Department for Environment Food & Rural Affairs

DARWIN INITIATIVE

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Darwin Initiative Main and Post Project Annual Report

Darwin Project Information

Project reference	26-020
Project title	Securing wild tulips and pastoral communities in the Kyrgyz mountains
Country/ies	Kyrgyzstan
Lead organisation	Fauna & Flora International
Partner institution(s)	Association of Forest Users and Land Users of Kyrgyzstan (AFLUK); Bioresurs & Cambridge University Botanic Gardens (CUBG)
Darwin grant value	**£309,374**
Start/end dates of project	1st April 2019 - 31st March 2022
Reporting period (e.g. Apr 2019 – Mar 2020) and number (e.g. Annual Report 1, 2, 3)	1st April 2019 – 31st March 2020
Project Leader name	Jarkyn Samanchina
Project website/blog/Twitter	https://www.fauna-flora.org/projects/securing-wild-tulips-montane-grasslands-kyrgyzstan
Report author(s) and date	Jarkyn Samanchina, Akylai Kabaeva, Ormon Sultangaziev, Mariia Chernyavskaiiya, David Gill, Kayirkul Shalpykov , Sairagul Tajibaeva, Brett Wilson and Sam Brickington. April 2020

1. Project summary

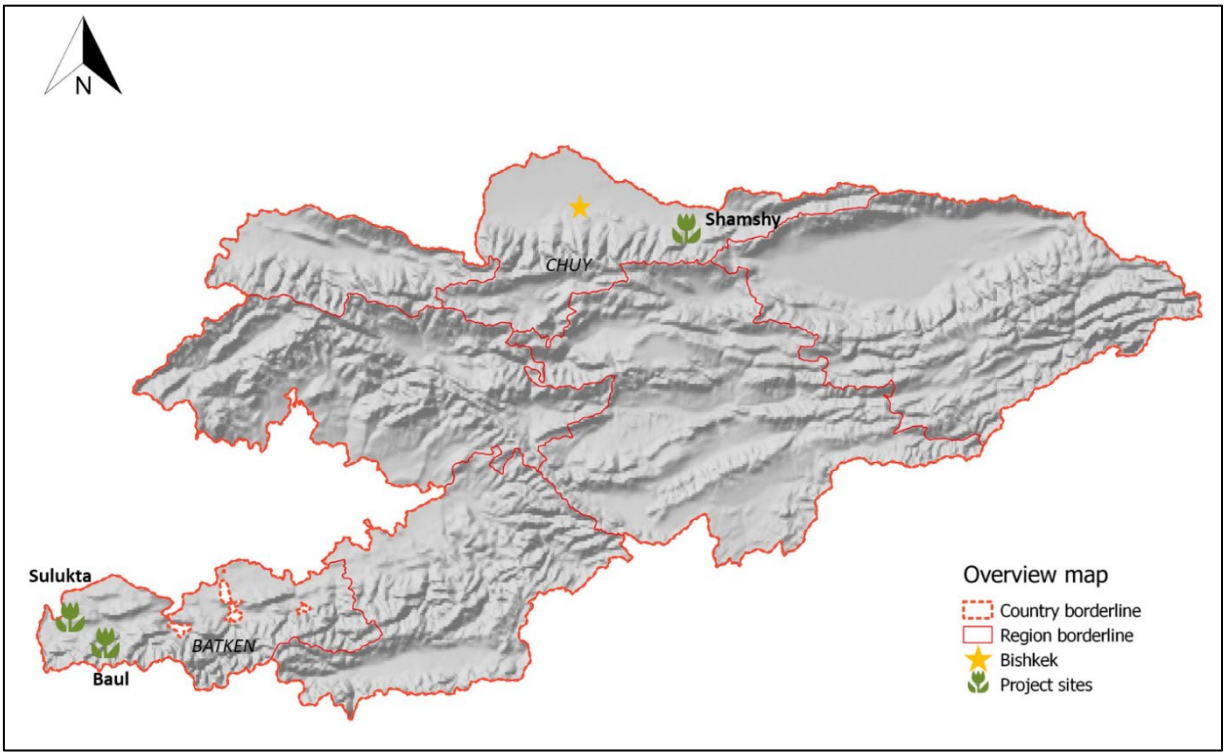
The montane grasslands of Kyrgyzstan are globally important with 27 species of wild tulips (35% of global diversity), including six endemics and 11 nationally Red Listed species. These species are the ancestors of garden tulips and provide genetic resources for modern horticulture. Kyrgyzstan's 4 million hectares of montane grasslands are crucial for tulips and semi-nomadic pastoralism. For centuries, Kyrgyz people have grazed livestock, and pastoralism remains integral to mountain communities' livelihoods. However, approximately a quarter of all Kyrgyzstan's montane grasslands are overgrazed, resulting in decreased ground cover, widespread erosion, less palatable species for livestock and less resilience to climate change. Pasture degradation is negatively impacting already-deprived, grassland-dependent communities, threatening their livelihoods, wellbeing and cultural identify.

