Darwin Initiative Main Annual Report

Darwin Project Information

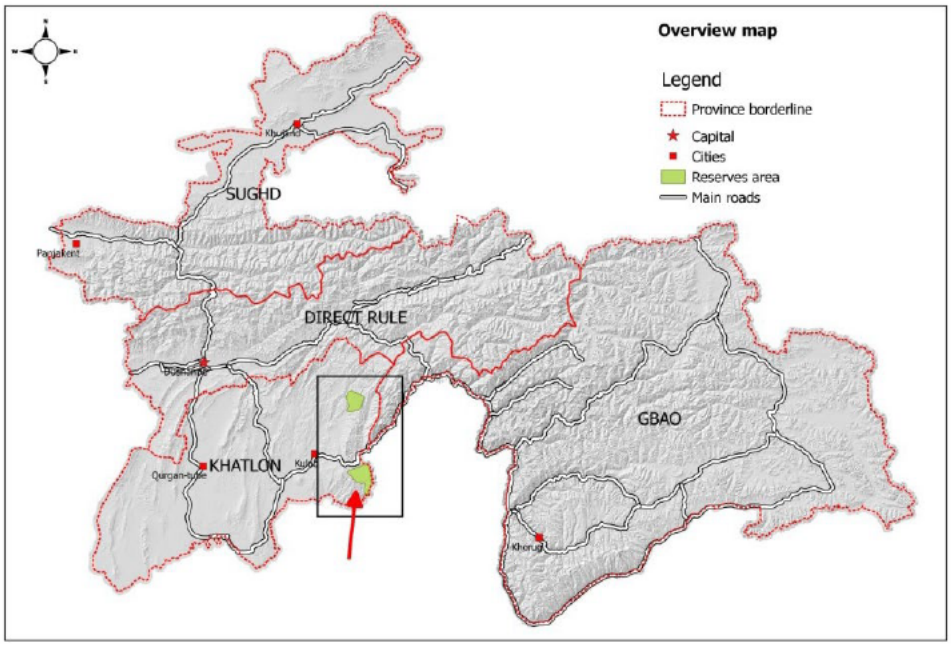
Project reference	24-006
Project title	Enhancing forest biodiversity and community resilience to Tajikistan's changing climate
Country/ies	Tajikistan
Lead organisation	Fauna & Flora International
Partner institution(s)	Kulob Botanical Garden, Zam Zam, Muminobad Forestry Management Unit, Dashtijum Forestry Management Unit
Darwin grant value	**£383,708**
Start/end dates of project	1st April 2017 – 30th June 2021 (project extended by 3 months)
Reporting period (e.g. Apr 2020 – Mar 2021) and number (e.g. Annual Report 1, 2, 3)	1st April 2020 – 31st March 2021 Annual Report 4
Project Leader name	David Gill
Project website/blog/social media	https://www.fauna-flora.org/projects/conserving-threatened-fruit-nut-forests-tajikistan
Report author(s) and date	David Gill, Ubayd Gulamadshoev, Muqaddas Milikbekova, Rasima Sabzalieva, Mario Boboev. Tojinisso Odinaeva, April 2020

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 is 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 will 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; Muminobad 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 has an office in Tajikistan and our staff are regularly in contact with all partners to monitor progress and to advise on management, technical and administrative delivery and provide focussed training when needed (eg FFI's team in Tajikistan provided training to Zam Zam in use of Participatory Impact Assessments in March 2021 and Data management in April 2021). Sub-grant agreements detailing partner deliverables have been signed with Kulob Botanic Gardens (rather than Ganji Tabiat for administrative reasons but the same personnel are involved) and Zam Zam, and these are renewed each year, see EF: Admin - SGA1 and 2.

3. Project progress

3.1 Progress in carrying out project Activities

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

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 *P. korshinskyi* and 212 *P. tadshikistanica*. No further data were collected in Y4.

1.2 Conduct interviews to collect local knowledge of agro-biodiversity

Household survey data were collected in Y1-2 and a report summarising key findings and recommendations (e.g. the report highlighted a need to strengthen community involvement in forest management) was produced in Y3. These informed our project approach in Y4 (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). In Y4, we distributed the traditional knowledge reports back to communities to add any missing information and received the reports with minor additions to them: eight tree species were added to the list.

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

As described in the Y1 report, we expanded the scope of this activity to address sustainable forest management more broadly, allowing the project to address other factors, such as over-grazing, which have a critical effect on regeneration. We are addressing this in two ways:

> **1.3a** We are supporting development of Participatory Management Plans (PMP) (an overall spatial plan which allocates key zones for restoration, NTFP collection and pasture). In Y3, we finalised a PMP in Dashtijum. We had planned to repeat this activity in Childukhtaron in Y4 but in the end our consultant could not travel to Tajikistan to lead the process due to the Covid-19 related travel ban. The consultant has instead provided online training to FFI staff who conducted the initial participatory workshop from April 26th-30th. This will be followed up by a physical mapping exercise in late May to mark our priority areas as identified by the communities. Results and the final PMP for Childukhtaron will be reported on in full in the final project report.
>
> **1.3b** We provided advice to the reserves to support their adoption of Joint Forest Management, a policy in Tajikistan that empowers community members to secure the rights and responsibility for long-term monitoring, management and sustainable harvest of individual forest plots. Building on mentoring provided in Y3, in Y4, and in partnership with GIZ, we trained forest service units and local communities in JFM requirements (eg monitoring and management requirements for plot holders) as well as relevant legislation – see EF1. 46 (28% women) households were attending the training from DJ and CH. Also a legislation training was conducted for the forest service units' staff where 25 staff (0.5% women) in total were trained at both project sites – also see EF1.

