted a robust MPA proposal that included a biodiversity report, a socio-economic report, a geological report and an ecotourism report in the territory surrounding BAIA DO Inferno, which was delivered to the DNA. It also published two newspaper articles about Baía do Inferno as one of the mains objectives of the Eco-Vila project. We delivered in March 2022 a scientific article that will be published in 2022 in the proceedings of the International Colloquium on Social Sciences.

4.7 Capacity building

The Uni-CV team was invited to participate in the International Congress on Environmental Education as members of the scientific committee. All caboverdean, 1 Female and 1 Male. The Uni-CV team was also invited by DNA to lead the project to develop the Management tools for the Baía di Inferno and Monte Angra Natural Park. All caboverdean; 1 Female and 1 Male.

5 Sustainability and Legacy

ECOCV Outputs 1 and 4: The project started at zero; there were no community-based recycling initiatives in Santiago and Cabo Verde. Over the three years we saw growth of interest from civil society and private companies. For example, Tecnicil/Agua Trinidade (the main supplier of drinking water in Cabo Verde) signed a formal partnership with ECOCV and Ekonatura to boost their sustainability strategies and invested in plastic recycling machine for the ecocenter in Sao Francisco. We consulted on the development of Operational and Strategic plans for waste management in Santiago Island. ECOCV also contributed to the development of the amendments of the Law for the use of plastic in Cabo Verde. It should be approved and come into power by January 2023.

Uni-CV Outputs 2 and 3. The project started at zero; there were no MPA in Santiago Island. Over the three years we saw growth of interest from target communities, civil society, and political society. We are developing the plans of management for Baía de Inferno and Monte Angra Natural Park, up to come in Setember 2022.

Is your planned exit strategy still valid, or have you made changes to what was originally proposed? What will happen to project staff and resources now the project funding has ceased?

ECOCV continues to collaborate with all project communities through other projects that were initiated during the last three years. We also committed to facilitate the links with national and international travel agencies for the promotion of the new ecotourism destination eco-network Raiz Azul and support coordination of activities of the community guides. We continue to be involved with the ecocenters in promoting their products and liaison with buyers. We continue to fundraise to boost capacity of community guides, operation of ecocentres and expand activities in the surrounding villages.

Uni-CV will continue to collaborate with communities through the GEF/UNDP funded project on sustainable fisheries in partnership with Lantuna NGO. As responsible for the development of MPA management instruments, after the conclusion of these instruments, it will be one of the institutions that will be part of the execution of the park management.

Lessons learned

What lessons learned/or failures/challenges from this project could be used to improve/inform future Darwin projects or the wider Darwin programme?

Consider issues such as:

- What worked well, and what didn't work well?

ECOCV Outputs 1 and 4. The major strength and legacy of our work is that we showed that it is possible to recycle in Cabo Verde; it is possible for the rural community to lead the process; it is possible to reduce domestic waste through recycling and, it is possible and profitable to use recycled materials.

The implementation of Outputs 1 and 4 involved much time in the field. Having 4 communities spread along the west coast of Santiago was quite a logistics challenge, to divide the time and human effort, and it affected the frequency of our presence there. Due to limited budget, we were not able to hire full time assistants to be present at each community. We see this as a weak point of the project planning. Especially, it was evident in the waste management. To change behaviour on the community level requires years of regular and continuous work with various groups, especially to scale up the progress. As a solution in 2 communities, we partnered with local associations. The most progress was achieved in Sao Francisco which already had stronger understanding of communal work due to the presence of local association ADSF since 1990s. In others, we linked with active groups or individuals that were with the project since the start or joined along the way. By their motivation expressed at the final workshop we understood that there is enough motivation to continue.

We think that one of the challenges in applying for competitive funding is the 'requirement' of a high number of people and large areas to impact. However, sometimes building strong basis in one community and enabling at least 70-80% of the population of that community can have much stronger reverberating effect on the entire island or even the country. In our case, we managed to build many new partnerships with individuals and private companies from various sectors. This gave a significant boost to the success that we achieved in less than three years.