The pastoral regions of Chui and Batken are Kyrgyzstan's first and second most impoverished, respectively, with average incomes of less than $2.50 per day. The project works in Shamshy village (pop. 795) in Chui Region and Baul village (pop. 2,000) and Sulukta (pop. 20,725) in Batken Region. Pastures are managed centrally by the Kyrgyzstan government in conjunction with local Pasture Committees; however, engagement of wider and marginalised sectors of the community is limited.

Tulips are indicator species for sustainably-managed pastures, as overgrazing and excessive trampling by livestock are key threats that prevent regeneration, resulting in extinction risk. Other threats include recreational flower picking, climate change and habitat loss. These

threats are exacerbated by limited data, the absence of formal protection and low public awareness.

The project is increasing understanding of Kyrgyzstan's grasslands and tulips and work with local communities to protect tulips through grazing management, protection and culturally-relevant awareness-raising activities, benefiting communities, grazing pastures and tulips.



2. Project partnerships

Project partners were identified during a scoping trip carried out in 2018. They were then actively involved in developing the project proposal; helping to identify project sites, prioritise major threats, and select activities for the project workplan. Main partners are: Bioresurs, a local NGO with expertise in botany and plant conservation, the Association of Forest Land Users of Kyrgyzstan (AFLUK), a local NGO dedicated to sustainable forest and pasture management and Cambridge University Botanic Garden, holders of the British national collection of tulips.

FFI has a permanent office in Kyrgyzstan and our staff are regularly in contact with all partners to monitor progress and to advise on technical, management and administrative aspects of delivery. FFI hosted two formal steering group meeting in Y1, and the leads from FFI's Kyrgyzstan Programme and the two national partners (AFLUK and Bioresurs) met regularly throughout the project year. Cambridge University PhD student was hosted in FFI's office in Bishkek during his fieldwork in 2019. All partners also participate in a project WhatsApp group, "Darwin Tulips", which has enabled regular sharing of information, photographs and updates from the field.

FFI has also coordinated input from other collaborators in Kyrgyzstan, including: the National Academy of Sciences of the Republic of Kyrgyzstan, the National Pasture Users Association of Kyrgyzstan "Kyrgyz Jayity", Gareev Botanical Garden, the Seed Laboratory of the Frunze Forestry and the Livestock Research Institute. These collaborators have offered additional skills and experience to the project partnership; for example FFI invited the Livestock Research Institute to take part in the project, after we recognised a need to enhance the existing partnership's capacity to monitor pasture vegetation and invertebrate communities (an important Outcome indicator). Livestock Research Institute have since provided relevant training to the partners, joined field visits and helped to develop monitoring protocols.