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

Species status reviews and action plans (1.6) for Critically Endangered *Pyrus korshinskyi* and *P. tadshikistanica* and Vulnerable *Malus sieversii* and *Amygdalus bucharica* were completed in Y3. In Y4, we translated these reports into Tajik and disseminated 40 copies (20 to each site) to local communities and FSU staff. Reports can be found in EF 1.

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

Achieved in Y2 5. Results informed awareness raising activities completed in Y4 (see 3.1).

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

As described above, species status reports (1.4) were updated in Y3 to include action plans for four threatened species. 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 anticipated co-funding from the Global Trees Campaign.

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

Following the decision made by both reserves to adopt Joint Forest Management (see 1.3), in Y3, FFI worked with the management teams to adapt existing monitoring protocols to make them more suitable for use by community members and to add fields for basic data collection on forest condition and regeneration. To encourage uptake, we kept the protocols as simple as possible and completed one initial training workshop in Y3 to solicit feedback.

1.8 Implement monitoring: patrols collect data as per agreed protocol

Eighty-four plot-holders who have signed up to JFM in Dashtijum are now using the monitoring forms developed by FFI to collect data on the condition of their forest plots.

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

Monitoring data will be sent to the FSUs for analysis in mid-2021.

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

We submitted a change request to Defra (approved in December 2020) to delay this activity to June 2021 after all other activities (some delayed due to the Covid-19 pandemic) are complete.

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/).

Completed and reported on in the Y1 annual report.

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).

Although this activity was completed in Y1-2, we continued to support producer group members to engage with market actors throughout Y3-4. Building on successful exchange trips completed in Y3, in Y4, we supported eight (two men; six women) members from both Dashtijum and Childukhtaron to exchange experience with representatives from businesses in Isfara (an important market city in Sughd region) from November 2nd – 4th 2020. Meetings were held with an entrepreneur who specialised in dried fruit processing, an entrepreneur exporting dried fruit to Russia, the Director of the Association of Fruit Processing Enterprises (an association that represents 12 local enterprises) and with the Deputy Chairman of a local processing and packaging facility. The sessions were useful at clarifying the standards of dried fruit expected by larger-scale intermediaries involved with processing and export of products. The groups are now negotiating agreements to sell fruit and nut products from the project sites.

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.

This activity was completed and reported on in the Y1 annual report.

2.4 Support the two communities to establish producer cooperatives, ensuring active participation of women

At the end of Y3, six producer groups were operating, with a total of 160 members (94% women). Earlier reports detail benefits of group membership, which include access to training, shared equipment, improved product quality and support to reach new markets. In Y4, our partner Zam Zam, mentored each group, organised exchange trips for representatives (see 2.2), provided learning materials (see 2.5), provided additional equipment and materials to promote safe collection and processing during the pandemic (see 2.6) and extended the duration of the Certificate of standard and quality for one more year, meaning that till November 2021 both producer and saving group members can sell their products in local markets.

By helping the groups to increase product quality (better drying techniques), add value to products (e.g. improved packaging) and reach new markets, the groups have be able to command a higher price for fruit and nut products compared to project start. In 2019, the prices for ten different products all increased, with some increasing by 50%. In Y4, due to Covid-19 pandemic the price of basic commodities increased up to 41% (World Food Programme, 2021) and this in turn lowered the demand for dried fruits – a comparative luxury compared to basic goods. As a result, in 2020 the price of some dried fruits decreased by around 5%, although this is till significantly higher compared to the price at project start.

Over the first three years (2017-19), incomes from fruit and nut products received by the producer groups in Dashtijum nearly doubled, and remained stable in Childukhtaron, with price increases helping to buffer the negative impacts of a poor harvest in 2019 (with apple, pear and cherry trees badly affected by extremely heavy spring rains). However in 2020, incomes received from the producer groups dropped significantly (we are still analysing income data, and will confirm the full extent of this change in the final project report). This is explained by two factors: (1) 2020 was an even worse year for fruit and nut production, due to unexpected snow during the blossoming season and (2) as borders were closed during much of the pandemic, most of the traders from Soghd region did not travel to the project sites to buy their products.

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-Y3, Zam Zam ran a total of 34 training workshops – in topics including dried fruit processing, labeling and packaging, quality standards, financial management etc - benefiting a total of 142 people (60% women) from the project's producer and saving groups. Zam Zam typically carries our trainings during the spring and summer months (before the busy fruit and nut harvesting season begins) but, in Y4, training scheduled for this period was cancelled due to the risks of forming gatherings during the height of the pandemic in Tajikistan. During this period, with additional emergency funding provided by FFI, Zam Zam instead developed learning materials and short films and delivered them to the 160 producer group and 200 saving group members to support ongoing skill building during the pandemic. Materials for the producer groups focussed on calculating the true production cost of fruit and nut harvesting and materials for the saving groups focussed on financial management.

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.

Equipment provided in Y1-3 (including two electric fruit drying machines, four handmade fruit dryers, two packing machines and a jar sealing machine) is still in use. In Y4, Zam Zam provided canning equipment to the 60 newest members of the producer groups (those who joined at the end of Y3). In addition, FFI used its internal Covid-19 emergency fund to distribute buckets (allowing people process fruit individually and minimise need to use shared equipment during the pandemic), as well as gloves and antiseptics to a total of 360 people.

2.7 Research and explore potential for overseas markets and innovative products; follow-up as appropriate.

In Y3, FFI's Enterprise and Development Manager developed a new relationship with one major EU herbal tea company, who asked for FFI's support to develop a supply chain for sustainably sourced wild apple, collected at both project sites. In Y4, FFI's Tajikistan team contacted several intermediaries and exporters of wild apple to carry out an informal supply chain analysis and explore whether these companies would be able to satisfy standards required by the buyer. Initial meetings were positive and the company had planned a visit to Tajikistan to meet suppliers, but this was postponed due the Covid-19 pandemic.

