



## Darwin Initiative: Final Report

### Darwin Project Information

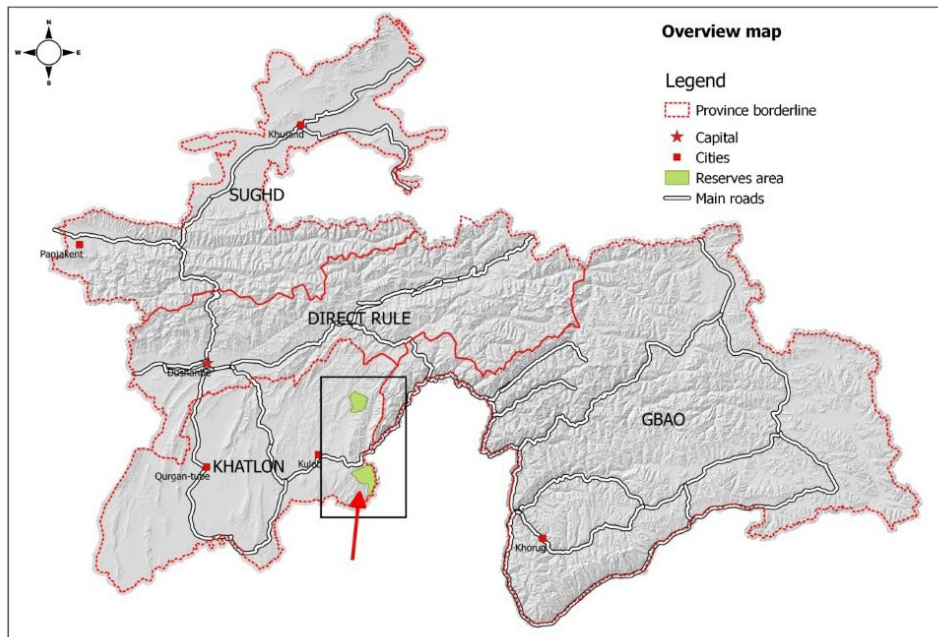
|                                   |   |
|-----------------------------------|---|
| Project reference                 | 24-006  |
| Project title                     | Enhancing forest biodiversity and community resilience to Tajikistan's changing climate   |
| Country(ies)                      | Tajikistan  |
| Lead organisation                 | Fauna & Flora International   |
| Partner institution(s)            | Kulob Botanical Garden, Zam Zam, Muminobad Forestry Management Unit, Dashtijum Forestry Management Unit   |
| Darwin grant value                | £383,708  |
| Start/end dates of project        | 1st April 2017 – 30th June 2021   |
| Project leader's name             | David Gill  |
| Project website/blog/social media | <a href="https://www.fauna-flora.org/projects/conserving-threatened-fruit-nut-forests-tajikistan">https://www.fauna-flora.org/projects/conserving-threatened-fruit-nut-forests-tajikistan</a> |
| Report author(s) and date         | David Gill, Ubayd Gulamadshoev, Muqaddas Miliikbekova, Rasima Sabzalieva, Solimshoh Akbarsho, Mario Boboev. Tojinisso Odinaeva, September 2021  |

## 1 Project Summary

Childukhtaron (14,600ha) and Dashtijum (50,100ha) reserves are identified in Tajikistan's National Biodiversity Strategy Action Plan as two of the country's most valuable walnut-maple forest sites, with a rich variety of wild fruit and nut trees, including pear *Pyrus tadshikistanica* (CR, endemic), *Pyrus korshinskyi* (CR), almond *Amygdalus bucharica* (VU) and apple *Malus sieversii* (VU). These globally significant forests are important as genetic reservoirs, as climate-related impacts threaten domesticated varieties grown worldwide. The forests are essential to the livelihoods of 700 resident households. Mean income in both areas at project start was below \$1.25/person/day with limited income-generating opportunities available. Collection and sale of Non-Timber Forest Products (NTFPs) is a significant livelihood strategy for women and men.

Only 3% of Tajikistan is now forested, and fruit-and-nut woodlands are under severe pressure from firewood collection, grazing and over-harvesting. The habitat is degraded, with declining diversity and little regeneration. The forest is state-owned but the forest service lacks the capacity to manage in collaboration with local people, who have user rights but do not perceive that they have a stake or role in conserving the resource. The World Bank identified Tajikistan as the country most vulnerable to climate change in Europe and Central Asia, with very low adaptive capacity. The steeply sloping project area suffers from landslides, extreme weather events including heavy spring rains, summer drought, and pests; all predicted to worsen.

This project set out to address the identified problems by strengthening ecosystem resilience and addressing local communities' urgent need for financial resilience, through increasing access to growing markets for fruit and nut products, and secondary processing.



A map of Tajikistan with locations of the two reserves highlighted. Childukhtaron is located to the north of Dashtijum

## 2 Project Partnerships

Project partners include: the NGO Ganji Tabiat linked to Kulob Botanic Gardens in south Tajikistan, led by national botanist Mario Boboev; Muminobod and Dashtijum Forestry Service Units (FSU), the local sections of the Agency for Forestry under the Government of the Republic of Tajikistan, responsible for the management of the reserves and the local NGO Zam Zam, who lead on livelihood and market development activities.

Other collaborators include the NGO, Centre for Climate Change and Disaster Reduction (CCDR) who conducted trainings and adaptation planning workshops on climate change in Y2 and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) who participated in Steering Group meetings and acted as an advisor on forest management. FFI hosted one Steering Group meeting each year to aid formal exchange of information and lessons learned between the project partners.

FFI has an office in Dushanbe, Tajikistan and our local staff are regularly in contact with all partners to monitor progress and to advise on management, technical and administrative delivery. The local team were given clear responsibility to manage the partnerships within Tajikistan, and this enabled effective and efficient decision making on project delivery. FFI's local staff spent significant time at the project sites (travelling from Dushanbe to Khatlon for several days at a time around twice a month throughout the project period). They formed a close and consistent collaboration with both Forest Service Units and were able to offer soft advice on adoption of approaches such as Joint Forest Management. FFI staff from both the UK and Tajikistan offices also provide focussed training when needed (e.g. training to Zam Zam on the PMSD approach and methods for socioeconomic research in 2018, on the use of Participatory Impact Assessments in March 2021 and data management in April 2021).

Sub-grant agreements detailing partner deliverables were signed with Kulob Botanic Gardens (rather than Ganji Tabiat for administrative reasons but the same personnel are involved) and Zam Zam, and these were renewed each year, see EF: Admin - SGA1 and 2.

## 3 Project Achievements

### 3.1 Outputs

#### **Output 1: Project team and local and national stakeholders have increased knowledge and understanding of forest habitats, including agro-biodiversity and key species, and likely impacts of climate change, and are engaged in participatory forest monitoring.**

At the project start there were no current maps, data or literature for either forest or for the threatened species in the reserves. In Y1-2, we established baselines for four threatened tree species and habitat condition across each reserve (**indicator 1.1**) through field surveys (completed in partnership with Kulob Botanic Gardens) and remote sensing (see EF1: 1.1). Baselines on the wellbeing of households in the local communities, the extent to which this is influenced by forest management and information on economic and cultural values attached to 39 different native tree species were also established in Y2, through household surveys (completed with representatives from 201 households 35% women) and through traditional knowledge workshops (attended by 50 people (50% women)) (see EF1: 1.3 2). Updated threatened tree data were used to develop a status report and action plan for four species, and these plans were disseminated to 40 stakeholders in Y4, with several actions (including planting and fencing) underway by project end (**indicator 1.2**). A participatory monitoring scheme – designed to align with Tajikistan’s Joint Forest Management policy - was developed and is being rolled out in Dashtijum reserve. Development of a similar scheme has been approved for use by Childukhtaron reserve and will begin in 2022 (**indicator 1.3**). All information produced by the project – including survey results covering forest habitats, agro-biodiversity, key species, and likely impacts of climate change - were all shared with the Forestry Agency and other stakeholders in a meeting attended by 11 people in end June 2021 (**indicator 1.4**).

#### **Output 2: Local market actors supported to implement activities identified through Participatory Market System Development (PMSD) to improve income from fruit and nuts (NTFPs)**

At project start, community members were already engaging in the sale of fruit and nut products but reported that prices received were low and that national markets were costly or difficult to access. Market actors noted that the quality of dried and processed products from the project sites was also low. In Y1 the PMSD process – including product identification, market mapping and engagement of marginalised actors - was completed through workshops involving 80 people from 26 villages (**indicator 2.1**). Two cooperatives with 40 members were established. Membership has since grown to 160 (six groups) (94% women) with members actively using equipment provided – including electric driers - throughout Y1-Y3 (**indicator 2.2**). A total of 150 people (60% women) have been directly trained and 360 have received learning materials over the course of the project in methods required for sustainable harvesting and processing. We observed increases in price secured for processed fruits and nuts, by 27% in Childukhtaron and by 14% in Dashtijum compared to project start (**indicator 2.3**) and these price increases helped to boost income levels in 2019 and then buffer the worst impacts of a disastrous harvest in 2020. Eight saving groups with a total of 200 members (82% women) were active at project end. The amount saved by the saving groups in 2020 - Somoni (equivalent to £) is 56% higher than in 2019 and more than double the amount saved in 2018 (**indicator 2.4**). A PIA completed in Y5 allowed the project team to explore and understand the impacts of the project on the wellbeing of both women and men. 2021 (**indicator 2.5**). Results from the PIA indicate that the project has supported significant improvements in material, subjective and relational wellbeing in the project sites, with particular improvement observed among women. More detail is provided in EF 2: 2.9.

#### **Output 3: Community forest users (women and men) and two forest service units enhancing forest management and promoting resilience to climate change.**

Awareness at project start on importance of forest conservation and on climate change were low. 130 people (50% women) have a better understanding of climate change risks and

adaptation strategies following workshops completed in Year 2 and awareness raising workshops in Y3 and >900 (65% women) people are more aware of the importance of agrobiodiversity through participation in 14 seminars and two harvest festivals (**indicator 3.1**). A Participatory Management Plan (with recommendations for planting 8 native species in key zones) was completed for Dashtijum in Y3 and is under development for Childukhtaron (**indicator 3.2**), with another document with guidelines for 39 native species completed. Two stakeholder fora (one at each site) with a total of 60 members (69% women) have met two times in Y2 and once each in Y3 and once in Y4. Feedback on the fora is positive. Although, not directly attributed to the forum itself, results from the PIA indicate that community members – particularly in Dashtijum – feel they have greater influence on forest management (**indicator 3.3**). Forty-seven forest users are taking actions on their plots to protect trees through fencing and 84 plot holders in Dashtijum have signed agreements with the Forest Service to carry out Joint Forest Management and related monitoring of their forest plots. Implementation of Joint Forest Management at Childukhtaron was delayed in part due staff turnover there, but is now due to resume in 2022 (**indicator 3.4**). Over the project 278,536 saplings and 2,124.16 kg seed (equivalent of 333,235 seedlings) have been planted in nurseries or in the forest (**indicator 3.5**).

|                   | 2017-18   |          | 2018-19   |         | 2019 - 2020 |          | 2020-21   |          | Total     |            |
|-------------------|-----------|----------|-----------|---------|-------------|----------|-----------|----------|-----------|------------|
|                   | Seedlings | Seed     | Seedlings | Seed    | Seedlings   | Seed     | Seedlings | Seed     | Seedlings | Seed       |
| DJ - nurseries    | 25,700    | 190.5 kg | 14,000    | 125 kg  | 23,880      | 118.5 kg | 29,850    | 211.6 kg | 84,500    | 645.6 kg   |
| DJ - forest       | 7,171     | 37 kg    | 23,619    |         | 18,384      |          | 42,970    | 22.5 kg  | 92,144    | 59.5 kg    |
| CH - nurseries    | 9,330     | 354.5 kg | 0         | 512.5kg | 37,000      | 211 kg   | 7,700     | 341kg    | 54,030    | 1,419 kg   |
| CH - forest       | 10,634    |          | 8,400     |         | 13,019      |          | 15,819    |          | 47,872    |            |
| Total - nurseries | 35,030    | 545 kg   | 14,000    | 637.5kg | 51,950      | 329.5 kg | 37,550    | 552.6 kg | 138,530   | 2064.6 kg  |
| Total - forest    | 17,811    | 37 kg    | 32,019    |         | 31,403      |          | 58,789    | 22.5 kg  | 140,016   | 59.5kg     |
| Total planted     | 52,835    | 582 kg   | 46,019    | 637.5kg | 83,353      | 329.5 kg | 96,339    | 575.1 kg | 278,546   | 2,124.1 kg |

## 3.2 Outcome

**Indicator 0.1** Members of 25% of the total 695 households at project sites are engaged and active in forest conservation by Year 4 (40 HH by end Year 1; 80 HH by end Year 2; 120 HH by end Year 3; 175 by end Year 4).

