Action D.2: Social and economic impact of the project's actions

Compiled by Life Nieblas team: GESPLAN

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1. Brief

Life Nieblas is a Life Programme financed project provided by the European Commission that support projects involved in climate action, natural habitat restoration and sustainable development. In addition to the European financing, Life Nieblas counts with the financial support from Cabildo de Gran Canaria as the public administration where this project has being developed.

Life Nieblas is a pioneer case study on the use of fog water collection as main source of water supply for the irrigation and maintenance of reforested areas. Reforestation methods will take shape of different technologies that have been observed to be beneficial or that have the potential to be further developed including: Individual Fog Water Collectors, Cocoons (developed in another Life project 'The Green Link'), AFDS (Autonomous Fluid Discharge System) and finally traditional reforestation as control group.

Furthermore, Life Nieblas looks into the transferability and replication potential of the technology tested. Not only will the project focus on the reforestation aspect but also on Fog Water Collectors (FWC) technology as the main (and only) source of water. In this case, technology has been tested in labs to improve FWC design and efficiency, they will not only become easier to install and transport but also will collect more water by surface exposed.

The final objective of this project will be to adapt technology to be exported to different European regions (and out of the EU) where fog conditions have the potential to improve water availability and assist in natural habitat recovery. Eventually, finding its way into the agriculture sector where farmers can take advantage from collecting their own water. Henceforth, Life Nieblas will contribute in climate change mitigation action (by reduction of emissions), carbon capture (by natural habitat recovered) and with the development of sustainable technology.

2. Summary

This deliverable is the result of Action D.2 '*Social and economic impact of the project´s actions'* for both sites; Gran Canaria and Portugal.

This action monitoring will be carried for four years (2021-2024). The present submission, describes the following socio-economic indicators from July 2020 until December 2024:

- Jobs generated directly by the project (personnel specifically hired for this project by all beneficiaries)
- Jobs directly affected by the project (pre-existent beneficiaries employees with tasks assigned to this project)
- Jobs indirectly affected by the project (total personnel for all beneficiaries)
- Number of companies an professionals directly hired as an external assistance by the project
- Number of jobs created or affected by replications of the different reforestations typologies
- Number of professionals and companies from the technology sector or services linked to climate change, reforestation and fog collection that will participate at the International Days on Climate Change, Reforestation and Fog Collection event
- Number of projects and investigations presented at the International Days on Climate Change, Reforestation and Fog Collection event
- Number of people an entities participating at the International Days on Climate Change, Reforestation and Fog Collection event
- Economic impact estimation of the International Days
- Farmers and workers who will receive direct information of the project
- Number of talks or workshops in each school and number of students participating
- Number of talks or workshops in neighbourhood associations and number of participants
- Number of talks or workshops in different events and number of participants
- Number of talks or workshops in ranchers or hunter's associations and number of participants
- Number of talks or workshops in environmental associations and number of participants

3. Jobs generated directly by the project (personnel hired for the execution of the tasks assigned in the project for each beneficiary)

GESPLAN employs an Environmental Scientist who was hired full-time on 25/01/2021 as Environmental Technician for the coordination and management of the technical parts assigned to GESPLAN for the duration of the present project. Following up on implementation plans and ahead of the beginning of field work, a group of four (4) specialised field workers was hired on Feb 2021 until March 2022. As these employees were either assigned to other projects or left the company they were substituted by other 4 employees until August 2024. For a better control over the field team and the field works that were carried out one of these SFW was promoted as Foreman in 2022. This group was in charge of all fieldwork tasks, they have accredited environmental education and machinery handling licences (chainsaw, etc.) that allows them not only to perform an efficient but also educated job.

Additionally a second taskforce composed by 3 Specialized Field Workers was hired between October 2022 and September 2023 by GESPLAN to give impulse to the reforestation activities.

ICIA hired an engineer on 1/07/2021 specifically for this project to operate the wind tunnel and gather data as well as assist on the 3D printed prototypes for the Innovative Fog Water Collectors (IFWC) allocating 100% of their working time to Life-Nieblas.

ULL hired a physicist on 1/09/2021 as team addition, which is allocated 100% to this project and will operate the wind tunnel along ICIA's technician and work in assistant to ULL's Professor and Researcher on the operations and data gathering of the Eddy Covariance System used to measure CO_2 capture capacity of the reforested areas.

CREAF has a full-time hired a researcher who takes part in Life-Nieblas partially since 1/07/2020. The researcher is in charge of follow-ups on ecological development of the reforested areas, natural monitoring protocols and habitat restoration data gathering & analyses.

4. Jobs directly affected by the project (beneficiaries pre-existent personnel with tasks assigned in the project).

GESPLAN has a permanent Project Director who oversees all aspects related to the project development and its delivery, and a Financial Technician that oversees all budgetary and economic implementations of this project.