We continue seek funding to support all the communities where the ecocenters were set up. Especially it is needed to strengthen capacity for a new community enterprise but also to further create conditions for behavioural change in waste management on the community level.

One of the key challenges in the implementation of the project was an uncertainty of transfer of funding each quarter from the lead organization. Some delays extended up to 2 months, in many occasions even the signed fund-transfer agreement was not respected. Due to this, we lost experienced project staff, in some cases the situation with community members got tense; we had to constantly reschedule and reorganise fieldwork and training with external consultants, with more delays and constant stress as a consequence. Only our experience and organizational flexibility allowed to successfully complete Outputs 1 and 4. We think that the DI should ensure more responsibility of the lead organization with respect to local partners they collaborate.

Overall, the DI funding made a significant contribution to many individuals and communities, as well as on the national level in Cabo Verde. All actions continue in the post-project phase, with the supporting initiatives being developed by ECOCV and our partners.

Uni-CV Outputs 2 and 3. The major strength and legacy of our work is that Santiago Island got it first MPA and that was possible to involve local communities in all process. The implementation of Outputs 2 and 3 demanded a lot of field. The main challenge was the fact that change behaviour on the community level requires years of regular and continuous work with various groups, especially to scale up the progress.

The collaborative approach with the involvement of numerous partners in different stages of the implementation has proved to be effective. Despite the later due to the administrative/ fund transfer delays), we managed to implement on time over 95% of planned activities. Sometimes,

thanks to the flexible and adaptive project management and effective use of all the opportunities we started four activities ahead of schedule.
One of the challenges arose due to the extent of the project site (over 250km2) and travel/activity time effort in the four target communities. The direct presence in communities was less than we anticipated at the start of the project. Thus, after the M&E meeting in March, in 2020 we decided to divide the work between the main partners, with the Uni-CV leading implementation of activities under the Output 2&3, and ECOCV and partners under Outputs 1&4. The strategy was revised at the end of Q2 Y2 and, and continue till the end of Y3.

The noticeable differences and uniqueness of all four project communities was a discovery. Even the villages of Gouveia, Porto Mosquito and Porto Rincão living in similar environmental conditions, separated from each other no more than 5-15 km and, what would seem facing similar external challenges, showed a very different social structure, cohesiveness, level of awareness and curiosity. Thus, in Y1 2-3 months into the implementation we had to re-strategize and tailor the set of activities to each Eco-village under development. Through community consultations, field work and personal informal interviews we identified the strength of each target village and, based on that, created a specific theme for each one. In addition, in Y2 we dedicate more effort to involve the “quiet” members of each community that often are the ones with more struggles and a lack of confidence to communicate their needs or explore available opportunities to build new skills.

From the technical point of the view, there were challenges in acquiring research/ safety equipment. Good quality items need to be bought overseas while many suppliers do not deliver to Cabo Verde at the economy rates or at all. In summary, the key strategies to the effective and timely implementation we have learned so far are flexibility, adaptability and creativity in dealing with arising challenges

We learn that public and private sector have different operating rules, however obvious it may seem it is important that the mechanisms that regulate each institution are declared and understood since the beginning, in order to organize the work in the most functional way possible, for each partner and for the success of the project. It is the people come together that can make the project a success; successful collaborations are built on respect, trusting relations and durable collaboration between communities and all the partners involved. For the future Uni-CV team will take this lesson and ensure the possible partner’s understand the process of transfer of fund that Uni-CV must respect on national level, and ensure that our partner’s, even in bad times, would not lose institutional respect and cordiality, as happened with our partner ECOCV in Eco-Vila project. This is not something that we can demand form DI. It is our responsibility to ensure that our futures partners will collaborate in cordial means and not become an antagonist protagonist.

Overall, the DI funding made a significant contribution to many individuals, rural communities, on regional level and national level in Cabo Verde. All actions continue in the post-project phase, with the supporting initiatives being developed by Uni-CV and partners.

5.1 Actions taken in response to annual report reviews

On 20 May 2021, ECO-CV requested a meeting with the rectory of UNI-CV to discuss the status of the project. The meeting was held on the 20th of the same month and the issue of delays in the transfer of funds and communication between the main partners were discussed. After that meeting didn´t occur no more stressing communications about that issue till the end of project.

