Darwin Initiative Main & Extra Annual Report

To be completed with reference to the "Project Reporting Information Note": (https://www.darwininitiative.org.uk/resources/information-notes/)

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

Submission Deadline: 30th April 2025

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Darwin Initiative Project Information

Scheme (Main or Extra)	Main
Project reference	30-014
Project title	Community-based agro-biodiversity systems for improved livelihoods and climate resilience
Country/ies	Guatemala, Honduras, Nicaragua, Costa Rica
Lead Organisation	The Development Fund, Norway
Project partner(s)	Association of Cuchumatanes Organizations (ASOCUCH); Foundation for Participatory Research with Farmers of Honduras (FIPAH); Federation of Cooperatives for Development, R.L., Nicaragua (FECODESA R.L) and University of Costa Rica (UCR), Fabio Baudrit Moreno Agricultural Experimental Station.
Darwin Initiative grant value	£ 600 000
Start/end dates of project	July 1, 2023, to December 31, 2025
Reporting period	April 1, 2024, to March 31, 2025, Annual Report 2
Project Leader name	Elin Cecilie Ranum, The Development Fund
Project website/blog/social media	
Report author(s) and date	Elin Cecilie Ranum, Audun Husby, Sergio Alonzo, 30th April 2025

1. Project summary

This project will improve rural households' livelihoods and resilience to climate change by increasing smallholder farmers' access to locally adapted seeds. The project is located to the four countries Guatemala, Honduras, Nicaragua, and Costa Rica. The project will contribute to improved food security in Central America by involving farmers and indigenous people in the development of new varieties of maize and beans and the conservation of the rich and native diversity in the region and facilitate access to seeds through community seed banks.

Mesoamerica is one of the regions with richest agro-biodiversity in the world. It is the origin of beans (Phaseolus vulgaris) and maize (Zea mays) and holds a rich diversity of crop varieties and wild relatives. Smallholder farmers in the region depend on these native varieties and are also guardians of agrobiodiversity. Maize and beans are the main staple crops in the region, with smallholder farmers as the main producers. Smallholder farmers face several constraints which are, among others, caused by scarce land resources with poor soil quality and their plots are often in steep areas which are prone to soil erosion and landslides.

The region is highly vulnerable to the effects of climate change expressed through droughts, high temperatures and uncontrolled rains in short periods. Climate change causes crop failure and losses and weakens the means of agriculture production. It has therefore a huge impact on food security. At the same time, there is a loss of agrobiodiversity caused by change in land use, deforestation, growing human activity, and consequences of climate change which alters species natural habitat. This affects the region's capacity to adapt to climate change in the future, and hence food security.

To halt the loss of agrobiodiversity it will be crucial to reduce climate vulnerability and increase resilience in the agriculture production systems to be able to meet the future scenario of climate shocks as developed by the IPCC (2022). The effects of climate change do not respect borders, in the same way, the adaptation of agricultural production systems based on the richness of plant genetic resources, must cross borders and promote joint initiatives among the countries of the region, to achieve rapid, effective, and efficient adaptation (PAEM, 2013).

Increased access to locally adapted varieties and the development of new varieties are crucial to ensure food and nutrition security in the future. In-situ and on-farm conservation are crucial in a region with weak national gene banks. Existing community seed banks play an important role for this purpose, however many community seed banks lack adequate storage facilities and technologies to conserve the genetic resources and the risk of genetic erosion is high. Breeding depends on a wide pool of genetic resources, which can be obtained through collaboration across the region.

To counter the risk of continued loss of biodiversity, it is crucial to rescue and conserve wild relatives as well as to safeguard already identified plant genetic resources. Ex-situ, in-situ and on-farm conservation approaches are complementary for ensuring that valuable resources are not lost, at the same time as they can be continuously used and further developed to withstand and adapt to the changing climate conditions.

2. Project stakeholders/ partners

All project partners have been involved in project planning, monitoring and decision making during the first and second year of implementation. Asocuch, with its local coordinating role, has maintained a close contact with the other actors of the consortium, both digitally and face to face. DF maintains close contact with the network in Central America, both digitally from Oslo and through field visits. The partners have long experience in processes related to genetic resources, agrobiodiversity conservation and climate resilience and have been part of the growth and strengthening of indigenous peasant groups dedicated to participatory plant breeding and native material conservation strategies.

The partners have a strong link to local communities through associations and cooperatives that seek to strengthen the production systems of small producers. This has made it possible to build the Logical Framework of the initiative and the annual operational plans in a participatory manner based on the demand of the communities, maintaining close coordination and linkage in the territory.

The partners in each country maintain close collaboration with other organizations and agencies, and especially the *Zamorano Bean Research Program* (PIF) and *CIAT Bioversity* have been instrumental in consistently providing genetic material for the evaluation of new bean varieties.

At the territorial level, the partners have managed to directly link the National Institutes of Agricultural Research (INIAs) and Ministries of Agriculture of the 4 countries in processes of evaluation and generation of maize and bean varieties, despite the fact that these entities have serious limitations of economic resources.

During the months of April and May 2024, ASOCUCH in Guatemala maintained direct contact with the British Embassy, concluding with a visit by Ambassador Nick Whittingham to local

communities where project actions are implemented, which allowed him to interact directly with farmers who conserve agrobiodiversity in the mountain range Sierra de los Cuchumatanes.

3. Project progress

3.1 Progress in carrying out project Activities

Activity 1.1: Participatory selection of bean varieties for the development of new germplasm tolerant to terminal drought and high temperature

Under the participatory plant breeding approach, 3 varieties of beans (Quiribrí, Rojo Fortado, Asocialayo 24) and one of maize (ICTA Altiplano) have been released under the participatory plant breeding approach. These varieties have been registered at the national and regional levels, and it is important to note that this work is achieved within the framework of the coordination carried out with other organizations and donors present in each country, like the coordination with the ITPGRFA Benefit-Sharing Fund. In the case of the ICTA Altiplano maize variety, the partner organization ASOCUCH actively participated in the validation processes of the variety, comparing it with participatory plant breeding varieties that have been released in previous years. Please, see attached project documentation which shows examples of this work, with annex reference number 1A (Costa Rica), 1B (Guatemala) and 1C (Honduras).

Activity 1.2: Introgression in bean materials in collaboration with the Bean Research Program (PIF) of Zamorano, for the development of new varieties with drought tolerance and low fertility, using local germplasm.

In Honduras, 11 bean trials were established and harvested in communities in the departments of Intibuca and Santa Barbara, involving 107 people (58 men and 49 women). The follow-up actions are linked to cultural work and data collection in the field. Several lines have been selected that have high potential to be released due to their characteristics, high yield, commercial value, and tolerance to the diseases Golden Mosaic Virus and Rust. Inputs, tools and equipment for the bean introgression process were delivered to PIF Zamorano. A total of 160 pounds of registered bean seed of the varieties Amadeus 77, Rojo fortificado, Cedron, PM Don Rey, Campechano Jr, Seda, FBN 1211-66, SEF 70, Azabache 40, Negro M0071, Negrito M0084, Macuzalito, Cayetana 85 and Southern Sorghum have been received, which were multiplied to 3065 pounds of seed.

In the case of Nicaragua, 4 trials were established for participatory evaluation of 6 advanced bean lines in the municipalities of Pueblo Nuevo, Palacagüina, Telpaneca, Totogalpa (ERTEA 6, ERTEA 9, ERTEA 24, ERTEA 4 and INTA Drought) where good yields were obtained from the 2 best lines (ERTEA 9 and ERTEA 6), which were selected by the farmers. In addition, 3 plots were established and harvested for the increase and evaluation of the varieties and lines of beans (Vaina Chata, Chile Claro, Rojo Grande, Rojo Vino, Rogelio, Maravilla 1, Barreño Pinto, INTA drought, Maravilla 2, IBC 301-204 (ERTEA 9) and SJC 730-79 (ERTEA 6), BFS 81 (ERTEA 4), where good adaptability could be observed. however, they were affected due to the intense rains caused at the time of physiological maturity and harvest, which affected the quality of the grain and productivity.

In Costa Rica, 19 bean trials have been harvested with participatory genetic improvement in different locations in the north and south of the country.

1.3. Introgression in maize germplasm, for the development of new varieties with tolerance against drought, and the diseases ear rot and “Asphalt Patch Complex”, focused on tropical and high sub-tropical areas, using local materials.

In Guatemala, the evaluation process of 6 trials of maize was carried out in 6 locations in the department of Huehuetenango, of maize accessions from FIPAH/Honduras (the varieties Don Claro and Bucho). In the case of materials from Honduras that have tolerance to the Asphalt Stain Complex (AMC), it was determined that the material with the most tolerance is Don Claro. Asocuch therefore recommended to replant the treatment by exploring its behaviour in more

environments. Likewise, a plot of 441 m2 for seed multiplication has been established in San Miguel Acatan in the northern area of Huehuetenango, in order to have seed from the Don Claro and Don Bucho materials and resume the evaluation cycles in the following season. Please see the attachment 1D from Asocuch about “Evaluation of asphalt stain tolerance materials in the Guatemalan highlands”.