Forest users are more engaged in forest conservation at several levels. Most directly, members from 47 HHs installed fencing to protect plots (~35 ha) from over-grazing over Y3-4. A participatory forest management plan for Dashtijum was completed in Y3 and another is scheduled for completion in Childukhtaron by December 2021 (with completion delayed due to a serious illness faced by the consultant involved) (see EF1: 1.3). Under the auspices of the plan, 84 households have developed agreements with Dashtijum Forest Service Unit to carry out Joint Forest Management on their land (protecting local rights to manage forest and supporting greater participation in forest monitoring). In addition, collaboration between communities and the Forest Service is being supported through stakeholder fora (membership 60: 69% women) established at each site. The project also seems to have created a strong link and incentive between income generation and forest conservation, with respondents from the PIA reporting that most of the >200 producer and saving group members have become more engaged in forest conservation, either by taking part in tree planting events with the FSU or by planting fruit and nut trees in their own plots. Training in forest management, seed collection and tree maintenance (97 people Year 1; 40 people in Year 2; 46 people in Y4), awareness raising events (reaching more than 900 people throughout the project) and exchange of information (facilitated through surveys with 201 households in Year 1) have all contributed to this outcome.

**Indicator 0.2** Diversity of planting in forest increased by 50% by Year 4 (by 50% in nurseries by Year 2), including all identified local native varieties, preserving genetic diversity of wild crop relatives.

Seventeen local native tree species (15 in Dashtijum and 14 in Childukhtaron) have been produced by project nurseries and planted out in the forest. Eight species in Dashtijum (pomegranate, almond, two pears, apples, apricots, cherry plum and pistachio) and four in Childukhtaron (two pears, cherry plum and apples) were rarely or never produced before by the reserves (pers. comm. U. Gulamadshoev); this represents a significant increase in diversity of trees being planted (DJ from 6 to 15 (250% increase; CH 10 to 14 (40% increase). The project is helping to significantly increase the scale at which these species are planted out: in four years 278,536 saplings and 2,124.16 kg seed have been planted in nurseries or in the forest (compared to less than 20,000 seedlings per year for both reserves before the project started).

**Indicator 0.3** Number of individuals of 3 threatened tree species (including 2 CR *Pyrus*) at project sites increased four-fold from known current baseline.

Baselines for two Critically Endangered pear species reported at the end of Year 1 were updated in Y3 following new surveys and collation of old survey reports: *Pyrus korshinskyi* has 995 trees and *Pyrus tadshikistanica* has 212 trees. Threatened tree surveys covering a small portion of the overall reserve also collected records of 17 *Amygdalus bucharica* trees and 19 *Malus sieversii* trees, although the total number for each of these two species is likely to be far higher.

Efforts to increase population size of these species are ongoing with all four species in nurseries and planted out into the forest. Seedlings planted into the forest at the end of Y4 is summarised below.

| Threatened tree seedlings planted in the forest |       |        |       |       |        |
|---|-------|--------|-------|-------|--------|
|   | 2017  | 2018   | 2019  | 2020  | Total  |
| <i>Pyrus korshinskyi</i>                        | 200   | 330    | 1,920 | 5,600 | 8,050  |
| <i>Pyrus tadshikistanica</i>                    | 624   | 320    | 975   | 450   | 2,369  |
| <i>Amygdalus bucharica</i>                      | 625   | 15,300 | 7,269 | 6,869 | 30,063 |
| <i>Malus sieversii</i>                          | 3,296 | 954    | 2800  | 4,800 | 13,232 |

For the 2 CR pear species, it will take >20 years for saplings to mature and contribute to population size, but if we assume a modest survival rates of 50%, our planting will have supported a population increase of 4,025 (995 to 5,020) for *P. korshinskyi* (over a fivefold increase) and a population increase of 1,184 (212 to 1,396) for *P. tadshikistanica* (over a sixfold increase). This does not account for other gains made through improved natural regeneration.

**Indicator 0.4** Male and female members of 120 participating households report 10% increase in income from Year 1 baseline by Year 4 as a result of project activities.

The project took positive steps to support long-term income increases among the 160 households participating in the producer groups established by the project. Producers successfully added value to fruit products through canning of fruit, production of juice and jams (sold in the wintertime for almost ten times the price compared to fruit sold in the summer), packaging and labelling and secured higher prices by the end of the project (27% increase for Childukhtaron and 14% increase for Dashtijum). However a disastrous harvest in 2020 (affected by heavy snowfall during the blossoming season) and reduced trade during the pandemic led to a significant reduction in income secured from fruit and nut products in 2020 compared to project start (56% decrease for Dashtijum and 69% decrease for Childukhtaron). Our work to support the communities to add value to and sell forest products to a larger range of buyers buffered the impacts felt by an exceptionally poor harvest. The contacts, new

markets, improved processing standards, improved access to equipment and improved skills will also put the communities in a better position to improve income levels again post project in better years, and will, assuming a return to normal levels of harvest, offer a reliable way to secure income in the years after the pandemic. Results from the Participatory Impact Assessments indicate that improved income was ranked consistently as the number 1 most important change to lives of the community members over the last 5 years. Direct project beneficiaries (including producer group and saving group members) attributed the support provided by the project as the major factor enabling these increases in income.

**Indicator 0.5** At end of project 50% of both male and female respondents feel they now have an increased stake in the management of their local forest resources, compared with project start.

Significant steps were taken to increase local stake in forest management. This includes completion of a Participatory Forest Management Plan in Dashtijum and 84 households signing agreements with the Forest Service to carry out joint forest management in their plots (the Participatory Management Plan workshop was conducted in Childukhtaron on April 26-29, 2021 and a final report will be completed by end 2021). These agreements provide households with clear documentation outlining their rights to manage and benefit from the sustainable harvest of forest resources from their plots. In the past, households had informal annual agreements, and no guarantee that they would be upheld. These new agreements can have a duration of three years or longer and help to protect the interests of individual plot-holders. In addition, the establishment of stakeholder fora for each site – attended by 60 people (69% women) over Y2-4 – is supporting increased communication between representatives of the communities and the FSUs. Of 14 group discussions facilitated during the PIA, eight identified improved relationships between the FSU and local communities as an important change over the last five years. Seven groups also mentioned that a supportive FSU team had contributed to improved wellbeing over the last 5 years.

**Indicator 0.6** Approved reforestation and Species Action Plans reflect climate change predictions and include appropriate adaptation measures to increase resilience which are being implemented.

Planned actions for reforestation and for protection of four threatened species are included within a Participatory Forest Management plan developed for Dashtijum and this is in the process of being repeated in Childukhtaron in with a final plan due by end 2021. These documents will be officially approved by the Forest Service Unit. We decided to incorporate management, reforestation and species actions all under one plan to support local implementation going forward.

### 3.3 Monitoring of assumptions

**Assumption 1: Government policy continues to permit collaborative forest management and greater practical involvement of local forest users:** Current national, regional and local policies still permit collaborative forest management.

**Assumption 2: Substantial numbers of forest users are willing and able to engage in conservation and management:** The project continues to have good success in engaging forest users. People are actively engaging in planning, stakeholder fora, trainings and awareness raising and people from 84 households have signed agreements to carry out Joint Forest Management.

**Assumption 3: Market for fruit and nut products (e.g. dried fruit, compote, oils) continues to grow (trend is currently upwards) and new product and market opportunities can be identified:** There is a strong market for fruit and nut products and the producers groups had successfully secured an increase in price for products sold in Y3, and reached new markets in Dushanbe and in the Sughd region. That being said, we did not anticipate a pandemic interrupting local market engagement, which we observed in 2020, and which contributed to a significant decrease in volume sold compared to 2017-19.

**Assumption 4: Income from non NTFP sources does not significantly change during project period:** The average income per group member had increased in both Childukhtaron and Dashtijum from 2017 to 2019, but dropped significantly in 2020. While we had assumed harvest levels for different species would vary from year to year we had not anticipated the severe climate related impacts (late and heavy snowfall during the blossoming period) on fruit harvest observed in 2020.

**Assumption 5: Local forest service remains interested and open to learning and collaboration (we currently have very positive relationship with both forestry units):** Both FSUs remain engaged through tree-planting and active participation in stakeholder fora and participatory planning.

**Assumption 6: No major economic or political crises in Tajikistan:** Tajikistan announced its first COVID-19 cases on April 29<sup>th</sup> 2020 and impacts on the country were severe throughout the summer of 2020, although reported cases throughout later 2020 and 2021 have been low. That said, there have been severe economic implications as a result of lockdown measures, and reduced trade with and migration of labour between neighbouring countries. We have observed this directly in our project sites where reduced trade had led to a drop in income secured from forest products in 2020.

**Assumption 7: Forest users willing to share local knowledge on varieties:** Forest users have shared information on local varieties with project partner Ganji Tabiat and through a successful workshop on traditional knowledge on local tree species facilitated by FFI in Year 3.

**Assumption 8: Survey team able to integrate local knowledge into ecological survey methods:** The survey team have excellent relationships with local people, having worked in the area for many years. Local people provided input on the survey design.

**Assumption 9: Adequate and sustainable incentives can be found for forest users to take part in participatory monitoring; and they have time to do so:** Over Y4, 84 plot-holders have started to carry out participatory monitoring of the areas of forest they are responsible for. The strong link between income derived from NTFPs and the health and regeneration of the forest is one incentive that should support greater participation in monitoring and management.

**Assumption 10: Local forest service willing to commit effort to joint monitoring (they have indicated that they are in discussions with project team):** Both FSUs remain willing to do this and have actively led (Dashtijum) or participated (Childukhtaron) in development of participatory monitoring and management schemes.

**Assumption 11: Market actors (e.g. traders, processors) see the value of, and are willing to engage in, participatory market mapping - we will cultivate relationships to ensure this happens:** Mapping was successfully completed in Year 1.

**Assumption 12: Women as well as men feel able to join and engage meaningfully in producer cooperatives (project coordinators will empower and encourage women's participation):** Six producer cooperatives (four formed Y1; 2 in Y3) remain highly active at the end of the project. In order to encourage women to participate, there are two mobilisers in each reserve, one man and one woman. 94% of the producer group members are women.

**Assumption 13: Trained collectors are able to apply new knowledge and skills to improve product quality and/ or market access:** Market access and product quality improved in Y3 as a result of the trainings and market mapping completed in Y1.

**Assumption 14: Actions taken, e.g. to improve product, will result in significant increase in price – we do have evidence that better quality dried fruit commands a higher price:** Producer groups had commanded a higher price as a result of adding value to fruit products as evidenced by the data on fruit sales from 2018-2019. In 2020, price fell slightly compared to 2019, but this is related to extreme economic shocks caused by the pandemic.

**Assumption 15: Significant climate proofing is possible given limited resources:** Climate proofing activities have been identified through climate adaptation workshops carried out in March 2019. Many of the recommended activities (e.g. planting of climate resilient trees to reduce risks of landslides in the landscape and increasing community participation in forest management and protection) are in line with project plans. FFI is now developing plans to secure funding to support scale-up of climate proofing activities post-project.

**Assumption 16: Stakeholders willing to formalise relationship and meet regularly:** The fora established in Y2 and continued Y3-4 received positive feedback and are enabling better information sharing between the Forest Service and forest users (pers. comm. Zam Zam),

**Assumption 17: Forest users willing and able to protect trees in their plots:** Forty-seven forest users fenced their plots in Y3-4.

**Assumption 18: Given adequate resources, sourcing of seedlings with increased variety is possible:** The project has successfully increased the number of native species used by the FSUs. We did not support seedlings production from different varieties.

### 3.4 Impact: achievement of positive impact on biodiversity and poverty alleviation

The project contributed to the conservation of four globally threatened tree species: *Amygdalus bucharica*, *Pyrus korshinskyi*, *Malus sieversii* and *Pyrus tadshikistanica*. We worked to ensure that these remaining trees were not lost or damaged to grazing activity and that they are able to regenerate; fences were erected in 47 plots (~35 ha) containing these species. Populations of all four species have been boosted by planting, with 53,714 seedlings planted directly into the forest, with >fourfold increases in population size projected for the two CR pear species. The project is supporting restoration of wider forest biodiversity: 278,536 saplings and 2,124.16 kg of seed from 17 native species were planted in nurseries and in the forest. This has more than doubled original restoration levels, which were previously ~ 20,000 trees per year (both reserves) or lower.

The project is addressing poverty alleviation through extensive activities designed to increase income, improve access to markets, improve financial security and increase local stake in management of forest resources. Producers groups successfully added value to products and reached new markets, although income levels from dried fruits and nuts in 2020 dropped by >56% from project start, due to an exceptionally poor harvest and recued trade during the pandemic. We have addressed factors that had limited production of dried fruit (e.g. securing transport to deliver products to market and ensuring an electricity supply for drying and processing machines) and, through establishing eight savings groups, helped producers gain access to a source of finance for investing in production and helped communities get through hard times. Communities were actively involved in local fora, providing a platform for them to influence local forest policy to meet their own needs and aspirations. Participants of a PIA ranked improvements in income as the most significant change affecting them over the last five years and support from the Darwin project was the highest ranked factor contributing to the change (ranked as more important than improvements to local roads and improved access to electricity – which have also contributed to income increases). The PIA also revealed that other aspects of wellbeing (including several subjective and relational factors) had improved. Improved knowledge and skills related to sale of fruit and nut forest products was also ranked as an important change for nine of the 14 groups interviewed and was ranked as the most important change in the lives of the producer group members. Others commented on how much improved financial security helped them to invest in their businesses and provide better health and education for their families. Improved knowledge and skills and an ability to generate more income have also significantly improved confidence and pride among women in particular. The PIA indicated that women also now have a much stronger voice in local fora. Relationships between FSUs and community members are also reported to have improved



## 4 Contribution to Darwin Initiative Programme Objectives

### 4.1 Contribution to Global Goals for Sustainable Development (SDGs)

**SDG 1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day:** The project has helped communities living in extreme poverty to command significantly higher prices for fruit and nut products that represent their major, regular source of income. However, in 2020, income levels fell due to a poor harvest and reduced trade during the pandemic.