We discussed the reviews with your international partners, Bangor University and other collaborators, as DNA, and Uni-CV administration staff.

6 Darwin identity

ECOCV Outputs 1 and 4. The implementation was mainly supported by Darwin Initiative but also with the co-funding of other projects implemented by ECOCV and partners. All presentations, videos training and communication materials (digital and printed) included Darwin Initiative (DI) logo and the acknowledgement as the funder. Various info/touristic panels installed at the ecocenters in each community, project roll ups, survey reports, brochures, email

communications, presentations used for communication and promotion of the project and the new destination eco-network Raiz Azul included DI logo. During meetings with project communities and national/ municipal stakeholders, national press, DI was mentioned as the funder in all relevant discussions. All the posts on project social media site Facebook Instragram, Youtube, had the link or hashtag to DI page, or the DI was listed directly in the FB blog. Many of FB posts were shared by project partners and followers in Cabo Verde and overseas. We also contributed to the DI Newsletter. During the final project workshop in Sao Francisco, some community partners expressed wish to meet with Darwin Initiative and thank for the support in developing and implementing various activities such as set up ecocenters. And so, we thank on their behalf.

Uni-CV Outputs 2 and 3. The Eco-village project stands as an independent project with the contribution/co-funding of other projects implemented by the lead organization and partners. All presentations, videos training and communication materials (digital and printed) included Darwin Initiative (DI) logo and in many cases the acknowledgement as the funder. Project roll up was designed and printed in Y1 an Y2 to be used for more effective communication in community meetings. During the meetings with target communities and national/ municipal stakeholders, national press DI is mentioned as the funder of the activities in all relevant discussions. The MPA proposal presented to caboverdean authorities had included DI, all communication in scientifically events includes the DI logo, the newspapers articles includes references of DI as supporter of Eco-Vila Project, and the scientific article includes DI references.
We discussed the importance of DI funding with your international partners, Bangor University and national other collaborators, as DNA, and Uni-CV administration staff, and local associations in Porto Rincão and Porto Mosquito, and every one of than is grateful to DI. Eco-Vila is, till now, the largest project implemented by Uni-CV, and it allowed this institution to give an important contribution for the development of Cabo Verde. Thank DI for your support.

7 Impact of COVID-19 on project delivery

ECOCV Outputs 1 and 4. Overall our team and community partners adjusted well during and post Covid-19 lockdown. Some activities though, had to be downscaled or postponed. For example, work visits of international partner *ViaggieMirragi* were postponed to the end of Y3; the production of plastic recycling and glass recycling machines was delayed due to difficulty of ordering necessary parts from Europe; This affected presence and more active engagement in communities to reduce glass and especially plastic waste. Number of marine surveys had to be reduced; number of meetings and project presentations had to be done via online platforms. Community meetings had to be broken down into smaller groups or informal communications. Part of the project funds was redirected to purchase masks, disinfectants and other H&S measures to comply with national regulations. Despite all the challenges we managed to successfully deliver results.

Uni-CV Outputs 2 and 3. Due to a Covid-19 pandemic, several constraints have arisen. During the months of April and May 2020, the State of Cape Verde decreed the quarantine, making it impossible to carry out any public activity in the communities. In June 2020, with the end of the quarantine, but within the framework of the State of Calamity, the activities affected by the participants were not authorized. In this sense, it focuses our attention on carrying out activities that could not jeopardize health regulations and that required the participation of controlled numbers of people. Thus, we took advantage of this period to deepen the qualitative research, as well as to prepare the methodology and tools for quantitative works that were postponed to Q3 AND Q4 Y2. These constraints did not affect the schedule of activities, nor do they imply changes in funds. Despite all the challenges we managed to successfully deliver results with the exception of indicators related to the introduction of more sustainable fishing techniques. We noted that the situations provided by Covid 19 accentuated the vulnerability of the target communities and fishing aimed at the subsistence of households was an important resource during this crisis, and during this period the Government raise all restriction relate to fishing in Cabo Verde, in order to mitigate Covid 19 economic effects to households.