In Honduras, 10 trials of maize varieties were established and harvested in communities of Jesús de Otoro, Intibuca, La Ceiba, Yoro and Santa Barbara, involving 100 people (67 men and 33 women). Please, see attachments 1E and 1F. It was observed that the DICTA 96 variety was the most tolerant to excessive rain and the Asphalt Spot Complex disease and worm attack. In the communities of El Barro and Nueva Esperanza (Santa Barbara) the Capulin variety was the one that farmers liked the most.

In the southern area of Honduras, severe pressure of the Asphalt Spot Complex has been recorded in several maizefields, causing losses of up to 50%. In coordination with ASOCIALAYO and ADEPES, three maize trials are being evaluated, involving 60 people, of which 22 are women, to identify lines with greater tolerance to the disease.

In Nicaragua, after the introduction of 20 lines of maize from FIPAH-Honduras, 12 evaluation plots have been established in different localities for evaluation of tolerance to Asphalt Spot Complex and drought. The partner Fecodesa has identified a high potential in Line 4 (Dicta 96) and Line 1 (Olotillo Choluteca). Seed reproduction processes are carried out. 3 plots were established for the realization of new crosses with native varieties (Olotillo and Great Red), in order to evaluate and perform physiological purification through mass selection. In the next quarter a variety of maize will be released under the name "Ancestral Sovereignty".

1.4. Local production and distribution of good quality seed of locally adapted maize and bean varieties.

A total of 1024 seed packets (6,818 kilograms) from participatory plant breeding and conventional breeding processes have been distributed in the region, benefiting an equal number of families (556 men and 468 women) from 90 communities. Eight varieties of good quality maize seeds and 50 varieties of beans have been distributed. Please, see attachment 1G (Honduras), 1H (Nicaragua) and 1I (Guatemala) for examples of this work. In Costa Rica, in order to support local bean seed production, a total of 1003 kg of bean seed was delivered to the ASOPROS and ASOPROINCOCHA, which will benefit a large number of producers who will have access to quality seed for commercial planting in the next cycle.

1.5. Training on participatory plant breeding, seed production and in-situ conservation of wild relatives for leading farmers and technicians of organizations.

At the regional level, 31 training events were held on participatory plant breeding, seed production and conservation, wild bean relatives, emerging bean pest (Megalurothrips Usitatus), climate change, genetic improvement, Field Schools, Local Agricultural Research Committees and Community Seed Banks, among other topics with an average duration of 8 hours each, involving a total of 899 people (534 men and 365 women), technical personnel from Non-Governmental Organizations, Universities, Producer Organizations, Government Agencies, farmers, among others. See examples of this work in the attachments 1J (Honduras), 1K (Nicaragua) and 1L (Guatemala).

1.6. Field days and dissemination of results with farmers for the dissemination of technologies and practices of adaptation to climate change in maize and bean production systems.

At the regional level, 26 field days were carried out involving a total of 685 farmers (363 men and 322 women) from 80 communities in the area of action of the project. Topics related to local seed production were addressed; selection of varieties generated under the participatory plant breeding approach; maize seed production practices; pest and disease control; data collection in trials; characterization of varieties; mass selection in maize; biochar production; adoption of diversified gardens; importance of post-harvest processes and the reduction of crop losses, among others. Please, see attachments 1M (Guatemala) as an example of this work.

1.7. Regional exchanges to learn about experiences in the development and dissemination of maize and bean varieties.
For year two we did not have a regional exchange event planned, this was held in year 1 and a new regional exchange event will be held in year 3, in the month of October 2025.

1.8. Elaboration of catalogues of varieties product of participatory and / or native plant breeding of beans
After carrying out the phenotypic characterization processes of bean and maize germplasm at the regional level, the following documents are in the production process (still not completed):

- Guatemala: “Morphological characterization of 12 accessions of imbricating maize and FP varieties from the Sierra de los Cuchumatanes”.
- Honduras: “Catalogue of common bean varieties 2024”.
- Nicaragua: “Native varieties of beans in northern Nicaragua”.
- Costa Rica: “Bean varieties obtained by participatory plant breeding in Costa Rica”.

It is expected that these publications will be completed and published during year three of the project.

2.1. Strengthening of the network of existing seed banks at the regional level.

During the second year, the network of existing seed banks was strengthened with the provision of materials for improving facilities and basic equipment to 15 of the 45 community seed banks in the region, in order to strengthen the management of germplasm in adequate conditions in the communities and to have seeds in case of emergency due to the effects of climate change. It is important to note that the improvements have been made in co-financing with the project financed by the Benefit Sharing Fund of the ITPGRFA. For examples of this work, see attachment 2A (Costa Rica), 2B (Guatemala) and 2C (Nicaragua).

In Guatemala, a Regional Exchange of Community Seed Banks was held in the Sierra de los Cuchumatanes, with the participation of 82 people (48 men and 34 women) including farmers, local leaders, managers of local grassroots organizations, representatives of the Guatemalan germplasm bank and ASOCUCH staff. Please, see attachment 2D. In this activity, the participation of 16 seed banks was visualized, socializing the results of the seed bank diagnosis, and proposing a new management strategy and sustainability execution plans. Information was also provided on the operation of the National Germplasm Bank and the long-term seed conservation strategy of farmers, motivating participants to send more accessions of local seeds to the long-term conservation process.

2.2. Organization and development of Agrobiodiversity Fairs.
15 seed and agrobiodiversity fairs were organized and developed, with the participation of more than 3,450 farmers, who exchanged knowledge and crop accessions linked to food security and food tasting. During the events, topics related to crop management and farmers' rights were disseminated. It has been possible to coordinate with government agencies, projects, and donors of the different organizations that make up the network, among which can be mentioned DF, The Inter-American Institute for Cooperation on Agriculture (IICA), Ministry of Family, Community, Cooperative and Associative Economy (MEFCCA), Agroecology Fund, Municipal Governments, among others. Please, see examples of this work in attachments 2E (Costa Rica) and 2F (Honduras).

2.3. Training on farmers' rights within the framework of the ITPGRFA.
At the regional level, 8 trainings on farmers' rights were developed with an average duration of 5 hours each, involving 371 farmers, representatives of non-governmental organizations, governments, universities (233 men and 138 women). This action strengthens knowledge about farmers' rights, mainly from farmers and actors linked to the issue of plant genetic resources. Please, see examples of this work in attachments 2G (Costa Rica) and 2H (Guatemala). See also section 16 in this report where the example from Guatemala is elaborated with more details.

2.4. Collections, characterization and increase of native accessions of maize and beans.

In Guatemala, during the period of establishment of plots, the morphological characterization of 12 maize accessions was carried out (7 imbricates and 5 participatory plant breeding varieties). In addition, 44 maize accessions were collected in the project action area. In Honduras, the characterization process of 12 maize accessions has been carried out, which were collected in 4 departments of the country. Please, see attachment 2I (maize and bean collections in Honduras).

In Nicaragua, the morphological characterization of 60 native varieties of beans was carried out, using the guide of bean descriptors prepared by the FP-MA program (Participatory Plant Breeding in Mesoamerica) in previous years, which constitutes the basis for the publication of the document "Native varieties of beans in northern Nicaragua". In Costa Rica, the increase of the 35 native varieties of the Nicoya Peninsula area has continued, in order to have enough seed of high physiological and sanitary quality and thus make them available to farmers in the area in the short term. Work is currently being done on the publication of the following materials: a) “Catalogue of native varieties of the Nicoya Peninsula”, b) "Characterization of native varieties of Nicoya in drought conditions". 5 samples of each native variety have been distributed to the seed banks of Oriente and Santa Ana de Nicoya, in vacuum-sealed metal bags to ensure the conservation and viability of the seeds.

2.5. Delivery of copies of accessions collected from maize and beans to national germplasm banks.

In Guatemala, a total of 47 new accessions of maize from farmers in the Sierra de los Cuchumatanes have been delivered to the National Germplasm Bank of the Institute of Agricultural Science and Technology (ICTA), for safeguarding and conservation purposes. Likewise, 15 accessions of wild beans were delivered for safekeeping. A collaboration agreement has been signed between ASOCUCH and the germplasm bank ICTA, please see attachment 2J.

In Honduras, 41 accessions (34 of maize and 7 of beans) collected with the collaboration of farmers from 14 communities of Yoro and Intibucá, were delivered to the UNAH-CURLA Germplasm Bank. Also, seed guardian farmers were incentivized with a kit of inputs and tools.

In Costa Rica, in collaboration with the Crop Trust, 80 native bean accessions were sent to the Svalbard Global Seed Vault in Norway. Please, see attachment 2K. A copy of these was also deposited in the CATIE germplasm bank. The 35 native varieties of the Nicoya Peninsula area are already properly safeguarded in the seed bank of the Legume Program of the Fabio Baudrit Moreno Agricultural Experimental Station of the University of Costa Rica.