3. Project progress

3.1 Progress in carrying out project Activities

1.1 Develop survey methodology for tulips and pastures, with input from project partners and stakeholders

From June to August 2019, a technical working group – including experts from AFLUK, the National Association of Pasture Users and the National Academy of Science and Bioresurs – jointly developed a methodology for gathering baseline data on pasture condition, use, management and local awareness of pasture laws. This included guidance on questions to ask in focus group discussions and forms for semi-structured interviews (available in Evidence Folder (EF)1: 1.1).

Bioresurs followed an existing methodology for tulip species surveys (described within their annual report - see EF1: 1.2). In Y2 FFI will support them to develop an additional protocol for collection of more detailed information on tulip abundance and flowering rates.

1.2 Conduct baseline surveys for tulips and pastures in the project sites, and repeat monitoring in years 2 and 3

Tulip surveys

From April-June 2019 and in March 2020, Bioresurs and a Cambridge University PhD student, Brett Wilson, with current FFI staff member in attendance, led a series of tulip surveys throughout 31 sites across Kyrgyzstan: in Jalal-Abad, Osh, Batken, Talas and Chui regions. Fieldwork provided new information on 20 tulip species (74% of the national total) including five endemics: *Tulipa anadroma, T. jacquesii*, *T. platystemon, T. zenaidae* and *T. aff. zenaidae* and 15 sub-endemics: *T. affinis*; *T. bifloriformis*; *T. binutans*; *T. dasystemon*; *T. dasystemonoides*; *T. dubia*; *T. ferganica*; *T. greigii*; *T. kaufmanniana*; *T. korolkowii*; *T. ostrowskiana*; *T. rosea*; *T. tarda*; *T. tetraphylla* and *T. turkestanica*. These surveys were designed to address gaps in knowledge on the distribution, ecology, genetics, floristic composition and threats to tulips throughout Kyrgyzstan, and thus help to achieve the intended output of "informing in-situ and ex-situ conservation at a national level". Full results are detailed within Bioresurs's end of year report (EF1: 1.2). Preliminary phylogenetic trees for the *Tulipa* genus and species distribution models (which will be used to inform red list assessments for the species) are available in Brett Wilson's mid and end of year 1 report for his PhD (EF1: 1.4 and 1.5). More specific data from our project sites these initial surveys are summarized in the table below:

	Baul	Suluktu	Shamshy
Area surveyed	15 ha	25 ha	20 ha
Tulip species present	*T. affinis* (Vulnerable)*; T. dasystemon* *T. subbifora*	*T. affinis* (Vulnerable) *and T. rosea* (Endangered)	*T. binutans; T. greigii* (Endangered)*;* *T. ostrowskiana* (Vulnerable)*;* *T. zenaidae* (Vulnerable)
Elevation where tulips were found	1,997m – 2532m	1311m - 1941m	1508m – 1988m
Habitat description	Juniper and shrub forests, subalpine meadows and shallow rocky slopes. Some degradation observed and tulips are relatively abundant.	Fine stony slopes with xero-mesophytic vegetation. Significant degradation observed and abundance of tulips is lower than the other two sites.	Fine grained slopes. Little degradation was observed tulips are relatively abundant.

Threats observed	Overgrazing and tulip cutting. We observed some damage to tulips from insects (during flowering); and mice (eat bulbs)	Overgrazing, tulip cutting and coal, quatz sands, glay and gypsum mining. We observed some damage to tulips from insects (during flowering); and mice (eat bulbs)	Overgrazing and tulip cutting; some insects. We observed some damage to tulips from insects (during flowering); and mice (eat bulbs)

In each of the three project sites, our aim is to collect detailed baseline data (and then carry out annual monitoring) on tulip abundance in (1) areas subject to conservation measures (e.g. fencing and the application of light grazing regimes) and (2) in control areas with no intervention applied. We piloted this approach at a small scale in May 2019 when Bioresurs and PhD student Brett Wilson established six fenced and six unfenced 100m2 plots in Shamshy and collected data on tulip abundance in these areas. We will roll out this monitoring approach at a larger scale in all three project sites. Agreements are being made with local pasture users on which locations will be subject to sustainable pasture management (target 500ha) and fencing (target 5ha).