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)

In Y3-4. Zam Zam continued to mentor training (see 2.5) eight saving groups established in Y1-3. In Y4, 16 new members joined the saving groups making them in total 200 (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 in 2020 was [redacted] somoni (equivalent to £[redacted] 56% higher than in 2019.

In 2020, loans were used to purchasing tree saplings, fence plots and gardens, purchase pipes for drinking water and irrigation, establishing nurseries, purchasing hose for irrigation of plots and gardens, purchasing glass jars and etc. The loans received from were also used for purchasing food and clothes and higher education of their children. Members reported that the groups have been extremely valuable in 2020 and have helped many marginal families to get by during a time when their main sources of income had dramatically decreased.

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).

We originally planned to complete a PIA in January 2021 but, with approval from Darwin, postponed this to April 2021 to allow us to complete this activity when the risk from Covid-19 was lower. FFI staff provided training to Zam Zam in PIA methodology in late March 2021. The PIA was completed from April 6th-April 16^{th,} with 159 people from 14 different groups interviewed. Results are being analysed at the time of wiring and full results will shared in the end of project report. Results from the PIA will be used as Means of Verification for several indicators in our log frame.

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.

In Y4, Kulob Botanic Garden conducted two awareness-raising seminars. Recognising the increased impact that climate change is having on biodiversity and livelihoods, the Y4 seminars focussed on "the roles of forests in climate change mitigation". Discussion on the causes and impacts of climate change, especially the impacts felt locally (see more in 2.4), were facilitated by the trainer. Seminars were conducted in December 2020 and were attended by 50 participants: 25 (11 women; 14 men) in Childukhtaron and 25 in Dashtijum (17 women; 8 men), adding to 130 people trained on climate change related topics Y1-3. The report is available in EF 3. Awareness of climate change at the sites is clearly now high; 100% of participants interviewed in the PIA mentioned it as a major factor impacting their use of forest resources.

FFI staff completed two school events in December 2020 during which more than 300 pupils from schools based at Dashtijum and Childukhtaron secondary school took part in competitions to write essays and draw pictures concerning the forest and its conservation. Among the contestants seven students were selected with the best essays whose content was matching with the topic and conditions of the competition. Five students were selected with the best paintings. Prizes were awarded to these pupils.

In total the project completed 14 awareness-raising events, not including the two harvest festivals completed in Y3 (3.2)

3.2 Organise four community harvest-time festivals to celebrate the forest, its biodiversity and fruit and nut products

Completed in Y3 and described in full in the end EOY3 report.

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.

This was completed in Y2. No specific work was carried out in Y4, although awareness raising seminars on this topic were completed in December (see 3.1)

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.

As mentioned above, the project worked with Dashtijum reserve to develop a Participatory Management Plan in Y3 and will support Childukhtaron to complete its own plan over April 2021. These plans outline priority zones in each reserve for reforestation and include recommendations for priority species to plant. We also gathered traditional knowledge from village elders on where and how best to plant 39 different tree species, and this information will be annexed to and included in the plan to guide reforestation efforts going forward. Following consultation with both reserves, we decided not to develop an entirely new reforestation plan (in addition to the PMP mentioned above). It became clear that a separate planning document, outlining restoration plans already included under the PMP, would confuse local stakeholders.

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.

In February 2021 FFI and Zam Zam facilitated a stakeholder forum at each reserve, attended by 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 (see EF1: ZamZam's Y4 report). These meetings focused on joint forest management and connecting producer groups to the market.

3.6 Work with local forest leaseholders to protect trees in their forest plots, through fencing and other means.

In Y4, with co-funding provided from the Global Trees Campaign, fencing materials were distributed to 28 leaseholders (14 Childukhtaron; 14 Dashtijum) and these were erected over the course of 2020. This adds to 19 households supported to fence gardens or forest plots in Y3, meaning that in total 47 households have erected fencing to protect threatened pear tree

species and promote natural regimentation. Monitoring carried out by community mobilisers in January 2021 has already indicated an increase in natural regeneration, with 1,724 pear saplings recorded in these fenced areas in 2020, compared to 700 in the same sites in 2018.

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.

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. In Y4, these nurseries are helping to supply planting efforts this year (see 3.8).

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 Y4, 96,339 saplings and 575.1 kg of seed from 17 native species were planted in the forest and nurseries. In total, the project has planted 278,536 saplings and 2,124.16 kg of seed (equivalent to 333,235 saplings) in the forest and nurseries. The total number of trees planted is provided below and details on the numbers planted per species and per reserve is available in EF3.

	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 Progress towards project 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 threatened trees and habitat condition (**indicator 1.1**) through field surveys and remote. Threatened tree data - updated in Y3 - were used to develop an action plan for each species, disseminated to 40 stakeholders in Y4, with several actions (including planting and fencing) underway over Y3-4 (**indicator 1.2**). A participatory monitoring scheme has been developed and is being rolled out in one reserve. Development of a similar scheme is underway in the second reserve and will be completed by June 2021 (**indicator 1.3**). All information produced by the project will be shared with the Forestry Agency and other stakeholders by 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)

In Y1 the PMSD process was completed (**indicator 2.1**) and two cooperatives with 40 members were established. Membership has since grown to 160 (six groups) (94% women) with members actively using equipment provided throughout Y2 and 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 annual increases in price secured for processed fruits and nuts from Y1-Y3, but prices for most products decreased slightly in Y4 (by up to 5%) due to reduced demand over the pandemic (**indicator 2.3**). Income per member had also increased significantly from Y1-3 but then decreased markedly in Y4 due to combined impacts of severe weather on fruit and nut harvest, and reduced sales during the pandemic. 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 (**indicator 2.4**). Well-being benefits generated through participation in the project have been evaluated in Year 4, although data analysis is ongoing with a report to be completed by end June 2021 (**indicator 2.5**).