**SDG 1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions, 5.5, 5a: equal relief of poverty and resource rights) to improve productivity and market access (2.3, 2a, 2c):** In addition to helping local producer groups to add value to production of fruit products, we have helped them reach new national markets for their products (e.g. sale of products to traders from the Sughd region of Tajikistan).

**SDG 1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance community management of resources:** Eight saving groups established in each reserve (200 members; of which 60 are categorised as marginalised) are enabling people to access micro-finance to invest in local enterprises.

**SDG 1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters:** Climate change adaptation planning has been completed for two communities. Recommendations were adopted into awareness raising activities in Y 4.

**SDG 2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality:** The project supported planting of 17 native tree species, at least 13 of which are edible. This is promoting local food production in the long-term and will also promote adaptation to climate change (e.g. planting multiple species provides greater resilience should one species be affected by disease or climate change).

**SDG 2.5 By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed:** The project collected seeds from a total of 17 native species of local provenance.

**SDG 12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature:** The project carried out significant awareness raising, sharing relevant information on sustainable management of forest resources and biodiversity to more than 900 people.

**SDG 15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements:** The project supported conservation, restoration and sustainable use of two high priority forest sites. A participatory management plan was developed and implemented in one reserve in Y3 and will be developed for another reserve by end 2021.

**SDG 15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally:** Activities to support sustainable management include development of participatory management plans for both reserves (one complete in Y3 and another to be completed by end 2021).

**SDG 15.6 Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed:** Producer groups at each reserve are being supported to realise greater benefits from genetic resources in the reserves. They are being supported to add value from NTFPs collected in their gardens and in their forest plots.

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

The national project manager met the CBD National Focal Point Dr. N.Safarov during meetings and seminars attended throughout 2018 and introduced him to the Darwin project.

**Target 1 By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably:** 900 people participated in awareness raising events specifically highlighting the importance of forest biodiversity.

**Target 4 By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits:** Sustainable production of dried fruit products from two forest sites is supported by addressing factors that limit the regeneration of these species. A participatory management plan has been developed for one of the reserves (and will be replicated for a second reserve by end 2021). This will guide resource use within the reserves.

**Target 7 By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity:** Implementation of participatory management plans will help to ensure forest resources at two sites are used sustainably.

**Target 12 By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained:** The project is contributing to the conservation of four globally threatened tree species: *Amygdalus bucharica*, *Malus sieversii*, *P. korshinskyi*, and *Pyrus tadshikistanica*.

**Target 13 By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity:** Seventeen native species are under production by local forest reserves.

**Target 18 By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels:** Local knowledge was explored through household surveys during Y1, with a deeper understanding of resource use achieved through a community resource mapping exercise in Y2.

**Target 14 By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable:** An overall increase in the diversity and health of the forest ecosystems is being achieved through an improved planting and restoration regime by the FSUs.

#### **The project is also helping to meet the core objectives of ITPGRFA (International Treaty on Plant Genetic Resources for Food and Agriculture)**

**Article 5 - Conservation, Exploration, Collection, Characterization, Evaluation and Documentation of Plant Genetic Resources for Food and Agriculture:** The project is documenting information on the presence of native species across the reserves and is supporting communities to map and understand natural resources.

**Article 6 - Sustainable Use of Plant Genetic Resources:** Sustainable use of plant genetic resources is being achieved through enabling more sustainable management, helping to address critical factors impacting forest regeneration such as grazing. Participatory monitoring and management of resources, alongside the introduction of fencing in 47 forest plots will help to achieve this.

**Article 8 - Technical Assistance:** We have supported communities to achieve technical assistance to map forest genetic resources through community mapping exercises delivered with support of a Forest Specialist.

**Article 9 - Farmers' Rights:** We are supporting local collectors to increase their stake in management of agrobiodiversity. The inclusion of community representatives in forest management planning (e.g. 84 people secured management rights for their forest plots in 2019) is helping to ensure the rights of forest users are effectively accounted for.

### **Wider targets**

The delivery under the Aichi targets are also contributing to a series of wider aligned NBSAP Tajikistan targets including 3.11 Conservation of Mid-Mountain Mesophyllic Forest Ecosystems, 3.16 Conservation of Agro-ecosystem Biodiversity, 3.18 In situ Species Conservation in Natural Habitats, Target 4 sustainable use, Target 5 (preservation of zones of natural habitats and genetics), Target 7 Sustainable Use, Target 12 Inventory of rare species, Target 16 Genetic Resource Access, Target 18 Traditional Knowledge; and the CBD Expanded Programme of Work on Forest Biological Diversity (Goals 1.1-1.4, 2.1-2.3).

## **4.3 Project support to poverty alleviation**

12,300 people in 1,827 households live across the 67 villages around Dashtijum and Childukhtaron reserves. The project addressed poverty alleviation through extensive activities designed to increase income, improve access to markets, improve financial security and increase local stake in management of forest resources. Our project most directly benefited 160 producer group members (94% women) and 200 saving group members (82% women) (some people were members of both). In most cases these members were from different households and we estimated that the project directly benefited around 11% of the households in these areas. Many more people benefited indirectly (e.g. through awareness raising workshops reaching >900 people or from learning exchange with the producer group members).

**Improved material wellbeing:** Following 33 training workshops, provision of fruit processing equipment and support to engage with market actors, producers groups secured higher prices for dried fruit and nut products (up by 14% in Dashtijum and 27% in Childukhtaron by project end). Price rises initially led to corresponding rises in income and then helped to buffer reduced income received in 2020 (due to an exceptionally poor harvest and reduced trade during the pandemic). Despite the drop in 2020, increased income levels were ranked as the most important change to the lives of communities over the last five years. Many community members described how improved income had enabled them to invest in local businesses and access improved health care or education for their children (see PIA report EF2: 2.9). We have also addressed factors that had limited production of dried fruit (e.g. we secured transport to deliver products to market and also support the village to request and secure an electricity supply for drying and processing machines). Through establishing eight savings groups, we helped producers gain access to a source of finance for investing in production and help communities get through hard times.

### **Improved subjective wellbeing**

The PIA report also indicated improved feelings of financial security, confidence and pride among the project's beneficiaries. This was particularly notable among saving group members who ranked an improved 'sense of achievement and motivation' as the 3<sup>rd</sup> most important change to their lives over the last five years.

### **Improved relational wellbeing**

Communities were actively involved in participatory management planning and in local fora, providing a platform for them to influence local forest policy to meet their own needs and aspirations. 84 households signed long-term leases with Dashtijum Forest Service unit to manage their land. The PIA indicate relationships between FSUs and community members have improved. Women also now have a much stronger voice in local fora and the PIA also indicated that gender dynamic are shifting. Men appear to have increasingly positive attitudes towards the role played by women in terms of income generation and forest conservation.

#### 4.4 Gender equality

The project has been consciously engaging women who are often marginalised in these communities in terms of decisions around markets and produce sale. The project decided to have two mobilisers in each reserve, one man and one woman, to ensure inclusivity. Women constituted 94% of the producer group members, 82% of the saving group members, 87% of the people to benefit from training and 68% of the participants in the stakeholder fora. The project has empowered local women to control and influence the income received from dried fruit processing; through training on processing, engagement in producer and saving groups, as well as wider market development activities. Several examples of changing gender dynamics are listed in the PIA report (EF2: 2.9), both from the perspectives of women: *“We are learning how to save money and we are independent from our husbands’ pockets”* and men, *“Seeing the female representatives working in organizations like Zam Zam, FFI and our local women from PG and SG makes us think differently. Since recent years, men recognize how important it is to educate the female representatives and to give them freedom to choose better life for themselves,”*

Men tend to spend significantly more time carrying out activities within in the forest reserve, and were more involved in activities directly related to forest management (just 7% of participants in the forest resource mapping exercise were women). Women actively participated in the stakeholder fora conducted in Year 3-4 (facilitated by female staff from Zam Zam and FFI) and represented the main voices raising concerns on tree diseases at the fora. Requests to learn new techniques for tree care have mainly come from women.

The PIA, initiated just after Y4 finished, also sought data on the impacts of the project on both women and men, and involved separate women and men only meetings as well as mixed women and men meetings. The FFI team were encouraged to see very strong participation from women in these PIA workshops, including in mixed gender groups. They noted a real increase in confidence among the women who had been involved in the project, many of whom seemed to have a clearer sense of the real value of their inputs and labour, and the importance of their role for local wellbeing and for the health of the forest.

#### 4.5 Programme indicators

- **Did the project lead to greater representation of local poor people in management structures of biodiversity?**

Yes - 84 households signed long-term leases with Dashtijum Forest Service unit to manage their land

- **Were any management plans for biodiversity developed and were these formally accepted?**

Yes – a Participatory Management Plan for Dashtijum Reserve was developed and was formally accepted by the reserve’s management.

- **Were they participatory in nature or were they ‘top-down’? How well represented are the local poor including women, in any proposed management structures?**

The Dashtijum management plan was completed following participatory mapping and participatory planning processes. Local people are well represented in management of Dashtijum reserve. The reserve is now implementing a national policy, Joint Forest Management, which involves providing long-term leases to manage land. So far 84 households have signed leases. Leases tend to be signed by household heads who are typically men. The project is using other means to promote women’s voices in forest management, including the running of stakeholder fora. A Participatory Management Plan is also under development for Childukhtaron reserve.

- **How did the project positively influence household (HH) income and how many HHs saw an increase?**

The project supported HHs to receive a higher price for dried fruit and nut products up by 14% in Dashtijum and up 27% in Childukhtaron. This initially led to an income increase although a poor harvest in 2020 reduced income levels from fruit and nut products in this year. At least 160 households benefited from increased price secured for fruit and nut products.

- **How much did their HH income increase (e.g. x% above baseline, x% above national average)? How was this measured?**

Income levels dropped in 2020 due to an exceptionally poor harvest. Data on price and income was collected by Zam Zam form producer group members based on price and volume sold of products.

#### **4.6 Transfer of knowledge**

The project took steps to promote knowledge transfer locally, nationally and internationally. Locally, FFI facilitated exchange trips for producer group members to visit other producers in the Sughd region of Tajikistan and we hosted one of GIZ's national experts on Joint Forest Management at our project sites to foster knowledge exchange on this topic. Country Director Ubayd Gulamadshoev presented the results of the Darwin supported project at one national level and two international level conferences (details in section 7) to promote two-way exchange with the wider conservation and restoration communities.

#### **4.7 Capacity building**

FFI local staff are regularly in contact with all partners to provide mentoring and advice on management, technical and administrative delivery. Both local and UK-based FFI staff provided focussed training when needed (e.g. training to Zam Zam on the PMSD approach and methods for socioeconomic research over 2017-18, on the use of Participatory Impact Assessments in March 2021 and on data management in April 2021).

Capacity building efforts on the ground were extensive. Zam Zam provided 33 training workshops to local producer and saving groups, Kulob Botanic Garden provided eight training seminars to community members on forest, soil and grazing management and FFI provided six training workshops on monitoring, legislation and joint forest management. In all, more than 150 people were trained (60% women).

### **5 Sustainability and Legacy**

We have built sustainability into all aspects of the project. Information collected under Output 1 was gathered in participation with staff from the Forest Service Unit who – with the communities - will be responsible for monitoring changes in forest condition in the future against these baselines. We have avoided developing overly complex protocols and action plans to make long-term replication and implementation simple and cost-effective. Activities completed under Output 2 have a strong focus on empowering communities to develop local enterprise without the need for external support or finance. Producer groups, with guidance and mentoring from Zam Zam, are effectively following PMSD plans developed in Y1 and are actively using skills learnt to add value to local products. Saving groups are providing a means for supporting ongoing investment into local enterprise post-project. The significant focus on awareness raising in Output 3 will help to strengthen already positive attitudes and behaviours towards forest conservation, which will continue to have an effect post-project. We are supporting our local partners on data recording methods for gathering community and ecological datasets and are providing advice on report writing. All local partners performed activities to a high standard and benefited significantly from participation in the Darwin project.

## 6 Lessons learned

During the PIA discussions we noted a clear difference in knowledge and attitudes between members of the community who had been involved in our project versus members of the community who had not been. Especially among women, those who had been in the project scope were more active and more confident. While this indicates that the project has been successful and has had a positive impact for many of the people we've engaged with, it also indicates that future work should also re-assess who the target beneficiaries should be and consider strategies to widen the project reach.

Climate change impact is increasing year by year and in 2020 exceptionally heavy spring rains badly affecting the harvest level and the income of communities. A major focus for the project going forward should centre on scaling up implementation of climate change adaptation measures. It also indicates that, while work to add value to fruit and nut products is valuable, communities cannot rely on this alone as main source of income. Work to support communities to preserve fruit products (e.g. as jams) is valuable in this context, as it provides a means to raise income in years where fruit harvests are affected.

Our results indicate that the increased incomes received from fruit and nut harvesting are promoting positive attitudes and behaviour towards forest conservation. This is incentivising greater restoration at the project sites as there is a clear local interest in increasing the long-term supply of wild fruit and nut products. It also appears to be increasing support for measures taken by the FSUs to restrict tree cutting in the reserves. However we also note that there is increasing evidence that some people also reinvest higher income into livestock and that this in turn may increase grazing pressure on the forest. Finding solutions and compromises to these competing interests (which will differ across and within communities) is likely to be an ongoing challenge. The structures created by the project to improve dialogue on forest conservation will be invaluable to guiding future management decisions in this landscape.