8 Finance and administration

8.1 Project expenditure

Project spend (indicative since last annual report	2021/22 Grant (£)	2021/22 Total actual Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)	[redacted]	[redacted]	[redacted]	* [redacted] was transfe from Y2 to Y3 fo the projec assistant/intern expenses; th amount will be use in full by the end o the project.
Consultancy costs	[redacted]	[redacted]	[redacted]	
Overhead Costs	[redacted]	[redacted]	[redacted]	
Travel and subsistence	[redacted]	[redacted]	[redacted]	
Operating Costs	[redacted]	[redacted]	[redacted]	* [redacted] was transfe from Y2 to Y3 fo the projec Workshop and fiel wok; the amoun will be used in fu by the end of th project
Capital items (see below)	[redacted]	[redacted]	[redacted]	* [redacted] was transfe from Y2 to Y3 to the amount will b used in full by th end of the project.
Others (see below)	[redacted]	[redacted]	[redacted]	[redacted] was transfe from Y2 to Y3; th amount will be use in full by the end o the project.
TOTAL	[redacted]	[redacted]		

Staff employed (Name and position)	Cost (£)
Adilson Semedo Overall Coordination and Socio-economics support	[redacted]
Vera Alfama Geologist	[redacted]
Elyane Dias Tecnhical support, biology, environmental education,M&E	[redacted]
Cláudia Rodrigues Financial oversight, audit support	[redacted]
Ronan Roche (Bangor University) Socio-economics support and M&E	[redacted]
Edita Magileviciute, project coordination, co-management, marin biologist	[redacted]

Professional tour guides Nilza Barros, Fredy Cardoso, communit guides-trainees from Rincão and Sao Francisco)	[redacted]
Roberta Badovini, social and ecotourism specialist, fieldwork coordinator Adalzira Marques (community development)	[redacted]
ViaggieMiraggi/ Italian partners/ ecotourism network development	[redacted]
ADSF/community development/ waste management systen development	[redacted]
Project assistants/interns (Claudia Pinto, Miludy Correia, Edva Semedo, Letizia Branco, Serena Isernia, Emanuel Monteiro, Kati Andrade; Yorana Barros)	[redacted]
Technician 1-2 ECOCV Celita Andrade	[redacted]
TOTAL	[redacted]

Capital items – description	**Capital items – cost (£)**
Windows, roof sheets, trash containers, storage boxes, tool boxes plastic sheets; carriages for waste collection; cement, paints buckets, fan, shelves	[redacted]
Signalization posts; wood, info panels, ecocenter boards,	[redacted]
FA kits, life jackets x20, GPS, T-shirts, caps, binoculars; wate bottles,	[redacted]
Biodiversity monitoring equipment	[redacted]
Training aids/materials/books/software	[redacted]
Plastic recycling machines at least 2 villages	[redacted]
Solar panels	[redacted]
TOTAL	[redacted]

Other items – description	**Other items – cost (£)**
Car/boat (rent and fuel)	[redacted]
Phone/internet	[redacted]
Stationary	[redacted]
Printing	[redacted]
TOTAL	[redacted]

8.2 Additional funds or in-kind contributions secured

Source of funding for project lifetime	**Total (£)**
Ministry of Education of Cabo Verde, Environmental Fund of Cab Verde; Association TaAma (Italy), Portuguese Cooperation in Cab Verde, WCS/SOFAROcean, Italian Dive Company; Embassy of th Netherlands in Senegal, Unipiaget, Tecnicil/Agua Trinidade SoPlacas, Elevo Group.	[redacted]

TOTAL	[redacted]

Source of funding for additional work after project lifetime	**Total (£)**
GEP/PNUD	[redacted]
DNA/BIOTUR	[redacted]
TOTAL	[redacted]

8.3 Value for Money

We found the most advantageous combination of cost, quality and sustainability to meet our requirements on the Eco-Vila project. In this context the whole life cost quality of target communities will arise, it fit for in our purpose and was sufficient to meet our requirements, and economic, social and environmental get some benefits.