CREAF has assigned since 1/7/2020 a financial manager to the project with an allocation of a 6% of her working time to the project.

UAB appointed an employee from 1/01/2021 dedicating part-time to the project, being in charge of following up on ecological development of the reforested areas, natural monitoring protocols and habitat restoration data gathering & analyses.

ICIA's professional team is composed of five members from which 4 (Project Coordinator, Field Data Analyst, Researcher and Technician) have full-time contracts and are being dedicated partially to Life-Nieblas since 1/07/2020. This team is in charge of data gathering, analyses and replication to scale from the wind tunnel and field experiments outputs to the final IFWC

product and mass construction phase as well as production of promotional and dissemination material such as videos, short films, photographs, animation, media material, etc.

ULL has two full-time members who are partially contributing to this project since 1/07/2020 as Professor and Researcher. They are in charge of the operation and analyses produced by the Eddy Covariance System in combination to data gathered from the wind tunnel.

CIM VDL Coordinating Technician is a permanent staff of the Portuguese consortium who partially works for Life-Nieblas on the replication actions of the project at two different sites since 1/07/2020.

Heredad has employed a foreman on 8/02/2021 who oversees the groundwork within HAAF property. The foreman also serves as link between project Technician and the specialised Field Workers in logistics matter.

ITC has a part-time dedicated team to this project composed by 'Technician 1' an specialist in hydraulic assemblies who is in charge on the design and building of the AFDS, 'Technician 3' who is in charge of computing (running simulations) and data communication, both beginning on this project from 14/1/2021. On the other hand 'Technician 2' takes charge of meteorological station equipment monitoring and data gathering & analysis that has joined the team from 1/05/2021. Finally the Coordinating Technician (1/07/2020) oversees all activities and actions undertaken by the ITC team.

5. Jobs indirectly affected by the project (total personnel for all beneficiaries)

CIM VDL hired a technician on 3/8/2020 who was assigned to the project to give technical support for the execution of the actions, allocating a 20% of his time to the project. Additionally 11 forest sappers were hired being part-time assigned to LIFE Nieblas in order to execute the reforestation actions in Portugal.

6. Number of companies and professionals directly hired as an external assistance by the project.

GESPLAN

The website and project's logo design was awarded on 17/08/2020 to Ateigh Diseño Web S.L., later on (27/5/22 and 9/1/23) some improvements on the web page were necessary, on 26/9/2023 the Open Web Tool was added to the project's web page, in overall these tasks have been executed for 5.180,00 euros.

Public Procurement contract was granted on (3/03/2021) to the company Nieblagua, S.L. whom were in charge of installing the initial 'traditional' FWC for a total cost of €68,691.45. This resulted in the indirect generation of employment in construction by hiring the company Pedro Stone S.L. and engineering personnel directly hired by Nieblagua.

A visit to the field work area was done within the scope of the 2nd SCM, due to the number of persons to be displaced we rented a bus to the company Amanda Bus for 160 euros.

The working area in Gran Canaria requires the project Technician and the Fieldworkers to have vertical access certified ratings for which a certified vertical access 5-day course was contracted to Vertical III on 6/06/2021 for 5 people for a total €7,658.40.

Regla de 3 Diseño Industrial y Gráfico S.C.P. is a design company who was awarded with various contracts: design and printing of Life Nieblas' Information boards for Gran Canaria (916,00 €), design and production of various projects' posters for the communication activities for (927,00 euros), design and layout of a calendar and agenda for LIFE Nieblas international congress (220,00 euros) and lastly the design and production of the technical manual and layman report (7.427,00 eruos).

María de las Nieves Santana Mentado (Dtipos) was granted two contracts to label both of the project's cars on 23/04/2021 and on 9/09/2021 for a total cost of €485.

Víctor Manuel Santana Pérez was hired as a subcontractor to execute some works to level the terrain at El Pinillo to install water tanks given by CGC, the works wre carried out on 29/9/2021 for 257,00 euros.

Initially the cocoons were kept in a wharehouse, when the plantation season started they were transported to a space provided by Heredad which was near the work site. As the amount of cocoons to be transported did not fit the SFW vehicle it was necessary to hire a specific transport for this task, the services were awarded to Francisco Arencibia Nuez on 27/4/2022 for a total amount of 285,00 euros.

A public procedure was done for the acquisition of the project's promotional material (polos, t-shirts, caps, etc.), Rosa Maria Chaves Miranda executed the contract on 29/4/2022 for a total amount of 17.604,00 euros.

As a second field team was hired it was necessary to rent a vehicle for them in order to be able to execute their actions. Northgate is the renting company with whom Gesplan has a contract, the period the car was rented was from 1/10/2022-31/08/2023 being the total cost 7.740,00 euros.