3.1. Training for personnel involved in the collection processes of wild relatives of common beans in 3 countries (Costa Rica, Honduras, Nicaragua).

This activity was only carried out during the first year (2023-24).

3.2. Collection and regeneration of wild relatives of common bean in three countries.

In Guatemala, during the period, 5 introspections were carried out in the Sierra de los Cuchumatanes, managing to obtain 22 live specimens of wild beans, which are being identified with the help of the Botanist of the University Centre of the Northwest of Huehuetenango (CUNOROC), of the University of San Carlos de Guatemala (USAC), hoping to obtain at least 3 new identified specimens. Please, see the four pictures 3A1-3A4.

In Honduras, due to the climatic conditions in the areas, it was difficult to collect during the months of December and January since access to the communities was risky. See attachment 3B as an example of the work in Honduras. In Nicaragua, 3 bioprospections were carried out, where relevant species that were not in physiological maturity were found during the collection period carried out in year 1 of the project, visiting sites in San Juan de Rio Coco, San José de Bocay and Jinotega. This action allowed the collection of seed from 10 species of Phaseolus.

In Costa Rica, 6 bioprospections were carried out where populations of Phaseolus lunatus were located in Bagases; Phaseolus talamancensis in Bebedero de Escazú and Santa Eduviges de Pérez Zeledón; P. microcarpus in Pueblo Nuevo de Abangares; P. costaricensisis in Santa Eduviges de Pérez Zeledón; P. leptostachyus in El Tigre de Desamparados and in Santa María

de Dota. The respective herbariums were carried out and it was possible to collect seeds in some of them. Seed was also collected from populations that were already known, but lacked, such as P. vulgaris in Bebedero de Escazú and P. leptostachyus in Caldera de Esparza.

3.3. Increase of seed of wild relatives of common beans and shipment to national gene banks.

Partners in Guatemala and Costa Rica have achieved to regenerate seed from 23 accessions of wild relatives of beans, which are already in safekeeping in the National Germplasm Bank of ICTA and the seed bank of the Legume Program of the Fabio Baudrit Moreno Agricultural Experimental Station of the University of Costa Rica. Among the species that regenerate, the following are mentioned: Phaseolus leptostachyus, P. microcarpus, P. vulgaris, P. lunatus; P. oligospermus, P. talamancensis, P. xanthotrichus, P. vulgaris and P. tuerckheimii.

3.4. Delivery of herbarium specimens from wild bean relatives to national and international museums

In Guatemala, 3 specimens (Phaseolus Oligo spermus Piper; Phaseolus acutifolius var. latifolius Freeman, and Phaseolus tuerckheimii) have been delivered to the herbariums of the Universities of San Carlos de Guatemala (USAC) and the University of the Valley of Guatemala (UVG). These materials have been delivered under a safekeeping agreement for future researchers. Please, see attachment 3C and 3D.

In Honduras, 2 specimens of *Phaseolus vulgaris* subv. aborigineus and Phaseolus. lunatus were delivered to the herbarium of the Zamorano University.

In Nicaragua, it was not possible to deliver the herbariums since there is no clarity on the mechanism that should be used. So, it has been proposed to the municipal authorities to create a municipal museum where the collections made can be accessed.

In Costa Rica, 1 specimen of Phaseolus leptostachyus has been delivered to the National Herbarium and partner has started communication to deliver to the Fournier Herbarium of the University of Costa Rica.

3.5. Identify wild bean areas for designation as ecologically important areas and with recognition by local governments.

In **Honduras**, in the upper part of the Tascalapa micro-basin and the upper part of the Tepemechin micro-basin (between the mountains Pico Pijol and Montaña de Yoro), it has been identified an area of ecological importance with presence of the genera *P. vulgaris* subv. Aborigineus, *P*. *lunatus* and *P*. *coccineus* in its wild forms. There have been approaches with municipal governments to draw their attention in relation to the issue, however, they showed little interest to the topic.

In Nicaragua, a workshop was held in the municipality of Pueblo Nuevo, Estelí to publish the identified species and their location, their main characteristics and their relevance as municipal and national heritage, seeking protection mechanisms for the area. Still no commitments have been made. In Costa Rica, contact has been made with the municipal managers of the cantons where there is a greater presence of wild bean species. Interest to the subject have been showed, but still no commitments to promote conservation actions.

3.2 Progress towards project Outputs

Output 1

Developed varieties through Participatory Plant Breeding approaches adapted to the effects of climate change.

The project has made important progress towards this project output. A total of 4 varieties (3 varieties of beans: Quiribrí, Rojo Fortado, ASOCIALAYO 24; and 1 of maize ICTA Altiplano) developed through participatory plant breeding have been registered at national and regional levels and released in Costa Rica, Honduras and Guatemala with the active involvement of farmers. As elaborated above, advance trials of varieties developed through participatory plant breeding are ongoing, and it is expected that at least two additional varieties will be registered and released in the final year of the project.

Distribution of seed packages to more than 1000 families is an important contribution towards the expected result of adoption of participatory plant breeded varieties that are adapted to the effects of climate change. Moreover, the project has made important progress in terms of increasing smallholder farmers and technicians' capacity, knowledge and involvement in participatory plant breeding, seed production and conservation, wild bean relatives, emerging bean pest (Megalurothrips Usitatus), climate change, genetic improvement, Field Schools, Local Agricultural Research Committees and Community Seed Banks.

Output 2.

Strengthen collaboration between local seed banks and national gene banks in the region.

Technical support and investment in improved infrastructure and equipment of 45 community seed banks in the region have been an important step to strengthening the collaboration between community seed banks and national gene banks in the region. The delivery of 218 accessions of maize and beans to national gene banks, international gene banks (CATIE) and the Svalbard Global Seed Vault demonstrates that the collaboration between community seed banks and national gene banks indeed has been strengthened by the project. In addition to being a result of the projects efforts to strengthen community seed banks, progress in terms of enhancing smallholder farmers' knowledge and awareness on farmers' rights, organisation of seed and agrobiodiversity fairs where smallholder farmers can exchange varieties and share knowledge, contributes to the involvement of farmers in decision making on plant genetic resources.

Output 3.

Collection and regeneration of accessions of wild relatives of Phaseolus, to make them available to pre-breeding programs at the regional level.

Progress towards this project output has been significant and by far exceeded the targets for the project. Through the implementation of 14 bioprospections (GUA 5, NIC 3, CR 6), 39 populations of wild bean relatives have been identified, which again has made it possible to deliver 23 accessions of wild bean relatives to the National Germplasm Bank of ICTA in Guatemala and the Legume Program of the Fabio Baudrit Moreno Agricultural Experimental Station of the University of Costa Rica. In addition, 3 deliveries of the collections have been made to herbariums in Guatemala, Honduras, and Costa Rica, of 6 specimens of the wild relatives of beans of the species: Phaseolus Oligo spermus Piper, Phaseolus acutifolius var. Freeman latifolius, Phaseolus tuerckheimii, Phaseolus vulgaris subv. Aborigineus, Phaseolus. Lunatus and Phaseolus leptostachyus.

3.3 Progress towards the project Outcome

Local agricultural production systems strengthened through participatory plant breeding, community seed bank networks and collection of wild relatives.

After year two of execution of the project we can identify that we have made significant progress in the achievement of the indicators. Below is a list of the progress we have made to date (year one and two), and we believe that we are on track to meet the expected targets and indicators.

- 1813 families (698 led by women) have accessed 55 varieties from participatory plant breeding and conventional breeding processes, adapted to the specific conditions of small producers in 90 communities in the project's area of action.

- Technical assistance has been provided to 45 seed banks in the region, where investments have been made in improving infrastructure and equipment with resources from the project and counterpart funds from the TIRFAA benefit-sharing fund in 38 CSBs, directly involving 2939 families that conserve 2258 accessions of maize, beans, sorghum and underutilized species.

- 32 regional level bioprospecting surveys (Guatemala 10, Nicaragua 8, Costa Rica 11, Honduras 3) have been conducted in 57 communities in the project area, identifying 39

wild bean populations. During these bioprospecting surveys, several sites visited in year 1 of the project were revisited to obtain better samples and/or seeds.

- 32 communities where wild relatives of beans exist have been involved in awareness-raising for the identification processes.

- Women have been involved in the evaluation processes of varieties at the field level, since they are the ones who define the use of some varieties due to conditions mainly of flavour and cooking time.

- At the regional level, 60 technicians from Government Agencies, Non-Governmental Organizations and Universities have participated in training processes on plant genetic resources, wild bean relatives collection and farmers' rights issues.

- 1416 farmers and technicians (866 men and 550 women) have been involved in training processes on topics related to participatory plant breeding, seed production and conservation, wild bean relatives, emerging bean pest (Megalurothrips Usitatus), climate change, genetic improvement, Field Schools, Local Agricultural Research Committees and Community Seed Banks, and thereby strengthening the capacities of smallholder farmers.

- During the period, actions have been carried out in 126 communities in the 4 countries, on the issues of seed dissemination, participatory plant breeding, identification of wild bean relatives and farmers' rights.