### 6.1 Monitoring and evaluation

A steering group oversaw project implementation and helped to review progress against the project activities and indicators.

Each partner organisation was responsible for monitoring and maintaining records of activity outputs, including numbers of community participants, disaggregated by gender. The project manager was responsible for collating this data. Data collected by the project partners allowed us to effectively monitor progress against the output-level and outcome-level indicators. Maps, survey data, literature reviews, training reports, workshop reports and planting records allowed us to verify progress against all outputs in the log-frame. A Participatory Impact Assessment – completed by FFI and Zam Zam staff in April 2021 - also provide a rich and complementary source of information on major changes observed over the project period from the perspective of local community members. FFI will also complete an After Action Review in October 2021 to take a further look on major lessons learned from this work. Lessons from this review will feed into design of future project proposals to extend and replicate this work.

### 6.2 Actions taken in response to annual report reviews

| EOY1 Reviewer comments:  | Response   |
|--|--|
| Provide an update as to the potential change in focus from 'sustainable harvesting' to 'sustainable management'. | The project team decided to expand the scope of this activity to address sustainable forest management more broadly, rather than sustainable use in isolation. This has allowed the team to focus on other factors, such as resource use and grazing, which have a critical effect on forest regeneration and health |

|   |  |
|---|--|
| Provide an update on the delay to measuring the baseline for Output indicator 3.1.  | Output monitoring began in Y2 after climate change adaptation plan and associated awareness raising began  |
| Outline project support towards the ITPGRFA in Section 5.   | Described under section 4 of the Final Report  |
| Increase the reach of the communication of the project through FFIs social media portals.   | Communications on the project from FFI's website and social media portals increased after Year 1. Examples are included in section 6   |
| <b>EOY2 Reviewer comments:</b>  |  |
| Activity 2.7 relates to exploration of overseas markets yet the focus in Year 2 and the stated focus for Year 3 is on domestic markets. Please clarify if there remains an intention to explore overseas markets in Year 4 or if this is no longer planned:                 | The activity was completed. See details in this report.  |
| Please clarify if the stakeholder fora met in Year 2, the frequency of these meetings in Year 2 and going forward, and any actions that may have been implemented as a direct result of decisions made during these meetings:   | Each stakeholder forum met once each in Year 2, 3 and 4.<br><br>We had feedback from our partners that one stakeholder fora meeting per year was sufficient. Both FSUs staff and community members already participate in numerous meetings together related to Joint Forest Management and other meetings organised by the project – e.g. trainings, producer group meetings, participatory planning meetings, climate change adaptation planning, participatory impact assessments etc – have provided multiple platforms for improved communication.    |
| What actions will be taken in Years 3 & 4 to increase the number of trees planted to reach the target of 400,000 for the Project  | We recognised that a limiting factor to tree-planting effort is the amount of labour available to collect sufficient seed from the forest and go back to the forest to plant trees and provide after-care. In Y3-4, we raised awareness in the communities on the benefits from more tree-planting and encouraged them to support the next planned planting events.<br><br>Planting rates increased for Y3 and Y4 and by the end of the project we managed to plant 278,536 saplings and 2,124.16 kg seed (equivalent to an additional 333,235 seedlings). |
| Income received from fruit products has increased significantly but it should be made clearer in future reporting what the value of this additional income is in TJS (or GBP equivalent), as well as the baseline total household income, so these figures can be compared. | Income from fruit and nut products is provided, with income data provided in TJS.<br><br>We did not collect quantitative data on overall household income at project start and end although our PIA collected qualitative information that indicated household incomes increased over the course of the project.   |
| <b>EOY3 Reviewer comments:</b>  | <b>Response:</b>   |
| The 'quarterly' meetings of stakeholders appear to be held less frequently, the reasons for this are not clear, but it is assumed that the current frequency is meeting the needs of the project  | See response above to a similar comment from EoY2.   |

|   |   |
|---|---|
| Has direct seeding been considered in the forest plots and are the initial survival rates of seedlings planted out being recorded?  | Yes, almond seeds are routinely planted in the forest in Dashtijum. The FSU states that this promotes faster adaptation to the forest and germination of seeds sown in the forest last year was 87%. More broadly, survival rates of seedlings planted out are measured one year after planting, and are typically between 70 and 90% after one year. Indeed 2,124.16 kg seed (equivalent to an additional 333,235 seedlings) were planted. |
| It would be interesting to have some information on aftercare in the plots, and also whether there was any natural regeneration in the plots, and if so, whether the regenerants were protected prior to preparing the site for planting (as described in Planting Activities flow chart in PMP)                | The FSU staff visits the plantation sites regularly during spring, summer and autumn to water the saplings and trees and remove weeds. The FSU also protects and waters natural regeneration within priority areas for restoration.   |
| It would be interesting to know if there are any particular challenges to propagating the key threatened species  | None of the threatened species are challenging to propagate. The main challenge is ensuring they get enough water after they are planted, as there is less rainfall in the summer months in recent times.   |
| The Report notes that 'it has not adequately explored seed collection, planting and protection of local genetic varieties' and there is little information in the Report about the location and number of trees of a given species from which seed is collected. This should be considered in the Final Report. | The FSUs collect seed from wide variety of trees from across the reserves. They do not following a specific technical protocol for this, but they tend to collect a small number of the best quality of seed from each tree and then move on. This contributes to growth of a genetically diverse set of seedlings.   |
| <b>EOY4 Reviewer comments:</b>  | <b>Response</b>   |
| More detail on the lessons, strengths or challenges faced by the partnership over the past year would have been useful.   | There were no major challenges to the project partnership which continued to run effectively throughout the project. More detail is included in section 2.  |
| It would be helpful to hear more about comments received on the SAPs (Indicator 1.3a)   | The Species Action Plans were well received by the local FSUs. Recommendations are being used to inform seed collection and planting activities in 2021.  |
| The Report indicates that it has not yet adequately explored seed collection and planting and protection of local genetic varieties. However the comments in Section 10 indicate that some attention has been given to this.  | See comment above in response to the EoY3 report  |

## 7 Darwin identity

- The Darwin Initiative logo is used on all external facing project documents and presentations that are given during project work. The logo is used by all project partners and a requirement for this is clearly outlined in their sub-grant agreements.
- The Darwin Initiative support for this project was also mentioned in an online blog: <https://www.fauna-flora.org/news/making-case-conserving-tajikistans-fruit-nut-forests>



- The Harvest festival, which was celebrated at both project sites, was aired on national TV and an article was published in a local newspaper (see EF 3: 3.2). It also featured on FFI's Twitter, Facebook, Instagram accounts and FFI tagged the Darwin Initiative in these posts. FFI's Programme Officer, Rasima Sabzalieva, also wrote a blog about this event <https://www.fauna-flora.org/news/celebrating-gifts-nature-tajikistans-harvest-festival>
- In 2020, In FFI's magazine in an article entitled 'Food for Thought' featured the project's work with producer groups.
- Country Director, Ubayd Gulamadshoev presented the project (with Darwin logo include) at:
  - 'Conservation Asia', held in Bishkek in August 2018. The Darwin logo was used on the presentation slides.
  - Ecological Characteristics of Biological Diversity" held in Khujand city of Sughd region in October 2019.
  - Kew's Restoration conference: <https://www.youtube.com/watch?v=eSGIIL-eaLI> as well as at a FFI online seminar on tree conservation.

## 8 Impact of COVID-19 on project delivery

The most significant impact of Covid-19 on the project's workplan has been the reduced ability to gather people for training and events in Year 4. This led to cancellation of physical training for producer and saving groups by Zam Zam and postponement of Participatory Management Plan workshops for Childukhtaron and Participatory Impact Assessment workshops to the very end of the project (which was extended thanks to Change request granted by Darwin). Zam Zam shifted the focus of their activities in 2020 to concentrate more on provision of learning materials (both handouts and videos) and provision of equipment to support producer groups to continue fruit harvesting while minimising use of shared community equipment during the height of the pandemic.

Economic impacts of Covid-19 on the project communities have been severe. Prices of basic commodities have increased, raising the cost of daily life and the cost of ingredients used in various fruit products (e.g sugar used for jams and compotes). On the other hand, the price of dried and processed fruits (seen as a relative luxury) has remained stable or even decreased slightly in some cases. Demand for dried fruits also decreased due to closing of the border to Uzbekistan, where many fruits are exported to. The Saving groups developed by the project have acted as a vital mechanism to buffer these economic impacts. The communities have reportedly made increased use of the saving groups in 2020 to help the meet basic costs and pay for food, education and health care during a time when incomes have dropped markedly.

Our project has been resilient to the severe impacts of Covid-19. Our project team have excellent, long-term relations with partners and members across the communities. Stakeholders have an excellent understanding of their roles and responsibilities and during Year 4 of the project, when our staff were less able to the field sites, we made more use of mobile phone contact to coordinate activities on the ground. This would have been much more challenging had we been in the first year of our project.

We supported health and safety of staff and beneficiaries by postponing all travel and meetings during the height of the pandemic in Tajikistan and ensuring that all fieldwork and meetings carried out since were socially distanced and obliged people to wear masks and use hand sanitisers. We also closed our office for a period of four months and enabled our staff to work remotely throughout that period and after the office was re-opened.

Over the pandemic period, communication between FFI's UK and Tajikistan offices has been excellent and improved use of video conferencing software has made online meetings feel more real. We will continue to make use of such software to improve project and partner management in the future, but that does not detract from the importance of face-to-face

meetings, and we foresee returning to close to normal levels of travel when it is deemed safe to do so.

## 9 Finance and administration

### 9.1 Project expenditure

| Project spend (indicative) since last annual report | 2020/21 Grant (£) | 2020/21 Total actual Darwin Costs (£) | Variance % | Comments (please explain significant variances) |
|---|-------------------|---------------------------------------|------------|---|
| Staff costs (see below)                             |                   |                                       |            |   |
| Consultancy costs                                   |                   |                                       |            |   |
| Overhead Costs                                      |                   |                                       |            |   |
| Travel and subsistence                              |                   |                                       |            |   |
| Operating Costs                                     |                   |                                       |            |   |
| Capital items (see below)                           |                   |                                       |            |   |
| Others (see below)                                  |                   |                                       |            |   |
| <b>TOTAL</b>  |                   |                                       |            |   |

| Staff employed (Name and position)                 | Cost (£) |
|--|----------|
| None employed through Darwin funding Apr-June 2021 |          |
| <b>TOTAL</b>                                       | <b>0</b> |

| Capital items – description | Capital items – cost (£) |
|-----------------------------|--------------------------|
| None April – June 2021      |                          |
| <b>TOTAL</b>                | <b>0</b>                 |

| Other items – description | Other items – cost (£) |
|---------------------------|------------------------|
| None April – June 2021    |                        |
| <b>TOTAL</b>              | <b>0</b>               |

### 9.2 Additional funds or in-kind contributions secured

| Source of funding for project lifetime | Total |
|--|-------|
|  |       |

|                                     | (£) |
|-------------------------------------|-----|
| Global Trees Campaign Funding Y-1-4 |     |
| Christensen Fund Y1                 |     |
| Lift Economy Y4                     |     |
| Fondation Audemars Piguet Y4        |     |
|                                     |     |
| <b>TOTAL</b>                        |     |

| Source of funding for additional work after project lifetime | Total (£) |
|--|-----------|
| Fondation Audemars Piguet                                    |           |
| The Sir Joseph Hotung Charitable Settlement                  |           |
| The Stanley Smith Horticultural Trust                        |           |
|  |           |
|  |           |
| <b>TOTAL</b>   |           |

### 9.3 Value for Money

The project took a number of measures to be as cost effective as possible. FFI has an operational and financial system in place to ensure the most cost-effective, transparent, and efficient expenditures. This includes strict procurement measures to control costs and gain maximum value for money.

The project drew on in-house expertise (i.e. our longstanding Tajikistan Office) and worked through local partners to limit international travel. Two local partners Zam Zam and Kulob Botanic Garden are based in the vicinity of the project sites enabling cost-effective and regular local travel. FFI and partner staff applied their local knowledge to select the best rates and prices for various goods purchased by the project.

The project approach enabled high impact for a relatively small investment. Our work to address barriers to poverty reduction focussed on enhancing current livelihood approaches (e.g. by improving market access) rather than promoting entirely new 'alternative' livelihoods. Our work built on local interests and priorities and enhanced existing bases of knowledge and skills. This has led to significant positive impacts to address poverty.

Work to deliver improved forest management and restoration was also highly impactful for relatively little cost. We believe this is in part because our project goals were very well aligned with local priorities. Both FSUs committed their own resources towards forest conservation and local people were also highly motivated to support and participate in management and restoration activities. We were able to deliver significant outcomes (e.g. planting of 278,536 saplings) through relatively small investments.

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

With the support of the Darwin Initiative, FFI and its local partners Zam Zam, Kulob Botanic Gardens and Muminobad and Dashtijum Forestry Service Units (FSUs) made significant steps towards the recovery of Tajikistan's fruit and nut forests.