El Paraguas Events is a company specialized in the design of stands for fairs/congresses or the renting of furniture for events. This company was hired in three different occasions (nov/22, feb/23 and oct/24) with a total amount of 15.814,00 euros.

To carry out the trials with biochar requested by the project's monitor it was necessary to hire a transport services for the compost, in total 4 travels were done by Transportes Juan David Rivero for a total of 860,00 euros.

The project had foreseen the creation of an Open Web Tool for which Xestac Solutions was hired on 18/7/2022 for 12.581,60 euros.

Infecar is an entity specialized in the organization of events they were hired as they had a proper conference room and audiovisual material for the celebration of the project's Monitoring Meeting and the adequate space for the celebration of the project's International Congress, they were awarded with two contracts with a total amount of 8.629,17 euros.

The supports of the luggage rack of the SFW vehicle needed to be repaired, the service was done by Oscar Melián Ponce for 120,00 euros.

Designio Comunicación Gráfica was hired as an assistance on the participation of LIFE Nieblas at the Sebicop Congress being awarded with 630,00 euros.

Due to the consequences of heavy rains it was necessary to rent an excavator to remove debris from the road to access the fieldwork site, the works were executed by Malvomar Canarias for 460,00 euros.

The project had foreseen awareness and dissemination activities for technical audience for which Eneritz Hernández Vargas was hired for a total amount of 14.990,00 euros. Regarding general public audience Rayco Tejera Romero was hired or a total amount of 14.990,00 euros.

The height works materials acquired within the project scope require a safety security revision through an external expertise to guarantee its safe use by the field workers, it was necessary to subcontract Limasport Canarias for 225,00 euros.

Transport was needed for a field trip of the attendees of the project's International Congress held in October 2024, the service was provided by Transportes Abianyera for a total amount of 906,75 €.

Design and implementation of a landing page for the project's international congresss and its amendmends were executed by Ateigh Diseño Web for 2.180,00 euros.

A catering service was required for the synergy sessions celebrated in Brussels for which Mediterranea Food and Events was hired, executing the service for 687,50 euros.

CIM VDL

2Play Creative Lab was awarded with a contract for a production of a video with an amount of 3.075,00 euros.

A soil analysis of the plots were plantations were carried out was done by Escola Superior Agraria de Coimbra for 481,55 euros.

Floema Lda. was hired for the printing and installation of the project’s information boards for 3.420,98 euros.

Grafica Eldiber produced project’s informative material for 4.587,90 euros.

Support services for the production of the HORA DE AGIR program within the scope of dissemination actions were done by Guaordioes da Vida for 6.027,00 euros.

Translation of texts for the webpage or the deliverables was needed, the services were provided by Language Services & Solutions Arte das Palavras for a total amount of 1.282,43 euros.

Atmospheric water collectors were produced and installed by Nieblagua for 23.352,75 euros.

Rui Machado got a contract to provide photography services for the project’s workshop for a total amount of 295,20 euros.

CREAF

Soil analysis services were required within the scope of the project which were provided by Eurofins Agroambiental for 3.435,38 euros.

ICIA

Cutting of the inox mesh for the construction of the fog collectors was awarded to Cerrajería Moya with an amount of 250,00 euros.

ITC

Emilio Navarro Rosario was contracted on 1/07/2021 for €830 for the installation of the weather station foundations. On 29/09/2021 Mr. Emilio was also hired to support and monitor construction and installation of the AFDS1 systems for a total €2000. Lastly on 14/11/2024 provided his services for the dismantling of AFDS1 and AFDS3 as well as the irrigation systems for 3.700,00 euros.

Jose Antonio Rodríguez Santana provided his services twice, first on 30/01/2023 and second on 14/10/2024 with the design and editing of a banner on PVC and a poster, his services had a total cost of 126,00 euros.

Antonio González Hernández was subcontracted to provide a sticker and card printing service for 245,00 euros.

The installed weather station needed to be repaired for which a specialized company was hired, Solaruc, being awarded with 130,00 euros for their services.

7. Number of jobs created or affected by replications of the different reforestations typologies.

The project is estimating the amount of people who have gained knowledge about this project from the different replication activities where the Life Nieblas team has taken active part in delivering methodology implementation such as 'How to install a cocoon, how to build an Individual fog water collector, or how to install an innovative Fog Water Collector'. All these teachings can be proven by reading the report for action C.3:

- NGO Biflores = +20 people from their visit to Gran Canaria (3 people taught techniques) + all the Cape Verdian residents who have been taught thereafter by the Biflores technicians. This was delivered by GESPLAN Technicians.