After year two, we believe that the indicators are adequate for measuring the intended Outcome, and that it is likely to achieve the Outcome by end of funding.

3.4 Monitoring of assumptions

There have not been changes in the assumptions nor the risk matrix throughout the second year of the project. Despite the challenges described in this section, we believe that we are still achieving the project goals.

Assumption: Suitable climatic conditions for the process of generating varieties.
Comments: At the regional level, during the period there were prolonged periods of drought and later intense rains. This had a direct impact on the different field tests that were implemented, causing in some cases the necessity of sowing again and repetitions of activities. An important goal of the project is precisely to produce seed varieties that are more resilient to climate challenges.

Assumption: Interest exists among farmers in validating and adopting new varieties of maize and beans.
Comments: Up until now, we have experienced that there is strong interest among smallholder farmers to validate and adopt new varieties of maize and beans. The partners have succeeded in identifying leaders who are willing to cooperate, and we believe that this has motivated many farmers to actively participate.

Assumption: Adequate conditions exist in countries for the delivery and conservation of germplasm from wild relatives to gene banks.
Comments: At the regional level, the registration processes for collections of wild relatives have been quite bureaucratic, so within the framework of the project the necessary steps have been taken, overcoming them in Guatemala and Costa Rica. In the case of Nicaragua and Honduras, the negotiations are still ongoing, for Nicaragua the solution may be to deliver the collections at the municipal level.
In Nicaragua, the Law on the Conservation and Sustainable Use of Biological Diversity, designates the Ministry of Environment and Natural Resources (MARENA) as the enforcement authority, which together with INTA and IPSA, are responsible for ensuring the protection of the

country's plant genetic resources. In this sense, meetings were held with representatives of these entities, but it was not possible to reach a joint agreement and the bioprospecting tour of the wild relatives was carried out only with technicians and producers from FECODESA. In Guatemala, the National Council of Protected Areas approved the license for the collection and transport of wild relatives of beans. In Costa Rica, the Biodiversity Law number 7788 and the internal regulations of the University grant the necessary permission to researchers to collect wild relatives for taxonomic purposes, in public areas, and can grant the corresponding permit when it is required to collect in protected areas.

Assumption: Techniques for the regeneration of wild accessions are effective.

Comments: Several accessions collected during the first year had no longer seed available in situ, so we had to return in 2024 and comply the process. With the experience generated in previous years in Costa Rica, it has been possible to regenerate the accessions of wild relatives of Phaseolus without any problem in the national projects that are implemented in Guatemala and Costa Rica.

Assumption: Appropriate policy and regulatory conditions for the collection of wild relatives.

Comments: in the case of Nicaragua, cooperatives must be legally constituted by the Institute for Cooperative Development (INFOCOOP), and the execution of foreign projects or funds is regulated by the Ministry of the Interior according to Law 1040. In practice, there is a need to constantly update the information.

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

The release of 3 bean varieties and 1 maize variety is expected to have a positive impact on smallholder farmers' capacity to adopt their agricultural production to climate change, which again is important for food security and poverty reduction. The variety ASOCIALAYO 24 red bean, released regionally in Honduras, is a variety resistant to the virus yellow golden mosaic and the virus common bean mosaic, and it has very good adaptation to drought conditions and has high fertility. The variety Rojo Fortado from Honduras has a high content of micronutrients, such as iron and zinc and has resistance to drought and high temperatures. The Quiribrí bean was released in Costa Rica, a variety with a light shade of red grain and presenting resistance to the virus yellow golden mosaic and has higher yields than the Chánguena variety. The Quiribrí bean was coded as SEF 60 at the International Center for Tropical Agriculture (CIAT). The ICTA Altiplano maize from Guatemala is suitable for highland areas, was generated under the participatory plant breeding approach. The role of ASOCUCH and its farmers' organizations has been fundamental for the field evaluation processes of the variety, which reported high yields in the Sierra de los Cuchumatanes.

At the level of biodiversity conservation, 6 specimens of wild bean relatives of the following species have been delivered to Herbariums in Guatemala, Honduras and Costa Rica: Phaseolus Oligo spermus Piper; Phaseolus acutifolius var. Freeman latifolius; Phaseolus tuerckheimii, Phaseolus vulgaris subv. Aborigineus; Phaseolus. Lunatus and Phaseolus leptostachyus; which allows these populations to be placed on the biological diversity map, which can be used in the future for genetic improvement processes.

The project contributes to the preservation of biodiversity through rescue and conserve wild relatives as well as to safeguard already identified plant genetic resources. Community seed banks play an important role for this purpose, and the project's improvement of storage facilities and technologies to conserve the genetic resources is crucial. Breeding depends on a wide pool of genetic resources, and this can be obtained through collaboration across the region.

4. Project support to the Conventions, Treaties or Agreements

The activities of collecting and delivering native accessions of maize and beans and their wild relatives to germplasm banks contribute to the implementation of Article 5 of the ITPGRFA in paragraphs b, c, d and f. The Participatory Plant Breeding initiative in maize and beans contributes to the implementation of Article 6 on sustainable use, particularly in subparagraphs c, d and f. Farmers' rights training and agrobiodiversity fairs contribute to the implementation of Article 9 on farmers' rights.

All the partners of the project maintain a direct relationship and coordination with the focal points of the ITPGRFA since our organizations are a reference within the framework of the treaty and a continuity project is currently being implemented within the framework of the fifth cycle of the benefit-sharing fund.

ASOCUCH is part of the Group of Experts on Farmers' Rights and has participated in the first meeting, where work is being done to conclude certain studies and give guidance to the Governing Body at its next meeting to be held in November 2025 in Peru.

In Guatemala, in May 2024, the Ambassador of the United Kingdom Nick Whittingham was received. He visited local communities where actions of the project financed by the Darwin Initiative are implemented, which allowed him to interact directly with farmers who conserve agrobiodiversity in the Sierra de los Cuchumatanes.

5. Project support for multidimensional poverty reduction

The direct beneficiaries of the project are farmers from indigenous and small-farmer communities, who face limitations in the availability and use of quality seeds of crop varieties of importance for food security due to the severe effects of climate change. This has a direct impact on their crops and the loss of agrobiodiversity. The project contributes to the generation of varieties tolerant to biotic and abiotic effects and that have higher yields to increase the availability of food in communities with high rates of poverty and extreme poverty. For instance, in Guatemala, varieties of maize have been developed for highland areas, which are being adopted by farmers, with yields of between 4,500 and 4900 kg/ha, exceeding the national average of 1,568 kg/ha. Higher yields give families an opportunity to sell a larger portion of their production on the local market, thereby increasing the family's income and the opportunity to acquire other essential products.

The varieties of beans that have been generated have tolerance to viruses and drought; they have average yields of 1477kg/Ha, which is higher than the national averages, which range between 700 and 750 kg/Ha. This has a direct impact on the ability to be self-sufficient with food, and to increase the income for small producers, which contributes to improve their living conditions.

It is important to note that in the communities where the initiative is being implemented, farmers have extensive knowledge of the importance of maintaining the diversity of crops linked to food security, considering that they are located in centres of origin of crops of importance for food security. Therefore, the actions of the project respond to the needs of the communities with focus on access to seeds, conservation of agrobiodiversity, increase in crop yields, access to new agricultural production techniques, etc.

6. Gender Equality and Social Inclusion (GESI)

GESI Scale	Description	Put X where you think your project is on the scale
Not yet sensitive	The GESI context may have been considered but the project isn't quite meeting the requirements of a 'sensitive' approach	

Sensitive	The GESI context has been considered and project activities take this into account in their design and implementation. The project addresses basic needs and vulnerabilities of women and marginalised groups, and the project will not contribute to or create further inequalities.	
Empowering	The project has all the characteristics of a 'sensitive' approach whilst also increasing equal access to assets, resources and capabilities for women and marginalised groups	X
Transformative	The project has all the characteristics of an 'empowering' approach whilst also addressing unequal power relationships and seeking institutional and societal change	

Through the project, we strive towards the ambitions of transformation, but we believe that we have not reached this level yet. The project contributes to the strengthening and improvement of agricultural production of women farmers, as women's preferences will be taken into account. It will also strengthen women's representation and influence in decision-making, which in turn will contribute to women's economic, social, political, and cultural empowerment.

Indigenous peoples occupy only 15% of the world's territory but protect 80% of the planet's remaining biodiversity (according to World Bank data). Despite their organization and resistance, indigenous peoples have historically been displaced by the colonization of other cultures, this has also been the case in Central America. The main target group for this project is Indigenous People and Local Communities, with the aim to increase access to locally adapted varieties and the development of new varieties, that are crucial to ensure food and nutrition security in the future.

7. Monitoring and evaluation

In connection with the half-yearly reporting on 31 October 2023, the log frame was revised in line with the Darwin Expert Committee's recommendations. The revision included five Project Standard Indicators, and several of the indicators were identified with milestones spread over the three-year period. During year two there have not been any changes of the log frame, and the monitoring and evaluation plan of the project has not been changed either. The data collection methodology in each of the indicators is shared according to the areas and managers, who can later store and access the information through shared folders on the DF's Microsoft Teams platform.