In two forest reserves, over 278,536 saplings and 2,124.16 kg seed (equivalent of 333,235 seedlings) from 17 species were planted in nurseries or in the forest, more than doubling the number and species diversity of planting pre-project. FSU teams and communities also worked together to fence 35ha of degraded forest to protect it from grazing and allow natural regeneration and a further 220 ha of land was designated for increased protection and restoration in a newly developed participatory management plan.

Progress made to advance forest recovery was enabled through significantly improved cooperation between the FSUs and the people who live by and use resources from these forests. Dashtijum reserve completed a Participatory Management Plan and then in tandem initiated implementation of a national policy 'Joint Forest Management' through which 84 local households signed long-term leases to manage forest areas (providing them with more say on, and longer-term security over, use and management of natural resources). The second reserve has begun this process and is also set to implement 'Joint Forest Management' approaches in 2022. Through delivery of 47 trainings and workshops over the course of the project, and through facilitation of an annual stakeholder forum, we promoted regular dialogue and cooperation between FSU staff and local people. FSU staff also now actively support local people with livelihood activities (e.g. loaning their truck to assist people to transport collecting fruits and nuts to market)

People living around the forest have also been supported to improve well-being over the project period. Over 160 people were supported to add value to fruit and nut products, access new markets and secure higher prices, following trainings and start-up equipment provided by the project. Saving groups established by the project helped 200 people to access low interest loans that enabled investment in local enterprises and provided financial security during times of hardship. At project end, a participatory impact assessment indicated significant improvements in local wellbeing; this included increased income, but also improved relationships within the community and increased pride, confidence and feelings of long-term security, especially among women who now have a stronger voice in the household and community level decision making.

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

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

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

| Project summary  | Measurable Indicators  | Means of verification  | Important Assumptions   |
|--|--|--|---|
| <p><b>Impact:</b></p> <p>Healthy and diverse Tajik fruit-and-nut forests provide agro-biodiversity goods and ecosystem services, and are sustainably conserved, used and collaboratively managed by local stakeholders, contributing to poverty alleviation and increased resilience.</p>    |  |  |   |
| <p><b>Outcome:</b></p> <p>Forest users at Childukhtaron and Dashtijum empowered and incentivised to work collaboratively with forest service to enhance fruit-and-nut forest management: conserving agro-biodiversity, improving well-being and increasing resilience to climate change.</p> | <p>0.1 Members of 25% of the total 695 households at project sites are engaged and active in forest conservation by Year 4 (40 HH by end Year 1; 80 HH by end Year 2; 120 HH by end Year 3; 175 by end Year 4).</p> <p>0.2 Diversity of planting in forest increased by 50% by Year 4 (by 50% in nurseries by Year 2), including all identified local native varieties, preserving genetic diversity of wild crop relatives.</p> <p>0.3 Number of individuals of 3 threatened tree species (including 2 CR <i>Pyrus</i>) at project sites increased four-fold from known current baseline.</p> | <p>0.1 Stakeholder survey, activity records/ project updates, meeting attendance records.</p> <p>0.2 Nursery and planting records, baseline surveys and forest monitoring, local forest service annual report to Forestry Agency.</p> <p>0.3 Planting records, monitoring reports.</p> | <p>Government policy continues to permit collaborative forest management and greater practical involvement of local forest users.</p> <p>Substantial numbers of forest users are willing and able to engage in conservation and management.</p> <p>Market for fruit and nut products (e.g. dried fruit, compote, oils) continues to grow (trend is currently upwards) and new product and market opportunities can be identified.</p> <p>Income from non NTFP sources does not significantly change during project period.</p> <p>Local forest service remains interested and open to learning and collaboration (we currently have very positive relationship with both forestry units).</p> <p>No major economic or political crises in Tajikistan.</p> |

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|   | <p>0.4 Male and female members of 120 participating households report 10% increase in income from Year 1 baseline by Year 4 as a result of project activities.</p> <p>0.5 At end of project 50% of both male and female respondents feel they now have an increased stake in the management of their local forest resources, compared with project start.</p> <p>0.6 Approved reforestation and Species Action Plans reflect climate change predictions and include appropriate adaptation measures to increase resilience which are being implemented.</p>   | <p>0.4 Household survey in Years 1 &amp; 4, participatory impact assessment report.</p> <p>0.5 Interview records, participatory impact assessment report.</p> <p>0.6 Plan documents, climate change risk assessments.</p>   |  |
| <p><b>Output 1</b></p> <p>1. Project team and local and national stakeholders have increased knowledge and understanding of forest habitats, including agro-biodiversity and key species, and likely impacts of climate change, and are engaged in participatory forest monitoring.</p> | <p>1.1 Baseline habitat and botanical surveys undertaken at both project sites in Year 1, incorporating local knowledge on agro-biodiversity.</p> <p>1.2 Species Action Plans for three Red List tree species (two CR <i>Pyrus</i>) developed in Year 2 and actions being implemented by Year 4.</p> <p>1.3 Participatory monitoring scheme developed in Year 2, designed to pick-up climate, anthropogenic and management induced change, and data collected through joint implementation by forest service and community members in Years 2, 3 &amp; 4.</p> <p>1.4 In Year 4, 20 Forestry Agency and other national stakeholders have attended dissemination workshops held to share knowledge outputs, and are</p> | <p>1.1 Survey reports, GPS tracks, local knowledge interview records.</p> <p>1.2 Action plan documents; Year 4 progress review/survey/activity records.</p> <p>1.3 Monitoring protocol document, climate change risk assessment, consultation meeting reports, patrol records, collected data, reports.</p> <p>1.4 Workshop presentations, participant lists, meeting report, workshop feedback surveys (participants report an increase in knowledge).</p> | <p>Forest users willing to share local knowledge on varieties.</p> <p>Survey team able to integrate local knowledge into ecological survey methods.</p> <p>Adequate and sustainable incentives can be found for forest users to take part in participatory monitoring; and they have time to do so.</p> <p>Local forest service willing to commit effort to joint monitoring (they have indicated that they are in discussions with project team).</p> |

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|   | aware of and understand project approaches and results for potential replication.   |  |  |
| <p><b>Output 2</b></p> <p>2. Local market actors supported to implement activities identified through Participatory Market System Development (PMSD) to improve income from fruit and nuts (NTFPs).</p> | <p>2.1 Steps 1 – 7 in the PMSD roadmap<sup>2</sup> completed with market actors for Dashtijum in Year 1 and locally specific actions identified.</p> <p>2.2 Producer cooperatives established in Childukhtaron in Year 1 and Dashtijum in Year 2 with a total of 120 active members (at least 50% female) by Year 4.</p> <p>2.3 By end of year 4, 300 local collectors (at least 60% female) trained and applying new skills to sustainably harvest, process and sell NTFPs and increase sales value of fruit and nut products (e.g. dried fruit, compote, oils from nuts and seeds): 80 in Year 1; 120 in Year 2; 100 in Year 3.</p> <p>2.4 50% of respondents report that participation in savings groups has increased their ability to cope with shocks and lean months and enabled them to invest, including in improved NTFP techniques, by Year 4.</p> <p>2.5 Multi-dimensional well-being benefits explored, understood and captured through Participatory Impact Assessment (PIA) with gender-disaggregated data, in Year 4.</p> | <p>2.1 Workshop reports, attendance records and participants feedback; Action Plan document.</p> <p>2.2 Official documentation (Charter) for cooperatives, membership rolls, equipment purchased, activity and sales records.</p> <p>2.3 Training attendance records, follow-up survey of attendees (whether they are using new skills).</p> <p>2.4 Semi-structured interview and focal group records; PIA report.</p> <p>2.5 Semi-structured interview and focal group records; PIA report.</p> | <p>Market actors (e.g. traders, processors) see the value of, and are willing to engage in, participatory market mapping - we will cultivate relationships to ensure this happens.</p> <p>Women as well as men feel able to join and engage meaningfully in producer cooperatives (project coordinators will empower and encourage women's participation).</p> <p>Trained collectors are able to apply new knowledge and skills to improve product quality and/ or market access.</p> <p>Actions taken, e.g. to improve product, will result in significant increase in price – we do have evidence that better quality dried fruit commands a higher price.</p> |
| <p><b>Output 3</b></p> <p>3. Community forest users (women and men) and two forest service units enhancing forest management and promoting resilience to climate change.</p>                            | <p>3.1 300 people report an increased awareness of climate change and the importance of forest agro-biodiversity in climate resilience (100 by end of Year 1; 200 by end Year 2; 300 by end Year 3).</p>  | <p>3.1 Knowledge and attitude survey, awareness event records.</p>   | <p>3.1 Knowledge and attitude survey, awareness event records.</p>   |

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|  | <p>3.2 Strategic, climate-proofed, reforestation plan developed for both project sites by Year 2 and priority actions being implemented by Year 4.</p> <p>3.3. Local stakeholder fora established and meeting quarterly at both project sites by Year 2 with membership comprising at least 40% women and 15% from poorer households. By Year 4 at least 60% of both male and female forum members feel they are more able to influence forest management compared with project start.</p> <p>3.4 60 local forest users taking actions to protect trees in their lease plots (20 by end of Year 2; 40 by end Year 3; 60 by end Year 4).</p> <p>3.5 Over 400,000 native trees grown in nurseries and planted out in priority locations by Year 4.</p> | <p>3.2 Plan documents, climate change risk assessment, activity reports, photos, local forest service annual report to Forestry Agency</p> <p>3.3 Forum terms of reference, meeting attendance records and minutes, knowledge and perception survey, PIA report.</p> <p>3.4 Activity records, photos, Year 4 survey of plots (baseline measured when action agreed).</p> <p>3.5 Nursery and planting records, photos, local forest service annual report to Forestry Agency.</p> | <p>3.2 Plan documents, climate change risk assessment, activity reports, photos, local forest service annual report to Forestry Agency</p> <p>3.3 Forum terms of reference, meeting attendance records and minutes, knowledge and perception survey, PIA report.</p> <p>3.4 Activity records, photos, Year 4 survey of plots (baseline measured when action agreed).</p> <p>3.5 Nursery and planting records, photos, local forest service annual report to Forestry Agency.</p> |
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**Activities** (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)

1.1 Conduct habitat and botanical surveys to update (currently weak) baseline biodiversity data for sites and key species at Childukhtaron and Dashtijum

1.2 Conduct interviews to collect local knowledge of agro-biodiversity

1.3 Collate data to help establish sustainable harvest levels for key species

1.4 Produce and disseminate survey reports (in Russian, Tajik and English)

1.5 Compile information on likely climate change impacts on forest ecosystem/ tree species, both from scientific community/ literature and community vulnerability assessments; develop climate change risk assessments for the sites

1.6 Workshops with specialists and local stakeholders to develop Species Action Plans for three Red-List trees (two CR *Pyrus* species); produce and disseminate plan documents

1.7 Agree protocol for participatory forest monitoring scheme with forest service and communities

1.8 Implement monitoring: patrols collect data as per agreed protocol

1.9 Monitoring data collated, analysed and reported to forest service and local stakeholders (including community forest monitors)

1.10 Workshop to disseminate research and learning to local and national Forest Agency and interested stakeholders.



- 2.1 Preliminary work to start the Participatory Market System Development process for Dashtijum in consultation with community representatives and project partners: identification of appropriate products, preliminary market mapping and strategic design, identifying and engaging key market actors (preliminary steps of PMSD roadmap – <http://www.pmsdroadmap.org/>).
- 2.2 Small community workshops to empower marginalised market actors (local NTFP collectors in the villages of Dashtijum and Childukhtaron) and prepare them to engage with other market actors in the next steps - with a particular emphasis on women (separate groups if necessary).
- 2.3 Facilitate participatory market mapping at workshops with representatives of all market actors (collectors, local traders, processors, 'big' traders, input providers), help the community members to develop stronger links with traders and processors; followed by participatory planning – resulting in action plans.
- 2.4 Support the two communities to establish producer cooperatives, ensuring active participation of women.
- 2.5 Run (minimum) 15 practical training events for local women and men involved in fruit and nut collection, processing and sale - provide follow-up support through producer cooperatives to improve product quality through enhanced local processing techniques.
- 2.6 Provide locally appropriate equipment (identified in PMSD action plans) to producer cooperatives to improve processing at local level – for example, this might be drying racks or packaging machine.
- 2.7 Research and explore potential for overseas markets and innovative products; follow-up as appropriate.
- 2.8 Set up and support at least three local women's saving groups in villages in Childukhtaron, based on and learning from successful model in Dashtijum (initiated by Save the Children)
- 2.9 Conduct Participatory Impact Assessment (PIA): semi-structured interviews and focal group discussions with women and men to explore the impact the project has really had on participant's lives (using our experience from Darwin post-project in Kyrgyzstan).
- 3.1 Run 16 awareness raising events: seminars for women and men and school activities for children on various topics: biodiversity, climate change, agro-biodiversity and sustainable harvesting.
- 3.2 Organise four community harvest-time festivals to celebrate the forest, its biodiversity and fruit and nut products
- 3.3 Conduct at least four climate adaptation planning workshops with community groups (replicating and learning from activity in Darwin Initiative post-project in Kyrgyzstan): exploring together the likely impacts of climate change, assessing vulnerabilities, and identifying feasible adaptation measures for local stakeholders.
- 3.4 Following on from activities 1.1 – 1.5, develop strategic, climate-proofed, reforestation plans for both sites jointly with the forest service and other stakeholders, identifying strategic sites for planting (to improve connectivity, reduce risk of erosion/ landslides) and appropriate resilient species and varieties.
- 3.5 Establish stakeholder forum at each site; ensure members are representative of the different groups within the forest user community (including those with more marginal use rights and women); facilitate regular meetings to enable discussions on forest management, conservation and sustainable use issues; provide mediation if necessary; and promote collaborative planning and implementation of actions.
- 3.6 Work with local forest leaseholders to protect trees in their forest plots, through fencing and other means.
- 3.7 Support local forest service and community groups to grow native fruit and nut trees in nurseries for planting in forest and gardens, promoting diversity of species and local varieties to maintain agro-biodiversity (seed to be collected locally wherever possible) – minimum of two forest service nurseries and two community nurseries.