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

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 Y3 and >900 (65% women) people are more aware of the importance of agro-biodiversity 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 drafted. 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 management will be assessed through analysis of the PIA results (**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 (**indicator 3.4**). From Y1-4, to date 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**).

3.3 Progress towards the project Outcome

Outcome: Forest users at Childukhtaron and Dashtijum empowered and incentivised to work collaboratively with forest service to enhance fruit-and-nut management; conserving agro-biodiversity, improving well-being and increasing resilience to climate change.

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 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 June 2021. 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 360 producer and saving group members have become more engaged in forest conservation, either by taking part in tree planting events with 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.

Eighteen 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
Pyrus korshinskyi	200	330	1,920	5,600	8,050
Pyrus tadshikistanica	624	320	975	450	2,369
Amygdalus bucharica	625	15,300	7,269	6,869	30.063
Malus sieversii	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 (although some prices dropped from 2019 to 2020 due to economic consequences of the pandemic). 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 2019. Our work to support the communities to add value to and sell forest products to a larger range of buyers did to some extent buffer the impacts felt by the 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. In April 2021, we completed Participatory Impact Assessments to further evaluate changes to income over the project and how this has been distributed across households at each reserve. The results of the PIA will be shared in full by end of project.

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 the report will be ready by then the end of project). 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. Overall changes in local stake in management in are being assessed in the PIA (final results to be shared end June 2021).

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 June 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.

3.4 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 29th 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 were 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 end of Y4. In order to encourage women to participate, there are two mobilisers in each reserve, one man and one woman. 93% 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.

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

The project is contributing to the conservation of four globally threatened tree species: *Amygdalus bucharica*, *Pyrus korshinskyi*, *Malus sieversii* and *Pyrus tadshikistanica*. We are working to ensure 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 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 have been 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 and increase local stake in management of forest resources. Producers groups are successfully adding value to products and reaching new markets and significantly higher prices, although income levels in 2020 dropped by >80% from the previous year, due to an exceptionally poor harvest and recued trade during the pandemic. We have also addressing 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 and help communities get through hard times. 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. Further analysis of the project's impact on local stake and influence on forest management will be at added to the end of project report, following analysis of PIA data.

4. Contribution to the 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 is supporting 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 is collecting 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 has 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 is supporting 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 June 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 June 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.

5. Project support to the Conventions, Treaties or Agreements

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 in June 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. The project has not yet adequately explored seed collection and planting and protection of local genetic varieties.

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).

6. Project support to poverty alleviation

Our work to support poverty alleviation in Year 3 has included:

- We provided ongoing mentoring, technical support, and equipment to 160 members of six local producer groups established by the project.
- In lieu of delivering training workshops during the height of the pandemic in Tajikistan, we provided handouts, learning materials and videos to 360 people based in the communities. These covered topics related to calculating production costs and financial management. This adds to 142 people directly trained over Y1-3.
- Using emergency funding provided by FFI, we provided basic equipment to enable people to continue to process harvested fruit and nut forests and reduce their need to use of shared equipment. Facemasks, hand gel and other materials were also provided.
- We organised an exchange meetings attended by eight group representatives and four different buyers and exports, during which the groups shared samples of their projects and learned more about the quality expectations of these buyers.
- We supported the groups to secure certificates that enable them to sell their products to national markets in both 2019 and 2020.
- We also mentored and trained eight saving groups containing 200 members. More than 119,170 somoni £7,518 was saved in year 4 (56% higher than Year 3) and members have taken loans to purchase fencing materials for their plots and gardens, to purchase pipes for drinking water and irrigating plots and gardens, or purchase seeds for tree-planting and fencing newly established gardens. In Y4), most of the funds were used to overcome the Covid –19 related shock to provide their families with food and clothing, and to spend on their children's higher education.
- We supported 84 households to secure long-term rights to manage plots of forest in Dashtijum reserve, ensuring their continued access to forest products.

These activities helped the producer groups to command higher prices for fruit and nut products in 2019 (ranging from a 10% – 50% increase for different products). However, in 2020 the prices of some products changed by $\pm$3% due to an exceptionally poor harvest caused by unexpected cold temperature and snowfall in April-the blossoming season of most fruit trees and reduced trade the height of the pandemic. The overall impact of the project on poverty alleviation will be assessed once analysis of a Participatory Impact Assessment is complete in June 2021.

7. Consideration of gender equality issues

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. At the end of Y4, women constituted 93% 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. Gender equality impacts of the project are likely to be an increase in empowerment of 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. Men, who tend to spend significantly more time carrying out activities within in the forest reserve, have been 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 (particularly pomegranate tree disease) 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. Subjectively, 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.

8. Monitoring and evaluation

A steering group which will meet next in May 2021 is overseeing project implementation and reviewing progress against the project activities and indicators .

Each partner organisation is responsible for monitoring and maintaining records of activity outputs, including numbers of community participants, disaggregated by gender. The project manager has been responsible for collating this data. Data collected by the project partners is allowing us to effectively monitor progress against the output-level indicators, with maps, survey data, literature reviews, training reports, workshop reports and planting records allowing us to verify progress against all outputs in the log-frame.

Data also indicate good progress towards outcome-level indicators, with evidence available to demonstrate increased local engagement in forest conservation (0.1), increases diversity of tree species used in plantings (0.2); projected increases in population size for threatened tree species (0.3); increased prices secured (although not income in 2020 (0.4) and approved reforestation plans (0.6). The Participatory Impact Assessment completed in April 2021 will provide a range of qualitative and complementary evidence to evaluate progress against agreed indicators, particularly in relation to local perceptions around engagement in forest conservation (0.1) and their ability to influence management (0.5)

9. Lessons learnt

1. The Covid -19 pandemic showed that working from distance is possible. Although face to face meetings with partners and between international and national staff is optimal, the project communications were exceptionally dynamic and efficient.