Through the structure of the project's logical framework, the most important aspects of the project are summarized, in the logic that local agricultural production systems are strengthened through participatory plant breeding, networks of community seed banks and collection of wild relatives, which constitute the products that are achieved through the execution of the different activities that contribute to the fulfilment of indicators, with their respective electronic means of verification, which must be stored in Teams organized by folders according to the result and activity.

The indicator that at least 3,000 rural families (500 led by women) have accessed new improved varieties with adaptation to agroecological niches, generated under the participatory plant breeding approach in 100 communities, is measured by counting all the families that are benefited or supported with seeds produced through participatory plant breeding.

The second indicator, at least 5000 families benefit through 36 community seed banks (BCS), which conserve 2500 accessions of food crops and underutilized species; To this end, the families that use the community seed banks must be registered, as well as the proper registration of the different species that are stored in them.

The third indicator establishes that there are at least 3 bioprospects of wild relatives of beans with the support of herbarium and seed specimens in germplasm banks; In this case, it is necessary that wild bean species have supporting documentation from herbariums and germplasm banks.

The fourth states that at least 20 communities contribute to the rescue of wild relatives of crops of importance for Food and Nutrition Security; here the relevant documentation is the documentation of the places where the species are collected.

The indicators we have chosen are quantitative. Nevertheless, at the end of the three-year period, we want to use qualitative methods (such as focus group discussions) to better measure the effect at outcome and impact level. See section 9.

8. Lessons learnt

In contrast to the first year, where we had some delays in the start-up period, year two has generally gone according to plan, despite some climatic challenges.

Climate variability at the regional level has presented floods in some places and droughts in others. This limits because many producers lose their crops or experience reduction in yields, and several test fields have been lost. For bean cultivation in Honduras, farmers reported a high incidence of the pest *Megalurotrips usitatus*, causing significant losses and a negative impact on the project's research and seed production activities.

The program has been met with great interest by smallholders. We have succeeded in identifying leaders who are willing to cooperate, and the rural communities have been receptive to exercise the right to seed conservation. A recommendation we would like to pass on to similar projects is a clear involvement of the target group of small farmers. We clearly see that involving farmers in all parts of the project activities is key to achieving the goals of the program. When crop varieties are generated in a participatory manner with farmer involvement, their adoption is rapid, and the flow of seeds is better; responding more effectively to the needs of small farmers which are linked to the effects of climate change and the appearance of new pests and diseases.

We have observed that community seed banks play an important role at the community level, as they facilitate access, conservation and replenishment for farmers and their communities in emergency situations. This was evidenced in several areas of action of the project where farmers lost their crops due to lack of rain in a prolonged period and excess rainfall in short periods in crucial phenological stages for the crops. The conservation of germplasm of creole varieties is of utmost importance, as there is a potential genetic basis for continuing participatory plant breeding processes, combined with the experience and resources of farmers.

Work on agrobiodiversity conservation, poverty eradication and climate adaptation are an effort that is reflected over the years. Therefore, projects must be formulated to follow up on the work already done; to influence national policies that help farmers address the root causes of rural poverty, food insecurity, migration, and environmental degradation. This requires a multidimensional and integrated approach in coordination with governmental and non-governmental entities and partners who want to work towards a coherent strategy to support family farming.

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

Following are comments/recommendations and answers:

Recommendation: Bureaucratic challenges in Nicaragua and Costa Rica pose immediate risk to achieving project results. Follow through on suggested dialogue with Defra colleagues to share experiences and gain insight on managing risk. Discuss with BCF’s admin.

Response: These challenges have been discussed with BCF’s admin. (a digital meeting was held in June 2024), and the challenges have been resolved, please see comments in the project risk register (“Issue Register”).

Recommendation: Sharpen Monitoring and Evaluation Methods: Incorporate qualitative methods to capture ongoing insights and enable timely adaptive management. Ensure comprehensive M&E frameworks are in place and able to track longer-term outcomes and impacts, particularly in poverty reduction and gender equality. Respond next annual report.

Response: In order to collect qualitative data, we have a plan to use the method of focal group discussions (FGD). This is a research technique to obtain detailed information about the perceptions, opinions, and experiences of a specific group of beneficiaries. Over many years, DF has had good experience with this methodology to better measure the long-term impact of a project. Together with the partners, DF creates guidelines for conducting the FGDs and selects a representative sample of participants. We have good experience in combining FGD with more quantitative results, like from household surveys.

With the purpose of monitoring long-term results and impacts, in particular on poverty reduction and gender equality, we are considering different methodologies for measuring the impact.

- To conduct focal group discussion with a representative sample of beneficiaries, through which a qualitative assessment of the improvement of living conditions as a result of the project's actions is determined.
- To make collection and analysis of data related to the increase or decrease in women's participation in the actions promoted by the project.
- To conduct short- and medium-term follow-up after project completion, gathering basic information on the sustainability of the results achieved, using simple methods, such as telephone/face-to-face surveys or follow-up visits.

The costs of this evaluations will be covered with funds from the budget line “Evaluation at the end of the programme” (Lead Partner Costs).

Question: Clarify Output Level Result: For Output 3.1, the narrative of the report notes that 976 populations of wild beans have been identified. However, this number is listed as 76 in the log frame. Please clarify which figure is correct. Respond next annual report.

Response: 76 is the correct figure.

Recommendation: Clarify Exit Strategy: Outline steps necessary to ensure local organisations are empowered and resourced to continue initiatives independently. Detail how the project will engage with policy makers, transfer knowledge, skills, and tools, formalise agreements and ensure adequate levels of funding to ensure sustainability of results.

Response: Since the project partners have extensive experience in the field of plant genetic resources linked to local seed systems, with alliances from grassroots organizations, universities, and research institutes, it is expected that cooperative relations will continue in the long term. We consider the following points for the exit strategy:

- In the second year of the project, activities have been initiated to transfer the methodology to public agencies and other stakeholders so that they can ensure the continuity of the project.
- Mechanisms must continue to be sought at the national level that can encourage communities that carry out agrobiodiversity conservation actions with a direct link to legally constituted producer organizations.
- Ensure the connection with the national germplasm banks so that there is this two-way germplasm flow, for which letters of collaboration should be signed in countries where there is consent from the Government.
- Promote local production processes of quality seed in areas where there are adequate climatic conditions and governance structures.
- To look for mechanisms so that the network Collaborative Program for Participatory Plant Breeding in Mesoamerica (FPMA) can continue to interact as it has done in the last 20 years; considering that there were periods of time without financial resources.
- In the case of Guatemala, the alliance of other actors seeks to constitute a fund that generates income so that there are compensation mechanisms for communities that carry out biodiversity conservation actions.

10. Risk Management

The risk register has been updated and will be submitted together with this Annual Report. One new risk has arisen during the last year that were not previously accounted for: sudden cuts in support from other donor actors.

The sudden cut in USAID funding has affected many civil society organizations in Central America. In the network, our Guatemalan partner ASOCUCH has been particularly affected, as they had to reduce their staff by 12 employees at the beginning of 2025. This did not directly affect our project, as no one involved in the Dawin Initiative had to leave, but such a sudden change in the number of employees can destabilize and weaken an organization for a period of time, and thus have an indirect effect on the project. Despite everything, it seems that the Asocuch organization is overcoming this demanding period.

During the first year of the project there was problems with the signing of the contract between Asocuch and the University of Costa Rica, due to excessive administrative requirements from the university's side (rigid bureaucratic processes and very high administrative costs). After the first annual report, a dialogue with BCF's admin. was made to gain insight on experiences and managing this challenge. Instead of entering into an agreement between Asocuch and the University of Costa Rica, an agreement has been entered with the central researchers in the project, where they have now been hired as consultants of the project.

A challenge at the start of the project was that the Nicaraguan authorities had to give their approval, and this process took a long time. The approval from the Nicaraguan government was finally obtained at the beginning of year two. Please, see section 15.

11. Scalability and durability

In the application we expressed that through the strengthening of the network of partners of the Collaborative Program for Participatory Plant Breeding in Mesoamerica (FPMA), we believe that the continuity of the processes and benefits can be ensured at the end of the project. This is something we can claim since many of the related organizations of the network have their own personnel and with a base of solid social network in the territory, which allows advocacy actions so that the Agricultural Research Institutes (INIAs) can give priority to issues related to the management and conservation of agrobiodiversity. We believe that the network's conjunction of actors (Government, University, NGOs and Producer Organizations) can give continuity to the processes through the budget allocation by the National Governments and with the search for new financing.

Within the framework of the project, we have managed to consolidate the relationships between the partners who are direct parties to the initiative. We have also managed to ensure that other government and non-governmental organizations have access to the different methodologies that we have generated so that they can give continuity to the processes linked to management issues, conservation, and development of agrobiodiversity.