3.8 Support forest service teams to plant 400,000 native trees (10+ species) in protected and strategic locations in Childukhtaron and Dashtijum to reinforce natural populations, including aftercare and monitoring survival.

## Annex 2 Report of progress and achievements against final project logframe for the life of the project

| Project summary   | Measurable Indicators  | Progress and Achievements   |
|---|--|---|
| <p><b>Impact:</b></p> <p>Healthy and diverse Tajik fruit-and-nut forests provide agro-biodiversity goods and ecosystem services, and are sustainably conserved, used and collaboratively managed by local stakeholders, contributing to poverty alleviation and increased resilience.</p> |  | <p>The project contributed to the conservation of four globally threatened tree species: <i>Amygdalus bucharica</i>, <i>Pyrus korshinskyi</i>, <i>Malus sieversii</i> and <i>Pyrus tadshikistanica</i> by ensuring that these remaining trees are not lost or damaged to grazing activity and that they are able to regenerate; fences were erected in 47 plots (~35ha) containing these species. Populations of all four species have been boosted by planting, with 53,714 seedlings planted directly into the forest, with &gt;fivefold increases in population size projected for the two CR pear species. The project supported restoration of wider forest biodiversity; 278,536 saplings and 2,124.16 kg of seed from 17 native species were planted in nurseries and in the forest. This more than doubled original restoration levels, which were previously ~ 20,000 trees per year (both reserves) or lower. The project also supported poverty alleviation through extensive activities designed to increase income, improve access to markets and increase local stake in management of forest resources. Producers groups successfully added value to products and reached new markets, although income levels in 2020 dropped from the previous year, due to an exceptionally poor harvest and recued trade during the pandemic. We have also addressed factors that had limited production of dried fruit (e.g. securing transport to deliver products to market and ensuring an electricity supply for drying and processing machines) and, through establishing eight savings groups, have helped producers gain access to a source of finance for investing in production. Communities were actively involved in participatory management planning and in local fora, providing a platform for them to influence local forest policy to meet their own needs and aspirations</p> |
| <p><b>Outcome</b> Forest users at Childukhtaron and Dashtijum empowered and incentivised to work collaboratively with forest service to enhance fruit-and-nut forest management: conserving agro-biodiversity, improving well-being and increasing resilience to climate change.</p>      | <p>0.1 Members of 25% of the total 695 households at project sites are engaged and active in forest conservation by Year 4 (40 HH by end Year 1; 80 HH by end Year 2; 120 HH by end Year 3; 175 by end Year 4).</p> <p>0.2 Diversity of planting in forest increased by 50% by Year 4 (by 50% in nurseries by Year 2), including all identified local native varieties, preserving genetic diversity of wild crop relatives.</p> | <p>47HHs are taking part in fencing activities to protect plots from over-grazing; 84 HHs have signed up to Joint Forest Management and are participating in monitoring and a majority of the &gt;200 producer and saving group members have increased their participation in forest restoration activities.</p> <p>17 local native tree species have been produced by project nurseries and planted directly in the forest. Only six of these were regularly produced before in Dashtijum and only 10 were regularly produced in Childukhtaron.</p>  |

| Project summary  | Measurable Indicators   | Progress and Achievements   |
|--|---|---|
|  | <p>0.3 Number of individuals of 3 threatened tree species (including 2 CR <i>Pyrus</i>) at project sites increased four-fold from known current baseline.</p> <p>0.4 Male and female members of 120 participating households report 10% increase in income from Year 1 baseline by Year 4 as a result of project activities.</p> <p>0.5 At end of project 50% of both male and female respondents feel they now have an increased stake in the management of their local forest resources, compared with project start.</p> <p>0.6 Approved reforestation and Species Action Plans reflect climate change predictions and include appropriate adaptation measures to increase resilience which are being implemented.</p> | <p>For the 2 CR pear species, it will take &gt;20 years for saplings to mature and contribute to population size, but if we assume a modest survival rates of 50%, our planting will have supported a population increase of 4,025 (995 to 5,020) for <i>P. korshinskyi</i> (over a fivefold increase) and a population increase of 1,184 (212 to 1,396) for <i>P. tadshikistanica</i> (over a sixfold increase). This does not account for other gains made through improved natural regeneration</p> <p>160 members of producer groups are successfully adding value to fruit products through canning of fruit and through production of juice and jams (sold in the winter time for almost ten times the price compared to fruit sold in the summer) and have secured higher prices with three buyers. Income levels had increased significantly in 2019 but dropped in 2020 due to reduced sales during the pandemic and bad weather affecting fruit crops.</p> <p>Significant steps were taken to increase local stake in forest management. This includes completion of a Participatory Forest Management Plan in Dashtijum and 84 households signing agreements with the Forest Service to carry out joint forest management in their plots. A Participatory Management Plan workshop was conducted in Childukhtaron on April 26-29, 2021 although completion of this plan has been delayed to end 2021.</p> <p>Planned actions for reforestation and for protection of four threatened species are included within a Participatory Management plan developed for Dashtijum and this process was being repeated in Childukhtaron in with a final plan due by end 2021</p> |
| <p><b>Output 1.</b> Project team and local and national stakeholders have increased knowledge and understanding of forest habitats, including agro-biodiversity and key species, and likely impacts of</p> | <p>1.1 Baseline habitat and botanical surveys undertaken at both project sites in Year 1, incorporating local knowledge on agro-biodiversity.</p>   | <p>We established baselines for threatened trees and habitat condition (indicator 1.1) through field surveys and remote sensing.</p>  |

| Project summary  | Measurable Indicators   | Progress and Achievements   |
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| <p>climate change, and are engaged in participatory forest monitoring.</p>   | <p>1.2 Species Action Plans for three Red List tree species (two CR <i>Pyrus</i>) developed in Year 2 and actions being implemented by Year 4.</p> <p>1.3 Participatory monitoring scheme developed in Year 2, designed to pick-up climate, anthropogenic and management induced change, and data collected through joint implementation by forest service and community members in Years 2, 3 &amp; 4.</p> <p>1.4 In Year 4, 20 Forestry Agency and other national stakeholders have attended dissemination workshops held to share knowledge outputs, and are aware of and understand project approaches and results for potential replication.</p> | <p>Threatened tree data - updated in Year 3 - were used to develop an action plan for four threatened tree species, with several actions (including planting and fencing) underway Y3-4.</p> <p>A participatory monitoring scheme has been developed and has been rolled out in one reserve, Dashtijum. This will be implemented in the other reserve later in 2022.</p> <p>All information produced by the project was shared with Forestry Agency and other national stakeholders in an end of project workshop in June 2021</p>                |
| <p>Activity 1.1 Conduct habitat and botanical surveys to update (currently weak) baseline biodiversity data for sites and key species at Childukhtaron and Dashtijum.]</p> |   | <p>Baseline data on habitat quality and threatened tree populations were collected in Y1 and Y2. In Y3, we created a database and map for all survey work carried out in the reserves since 2012 and generated a new baseline for population size for two Critically Endangered tree species in the reserves: a minimum of 995 <i>P. korshinskyi</i> and 212 <i>P. tadshikistanica</i>.</p>   |
| <p>Activity 1.2 Conduct interviews to collect local knowledge of agro-biodiversity</p>   |   | <p>Household survey data were collected in Y1-2 and a report summarising key findings and recommendations (e.g. a need to strengthen community involvement in forest management) was produced in Y3. These informed our project approach (see work on Joint Forest Management described 1.3). In addition, in Y3, we collated traditional knowledge on 39 native tree species (including how people value these trees alongside recommendations for restoration of each species) and shared copies of the report back with communities in Y4.</p> |
| <p>Activity 1.3 Collate data to help establish sustainable harvest levels for key species</p>  |   | <p>The project team decided to expand the scope of this activity to address sustainable forest management more broadly, rather than measuring sustainable fruit harvesting in isolation. Under this scope we completed a number of relevant activities:</p>   |

| Project summary  | Measurable Indicators | Progress and Achievements  |
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|  |                       | <ul style="list-style-type: none"> <li>• A participatory assessment of community resource use in both reserves was conducted by regional forestry expert, Mr Kamel Chorfi in Y2, in which 15 local people and reserve management described current use of resources, major threats and challenges and opportunities to improve management</li> <li>• In Y2, a survey on people's perceptions on natural regeneration in their forest plots was conducted with 40 households (20 in each reserve). Surveys confirmed that some plot holders already carried out activities to promote regeneration (e.g. people often leave 2-3kg of seed to regenerate each year) and that many would be willing to participate in fencing and monitoring activities to better protect regeneration in their plot from grazing. These results informed the regeneration monitoring protocol developed under activity 1.7.</li> <li>• In Y3, we finalised a PMP in Dashtijum (drafted in Year 2 following a participatory assessment of resource use), following two meetings which gave 30 community representatives (27 men and 3 women) an opportunity to revise, input and change the Tajik terminology to ensure the plans were accessible to the community.</li> <li>• We repeated the process for Childukhtaron in Y5 (delayed as our consultant could not travel to Tajikistan to lead the process in Y4 due to the Covid-19 related travel ban). The consultant provided online training to FFI staff who then conducted the initial participatory workshop from April 26th-30th (notes available in EF1:1.3). The consultant is due to support next steps with PMP for Childukhtaron but this has been delayed due to a prolonged period of poor health. We now expect a final version of this plan to be completed by end 2021.</li> </ul> |
| Activity1.4 Produce and disseminate survey reports (in Russian, Tajik and English)   |                       | Combined species status reviews (1.4) and action plans (1.6) for Critically Endangered <i>Pyrus korshinskyi</i> and <i>P. tadshikistanica</i> and Vulnerable <i>Malus sieversii</i> and <i>Amygdalus bucharica</i> were completed in Y3. In Y4, we translated these into Tajik and disseminated 40 copies (20/site) to local communities and FSU staff.  |
| Activity 1.5 Compile information on likely climate change impacts on forest ecosystem/ tree species, both from scientific community/ literature and community vulnerability assessments; develop climate change risk assessments for the sites |                       | As part of work to develop climate adaptation plans (see 3.3), the Centre for Climate Change and Disaster Reduction completed climate change profiles for the two sites, based on a desk review and community assessments of vulnerability to climate change.  |

| Project summary   | Measurable Indicators  | Progress and Achievements  |
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| Activity 1.6 Workshops with specialists and local stakeholders to develop Species Action Plans for three Red-List trees (two CR <i>Pyrus</i> species); produce and disseminate plan documents |  | In Y2, a Species Action Planning workshop was conducted in Muminabad with the participation of FSUs teams from both project sites and FFI's partners Zam Zam and Ganji Tabiat (twenty attendees at each workshop). Final action plans were completed in Y3. A number of these actions (including surveys in unexplored areas of forest, fencing of critical populations and population reinforcement planting) have been implemented in Y3-4 with co-funding from the Global Trees Campaign. |
| Activity 1.7 Agree protocol for participatory forest monitoring scheme with forest service and communities  |  | In Y3, FFI worked with both reserve directors to adapt existing monitoring protocols to make them more suitable for use by community members and to add fields to allow basic data collection on forest condition and regeneration. In January 2020, we organised a training workshop at each reserve to get feedback on the forms and explain how to use them.  |
| Activity 1.8 Implement monitoring: patrols collect data as per agreed protocol  |  | Of eighty-four plot-holders who have signed up to JFM in Dashtijum, 50% of them are now using the monitoring forms developed by FFI to collect data on the condition of their forest plots.  |
| Activity 1.9 Monitoring data collated, analysed and reported to forest service and local stakeholders (including community forest monitors)   |  | Monitoring data is in the process of being collected in Dashtijum and submitted to the FSU. The FSU did not manage to analyse this data and so an FFI staff member will support them with ongoing analysis post-project.   |
| Activity 1.10 Workshop to disseminate research and learning to local and national Forest Agency and interested stakeholders.  |  | FFI completed a final end of project workshop in June 2021 in Dushanbe, attended by 11 stakeholders. All project outputs were presented and online copies were shared with the attendees which were then shared to FSU staff members across Tajikistan.  |
| <b>Output 2.</b> Local market actors supported to implement activities identified through Participatory Market System Development (PMSD) to improve income from fruit and nuts (NTFPs)        | 2.1 Steps 1 – 7 in the PMSD roadmap <sup>1</sup> completed with market actors for Dashtijum in Year 1 and locally specific actions identified.<br><br>2.2 Producer cooperatives established in Childukhtaron in Year 1 and Dashtijum in Year 2 with a total of 120 active members (at least 50% female) by Year 4. | 2.1 The PMSD process from steps 1-7 was completed in Year 1.<br><br>2.2 Six cooperatives with a total of 160 members (94% women) are active.   |