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

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

ECOCV and partners. The first thought that comes to mind is that every single small step was an achievement. WE started with empty spaces and turned them into fully functioning ecocenters for glass and plastic recycling in Rincão and São Francisco villages. We learnt and taught how and what to make with recycled materials: glass sand and shredded plastic turned into vases and bricks. We cleaned our streets and beaches, but also trapped kilograms of greenhouse gases in recycled and reused plastic products. We revived the production of traditional caboverdean fabric ‘panu di tera’ with the establishment of ecocenter in Gouveia. We learnt to swim and saw fish for the first time in the ocean that we live by all our life. We recorded the first live sighting of dwarf sperm whales in Cabo Verde. We climbed Monte Angra and dove in Baia do Inferno which now makes part of the first marine protected area of Santiago Island. We joined hands – djunta mon – in caboverdean language, so many times, and that’s why today we are proud to say: we showed that it is possible.

Who are WE? ECOCV, international partners and community associations, volunteers, students, fishers and fish sellers, children, private business owners, and many wonderful people in all four communities of Rincão, Porto Mosquito, São Francisco and Gouveia that allowed this Blue Root – Raiz Azul, as we called the project funded by Darwin Initiative, to turn into a fully functioning new ecotourism destination in Santiago Island.

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

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

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact:A novel eco-village approach is developed to boost practical capacity of cabo verdeans for sustainable use and conservation of marine and coastal resources on the capital island of Santiago. .			
Outcome: A reduced negative environmental footprint, an increased value of biodiversity and enhanced quality of life within coastal communities on on the capital island of Santiago, Cabo Verde	0.1 The overuse of commercial marine species reduced and value of non commercial species and habitats increased by at least 30% from the baseline established at the start of the project in the target inshore zones of the project area by the end of Y3. 0.2 General waste and macroplastic waste is managed (reused, reduced, recycled) and treated in at least 30% of households in four coastal villages by the end of the project from the current baseline of 0%. 0.3 Marine and coastal area of at least 20 km2 under national and/or local level of protection increased on Santiago Island from the current baseline of 0%. 0.4 Income generating ecotourism network created linking at least four marginalised rural villages to socioeconomically benefit vulnerable groups (fishermen, fisherwomen, school dropouts,	0.1 meeting minutes from stakeholder meetings; assessment of the local fisheries resources in the three municipalities, data analysis and reports; planning workshops with community members and governement representatives; 0.2 Assessment reports of the current gap analysis; methodology for improvement; campaigns and practical training courses; installations and equipment; monitoring report of the local use. 0.3 Biodiversity data reports; minutes from participatory meetings; proposal to the government; Co-management and participatory monitoring plans. 0.4 Training sessions, list of participants; number of local people trialled income diversification	0.1 Community and relevant stakeholders are willing to participate and interested to shift towards more sustainable use of marine resources and coastal zones in the project area 0.2 Community members are willing to adopt developed methodology and activities; local government supports the implementation and accepts co-ownership in the long-term 0.3 Adjacent fishing communities and local government supports the conservation actions for the target area. Local and national government supports fully supports the process 0.4 target community members are willing to explore livelihood diversification options or/and learn new skills to be more competitive in the expanding tourism market. New rural travel niche generates sufficient interest from national and international