It is important to indicate that to have a direct impact on highly vulnerable families located in agrobiodiversity areas, this cannot be achieved within the framework of one program initiative period alone, so we will continue to look for financing options to continue with the corresponding scaling, including funds from the national governments of each of the countries.

The linking of communities to groups of farmers legally constituted in associations and cooperatives is essential in the search for the sustainability of the processes. At the level of each country, lobbying actions must continue to be carried out to create compensation mechanisms for communities that carry out agrobiodiversity conservation actions.

12. Darwin Initiative identity

Throughout the project, work has been done on the visibility and promotion of the Darwin Initiative, making known in workshops, meetings, and field days the contribution of the United Kingdom to protecting biodiversity.

The Darwin Initiative funding has been recognised as a distinct project when the financing has been exclusively from Darwin Initiative and recognised together with other donor organization when funding has been shared. The Darwin Initiative has strengthened the processes of participatory plant breeding, agrobiodiversity conservation, local seed systems already underway with other donors, among which we can mention “Project for the Sustainable Use of Agrobiodiversity in indigenous communities in Central America”, financed by the Benefit-sharing Fund of the ITPGRFA/FAO, and “Project to Strengthen the Resilience of Indigenous Communities” executed in Guatemala, financed by the Norwegian Development Fund/NORAD.

Through social media, the work of the Darwin initiative has been made visible, publishing the most important events in relation to the benefits obtained by farmers and their families. Here are some examples of publication from the partner organizations:
https://www.facebook.com/share/p/DD1TMvGBrvxFN4MG/

https://www.facebook.com/share/p/1XYdTBupVu/?mibextid=wwXIfr

https://www.facebook.com/share/p/1Hqiucxwdz/?mibextid=wwXIfr

13. Safeguarding

[redacted]

[redacted]

14. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2024 – 31 March 2025)

Project spend (indicative) since last Annual Report	2024/25 Grant (£)	2024/25 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)	[redacted]			
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Others (see below)				
TOTAL	241 170	219 949	-8,80%	

During November 2024 we became aware that there would be an underspending in year two of the project. A change request was therefore sent late December 2024, where we applied for unused funds from year two [redacted] to be used in year three. This change request was approved February 2025.

Variation in expenditure +/- 10% of the budget.

The budget items *Travel and subsistence* and *Staff costs* had an underspend of more than ten percent. The underspending on salaries is primarily due to Guatemala, where the organization ASOCUCH obtained additional sources of funding to cover salary costs. For Travel and subsistence savings were made on activities that required travel and food expenses, in particular partner FIPAH in Honduras spent little on national travel as they could cover this with additional resources.

In general, we experienced slightly lower consumption due to the exchange rate; throughout year two, the British pound has remained strong against the USD (which is the currency that the four countries in Central America relate to).

Table 2: Project mobilised or matched funding during the reporting period (1 April 2024 – 31 March 2025)

	Secured to date	Exp. by end of project	Sources

Matched funding leveraged by the partners to deliver the project (£)	[redacted]	[redacted]	Norwegian Agency for Dev. Cooperation, NORAD National Institute of Innovation and Transfer of Agricultural Technology (INTA), Costa Rica The Association of Organizations of Cuchumatanes (ASOCUCH), Guatemala UCR /Experimental Station, Costa Rica Ministry of Agriculture and Livestock (MAG), Costa Rica Foundation for Participatory Research with Farmers of Honduras (FIPAH) Federation of Cooperatives for Development (FECODESA), Nicaragua University ZAMORANO, Honduras
Total additional finance mobilised for new activities occurring outside of the project, building on evidence, best practices and the project (£)			

15. Other comments on progress not covered elsewhere

The following is sensitive, and we wish that this part can be removed/eliminated prior to this report being published:

It has been difficult to implement all project activities as planned in Nicaragua, such as activities related to advocacy. Over the past few years, many Nicaraguan civil society organizations that have been interpreted as critical to the government policies, have received reprisals such as losing their legal license and thus their basis for existence. Our Nicaraguan partner organization has therefore chosen a strategy with a low profile and less visibility, and this affects to some extent the work and results in Nicaragua.

16. OPTIONAL: Outstanding achievements or progress of your project so far (300-400 words maximum). This section may be used for publicity purposes.

I agree for the Biodiversity Challenge Funds to edit and use the following for various promotional purposes (please leave this line in to indicate your agreement to use any material you provide here).

Training on farmers' rights within the framework of the ITPGRFA.
In Guatemala, The Association of Organizations of Los Cuchumatanes (ASOCUCH) developed the training events "Farmers' Rights in the framework of the ITPGRFA" and "Methodologies linked to management, conservation and development of agrobiodiversity". The objective of the events was to publicize to key actors at the Municipal and Departmental levels, the practical results in the implementation of Farmers' Rights within the framework of the ITPGRFA (Operation of Community Seed Banks, underutilized species, results of agricultural research platform, etc.) and the methodologies for its development and implementation, like Farmer Field School, Local Agricultural Research Committees, Community Seed Banks, Participatory Plant Breeding). The focus was also on the methodology used to release the maize variety (ICTA Altiplano) by government entities and non-governmental organizations with a presence in the

area of action and thereby respond in part to the needs of research, assistance and participatory technical advice at the level of producers and communities.

In total, 186 people (127 men and 59 women) participated in these training events held in the departmental capital of Huehuetenango, all representatives of 43 institutions, which can be classified as Government Organizations, Municipal Governments, Local Grassroots Organizations (Associations and Cooperatives), Non-Governmental Organizations and Universities. In both events, the opportunity was also taken to set up a stand with phytogenetic materials safeguarded in the Community Seed Banks, mainly of maize, beans and potato crops, as well as technical documentation generated from research and demonstration models of technologies disseminated in the area of action. Both events concluded that ITPGRFA is key to the conservation and sustainable use of plant genetic resources, through which it seeks to ensure the long-term conservation and sustainable use of plants that are vital for food and agriculture. Please, see the attachment 2H

File Type (Image / Video / Graphic)	File Name or File Location	Caption including description, country and credit	Cuentas de redes sociales y sitios web que se etiquetarán	Consentimiento de los sujetos recibido (eliminar según sea necesario)
jpg image	16.1 PART MAGA DI Annexes Annual Report	Participation of a representative of the MAGA, in the Farmers' Rights event. Huehuetenango, Guatemala. Heeber Sánchez	https://www.facebook.com/Asocuch	**Yes**
jpg image	16.2 EXP AGROB DI Annexes Annual Report	Agrobiodiversity exhibition and distribution of documents at the Farmers' Rights event. Huehuetenango, Guatemala. Heeber Sánchez	https://www.facebook.com/Asocuch	**Yes**
jpg image	16.3 ITPGRFA METOD DI Annexes Annual Report	Presentation of the topic ITPGRFA and Farmers' Rights at the event methodologies linked to management, conservation and development of agrobiodiversity Huehuetenango, Guatemala. Heeber Sánchez	https://www.facebook.com/Asocuch	**Yes**

Annex 1: Report of progress and achievements against logframe for Financial Year 2024-2025

Project summary	Progress and Achievements April 2024 - March 2025	Actions required/planned for next period
Impact To improve the living conditions and climate adaptation of indigenous and peasant families in Central America through the sustainable use of native agro-biodiversity.	Through the management, conservation, and development of agrobiodiversity, we have to some extent managed to contribute to improving the availability of food for indigenous peoples and peasant families, through access to new varieties of maize and beans with a certain tolerance to the effects of climate change and with high yield potential.	[redacted]
Outcome **Local agricultural production systems strengthened through participatory plant breeding, community seed bank networks and collection of wild relatives.**		
Outcome indicator 0.1 At least 3000 rural families (500 led by women) have accessed (mean have possession of) the new improved varieties with adaptation to agroecological niches, generated under the participatory plant breeding approach in 100 communities.	During the first two years, 1813 families (698 led by women) have accessed 55 varieties from participatory plant breeding and conventional breeding processes, adapted to the specific conditions of small producers in 90 communities in the project's area of action.	Seed packets will continue to be distributed
Outcome indicator 0.2 At least 5000 families benefit through 36 community seed banks (CSB), which conserve 2500 accessions of food crops and under-utilized species.	After the first two years, technical assistance has been provided to 45 seed banks in the region, where investments have been made in improving infrastructure and equipment with resources from the project and counterpart funds from the TIRFAA benefit-sharing fund in 38 CSBs, directly involving 2939 families that conserve 2258 accessions of maize, beans, sorghum and underutilized species.	Technical assistance and strengthening processes for governance structures will continue to be provided
Outcome indicator 0.3 There are at least 3 bio-prospections of wild bean relatives supported by herbarium and seed specimens in gene banks.	After the first two years, 32 regional level bioprospections (Guatemala 10, Nicaragua 8, Costa Rica 11, Honduras 3) have been conducted in 57 communities in the project area, identifying 39 wild bean populations. 6 herbarium specimens from wild bean relatives have been delivered to national universities and museums: Guatemala 3, Honduras 2, and Costa Rica 1.	The process of identifying the species collected will be concluded