Pasture surveys

AFLUK carried out semi-structured interviews with 133 pasture users (49 women and 84 men) at the three sites. They also carried out one focus group meeting in each site to better understand pasture condition, use, management and local awareness of pasture legislation. Key results from these surveys are described under 2.1 and 2.2.

After receiving the half year report from AFLUK, FFI recognized that additional support was needed to complete an on-the-ground assessment of pasture quality, vegetation and invertebrates. To support this, we recruited experts from the Livestock Research Institute (LRI). LRI staff with significant expertise in pasture monitoring provided training to AFLUK in February 2020 and helped to develop a form for monitoring pasture vegetation (see also 3.5). Pasture assessments – to be carried out jointly by AFLUK and LRI and pasture users – are now scheduled for June-July 2020 subject to COVD-19 lockdown restrictions being lifted.

1.3 Draft and disseminate report summarising field knowledge of tulips, species and population distributions, and assessing sites for reinforcement and protection opportunities

Reports from Bioresurs and Brett Wilson (available in EF1.2 and 1.5) represent a significant update in knowledge on the distribution, habitat and threats faced by 20 (74%) of Kyrgyzstan's 27 tulip species, including the eight tulip species growing in the project sites. In Y2, we will support Bioresurs to develop a short, accessible report (for conservationists, scientists and relevant government officials) summarising key findings for each species and for each site, including recommendations on priority locations for tulip reinforcement and protection.

1.4 Undertake field mission to collect threatened tulip species, identifying key species with the potential for long term recovery and reinforcement

Having secured appropriate permissions from the state, in July 2019, Bioresurs undertook field missions in Batken, Osh, Jalal-Abad, Talas, Suusamyr and Chui regions, during which they collected 478g of tulip seeds and 1,395 bulbs from nine tulips species from across the country (see Page 36 of Bioresurs report for more information on amounts collected per species in EF1: 1.2). After collection, seeds and bulbs were cleaned and then distributed to four *ex situ* conservation sites (see 1.5). In Y2, Bioresurs will carry out more seed and bulb collections to add more species to these collections and they will also share materials with Cambridge University Botanic Garden, this work being framed under an agreement which ensures equitable IP sharing.

Bioresurs and Gareev Botanical Garden conducted three experiments to inform best practice for germination and also to identify candidate species for future *in situ* reinforcement (with high seed quantity and high germination rates used as indicators for species which could be successfully grown in sufficient numbers for reinforcement purposes). Information on germination success will be combined with other factors (e.g. which species are in greatest need of direct assistance to promote population recovey) to make a final assessment of priority species for reinforcement.

1.5 Establish threatened tulip ex-situ collections at Gareev Botanical Gardens, supported by Cambridge University Botanic Gardens

The project steering group agreed to establish four separate *ex situ* tulip collections in Kyrgyzstan to provide different environments to test optimal conditions for germination and cultivation of the different tulip species. In October 2019, seeds and bulbs from the nine tulip species collected under 1.4 were planted in nursery beds prepared in **(1)** Chunkurchak gorge, a montane area on the Northern slope of the Kyrgyz ridge (managed by Bioresurs); **(2)** Gareev Botanical Garden; **(3)** The experimental site of the Institute of Chemistry and Phytotechnology of the National Academy of Sciences (also located in Gareev Botanical Garden) and (**4)** Arashan village, near Bishkek (a site managed by AFLUK)

In March 2020, local staff observed the first tulips emerging in Gareev Botanical Garden, Arashan village and Bishkek Botanic Garden (Bioresurs were unable to reach Chunkurchak due the lockdown on travel in place due to COVD-19) and so far seven species (*Tulipa affinis, T. anadroma, T. dasystemonoides, T. ferganica, Tulipa gregii, T. kaufmanniana* and *T. ostrowskiana*) are now growing across the four sites. Detailed description on the number of tulips growing in each site, and photos of planting methods, cultivation and after-care are available in Bioresurs's report in EF1: 1.2.