2. Climate change impact is increasing year by year and it is badly affecting the harvest level and the income of communities. This has been most pronounced in 2020. A major focus for the project going forward should centre on scaling up implementation of climate change adaptation measures.

3. 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.

4. The workshops and trainings are effective and people could manage to continue the same work after the project was finished in the reserve. As an example, there one of the saving groups was established in 2011 by the Aga Khan Foundation and the project ended long ago, but the same group is still active with 20 members. It shows that there is genuine local appetite and desire to continue many of the initiatives initiated through this project.

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

EOY3 Reviewer comments:	Response:
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	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.
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.
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 does put emphasis on protecting and watering 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 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.

11. Other comments on progress not covered elsewhere

12. Sustainability and legacy

We are building 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 Zam Zam and Ganji Tabat on data recording methods for gathering community and ecological datasets and are providing advice on report writing. Both partners are performing activities to a high standard are benefiting significantly from participation in the Darwin project.

13. 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

In FFI's magazine in an article entitled 'Food for Throught' featuerd the project's work with producer groups.

Country Director Ubayd Gulamadshoev and Programme Assistant Rasima Sabzalieva presented the results of the Darwin supported project at Kew's Restoration conference: https://www.youtube.com/watch?v=eSGIIL-eaLI as well as at a FFI online seminar on tree conservation.

14. 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. 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 deceased slightly in some cases. Demand for dried fruits has 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.

We expect the project to finish by end June 2021 (a total extension of 3 months) in line with the change request granted by Darwin. 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. Now that we are in the fourth year of the project, all stakeholders have an excellent understanding of their roles and responsibilities our staff could not physically travel to the field sites and when we depended on 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 have 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 then are socially distanced and compel people to wear masks and use hand sanistisers. We also closed our office for a period of four months and have 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 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..

15. Safeguarding

Please tick this box if any safeguarding or human rights violations have occurred during this financial year. ☐

If you have ticked the box, please ensure these are reported to ODA.safeguarding@defra.gov.uk as indicated in the T&Cs.

An update on FFI's safeguarding policies is included as an annex, in EF Admin. Relevant policies include FFI's Safeguarding Children and Adults at Risk Policy & Procedure; Anti-bullying and Anti-harassment Policy and Whistleblowing Policy. We monitor updates in Government and Charity Commission guidance and review our policies and procedures accordingly.

All project staff have been instructed to follow these policies. These policies are also included in FFI's sub-grant agreements with its project partners. No safeguarding issues have been reported during the reporting year for this project. FFI's trained staff are in close communication with the partners, many forest service staff the community mobilisers, and many of members of the communities, both women and men; we are well placed to identify and report on any safeguarding issues occurring during or as a result of the project's activities. All work in this project is designed to increase local participation in forest conservation, especially among vulnerable members of each community. Information gathered on community members (e.g. HH survey data) is stored securely and is not shared outside of FFI.

16. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2020 – 31 March 2021)

This is a draft report as we are waiting on bank statements from partners to confirm exchange rate used to convert local currencies to GBP. A finalised report will be prepared in advance of our actual claim.

Project spend (indicative) since last annual report	2020/21 Grant (£)	2020/21 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)	[redacted]			
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Monitoring & Evaluation (M&E)				
Others (see below)				
TOTAL				

[1] A change request was approved by Defra to move £1,500 of Overhand Costs, £1,500 of Travel costs and £1,000 of Operating Costs to 2020/21

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2020-2021

Project summary	Measurable Indicators		Actions required/planned for next period
Impact 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.		The project is contributing to the conservation of four globally threatened tree species: *Amygdalus bucharica*, *Pyrus korshinskyi*, *Malus sieversii* and *Pyrus tadshikistanica* 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 containing these species. Populations of all four species have been boosted by planting, with 53,714 seedlings planted seedlings planted directly into the forest, with >fivefold 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 have been 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 also addressing poverty alleviation through extensive activities designed to increase income, improve access to markets and increase local stake in management of forest resources. Producers groups are successfully adding value to products and reaching new markets and significantly higher prices, 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.	[redacted]

		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.	[redacted]
Outcome 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.	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).	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 360 producer and saving group members have increased their participation in forest restoration activities.	Support increased roll out and implementation of Joint Forest Management in both reserves.
	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.	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.	Continue to support diverse plantings, adding new species and varieties to this mix wherever possible.
	0.3 Number of individuals of 3 threatened tree species (including 2 CR *Pyrus*) at project sites increased four-fold from known current baseline.	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.	Continue planting threatened species and introduce more fencing to protect remaining trees from grazing.

		tadshikistanica (over a sixfold increase). This does not account for other gains made through improved natural regeneration	
	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.	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. Effect on total income levels will be evaluated at the end of the project although incomes in 2020 are set to have decreased significantly in relation to reduced sales during the pandemic and bad weather affecting fruit crops.	Continue to mentor and provide training to producer and saving groups to help them sustain income increases.
	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 the report will be ready by the end of project time	We will continue to facilitate stakeholder fora and will support implementation of Joint Forest Management as a principal mechanism for increasing local stake in the management of the reserves.
	0.6 Approved reforestation and Species Action Plans reflect climate change predictions and include appropriate	Planned actions for reforestation and for protection of four threatened species are included within a Participatory Management plan developed for Dashtijum and this is in the process of	Support implementation of reforestation actions (as outlined in the Dashtijum Participatory Management Plan) and complete a Participatory Management Plan in Childukhtaron.