| Project summary  | Measurable Indicators  | Progress and Achievements   |
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|  | <p>2.3 By end of year 4, 300 local collectors (at least 60% female) trained and applying new skills to sustainably harvest, process and sell NTFPs and increase sales value of fruit and nut products (e.g. dried fruit, compote, oils from nuts and seeds): 80 in Year 1; 120 in Year 2; 100 in Year 3.</p> <p>2.4 50% of respondents report that participation in savings groups has increased their ability to cope with shocks and lean months and enabled them to invest, including in improved NTFP techniques, by Year 4.</p> <p>2.5 Multi-dimensional well-being benefits explored, understood and captured through Participatory Impact Assessment (PIA) with gender-disaggregated data, in Year 4.</p> | <p>2.3 A total of 150 people (60% women) have received training in methods required for sustainable harvesting and processing ((see EF2: 2.1) and collectors are successfully gaining increased price for products sold, compared to project start</p> <p>2.4. Eight saving groups with a total of 200 members are active at the end of Y4. The amount saved by the saving groups in 2020 - 119,170 somoni (equivalent to £ 7,518) - is 56% higher than in 2019 and more than double the amount saved in 2018. Results from the PIA indicate that the saving groups were hugely important to help people cope with economic impacts of the pandemic</p> <p>2.5 Well-being benefits generated through participation in the project were evaluated through a PIA completed in April 2021.</p>   |
| <p>Activity 2.1. Preliminary work to start the Participatory Market System Development process for Dashtijum in consultation with community representatives and project partners: identification of appropriate products, preliminary market mapping and strategic design, identifying and engaging key market actors (preliminary steps of PMSD roadmap – <a href="http://www.pmsdroadmap.org/">http://www.pmsdroadmap.org/</a>).</p> |  | <p>All of the initial steps of PMSD were completed in Y1. Dried fruit was identified as a market that could be influenced and further developed. Mapping exercises of the dried fruit market were undertaken in both reserves. Marginalised actors were empowered and key market actors in this product sector were engaged through a Market Development workshop, which was held on 29th March 2018 (see 2.3).</p>   |
| <p>Activity 2.2 Small community workshops to empower marginalised market actors (local NTFP collectors in the villages of Dashtijum and Childukhtaron) and prepare them to engage with other market actors in the next steps - with a particular emphasis on women (separate groups if necessary).</p>   |  | <p>In Y1, discussion groups on ‘access to markets’ were held with 40 local people from 12 villages in Childukhtaron and 40 people from 14 villages in Dashtijum. Product range/choice/quality/ were explored and their importance to the marginalised actors were assessed. The role of gender, as well as barriers to market access, and potential solutions to these were also explored. For more information see EF2: 2.2 Assessment of market access.</p> <p>Over Y3-4 we supported 8 local producer group members to continue engagement with market actors through exchange trips with representatives from local businesses in Isfara (an important market city in Sughd region). These trips enabled the producer groups to receive more training and also secure new agreements to sell dried fruits to these buyers. See EF2: Zam Zam Annual Reports.</p> |



| Project summary   | Measurable Indicators | Progress and Achievements  |
|---|-----------------------|--|
| Activity 2.3 Facilitate participatory market mapping at workshops with representatives of all market actors (collectors, local traders, processors, 'big' traders, input providers), help the community members to develop stronger links with traders and processors; followed by participatory planning – resulting in action plans |                       | A Market Development workshop was held in Y1 and attended by 27 participants (10 women and 17 men) from both reserves (including 9 national and regional dried fruit traders). Traders are typically male hence the slight bias towards male attendance at this event. A series of interactive sessions explored the markets, their structure, and barriers to market engagement for marginalised actors. For more information see EF2: 2.3 Market Development Workshop March 18. The workshop resulted in action plans for the Dried Fruit markets in both of the reserves  |
| Activity 2.4 Support the two communities to establish producer cooperatives, ensuring active participation of women.  |                       | Two producer groups (20 members each) were established in Y1 and by the end of the project six producer groups were operating, with a total of 160 members (94% women). Benefits of group membership include access to training (see 2.5), shared equipment (see 2.6), improved product quality and support to reach new markets (see 2.2). Our partner Zam Zam, provided mentoring to each group throughout the project, and supported the groups to secure local 'certificates of standard and quality' enabling them to sell their processed products in national markets. Producer groups were commanding significantly higher prices for fruit and nut products by project end.   |
| Activity 2.5 Run (minimum) 15 practical training events for local women and men involved in fruit and nut collection, processing and sale - provide follow-up support through producer cooperatives to improve product quality through enhanced local processing techniques.  |                       | Over Y1-3, Zam Zam completed a total of 33 training workshops attended by 150 people (60% women) from both producer and saving groups. Topics included: fruit drying methods; canning techniques; packaging; family budgeting; cost calculation; forest management and effective use of funds for environmental investments. Trainings scheduled for Y4 were cancelled due to the risks of forming gatherings during the height of the pandemic in Tajikistan. During this period, and with additional emergency funding provided by FFI, Zam Zam instead developed their own learning materials and short films and delivered them to the 160 producer group members and 200 saving group members to support ongoing skill building during the pandemic. Details on all training workshops are captured in Zam Zam's annual reports in EF2. |
| Activity 2.6 Provide locally appropriate equipment (identified in PMSD action plans) to producer cooperatives to improve processing at local level – for example, this might be drying racks or packaging machine.  |                       | Following recommendations of the PMSD action plan, the majority of equipment was purchased in Y1 and included two electric fruit driers and 8 local 'rack' driers. Appropriate areas for equipment storage and installation were identified at both sites. Other equipment provided from Y2-4 included canning tools and hand machines for sealing jars (allowing the groups to better store collected products and providing a source in the winter time (when prices are higher)), gloves, knives and buckets used for fruit processing and equipment for grafting and caring trees (e.g. trowels and secateurs). With funding from FFI's Covid-19 Emergency fund, masks and hand sanitisers were distributed to group members in Y4.  |

| Project summary  | Measurable Indicators   | Progress and Achievements  |
|--|---|--|
| Activity 2.7 Research and explore potential for overseas markets and innovative products; follow-up as appropriate.  |   | In Y4, FFI's Tajikistan team contacted several local intermediaries and exporters of wild apple to carry out an informal supply chain analysis and explore whether these companies would be able to satisfy standard required by an EU buyer. Initial meetings were positive and the EU company had planned a visit to Tajikistan to meet suppliers, but this was postponed due the Covid-19 pandemic  |
| Activity 2.8 Set up and support at least three local women's saving groups in villages in Childukhtaron, based on and learning from successful model in Dashtijum (initiated by Save the Children)   |   | Six saving groups (three in each site with 15 members each) were established in Y1. By the end of the project this had expanded to eight saving groups (200 members: 82% women). The groups are popular as they help people to save money, make wise decisions on spending and offer an easy, cost-effective process for taking loans, with less bureaucracy and lower interest rates compared to local banks. The amount saved by the groups over 2020 was 119,170 somoni (equivalent to £ 7,518), 56% higher than in 2019. Members used funds from saving groups to address family emergencies (eg health care), pay for education and to invest in local enterprises. This included supporting conservation and community development activities guided by the PMSD action plan developed under 2.3 (e.g. buying hoses and pipes to better irrigate plots, purchase of apple and pear saplings to plant out in local gardens and the purchase of canning facilities for producing jams, juice and canned vegetables). |
| Activity 2.9 Conduct Participatory Impact Assessment (PIA): semi-structured interviews and focal group discussions with women and men to explore the impact the project has really had on participant's lives (using our experience from Darwin post-project in Kyrgyzstan). |   | FFI staff provided training to Zam Zam in PIA methodology in Y4. In Y5, Zam Zam and FFI staff jointly completed the PIA between April 6th-April 16 <sup>th</sup> 2021 with 184 people (115 women and 69 men). Results indicate that the both income levels and engagement of local people in forest conservation have improved significantly in the project period. Respondents ranked the support of the Darwin project as the number one factor that enabled these changes, although also cited improved roads and improved access to electricity as important factors. The full report is available in EF2: 2.9.  |
| <b>Output 3:</b> Community forest users (women and men) and two forest service units enhancing forest management and promoting resilience to climate change.   | <p>3.1 300 people report an increased awareness of climate change and the importance of forest agro-biodiversity in climate resilience (100 by end of Year 1; 200 by end Year 2; 300 by end Year 3).</p> <p>3.2 Strategic, climate-proofed, reforestation plan developed for both</p> | <p>3.1 130 people (50% women) have a better understanding of climate change risks and adaptation strategies following workshops completed in Year 2 and awareness raising workshops in Y3 and Y4 and &gt;900 (65% women) people are more aware of the importance of agro-biodiversity through participation in 14 seminars and two harvest festivals</p> <p>3.2 A Participatory Management Plan (including recommendations for planting 8 native species in key zones) was completed for Dashtijum in Year 3 and is under development for Childukhtaron, to be finished by end 2021.</p>   |

| Project summary   | Measurable Indicators  | Progress and Achievements  |
|---|--|--|
|   | <p>project sites by Year 2 and priority actions being implemented by Year 4.</p> <p>3.3. Local stakeholder fora established and meeting quarterly at both project sites by Year 2 with membership comprising at least 40% women and 15% from poorer households. By Year 4 at least 60% of both male and female forum members feel they are more able to influence forest management compared with project start.</p> <p>3.4 60 local forest users taking actions to protect trees in their lease plots (20 by end of Year 2; 40 by end Year 3; 60 by end Year 4).</p> <p>3.5 Over 400,000 native trees grown in nurseries and planted out in priority locations by Year 4.</p> | <p>3.3 Two stakeholder fora (one at each site) with a total of 60 members (69% women) have met two times each throughout Y2 and Y3 and once in Y4. Feedback on the fora is positive and their effectiveness at helping people influence forest policy management will be assessed through analysis of the PIA results</p> <p>3.4 Forty-seven forest users are taking actions on their plots to protect trees through fencing and 84 plot holders in Dashtijum have signed agreements with the Forest Service to carry out Joint Forest Management and related monitoring of their forest plots</p> <p>3.5 From Y1-4, to 278,536 saplings and 2,124.16 kg of seed (equivalent of 333,235 seedlings) have been planted in nurseries or in the forest</p> |
| <p>Activity 3.1 Run 16 awareness raising events: seminars for women and men and school activities for children on various topics: biodiversity, climate change, agro-biodiversity and sustainable harvesting.</p> |  | <p>In total, the project completed 14 awareness raising events: 4 seminars on fruit tree planting and management (led by KBG) in Y1; 2 school events including poems, quizzes and role-plays (led by FFI) and 2 seminars on soil degradation (led by KBG) in Y2; 2 seminars on livestock grazing (led by KBG) in Y3 and 2 seminars on climate change adaptation (led by KBG and following on from the climate change adaptation plans developed under 3.4) and 2 more school events (led by FFI) in Y4. In total more than 400 people (240 women; 160 men) attended these events.</p>  |
| <p>Activity 3.2 Organise four community harvest-time festivals to celebrate the forest, its biodiversity and fruit and nut products</p>   |  | <p>FFI organised four harvest festivals (two per reserve: one each in Y1 and one each in Y3). These events brought together children and adults from the communities to celebrate this year's harvest and the importance of the forest to local livelihoods. More than 900 people (600 at Dashtijum; 300 at Childukhtaron – 65% women) took part in agro-theatre, folk music, dancing and quizzes, with school children playing a particularly active role.</p>  |

| Project summary  | Measurable Indicators | Progress and Achievements  |
|--|-----------------------|--|
| <p>Activity 3.3 Conduct at least four climate adaptation planning workshops with community groups (replicating and learning from activity in Darwin Initiative post-project in Kyrgyzstan): exploring together the likely impacts of climate change, assessing vulnerabilities, and identifying feasible adaptation measures for local stakeholders.</p>   |                       | <p>In Y2, two climate change adaptation workshops (one at each reserve: attended by 10 women and 10 men in Childukhtaron and 10 women and 10 men in Dashtijum) were conducted by the Centre for Climate Change and Disaster Reduction. Participants mapped key hazards impacting their communities, developed seasonal calendars (showing key events and livelihood activities) and identified the degree to which key resources and assets are vulnerable to climate change. Participants identified adaptation measures for reducing vulnerability to climate change, with significant discussion dedicated to addressing forest loss and degradation (seen as major factor exacerbating hazards including avalanches and mudslides). Results from these two workshops were comprehensive and we did not therefore see the need to carry out the additional two workshops as stated in the activity. We instead focussed on feeding the workshop results into awareness raising activities in Year 4 (activity 3.1).</p> |
| <p>Activity 3.4 Following on from activities 1.1 – 1.5, develop strategic, climate-proofed, reforestation plans for both sites jointly with the forest service and other stakeholders, identifying strategic sites for planting (to improve connectivity, reduce risk of erosion/ landslides) and appropriate resilient species and varieties.</p>   |                       | <p>As mentioned above, the project worked with Dashtijum reserve to develop a Participatory Management Plan (PMP) in Y3 and a PMP for Childukhtaron is being drafted and will be completed by end 2021. These plans outline priority zones for reforestation and include recommendations for priority species to plant.</p>  |
| <p>Activity 3.5 Establish stakeholder forum at each site; ensure members are representative of the different groups within the forest user community (including those with more marginal use rights and women); facilitate regular meetings to enable discussions on forest management, conservation and sustainable use issues; provide mediation if necessary; and promote collaborative planning and implementation of actions.</p> |                       | <p>One stakeholder forum per site was established in Y2. They met once each in Y2, Y3 and Y4 (with fora facilitated by Zam Zam and FFI staff) and the make-up of each group at project end was as follows: 29 people (18 women and 11 men) in Childukhtaron and 31 (23 women, 8 men) in Dashtijum. The forums acted as a successful platform for community members and forestry officials to exchanges ideas and discuss challenges. Meetings focused on joint forest management and connecting producer groups to the market.</p>   |
| <p>Activity 3.6 Work with local forest leaseholders to protect trees in their forest plots, through fencing and other means.</p>   |                       | <p>With co-funding provided from the Global Trees Campaign, fencing materials were distributed to a total of 47 leaseholders over Y3-4 to protect threatened pear tree species and promote natural regimentation</p>   |
| <p>Activity 3.7 Support local forest service and community groups to grow native fruit and nut trees in nurseries for planting in forest and gardens, promoting diversity of species and local varieties to maintain agro-biodiversity (seed to be collected locally wherever possible) – minimum of two forest service nurseries and two community nurseries.</p>   |                       | <p>Four nurseries under the management of the FSU teams (two Childukhtaron; two Dashtijum), were established in Y1 and one school community nursery was established at Dashtijum in Y2. At project end all of these nurseries are maintained and they are helping to supply planting efforts this year.</p>  |

| Project summary  | Measurable Indicators | Progress and Achievements  |
|--|-----------------------|--|
| Activity 3.8 Support forest service teams to plant 400,000 native trees (10+ species) in protected and strategic locations in Childukhtaron and Dashtijum to reinforce natural populations, including aftercare and monitoring survival. |                       | In total, the project has planted 278,536 saplings and 2,124.16 kg of seed of seed (equivalent to 333,235 saplings) in the forest and nurseries. In all 17 native tree species were planted. Data on planted trees is available in EF3: 3.8. |