1.6 Cultivate, grow and plant threatened tulip bulbs in-situ to reinforce priority populations; monitor plantings to assess success

Work to cultivate tulips *ex situ* for *in situ* population reinforcement is underway and is described in 1.5. In Y2, work will focus on improving understanding of the germination and growth requirements of different tulip species to inform reinforcement planting scheduled for Y3. Of course, reinforcement indicates that existing species presence will be strengthened and no new species will be introduced to sites.

1.7 Organise and execute exchange trips between Gareev and Cambridge University Botanic Gardens, focusing on staff skills improvements in ex-situ collection management and in-situ reinforcement

Due to start in Y2. If the circumstances related to the outbreak of COVID-19 permit, four tulip experts from Bioresurs and the director of AFLUK will visit Cambridge University Botanical Garden to improve skills in horticulture, ex-situ collection management and in-situ reinforcement.

1.8 Collate background information on threatened tulips and design and implement a strategy workshop that results in the development of a multi-stakeholder tulip Kyrgyz conservation strategy

Background information on threatened tulips has been collated (see 1.2) and will be added to throughout the project. Work to develop a multi-stakeholder tulip Kyrgyz conservation strategy will start in Y3.

2.1 Hold consultation meetings and discussion groups with three pasture committees and at least 50 pasture users to understand current pasture management and health; results analysed

In August and September 2019, AFLUK held consultation meetings in Suluktu, Baul and Shamshy to inform local government representatives and pasture users about the project. Discussions were facilitated with 92 participants in total on pasture quality and current pasture management across all sites and how these link to wild tulip conservation (using focus groups methods developed under 1.1). All three site meetings were attended by representatives of the Ayil Aimak (local government), the Pasture Committee, Forestry Unit employees and local pasture users. In total 29 people (23 men and 6 women) participated in Baul; 39 (18 men and 21 women) in Suluktu and 24 (14 men and 10 women) in Shamshy.

2.2 Write report that reviews current pasture management practices and assesses these against reforms, making recommendations and assess feasibility for improvements

Based on the semi-structured interviews carried out with pasture users (1.2) and the consultation meetings carried (2.1), AFLUK completed a review on pasture management at each project site and made initial recommendations for improvements. The review is included in AFLUK's end of year report (EF2: 2.1) and key findings from each site are below:

- In Baul the Pasture Committee (the local government agency responsible for pasture and livestock management) is responsible for 9,063 ha of pastures (including spring-autumn and winter pastures). Pasture users have 10,000 sheep and goats, 5,775 cattle and 600 horses. Tulips grow in the spring-autumn pastures found in Buul, Bedersia, Ozgorush and Baul. Pasture users also take livestock into other pasture areas under the management of the local Forestry Unit and over-grazing in these areas has caused conflict between these two agencies. The Pasture Committee has an existing Pasture Management Plan and an estimated annual budget of 448,000 soms (~£5,000). A key recommendation for improving pasture management in Baul includes developing a joint action plan between the Pasture Committee and Forestry Unit to coordinate management of grazing between these two different areas. With better coordination, there is potential to support more effective management of livestock (e.g. rotating between different areas), jointly enforce temporary limitations of livestock grazing in degraded and important conservation areas and share resources to monitor and restore pasture areas.
- Pastures in Suluktu are on paper under the responsibility of a Pasture Committee based in Kulundu, the nearby administrative centre. Suluktu has 31,000 ha of pasture and users have 25,000 sheep and goats, 6,000 cattle and 600 horses. A 500ha area called 'Tytty' represents the best tulip habitat. The budget of the Kulundu Pasture Committee is 1,187,000 Soms (~£13,200), but the Kulundu Pasture Management Plan does not include any specific management action or budget to support actions in Suluktu, which is effectively overlooked. Recommendations for improving pasture management in Suluktu include supporting the establishment of a new Pasture Committee in Suluktu village and then supporting it to develop its own Pasture Management Plan. An alternative recommendation would be to adapt the Kulundu Pasture Management Plan to include a specific budget and set of actions for the pastures in Suluktu.
- In Shamshy the Pasture Committee is responsible for 11,000 ha of pastures. Users have 2,200 sheep and goats, 2,000 cattle and 700 horses. Tulips grow in Tuura-Kayin, Ak-Zhalpak, Tuyuk, Bogok-Dobo and Chon-Chetindi pastures. A Pasture Management Plan is in place and the Pasture Committee has a budget of around 360,000 Soms (~£4,000) but this is reportedly is insufficient to implement its actions within the Pasture Management Plan. Recommendations for improving pasture management in Shamshy include devolving responsibility for various actions (e.g. livestock inventory, livestock health, raising funds, rotational grazing of livestock, assessment and monitoring of pastures) to small volunteer groups who would operate under the management of the