	adaptation measures to increase resilience which are being implemented.	being repeated in Childukhtaron in with a final plan due by end June 2021	
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.	1.1 Baseline habitat and botanical surveys undertaken at both project sites in Year 1, incorporating local knowledge on agro-biodiversity. 1.2 Species Action Plans for three Red List tree species (two CR *Pyrus*) developed in Year 2 and actions being implemented by Year 4. 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 & 4. 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.	We established baselines for threatened trees and habitat condition (indicator 1.1) through field surveys and remote sensing. 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) now underway. 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 2021. All information produced by the project will be shared with Forestry Agency and other national stakeholders in an end of project workshop in June 2021	
Activity 1.1 Conduct habitat and botanical surveys to update (currently weak) baseline biodiversity data for sites and key species at Childukhtaron and Dashtijum.]		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 *P. korshinskyi* and 212 *P. tadshikistanica*. No further data were collected in Y4.	Share final outputs under 1.10.
Activity 1.2 Conduct interviews to collect local knowledge of agro-biodiversity		Household survey data were collected in Y1-2 and a report summarising key	Share final outputs under 1.10.

		findings and recommendations (e.g. the report highlighted a need to strengthen community involvement in forest management) was produced in Y3. These informed our project approach in Y4 (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). In Y4, we distributed the traditional knowledge reports back to communities to fill in any gap or add any missing information and received the reports with minor additions to them/	
Activity 1.3 Collate data to help establish sustainable harvest levels for key species		We had planned to complete a Participatory Management Plan for Childukhtaron in Y4 but in the end our consultant could not travel to Tajikistan to lead the process due to the Covid-19 related travel ban. The consultant has instead provided online training to FFI staff who conducted the initial participatory workshop from April 26th-30th.	Complete the PMP for Childukhtaron.
Activity1.4 Produce and disseminate survey reports (in Russian, Tajik and English)		Species status reviews and action plans (1.6) for Critically Endangered *Pyrus* korshinskyi and P*. tadshikistanica* and Vulnerable *Malus sieversii* and *Amygdalus bucharica* were completed in Y3. In Y4, we translated these combined survey reports and action plans into Tajik and disseminated 40	Share final outputs under 1.10.

		copies (20 to each 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		Achieved in Y2. Results were used to inform awareness raising activities completed in Y4 (see 3.1).	Will form a fundamental part of FFI's planning for future projects in the region.
Activity 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		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 anticipated co-funding from the Global Trees Campaign.	Continued implementation of agreed actions for each species.
Activity1.7 Agree protocol for participatory forest monitoring scheme with forest service and communities		Completed in Y3.	Support continued use of the monitoring form by community members.
Activity 1.8 Implement monitoring: patrols collect data as per agreed protocol		Eighty-four plot-holders who have signed up to JFM in Dashtijum are now using the monitoring forms developed by FFI to collect data on the condition of their forest plots.	Continue to provide external support and advice.
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	FFI will support the Forest Service with the analysis of this data.
Activity 1.10 Workshop to disseminate research and learning to local and national Forest Agency and interested stakeholders.		Due to start in June 2021.	A workshop will be organised in June 2021.
Output 2: Local market actors supported to implement activities identified through Participatory Market System Development (PMSD) to	2.1 Steps 1 – 7 in the PMSD roadmap[1] completed with market actors for Dashtijum in Year 1 and locally specific actions identified.	2.1 The PMSD process from steps 1-7 was completed in Year 1.	

improve income from fruit and nuts (NTFPs)	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. 2.3 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. 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. 2.5 Multi-dimensional well-being benefits explored, understood and captured through Participatory Impact Assessment (PIA) with gender-disaggregated data, in Year 4.	2.2 Six cooperatives with a total of 160 members (94% women) are active. 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 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. Initial results from the PIA indicate that the saving groups were hugely important to help people cope with economic impacts of the pandemic 2.5 Well-being benefits generated through participation in the project have been evaluated in Year 4, although data analysis is ongoing with a full report to be completed by end June 2021.	
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 – http://www.pmsdroadmap.org/).		Completed and reported on in the Year 1 annual report.	Continue to support producer groups to follow the PMSD action plans developed in Year 1.

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).		Although this activity was completed in Y1-2, we have continued to support local producer group members to engage with market actors throughout Y3-4. Building on successful exchange trips completed in Y3, in Y4, we supported eight (two men; six women) producer group members from both Dashtijum and Childukhtaron to meet and exchange experience with representatives from local businesses in Isfara (an important market city in Sughd region) from November 2nd – 4th 2020.	Continue to support producer groups to follow the PMSD action plans developed in Year 1.
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		Completed and reported on in the Year 1 annual report.	Continue to support producer groups to follow the PMSD action plans developed in Year 1.
Activity 2.4 Support the two communities to establish producer cooperatives, ensuring active participation of women.		At the end of Y3, six producer groups were operating, with a total of 160 members (94% women). Earlier reports detail benefits of group membership, which include access to training, shared equipment, improved product quality and support to reach new markets. In Y4, our partner Zam Zam, mentored each group, organised exchange trips for representatives (see 2.2), provided learning materials and training (see 2.5), provided additional equipment and materials to promote safe collection and	Zam Zam will continue to support the producer groups to reach new markets in 2021.

		processing during the pandemic (see 2.6) and extended the duration of the Certificate of standard and quality for one more year, meaning that till November, 2021 the producer groups as well as saving groups can use the certificate to sell their processed products in local markets .	
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.		Zam Zam typically carries our trainings at communities during the spring and summer months (before the busy fruit and nut harvesting season begins) but, in Y4, training scheduled for this period was 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. Materials for the producer groups focussed on calculating the true production cost of fruit and nut harvesting and materials for the saving groups focussed on financial management costs.	We are in discussion with Zam Zam to define what needs the producer groups have identified for further training and may use this as basis for future funding proposals
Activity 2.6 Provide locally appropriate equipment (identified in PMSD action plans) to producer cooperatives to improve processing at local level – for		In Y4, Zam Zam provided canning equipment to the 60 newest members of the producer groups (those who joined at the end of Y3). In addition, FFI	Complete. We do not currently plan to provide further equipment post project.