- Catalonia technicians = +20 people who have been taught how to build and install IFWC directly in the fields by one of our partners CREAF-UAB.

- Cabildo de Tenerife = +30 field workers and technicians were taught how to install Cocoons and innovative fog water collectors in a 2 day field trip delivered by GESPLAN technicians.

- Cabildo de Lanzarote = +4 Lanzarote Staff was taught how to install and maintain innovative Fog Water Collectors through a replication project. Delivered by GESPLAN.

8. Number of professionals and companies from the technology sector or services linked to climate change, reforestation and fog collection that will participate at the International Days on Climate Change, Reforestation and Fog Collection event

Ecoislas Forum was an international event that achieved to join in one single space a total of 71 professionals and companies of the technology sector or services linked to climate change, reforestation and fog collection. This figure is the sum of the total number of projects and total number of entities that participated in the event.

9. Number of projects and investigations presented at the International Days on Climate Change, Reforestation and Fog Collection event

Ecoislas was designed as an international forum which provided space for discussion, proposals and promotion of measures in the transition towards a greener, more profitable, more self-sufficient and environmentally sustainable socio-economic model with a strong island focus, in order to achieve this objective 24 different projects and investigations presented their proposals and results.

10. Number of people an entities participating at the International Days on Climate Change, Reforestation and Fog Collection event

The Ecoislas Forum engaged 47 entities into presenting their best practices and discuss the need and solutions provided to each of the four main blocks of the event: circular and blue economy, energy, water and mobility and adaptation to climate change and biodiversity.

11. Economic impact estimation of the International Days

The organization, management and celebration of Ecoislas Forum hosted by Infecar and supported by the Council of Gran Canaria (CGC) had a cost of 253.782,50 euros, whilst Life Nieblas invested 5.256,07 euros. It makes a total of 259.038,57 euros in direct costs.

12. Farmers and workers who will receive direct information of the project

A total of 7 farmers have received direct information of LIFE Nieblas project, specifically the following:

- 1 farmer in Gran Canaria who has installed in his plot 3 devices of FWC which were handed over by ICIA
- Among the technicians of Biflores who attended our meetings 2 were local farmers
- Consultancy field visit was carried out in 2021 with 2 farmers who were interested in replicate FWC
- 2 Neighbouring farming land to El Pinillo development site.

13. Number of talks or workshops in each school and number of students participating

During the project's lifetime between an external assistance and the direct participation of the project's environmental technician (Gesplan) a total of 67 talks in schools were done into which 599 students have participated.

14. Number of talks or workshops in neighbourhood associations and number of participants

Two talks into which 4 persons participated was carried out with the Gran Canaria Almond Association and with the Rural Development for the Conservation of Chestnuts Association in Tenerife.

15. Number of talks or workshops in different events and number of participants

In the four years and a half of duration of LIFE Nieblas between the different technical and scientific workshops and events into which the project's technicians have participated a total of 39 talks were carried out with a participation of 188 persons.

16. Number of talks or workshops in ranchers or hunter's associations and number of participants

Although efforts were made contacting ranchers and hunter's associations finally we could not involve them with the project, consequently no talks or workshops could be carried out.

17. Number of talks or workshops in environmental associations and number of participants

The effort made on involving the environmental associations in the project has led to the execution of 15 talks with the participation of 32 persons.

18. Conclusions

LIFE Nieblas has had various social and economical effects. On one hand, during its lifetime it has directly influenced on various jobs of different nature, specifically it has created 11 jobs, another 17 were directly affected and 13 indirectly affected by its implementation, whilst 70 people have also gained knowledge about this project from the different replication activities where the Life Nieblas team has taken active part which can lead to the improvement or generation of new jobs.

On the other hand for its execution it was also essential to rely on sub-contractors, it was necessary to count on the services provided by 34 companies of different sectors which were awarded with a total amount of 252.971,56 euros. Taking into consideration the external assistances that were required to celebrate the event of Ecoislas Forum this amount increases to 512.010,13 euros.

The project has made an effort on disseminating and communicating its objectives and results to the general public as well as reinforcing and interchanging the knowledge acquired by its development alongside with the errors produced and lessons learned to the technical audience. Diverse events have been organized such as talks, workshops, conferences, etc., into which a total of 71 entities/projects have participated or 1.292 persons between students and professionals or technicians have been aware of LIFE Nieblas.

Making a global analysis on the social and economical impact of the project's actions we can conclude that LIFE Nieblas has had a great influence on the local, national and international economy, influencing on a total of 1.292 persons, 34 companies, 71 entities/projects and 41 jobs.

Authors

Gustavo Viera Ruiz – gvierui@gesplan.es

Saúl Oliva Cabrera – solicab@gesplan.es

Nisha Matani Matani – nmatmat@gesplan.es