Pasture Committee. There appears to be interest among community members to take on these roles and this devolution of responsibility would enable greater and more efficient implementation of the Pasture Management Plan.

2.3 Results (2.2) used for livestock and pasture planning exercise, with community members and stakeholders engaged in designing content of workshops

From October 2019 to February 2020 AFLUK prepared the exercises, handouts and presentations to be used for pasture planning workshops (2.4), engaging several local stakeholders in the development of this content. AFLUK met with representatives from the Ayil Aimak, Pasture Committees and Forestry units in Shamshy, Baul and Kulundu (responsible for Suluktu's pasture lands) in February 2020 to evaluate local priorities for improving pasture management planning and to solicit feedback on workshop materials. Nine meetings (one meeting per community with an average seven local people at each meeting) were held in villages located around Baul and Suluktu pastures to obtain further input from pasture users and active community members.

These consultations revealed that, although all three project sites have a Pasture Management Plan in place, local people did not participate in the plans' development and therefore do not understand or follow them. The existing plans are seen as too generic and are not tailored to the specific situation of each site. There was poor understanding among Pasture Committee members of Pasture Law. At the same time, there appeared to be little local appetite to start the planning process from scratch, and greater preference to raise awareness of and improve the existing plans. AFLUK took this information into account when designing the planning workshops. They reoriented the original idea (to facilitate a new plan) and instead decided to focus the workshops on (1) raising awareness on the role of the pasture committee, pasture laws and the purpose and utility of pasture management plan and (2) involving pasture users in in improving the existing plans and in their implementation to ensure greater participation and sustainability.

The final programme designed for the workshop is available in Table 8, 9 and 10 of AFLUK's end of year report (EF2: 2.1) and translated versions of the presentations prepared for the workshops can be found in EF2: 2.3.

2.4 Plan and hold three pasture planning workshops, reaching at least 100 pasture users; at workshops, gather data to inform development of a plan

In late February 2020, AFLUK led three one-day capacity building workshops attended by 134 pasture users (42 women and 92 men) from the project sites: 49 (37 men and 12 women) in Baul; 43 (20 women and 23 men) in Suluktu and 42 (10 women and 32 men) in Shamshy. Workshop reports are included within EF2: 2.1.

As described in 2.3, these workshops focussed on awareness raising and capacity building, as it became clear that there was little need and appetite to develop new pasture management plans from scratch. Pasture users took part in discussions on the roles of the Pasture Committees (of which there was poor understanding), reviewed the existing management plans and explored options for updating them. Users also participated in practical and theoretical exercises covering topics including pasture law; pasture carrying capacity (and how to calculate it); pasture recovery (including the sowing of site and conservation appropriate nutritious and drought-resistant grass species) and optimal livestock breeds.

The workshops represented an important first step for increasing local buy-in to pasture management planning and will be followed up in Y2 with workshops dedicated to making concrete revisions to the existing plans. The workshops also motivated users to take a more active role in management. For example, in Suluktu, seven pasture users (mainly women) volunteered to form a group responsible for assessing and monitoring pasture health. One

woman was elected as a chairman and offered to develop a work plan with activities and a budget for approval form the Pasture Committee.