example, this might be drying racks or packaging machine.		used its internal Covid-19 emergency fund to distribute additional equipment to the project communities, including distribution of buckets and cotton fabric (allowing people to harvest and process fruit individually and minimise there need to use shared equipment during the pandemic	
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	We will continue to explore whether local export companies would be able to meet the specifications expected by this buyer and whether the producer groups established by this project would be able to meet such demand without over-harvesting wild stocks.
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)		In Y4. Zam Zam continued to provide mentoring and training (see 2.5) to eight saving groups (200 members: 82% women) established in Y1-3. 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 in 2020 was 119,170 somoni (equivalent to £ 7,518), 56% higher than in 2019. In Y4, a new contract with additional TORs was created and presented to the members of saving groups	Zam Zam will continue to provide mentoring and advice to the groups and will support training as needs are identified.

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 late March 2021. The PIA was completed from April 6th-April 16th, with 159 people from 14 different groups interviewed. Results are being analysed at the time of writing.	Full results will be shared in the end of project report.
Output 3: Community forest users (women and men) and two forest service units enhancing forest management and promoting resilience to climate change.	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). 3.2 Strategic, climate-proofed, reforestation plan developed for both project sites by Year 2 and priority actions being implemented by Year 4. 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. 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).	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 >900 (65% women) people are more aware of the importance of agro-biodiversity through participation in 14 seminars and two harvest festivals 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 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 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	

	3.5 Over 400,000 native trees grown in nurseries and planted out in priority locations by Year 4.	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	
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.		In Y4, Kulob Botanic Garden conducted two awareness-raising seminars. Recognising the increased impact that climate change is having on both biodiversity and livelihoods, the Y4 seminars focussed on "the roles of forests in climate change mitigation". FFI staff also completed two school events to December 2020 during which more than pupils from schools based at Dashtijum and Childukhtaron secondary school took part in competitions to write essays and draw pictures concerning the forest and its conservation.	Awareness raising will continue to form an important part of any future project.
Activity 3.2 Organise four community harvest-time festivals to celebrate the forest, its biodiversity and fruit and nut products		Completed in Y3 and described in full in the end EOY3 report.	No further action planned.
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.		Completed in Y2 and described in full in the end EOY2 report.	Revisiting these plans and supporting implementation of priority actions will be fundamental part of future funding proposals.

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.		As mentioned above, the project worked with Dashtijum reserve to develop a Participatory Management Plan in Y3 and will support Childukhtaron to complete its own plan over April 2021. These plans outline priority zones for reforestation and include recommendations for priority species to plant. .	Support completion of the PMP in Childukhtaron by June 2021.
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.		In February, 2021 FFI and Zam Zam jointly facilitated one stakeholder forum at each reserve, attended by 29 people (18 women and 11 men) in Childukhtaron and 31 people (23 women, 8 men) in Dashtijum. The forums again acted as a successful platform for community members and forestry officials to exchanges ideas and discuss challenges. These meetings focused on joint forest management and connecting producer groups to the market.	The forum is highly popular and will most likely continue through the leadership of people in the communities.
Activity 3.6 Work with local forest leaseholders to protect trees in their forest plots, through fencing and other means.		In Y4, with co-funding provided from the Global Trees Campaign, fencing materials were distributed to 28 leaseholders (14 Childukhtaron; 14 Dashtijum) and these were erected over the course of 2020. This adds to 19 households supported to fence gardens or forest plots in Y3, meaning that in total 47 households have erected fencing to protect threatened pear tree species and promote natural regimentation	Complete.

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.		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. In Y4, these nurseries are helping to supply planting efforts this year.	Ongoing management of existing nurseries by the FSUs with advice from FFI.
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 Y4, 96,339 saplings and 575.1 kg of seed from 17 native species were planted in the forest and nurseries. 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.	Continued support for reforestation with other funding sources. We are continuing to push to increase diversity of plantings.

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

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact: 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.			
Outcome: 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.	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). 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. 0.3 Number of individuals of 3 threatened tree species (including 2 CR *Pyrus*) at project sites increased four-fold from known current baseline. 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. 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.	0.1 Stakeholder survey, activity records/ project updates, meeting attendance records. 0.2 Nursery and planting records, baseline surveys and forest monitoring, local forest service annual report to Forestry Agency. 0.3 Planting records, monitoring reports. 0.4 Household survey in Years 1 & 4, participatory impact assessment report. 0.5 Interview records, participatory impact assessment report. 0.6 Plan documents, climate change risk assessments.	Government policy continues to permit collaborative forest management and greater practical involvement of local forest users. Substantial numbers of forest users are willing and able to engage in conservation and management. 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. Income from non NTFP sources does not significantly change during project period. Local forest service remains interested and open to learning and collaboration (we currently have very positive relationship with both forestry units). No major economic or political crises in Tajikistan.

	0.6 Approved reforestation and Species Action Plans reflect climate change predictions and include appropriate adaptation measures to increase resilience which are being implemented.		
Output 1 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.	1.1 Baseline habitat and botanical surveys undertaken at both project sites in Year 1, incorporating local knowledge on agro-biodiversity. 1.2 Species Action Plans for three Red List tree species (two CR *Pyrus*) developed in Year 2 and actions being implemented by Year 4. 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 & 4. 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.	1.1 Survey reports, GPS tracks, local knowledge interview records. 1.2 Action plan documents; Year 4 progress review/survey/activity records. 1.3 Monitoring protocol document, climate change risk assessment, consultation meeting reports, patrol records, collected data, reports. 1.4 Workshop presentations, participant lists, meeting report, workshop feedback surveys (participants report an increase in knowledge).	Forest users willing to share local knowledge on varieties. Survey team able to integrate local knowledge into ecological survey methods. Adequate and sustainable incentives can be found for forest users to take part in participatory monitoring; and they have time to do so. Local forest service willing to commit effort to joint monitoring (they have indicated that they are in discussions with project team).
Output 2 2. 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[2] completed with market actors for Dashtijum in Year 1 and locally specific actions identified. 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. 2.3 By end of year 4, 300 local collectors (at least 60% female) trained and applying new skills to sustainably	2.1 Workshop reports, attendance records and participants feedback; Action Plan document. 2.2 Official documentation (Charter) for cooperatives, membership rolls, equipment purchased, activity and sales records. 2.3 Training attendance records, follow-up survey of attendees (whether they are using new skills).	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. Women as well as men feel able to join and engage meaningfully in producer cooperatives (project coordinators will empower and encourage women's participation).