Outcome indicator 0.4 At least 20 communities contribute to the rescue of wild relatives from crops important to Food and Nutrition Security.	After the first two years, 32 communities where wild relatives of beans exist have been involved in awareness-raising for the identification processes.	Some municipal governments will be sought to prioritize investments in these areas of high genetic diversity.
Outcome indicator 0.5 Women have increased influence with access and use of varieties which respond to their preferences.	During the period, women have been involved in the evaluation processes of varieties at the field level, since they are the ones who define the use of some varieties with conditions attached mainly to flavour and cooking time.	Participatory evaluation processes will continue to be carried out.
Outcome indicator 0.6 (DI-A01) 20 persons from key national and local stakeholders completing structured and relevant training.	After two years, at the regional level, 60 technicians from Government Agencies, Non-Governmental Organizations and Universities have participated in training processes on plant genetic resources and farmers' rights issues.	The plan for next period will strengthen further the experiences and knowledge on these topics.
Outcome indicator 0.7 (DI-A04) 300 persons reporting that they are applying new capabilities (skills and knowledge) 6 (or more) months after training.	After two years, 1416 farmers and technicians (866 men and 550 women) have been involved in training processes on topics related to participatory plant breeding, seed production and conservation, wild bean relatives, emerging bean pest (Megalurothrips Usitatus), climate change, genetic improvement, Field Schools, Local Agricultural Research Committees and Community Seed Banks, and thereby strengthening the capacities of smallholder farmers.	The focus on the training activities will continue in the next period.
Outcome indicator 0.8 (DI-B06) 40 Indigenous and Local Communities involved in the programme, with strengthened rights to plant genetic resources for food and agriculture	During the period, actions have been carried out in 126 communities in the 4 countries, on the issues of seed dissemination, participatory plant breeding, identification of wild bean relatives and farmers' rights.	The activities on seed dissemination, participatory plant breeding, identification of wild bean relatives and farmers' rights will continue in the next period.
Output 1 Developed varieties through Participatory Plant Breeding approaches adapted to the effects of climate change		
Output indicator 1.1 At least 6 varieties of beans and maize with tolerance to abiotic stresses have been generated, under the participatory plant breeding approach	Year two: 3 varieties of beans (Quiribrí, Rojo Fortado, ASOCIALAYO 24) and 1 of maize (ICTA Altiplano) registered at the national and regional levels have been released under the participatory plant breeding approach in Costa Rica, Honduras and Guatemala with the active involvement of small farmers.	The evaluation process will continue at the field level with the involvement of farmers, in order to have germplasm with tolerance to plagues such as asphalt stain.

Output indicator 1.2 At the end of the project, quality seed has been distributed as a result of Participatory Plant Breeding processes in at least 2,000 households (750 year 1, 750 year 2, and 500 year 3).	Year two: A total of 1024 seed packages from participatory plant breeding and conventional breeding processes have been distributed in the region, benefiting the same number of families, of 55 varieties of maize and beans in 90 communities in the area of action of the project.	The processes of delivery and distribution of seed packages from participatory breeding and conventional breeding will continue. Seeds of the new varieties generated will be included here.
Output indicator 1.3 At least 500 farmers (200 women) have been trained in Participatory Plant Breeding, quality seed production and in-situ conservation (250 year 1 and 250 year 2).	Year two: 899 farmers and technicians (534 men and 365 women) have been involved in training processes on topics related to participatory plant breeding, seed production and conservation, wild bean relatives, emerging bean pest (Megalurothrips Usitatus), climate change, genetic improvement, Field Schools, Local Agricultural Research Committees and Community Seed Banks, and thereby strengthening the capacities of smallholder farmers.	Training processes will continue at the field level with the involvement of small producers.
Output indicator 1.4 Regional exchange activities have been conducted (year 1 and year 3) to learn about experiences in the development and dissemination of participatory plant breeding varieties.	Reported in year 1	Next regional exchange activity will be held in year 3, 2025.
Output 2. Strengthen collaboration between local seed banks and national gene banks in the region.		
Output indicator 2.1. After the first year, 36 Community Seed Banks have been strengthened in the region.	Year two: Technical assistance is provided to 45 seed banks in the region, where investments have been made in improving infrastructure and equipment with resources from the project and counterpart funds from the TIRFAA benefit-sharing fund in 38 CSB, directly involving 2939 families that conserve 2258 accessions of maize, beans, sorghum and underutilized species.	Governance aspects of the CSB-committees will be strengthened.
Output indicator 2.2. At least 8 agrobiodiversity fairs have been organized and developed. (3 in year 1, 3 in year 2, and 2 in year 3).	Year two: 15 seed and agrobiodiversity fairs were organized and developed, with the participation of more than 3450 farmers, who exchanged knowledge, crop accessions linked to food security, food tasting, thereby strengthening farmers' rights within the framework of ITPGRFA and promoting the exchange of knowledge and plant genetic resources.	The organization and development of seed fairs will continue, involving participants in the processes of agrobiodiversity exchange; enforcing the rights of farmers.

Output indicator 2.3. At least 8 trainings (4 per year) on farmers' rights have been developed within the framework of the ITPGRFA.	Year two: 8 trainings on farmers' rights were developed with an average duration of 5 hours each, involving 371 farmers (233 men and 138 women). This action strengthens knowledge about the rights of farmers from indigenous and peasant communities, as well as other stakeholders, including representatives of non-governmental organizations, universities, leaders of peasant organizations, among others.	New trainings on farmers' rights within the framework of the ITPGRFA will be developed.
Output indicator 2.4. At least 4 deliveries of new accessions have been made for conservation in national gene-banks by the end of the project.	Year two: a total of 218 accessions of maize and beans have been delivered to National Germplasm Banks, CATIE Bank and Svalbard Global Seed Vault.	New accessions will be delivered to national genebanks (Guatemala and Honduras)
Output indicator 2.5. (DI-A03) 104* local/national organizations with capacity and capabilities improved as a result of the project.	Year two: Technical capacities are strengthened by 76 local organizations linked to the project and other stakeholders, on issues of plant genetic resources, access to diversity, wild relatives, farmers' rights, and quality seed production.	Training on technical capacities on plant genetic resources, access to diversity and quality seed production will continue.
Output 3. **Collection and regeneration of accessions of wild relatives of Phaseolus, to make them available to pre-breeding programs at the regional level**		
Output indicator 3.1. (DI-C09) At least 3 species reference collections made (of wild bean relatives in Costa Rica, Honduras, and Nicaragua).	Year two: 14 bioprospections have been carried out at the regional level (GUA 5, NIC 3, CR 6), in 39 communities in the project area of action. 39 populations of wild beans have been identified. It is important to note that during these bioprospections, several places visited in year 1 of the project were revisited to obtain better samples and/or seed.	The regeneration processes will continue and, in the case of Guatemala, the identification of accessions. .
Output indicator 3.2. At least 3 deliveries of wild relative accessions to gene banks have been made.	Year two: At the level of Guatemala and Costa Rica, 23 accessions of wild relatives of beans have been delivered to the National Germplasm Bank of ICTA (Guatemala) and the seed bank of the Legume Program of the Fabio Baudrit Moreno Agricultural Experimental Station of the University of Costa Rica.	The processes of identification of the collections will be concluded
Output indicator 3.3. Herbarium specimens have been delivered to national and international museums.	Year two: 3 deliveries of the collections have been made to herbariums in Guatemala, Honduras and Costa Rica, of 6 specimens of the wild relatives of beans of the species: Phaseolus Oligo spermus Piper, Phaseolus acutifolius var. Freeman latifolius, Phaseolus tuerckheimii, Phaseolus	The process of delivering specimens to the herbariums will be concluded.

	vulgaris subv. Aborigineus, Phaseolus. Lunatus and Phaseolus leptostachyus.	
Output indicator 3.4. The regeneration of at least 50% of the wild accessions of Phaseolus currently conserved in gene banks has begun.	Year two: In Costa Rica and Guatemala, under controlled conditions, 23 accessions of wild relatives of Phaseolus have been regenerated.	The regeneration of wild accessions of Phaseolus will continue.