## Annex 3 Standard Measures

| Code              | Description  | Total | Nationality | Gender   | Title or Focus | Language | Comments   |
|-------------------|--|-------|-------------|----------|----------------|----------|--|
| Training Measures |  |       |             |          |                |          |  |
| 1a                | Number of people to submit PhD thesis  | 0     |             |          |                |          |  |
| 1b                | Number of PhD qualifications obtained  | 0     |             |          |                |          |  |
| 2                 | Number of Masters qualifications obtained  | 0     |             |          |                |          |  |
| 3                 | Number of other qualifications obtained  | 0     |             |          |                |          |  |
| 4a                | Number of undergraduate students receiving training  | 0     |             |          |                |          |  |
| 4b                | Number of training weeks provided to undergraduate students  | 0     |             |          |                |          |  |
| 4c                | Number of postgraduate students receiving training (not 1-3 above)   | 0     |             |          |                |          |  |
| 4d                | Number of training weeks for postgraduate students   | 0     |             |          |                |          |  |
| 5                 | Number of people receiving other forms of long-term (>1yr) training not leading to formal qualification (e.g., not categories 1-4 above) | 4     | Tajik       | 2 F; 2 M |                | Tajik    | <b>In Year 1</b> , 1 person from the botanical gardens received field training and 3 people from Zam Zam received PMSD and survey training.<br><br><b>In Year 4</b> , the same 3 people from Zam Zam were trained in PIA and data management |
| 6a                | Number of people receiving other forms of short-term   | 261   | Tajik       |          |                |          | <b>Year 1:</b><br>97 people were trained on fruit tree management for a day  |

|                          |   |              |                    |               |              |                 |  |
|--------------------------|---|--------------|--------------------|---------------|--------------|-----------------|--|
|                          | education/training (e.g., not categories 1-5 above)   |              |                    |               |              |                 | <p>45 people trained for a day on saving group management<br/>40 people we trained on fruit processing for 2 days</p> <p><b>Year 2:</b><br/>142 people trained in family budgeting; and in use of saving funds (3 days)</p> <p>40 people also trained in canning and drying fruit and forest conservation (5 days)</p> <p><b>Year 3:</b><br/>16 people involved in exchange trips to visit local fruit buyers.</p> <p>70 saving group members trained in financial management</p> <p>40 producer group members trained in labelling and packaging</p> <p><b>Year 4:</b><br/>8 people involved in exchange trips</p> <p>46 people trained in JFM (28% women)</p> <p>25 FSU staff had legislation training</p> |
| 6b                       | Number of training weeks not leading to formal qualification  | 231          |                    |               |              |                 | <p>Training weeks using the figures described above:<br/><b>Year 1</b> – 43 weeks (202 person days)<br/><b>Year 2</b> – 125 weeks (626 person days)<br/><b>Year 3</b> – 50 weeks (348 person days)<br/><b>Year 4</b> – 13 weeks</p>  |
| 7                        | Number of types of training materials produced for use by host country(s) (describe training materials) | 1            |                    |               |              |                 | <p>A manual was produced In Year 1 for the training on dried fruit processing, further manuals are planned but subjects will be defined by needs</p>   |
| <b>Research Measures</b> |   | <b>Total</b> | <b>Nationality</b> | <b>Gender</b> | <b>Title</b> | <b>Language</b> | <b>Comments/ Weblink if available</b>  |

|     |  |   |  |  |  |  |   |
|-----|--|---|--|--|--|--|---|
| 9   | Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (ies) | 1 |  |  |  |  | A Participatory Management Plan completed in year 3 for Dashtijum   |
| 10  | Number of formal documents produced to assist work related to species identification, classification and recording.  | 1 |  |  |  |  | A pocket tree identification guide was produced was shared with the FSU teams in Year 3   |
| 11a | Number of papers published or accepted for publication in peer reviewed journals   | 1 |  |  |  |  | The first rapid forest inventory and resource use assessment of Dashtijum Nature Reserve, Tajikistan: a mixed methods approach<br><br>Fred Pilkington, Mierva Singh, Vicky Wilkins, Colin Clubbe<br><br><a href="https://www.cambridge.org/core/journals/oryx/article/first-rapid-forest-inventory-and-resource-use-assessment-of-dashtijum-nature-reserve-tajikistan-a-mixed-methods-approach/F0D2A6243430523F1159F2C51F8B526E">https://www.cambridge.org/core/journals/oryx/article/first-rapid-forest-inventory-and-resource-use-assessment-of-dashtijum-nature-reserve-tajikistan-a-mixed-methods-approach/F0D2A6243430523F1159F2C51F8B526E</a> |
| 11b | Number of papers published or accepted for publication elsewhere   |   |  |  |  |  |   |
| 12a | Number of computer-based databases established (containing species/generic information) and handed over to host country  | 1 |  |  |  |  | Database of threatened tree species and database of forest quality now established but not yet handed over to the Forest Service  |
| 12b | Number of computer-based databases enhanced (containing species/genetic information) and handed over to host country   |   |  |  |  |  |   |



|     |  |  |  |  |  |  |  |
|-----|--|--|--|--|--|--|--|
| 13a | Number of species reference collections established and handed over to host country(s) |  |  |  |  |  |  |
| 13b | Number of species reference collections enhanced and handed over to host country(s)    |  |  |  |  |  |  |

| Dissemination Measures |  | Total | Nationality   | Gender                  | Theme               | Language | Comments   |
|------------------------|--|-------|---|-------------------------|---------------------|----------|--|
| 14a                    | Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work                    | 1     | Tajik   | Lead presenter was male | Forest conservation | Tajik    | Workshop to be organised at end of project   |
| 14b                    | Number of conferences/seminars/ workshops attended at which findings from Darwin project work will be presented/ disseminated. | 3     | 1 in Tajikistan; 1 in Kyrgyzstan and 1 in the UK (online) | Lead presenter was male | Forest conservation | Tajik    | Project findings were shared at the 2018 Conservation Asia conference in Bishkek, at the International conference on "Ecological Characteristics of Biological Diversity" held in Khujand, Tajikistan and at an online conference on restoration organised by Kew. |

| Physical Measures |  | Total | Comments   |
|-------------------|--|-------|--|
| 20                | Estimated value (£s) of physical assets handed over to host country(s)                     | £     | In <b>Year 1</b> two electric dryers; and equipment for installation of driers<br><b>Year 2</b> , a truck was procured and donated to local producer groups.<br><b>In Year 3</b> , the following equipment was provided to producer groups: gloves, knives, glass jars, buckets, plastic material, canning tops, a hand machine for sealing jars and hand materials to make a tree nursery<br><b>In Year 4</b> Zam Zam bought canning machines for producer groups |
| 21                | Number of permanent educational, training, research facilities or organisation established | 0     |  |
| 22                | Number of permanent field plots established  | 0     |  |

| Financial Measures |  | Total | Nationality | Gender | Theme | Language | Comments |
|--------------------|--|-------|-------------|--------|-------|----------|----------|
| 23                 | Value of additional resources raised from other sources (e.g., in addition to Darwin funding) for project work<br><i>(please note that the figure provided here should align with financial information provided in section 9.2)</i> |       |             |        |       |          |          |

## Annex 4 Aichi Targets

|    | Aichi Target   | Tick if applicable to your project |
|----|--|------------------------------------|
| 1  | People are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.   | √                                  |
| 2  | Biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.   |                                    |
| 3  | Incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.                                |                                    |
| 4  | Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.  | √                                  |
| 5  | The rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.  |                                    |
| 6  | All fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits. |                                    |
| 7  | Areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.  | √                                  |
| 8  | Pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.  |                                    |
| 9  | Invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.   |                                    |
| 10 | The multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.   |                                    |
| 11 | At least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.         | √                                  |
| 12 | The extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.   | √                                  |
| 13 | The genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.  |                                    |

|    |   |   |
|----|---|---|
| 14 | Ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.   | √ |
| 15 | Ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.  | √ |
| 16 | The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.   | √ |
| 17 | Each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.  |   |
| 18 | The traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels. | √ |
| 19 | Knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.  | √ |
| 20 | The mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.   |   |

## Annex 5 Publications

Provide full details of all publications and material that can be publicly accessed, e.g. title, name of publisher, contact details. Mark (\*) all publications and other material that you have included with this report

| Type *  | Detail<br>(title, author,<br>year)   | Nationality of<br>lead author | Nationality<br>of<br>institution<br>of lead<br>author | Gender of<br>lead author | Publishers<br>(name, city)                     | Available from<br>(e.g. web link, contact address etc)  |
|---------|--|-------------------------------|---|--------------------------|--|---|
| Journal | The first rapid forest inventory and resource use assessment of Dashtijum Nature Reserve, Tajikistan: a mixed methods approach, Fred Pilkington, Mierva Singh, Vicky Wilkins, Colin Clubbe, 2020 | UK                            | UK  | M                        | Oryx—The International Journal of Conservation | <a href="https://www.cambridge.org/core/journals/oryx/article/first-rapid-forest-inventory-and-resource-use-assessment-of-dashtijum-nature-reserve-tajikistan-a-mixed-methods-approach/F0D2A6243430523F1159F2C51F8B526E">https://www.cambridge.org/core/journals/oryx/article/first-rapid-forest-inventory-and-resource-use-assessment-of-dashtijum-nature-reserve-tajikistan-a-mixed-methods-approach/F0D2A6243430523F1159F2C51F8B526E</a> |
|         |  |                               |   |                          |  |   |
|         |  |                               |   |                          |  |   |
|         |  |                               |   |                          |  |   |



## Annex 6 Darwin Contacts

|                               |   |
|-------------------------------|---|
| <b>Ref No</b>                 | 24-006  |
| <b>Project Title</b>          | Enhancing forest biodiversity and community resilience to Tajikistan's changing climate   |
| <b>Project Leader Details</b> |   |
| Name                          | David Gill  |
| Role within Darwin Project    | Responsible for overall project management, monitoring and evaluation and strategic direction.  |
| Address                       |   |
| Phone                         |   |
| Fax/Skype                     |   |
| Email                         |   |
| <b>Partner 1</b>              |   |
| Name                          | Ms Tojiniso Odinaeva  |
| Organisation                  | Zam Zam   |
| Role within Darwin Project    | Led Zam Zam's work related to supporting marginalised actors to access markets for fruit and nut products   |
| Address                       |   |
| Fax/Skype                     |   |
| Email                         |   |
| <b>Partner 2 etc.</b>         |   |
| Name                          | Dr Mario Boboev   |
| Organisation                  | Kulob Botanic Garden  |
| Role within Darwin Project    | Led Kulob Botanic Garden's activities focussed on collecting baselines on habitat condition and tree populations and also led awareness raising activities with local communities |
| Address                       |   |
| Fax/Skype                     |   |
| Email                         |   |

## Checklist for submission

|   | Check |
|---|-------|
| <b>Is the report less than 10MB?</b> If so, please email to <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> putting the project number in the Subject line.  | √     |
| <b>Is your report more than 10MB?</b> If so, please discuss with <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> about the best way to deliver the report, putting the project number in the Subject line.                             |       |
| If you are submitting photos for publicity purposes, <b>do these meet the outlined requirements (see section 10)?</b>   | √     |
| <b>Have you included means of verification?</b> You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.   | √     |
| <b>Do you have hard copies of material you need to submit with the report?</b> If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic. | √     |
| Have you involved your partners in preparation of the report and named the main contributors  | √     |
| Have you completed the Project Expenditure table fully?   | √     |
| Do not include claim forms or other communications with this report.  |       |