	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. 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. 2.5 Multi-dimensional well-being benefits explored, understood and captured through Participatory Impact Assessment (PIA) with gender-disaggregated data, in Year 4.	2.4 Semi-structured interview and focal group records; PIA report. 2.5 Semi-structured interview and focal group records; PIA report.	Trained collectors are able to apply new knowledge and skills to improve product quality and/ or market access. 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.
Output 3 3. Community forest users (women and men) and two forest service units enhancing forest management and promoting resilience to climate change.	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). 3.2 Strategic, climate-proofed, reforestation plan developed for both project sites by Year 2 and priority actions being implemented by Year 4. 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. 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). 3.5 Over 400,000 native trees grown in nurseries and planted out in priority locations by Year 4.	3.1 Knowledge and attitude survey, awareness event records. 3.2 Plan documents, climate change risk assessment, activity reports, photos, local forest service annual report to Forestry Agency 3.3 Forum terms of reference, meeting attendance records and minutes, knowledge and perception survey, PIA report. 3.4 Activity records, photos, Year 4 survey of plots (baseline measured when action agreed). 3.5 Nursery and planting records, photos, local forest service annual report to Forestry Agency.	3.1 Knowledge and attitude survey, awareness event records. 3.2 Plan documents, climate change risk assessment, activity reports, photos, local forest service annual report to Forestry Agency 3.3 Forum terms of reference, meeting attendance records and minutes, knowledge and perception survey, PIA report. 3.4 Activity records, photos, Year 4 survey of plots (baseline measured when action agreed). 3.5 Nursery and planting records, photos, local forest service annual report to Forestry Agency.

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 3: Standard Measures

Table 1 Project Standard Output Measures

Code No.	Description	Gender of people (if relevant)	Nationality of people (if relevant)	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	Total to date	Total planned during the project
5	**In Year 1**, 1 person from the botanical gardens received field training and 3 people from Zam Zam received PMSD and survey training. In Year 4: **Same** 3 people from Zam Zam trained in PIA	2 male, 2 female	Tajik	4	-	-	3	4	4
6A	**Year 1:** 97 people were trained on fruit tree management for a day 45 people trained for a day on saving group management 40 people we trained on fruit processing for 2 days **Year 2:** 142 people trained in family budgeting; and in use of saving funds (3 days) 40 people also trained in canning and drying fruit and forest conservation (5 days) **Year 3:** 16 people involved in exchange trips to visit local fruit buyers. 70 saving group members trained in financial management	**Year 1:** 28 female, 69 male 33 woman, 12 male 9 male, 31 female **Year 2:** 96 female; 46 male	Tajik	182	142 (a subset of 182 from Year 1, so doesn't increase total)	126 (a subset of 182 from Year 1, so doesn't increase total)	79	261	1261

	40 producer group members trained in labelling and packaging **Year 4:** 8 people involved in exchange trips 46 people trained in JFM (28% women) 25 FSU staff had legislation training								
6B	Training weeks using the figures described above: **Year 1** – 43 weeks (202 person days) **Year 2** – 125 weeks (626 person days) **Year 3** – 50 weeks (348 person days) **Year 4** – 13 weeks	See above	Tajik	43	125	50	13	231	231
7	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	-	-	1	-	1		1	1
9	Participatory Management Plan completed in year 3 for Dashtijum	-	-	-	-	1	1	1	2
10	A pocket tree identification guide was produced was shared with the FSU teams in Year 3	-	-	-	1	-		-	1
12A	Database of threatened tree species and database of forest quality now established but not yet handed over to the Forest Service.	-	-	-	-	1		-	0
14A	Workshop to be organised at end of project	-	-	-	-	-		1	0
14B	Project findings were shared at the 2018 Conservation Asia conference in Bishkek and at International conference on “Ecological Characteristics of Biological	-	-	-	1	1		0	1

	Diversity" held in Khujand, Tajikistan								
20	In **Year 1** two electric dryers; equipment for installation of driers **Year 2**, a truck was procured and donated to local producer groups. **In Year 3**, 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 In Year 4 Zam Zam bought canning machines for producer groups costing £[redacted]	-	-	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
23	**Year 1:** £[redacted] from Global Trees Campaign and £[redacted] from the Christensen fund **Year 2:** [redacted] Global Trees Campaign **Year 3:** £[redacted] from Global Trees Campaign **Year 4:** £ [redacted] from Global Trees Campaign	-	-	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Table 2 Publications

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)
The first rapid forest inventory and resource use assessment of Dashtijum	Journal	Fred Pilkington, Mierva Singh, Vicky	Male	UK	Oryx – the International Journal of Conservation, Cambridge	https://www.cambridge.org/core/journals/oryx/article/first-rapid-forest-inventory-and-resource-use-assessment-of-dashtijum-nature-reserve-

Nature Reserve, Tajikistan: a mixed methods approach		WIlkins, Colin Clubbe				tajikistan-a-mixed-methods-approach/F0D2A6243430523F1159F2C51F8B526E