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

Project summary	SMART Indicators	Means of verification	Important Assumptions
Impact: To improve the living conditions and climate adaptation of indigenous and peasant families in Central America through the sustainable use of native agro-biodiversity.			
Outcome: Local agricultural production systems strengthened through participatory plant breeding, community seed bank networks and collection of wild relatives.	At the end of the project 0.1 At least 3000 rural families (500 led by women) have accessed (mean have possession of) the new improved varieties with adaptation to agroecological niches, generated under the participatory plant breeding approach in 100 communities. 0.2 At least 5000 families benefit through 36 community seed banks (CSB), which conserve 2500 accessions of food crops and under-utilized species. 0.3 There are at least 3 bio-prospections of wild bean relatives supported by herbarium and seed specimens in gene banks. 0.4 At least 20 communities contribute to the rescue of wild relatives from crops important to Food and Nutrition Security. 0.5 Women have increased influence with access and use of varieties which respond to their preferences. 0.6 (DI-A01) 20 persons from key national and local stakeholders completing structured and relevant training. 0.7 (DI-A04) 300 persons reporting that they are applying new capabilities (skills and knowledge) 6 (or more) months after training.	0.1 Technical sheets of generated varieties. 0.2 Registration of producers benefiting from quality seed. 0.3 Variety characterization documents. 0.4 Updated register of agrobiodiversity of community seed banks. 0.5 Collections of wild bean relatives characterized and conserved in gene banks. 0.6 Focus Group Discussions on women's preferences and decision-making power on PGRFA	Suitable climatic conditions for the process of generating varieties. Interest exists among farmers in validating and adopting new varieties of maize and beans. Adequate conditions exist in countries for the delivery and conservation of germplasm from wild relatives to genebanks.

	0.8 (DI-B06) 40 Indigenous and Local Communities involved in the programme, with strengthened rights to plant genetic resources for food and agriculture		
Output 1 Developed varieties through Participatory Plant Breeding approaches adapted to the effects of climate change	At the end of the project: 1.1 At least 6 varieties of beans and corn with tolerance to abiotic stresses have been generated, under the participatory plant breeding approach. 1.2 At the end of the project, quality seed has been distributed as a result of Participatory Plant Breeding processes in at least 2,000 households (750 year 1, 750 year 2, and 500 year 3). 1.3 At least 500 farmers (200 women) have been trained in Participatory Plant Breeding, quality seed production and in-situ conservation (250 year 1 and 250 year 2). 1.4. Regional exchange activities have been conducted (year 1 and year 3) to learn about experiences in the development and dissemination of participatory plant breeding varieties.	1.1 Technical sheets with the descriptors of generated varieties. 1.2 Registration of producers benefiting from quality seed. 1.3 Registration of trained producers. 1.4. Registration of producers participating in field days.	Suitable climatic conditions for the process of generating improved varieties. There is interest from farmers in validating and adopting new varieties of maize and beans. There is interest on the part of small producers to participate actively in training processes.
Output 2 Strengthen collaboration between local seed banks and national genebanks in the region.	At the end of the project: 2.1 After the first year, 36 Community Seed Banks have been strengthened in the region. 2.2 At least 8 agrobiodiversity fairs have been organized and developed. (3 in year 1, 3 in year 2, and 2 in year 3). 2.3 At least 8 trainings (4 per year) on farmers' rights have been developed within the	2.1 Characterization and generation of local diversity catalogues. 2.2 Updated register of agrobiodiversity of community seed banks. 2.3. Report of investments made in community seed banks (CSB). 2.4 Reports of agrobiodiversity fairs held. 2.5 Reports of training events conducted. 2.6 Register of agrobiodiversity	Suitable climatic conditions for the process of generating improved varieties.

	framework of the ITPGRFA. 2.4 At least 4 deliveries of new accessions have been made for conservation in national genebanks by the end of the project. 2.5 (DI-A03) 104* local/national organizations with capacity and capabilities improved as a result of the project.	entered into national gene banks.	
Output 3 Collection and regeneration of accessions of wild relatives of Phaseolus, to make them available to pre-breeding programs at the regional level	At the end of the project: 3.1 (DI-C09) At least 3 species reference collections made (of wild bean relatives in Costa Rica, Honduras, and Nicaragua). 3.2. At least 3 deliveries of wild relative accessions to gene banks have been made. 3.3. Herbarium specimens have been delivered to national and international museums. 3.4 The regeneration of at least 50% of the wild accessions of Phaseolus currently conserved in gene banks has begun.	3.1 Collections of wild bean relatives backed by gene banks. 3.2 Number of populations found. 3.3 Number of bio-surveys carried out. 3.4 Number of herbarium specimens delivered. 3.5 Register of agrobiodiversity entered into national germplasm banks. 3.6 Relationship of the regeneration of wild accessions of gene banks.	In the countries, there are adequate conditions for the delivery of germplasm from wild relatives to banks. Appropriate policy and regulatory conditions for the collection of wild relatives. Techniques for the regeneration of wild accessions are effective.

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

1.1. Participatory selection of bean varieties for the development of new germplasm tolerant to terminal drought and high temperature

1.2. Introgression in bean materials in collaboration with the Bean Research Program (PIF) of Zamorano, for the development of new varieties with drought tolerance and low fertility, using local germplasm.

1.3. Introgression in maize germplasm, for the development of new varieties with tolerance against drought, and the diseases ear rot and “Asphalt Patch Complex”, focused on tropical and high sub-tropical areas, using local materials.

1.4. Local production and distribution of good quality seed of locally adapted maize and bean varieties.

1.5. Training on participatory plant breeding, seed production and in-situ conservation of wild relatives for leading farmers and technicians of organizations.

1.6. Field days and dissemination of results with farmers for the dissemination of technologies and practices of adaptation to climate change in maize and bean production systems.

1.7. Regional exchanges to learn about experiences in the development and dissemination of maize and bean varieties.

1.8. Elaboration of catalogues of varieties product of participatory and / or native plant breeding of beans

2.1. Strengthening of the network of existing seed banks at the regional level.

2.2. Organization and development of Agrobiodiversity Fairs.

2.3. Training on farmers' rights within the framework of the ITPGRFA.

2.4. Collections, characterization and increase of native accessions of corn and beans.

2.5. Delivery of copies of accessions collected from corn and beans to national germplasm banks.

3.1. Training for personnel involved in the collection processes of wild relatives of common beans in 3 countries (Costa Rica, Honduras, Nicaragua)

3.2. Collection and regeneration of wild relatives of common bean in 3 countries (Costa Rica, Honduras, Nicaragua)

3.3. Increase of seed of wild relatives of common beans and shipment to national gene banks.

3.4. Delivery of herbarium specimens from wild bean relatives to national and international museums

3.5. Identify wild bean areas for designation as ecologically important areas and with recognition by local governments

* 2.5 (DI-A03) 104 local/national organizations, consisting of 58 local associations and cooperatives, 36 community seed banks, 4 local partner organizations and 6 government organizations.

Annex 3: Standard Indicators

Table 1 Project Standard Indicators

Please see the Standard Indicator guidance for more information on how to report in this section, including appropriate disaggregation.

DI Indicator number	Name of indicator	If this links directly to a project indicator(s), please note the indicator number here	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
DI-A01	20 persons from key national and local stakeholders completing structured and relevant training.	0.6	Persons from key national and local stakeholders	completing structured and relevant training.	17	43		60	20
DI-A04	300 persons reporting that they are applying new capabilities (skills and knowledge) 6 (or more) months after training.	0.7	People	New capabilities	207	899		1106	300
DI-B06	40 Indigenous and Local Communities involved in the programme, with strengthened rights to plant genetic resources for food and agriculture	0.8	Communities	Strengthened tenure and/or rights.	82	44		126	40
DI-A03	104 local/national organizations with capacity and capabilities improved as a result of the project.	2.5	Organizations	Capacity improved	60	43		103	104
DI-C09	At least 3 species reference collections made (of wild bean relatives in Costa Rica, Honduras, and Nicaragua).	3.1	Species	Collections of wild bean relatives	0	3		3	3

Table 2 Publications

Title	Type (e.g. journals, best practice manual, blog post, online videos, podcasts, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)
Evaluation of bean lines for resistance to terminal drought in Costa Rica	Memory	Juan Carlos Hernández	Male	Costa Rican	Costa Rica	Unavailable Upon request, we can send the publication to NIRAS.
Drought resistance of bean lines from the VEF 2021 nursery in Costa Rica	Memory	Juan Carlos Hernández	Male	Costa Rican	Costa Rica	Unavailable Upon request, we can send the publication to NIRAS.
Anti-aflatoxin potential of phenolic compounds from common beans (Phaseolus vulgaris L.)	Magazine	Dayana Leon-Cortes	Female	Costa Rican	Food Chemistry	https://www.sciencedirect.com/science/article/abs/pii/S030881462404247X?via%3Dihub

Annex 4: Onwards – supplementary material (optional but encouraged as evidence of project achievement)

Checklist for submission

	Check
Different reporting templates have different questions, and it is important you use the correct one. Have you checked you have used the **correct template** (checking fund, scheme, type of report (i.e. Annual or Final), and year) and **deleted the blue guidance text** before submission?	X
Is the report less than 10MB? If so, please email to BCF-Reports@niras.com putting the project number in the Subject line.	X
Is your report more than 10MB? If so, please consider the best way to submit. One zipped file, or a download option, is recommended. We can work with most online options and will be in touch if we have a problem accessing material. If unsure, please discuss with BCF-Reports@niras.com about the best way to deliver the report, putting the project number in the Subject line.	X
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
Have you provided an updated risk register? If you have an existing risk register you should provide an updated version alongside your report. If your project was funded prior to this being a requirement, you are encouraged to develop a risk register.	X
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see Section 16)?	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.	