	single mothers, heads of the poorest households), enhance and secure value of local biodiversity by the end of the project.		travellers.
Output 1 General and plastic waste management and income generating system developed and adopted in the four coastal villages by the end of the project.	1.1 Locally adapted set of actions to treat and reuse/recycle waste produced on the village level developed by Q2 Y2 and tested in the four target villages by the end of the project 1.2 Intensive awareness campaign and practical training is conducted in the four target villages and the municipal level to speed up the uptake of waste management system by the Q1 Y3 1.3 Links and partnerships with national and international companies developed for the installation of the recycling system for macroplastics by Q4 Y2 1.4 Target zones and biodiversity (marine and coastal) in the project site assessed for the microplastic contamination and relevant strategies to address the issue developed by Q2 Y2	1.1 Community awareness assessment survey; records of feedback from community members; equipment acquired; locations identified; 1.2 Number of training participants, campaign handouts and meeting records; programs on national radio and TV; 1.3 One national and one international company linked to plastic recycling and utilization identified, plastic recycling machines acquired, collaboration protocols signed; plastic waste management system drafted. 1.4 Technical reports; number of researchers and local stakeholders involved; student thesis produced;	1.1 Community members are willing to test new solution and change their attitude towards waste utilization 1.2 Project technicians are able to produce effective and targeted messages that reach various user groups 1.3 Companies are willing to collaborate in the utilization of macroplastic and hard residuals. 1.4 Sufficient financing is available to conduct in depth survey in the project area
Output 2 Stakeholders and target community members increased knowledge on value of local marine biodiversity and have developed a set of practical skills for more sustainable use of local ecosystem services by the end of the project	2.1 Baseline of the artisanal fisheries resources and non-commercial indicator species and habitats established by Q4 Y1, impacts and indicators for long term monitoring finalised by Q3 of Y3 for the target zones in the project area. 2.2 Alternative fishing techniques tested and impact reduction on local fish populations estimated by Q4 Y2. 2.3 Participatory monitoring and income diversification (see Output 4)	2.1 Technical reports; interviews, number of surveys, databases; training sessions; 2.2 Fish catch data; interviews with local fishers, fish sellers and other relevant stakeholders; assessment sessions, meeting minutes. 2.3 Fish catch data (sizes, species) compliance with the closed season for target species;	2.1Sufficient funding is available to conduct quantifiable data collection 2.2 Local fishers are willing to trial alternative fishing practices 2.3 Local fisher and community members in the three fishing villages ready to test new solutions for more sustainable use of marine and coastal ecosystems

	introduced to enhance self-management of fishing practices and reduce pressure on overexploited marine resources in the target fishing communities by Q2 of the year 3 (baseline to be established at the start of the project)		
Output 3 The first MPA/LMMA proposed on the capital island of Santiago and submitted for the integration into the National PA system by the end of the project.	3.1 Sufficient socioeconomic and environmental data collected for the the target area (Baia do Inferno) to support the establishment of MPA/LMMA following the national laws by Q4 Y1. 3.2 Collaborative planning meetings organised with target stakeholder groups to define the most acceptable pathway for the MPA/LMMA establishment by Q3 Y2 3.3 Proposal drafted and submitted to the government for the approval by Q2 Y3 3.4 Official approval of the proposed MPA/LMMA received by the end of Q4 Y3	3.1 Technical reports; number or surveys and surveyors involved; datasets; 3.2 List of participants; minutes of meetings; technical decisions, products of the meetings; 3.3 Final technical report and official proposal 3.4 Official letter/publication by the government officials	3.1 Sufficient funding is available to collect adequate data to support the proposal of the first MPA/LMMA on the island 3.2 Stakeholders willing to support and participate in the process 3.4 Government approves the proposal and the designation by the end of the project
Output 4 A new rural ecotourism destination/ eco network linking four eco-villages developed to boost local employment, promote sustainable travel, and enhance capacity for long-term employment for the target community groups by the end of the project	4.1 Specific natural, social, cultural and financial resources mapped for the design and development of the eco network in the project area of over 250km2 by the end of Q2 Y2 4.2 Ecological footprint (level and source of pollution on the household and community level; unsustainable /illegal fishing practices such as harpooning of dolphins, catching sea birds) is reduced by at least 30% in four target villages by Q4 Y3 from the baseline established by the end of Q4 Y1	4.1 Technical reports, GIS maps, questionnaires, list resources in various categories 4.2 Developed methodology; assessment datasets; community feedback; 4.3 Training modules; list of trainees; assessment of the participants and certification categories such as eco guides, local art/craft producers, cooks, tailors (demand will be established after the baseline mapping of the skills)	4.1 Local participants show willingness and interest to join in the eco network 4.2 Members of the three target villages are willing to adopt behavioural change towards healthier and more sustainable living on individual and communal levels 4.3 Number of villagers including participants from sensitive community groups willing to complete the training and explore new opportunities

	4.3 Tailor made training in hospitality, tour guiding, marketing, business, biodiversity delivered in four villages, and target groups prepared to step into the local ecotourism by the end of Q2 Y3 4.4 Four new rural travel destinations/eco-villages and eco-centre prepared to generate income for local community groups by the end of Q3 Y3	4.4 Eco centre; Publicity sessions on social media, national TV and radio; website; links with the travel agencies in country and internationally; destination co-management units; income received	4.4 New travel destinations generate enough interest among travel agencies and independent travellers Activities

Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)

1.1. Run baseline survey and planning meetings with target community members to establish baseline for the waste disposal methods and prioritise reuse/recycle/reduction measures and locations.

1.2. Test the identified measures with the selected households, evaluate and replicate on the village level

1.3 Run waste disposal awareness campaign “Nha lixu e di meu” (my rubbish is my responsibility) in collaboration with the civil movement ‘350 Cabo Verde’

1.4 Propose social and environmental responsibility programme for the major plastic producers in Cabo Verde to co-fund/co-manage plastic recycling machines for the target villages.

1.5 In collaboration with CERMI and LEC adjust prototypes of plastic recycling machines for energetically sustainable use, train personnel in operation and management.

1.6 Using adapted methodologies, test samples of sand, water, invertebrates, fish, domestic animal/human faeces in the selected locations to test prevalence of micro plastic.

1.7 Run the first national awareness campaign to communicate the results and highlight impacts and solutions for plastic management.

2.1 Use INDP, DGRM, DNA , fisher data and field work surveys (including UAV technology) to establish the baseline and indicators in partnership Bangor University

2.2 Evaluate qualitative and quantitative data to establish the projection and impact of project actions

2.3 Develop targeted campaign to communicate the value of the resilient marine ecosystem to the coastal communities and decision makers

2.4 Introduce system for the self-monitoring of artisanal fishing catch, associated marine species and habitats on the individual level following the national fisheries management plan

2.5 Evaluate the impact of current fishing techniques and trial more sustainable fishing practices with sample group of fishers; replicate success on the village level.

2.6 Link biodiversity monitoring to the eco-network operations to ensure cost-efficiency, incentives and longevity in the post project phase.

3.1 In collaboration with professional local divers, fishers, students run surveys to gather data on biodiversity, seascape, geologic, historic value of the Baia do Inferno

3.2 Run series of planning meetings in the two villages adjacent to the prospective MPA with the relevant stakeholders and community members

3.3 In collaboration with the DNA prepare technical report and official proposal for protection/co-management of the target area and submit to the Government.

3.4 Run series of targeted meetings with relevant government representatives for faster approval of the MPA/LMMA

3.5 Use social media to raise the importance of the MPA network and local uptake of the prospective MPA in the Baia do Inferno

4.1 Run planning meetings with the target communities to build vision of eco-village for each and map available or needed skills/services/resources within participant groups.

4.2 Run eco-network design workshops with the national tourism sector to map service demand and effectively integrate eco-villages into the tourism sector.

4.3 In collaboration with international partners and experienced local tour guides design the eco-network for target group of clients, national and international packages.

4.4 Set up the eco-centre (eco-network management and learning hub) in one of the target villages and co-management units in each eco-village.

4.5 Deliver training programme for the skill enhancement for participants in each of the target villages based on their vision and identified knowledge gaps.

4.6 Market the eco-network and eco-villages (unique story, message, contribution), to reach and receive national and international travellers and generate the first sustainable income.

4.7 Adopt Eco Code of Conduct for travellers and eco-villagers to prevent exploitation of locals, unhealthy competition, child/adolescent sexual abuse, maintain minimal environmental footprint.

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Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	x
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	
If you are submitting photos for publicity purposes, **do these meet the outlined requirements (see section 10)?**	

Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	x
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.	x
Have you involved your partners in preparation of the report and named the main contributors	x
Have you completed the Project Expenditure table fully?	x
Do not include claim forms or other communications with this report.	