Experts from the Livestock Research Institute (LRI) accompanied AFLUK to all three project sites to appraise the situation on the ground and provide recommendations to AFLUK and FFI on improving pasture management. The report from this site visit is available in EF2: 2.2.

2.5 Using data acquired in 2.4, used to develop 'pasture and livestock plans' with pastures users and content supported by the local community

The workshops carried out under 2.4 helped to raise awareness of the existing pasture management plans and laws and to collect data on the limiting factors and to raise interest among pasture users to support the implementation of revised Pasture Management Plans. In Year 2, AFLUK, will carry out further workshops to build on the results from 2.4 and to work with pasture users to refine the existing plans to make them fit local circumstances, and support the project's aim to conserve rich, wildflower meadows.

2.6 Work directly with pasture committees and pasture users on implementation of community-led pasture and livestock plans within the timescale and resources identified

Due to start in Year 2.

2.7 Monitor and assess implementation of management plans by communities through interviews and sites visits

Due to start in Q3 of Year 2.

2.8 'Sustainable Pasture Management Agreement' written with Pasture User Association and in consultation with Pasture Committees

Due to start in Q3 of Year 2.

2.9 Pasture Committee workshop organised and run, and participants sign onto the 'Sustainable Pasture Management Agreement'

Due to start in Year 3.

3.1 Design a suite of trainings for pasture users, incorporating knowledge gained via original reports on grazing management, grazing plan and recommendations on pasture improvements techniques

Building on some training materials already prepared under 2.3, AFLUK is in the process of developing a full suite of trainings for pasture users and these will be completed early in Year 2.

3.2 Lead training events, reaching 300 pasture users across 3 communities, to build their capacity and applied skills in improved pasture management

Due to start after the activities in 3.1 are completed.

3.3 Conduct consultation interviews with pasture users on use of pasture improvement methods; repeat after 1 year to understand application

Due to start in Q3 of Year 2.

3.4 Conduct discussion groups to learn and document the real and perceived benefits and pitfalls to pasture improvement methods; utilise to adaptively manage as necessary

Due to start in Q3 of Year 2.

3.5 Consult and establish community pasture monitoring method through sward and forage assessment and invertebrate assessments for biodiversity to understand the health and recovery of pastures, and to monitor project impact

FFI engaged pasture experts from the LRI to develop a methodology for assessing vegetation and invertebrate communities. FFI recently received a first draft of the monitoring protocol. In Year 2, we will work with LRI and AFLUK to revise the protocol to make sure it is as user friendly as possible. Monitoring is scheduled to take place in summer 2020 and will jointly be led by AFLUK and Pasture Committee members.

In the same time period, and in the same locations, Bioresurs will also carry out detailed surveys of abundance and coverage of wild tulip populations, floristic composition and microbiological soil composition in fenced and non-fenced plots.

3.6 Conduct interviews and discussion groups with pasture users regarding changes in herd health and quality of products from livestock

The interviews and discussion groups will be conducted by AFLUK starting Q3 of Year 2.

4.1 Establish, train and equip two community protection groups to monitor and protect tulips and maintain fencing at four sites (once erected)

Bioresurs have developed good relationships with community members encouraging them to form protection groups. We had planned to establish and train these two groups (approximately 10 people in each group) in March 2020. However we have had to postpone this activity to Y2 following a ban on public gatherings (due to the COVID-19 outbreak). FFI has procured the necessary equipment (including GPS, hats, vests and bags) and these will be distributed to the groups once they have been trained.

4.2 Identify threatened tulip species sites prioritised for fencing and then work with community protection groups to erect fencing

As mentioned under 1.2, fencing of 6 x 0.1 ha plots has been trialled in Y1. With the support of the community protection groups, 5 ha of tulip habitat will be fenced in Y2.

4.3 Consult, identify and mark tulip conservation zones, and work with local pasture users to apply grazing management

Bioresurs developed a good understanding of priority zones through surveys carried out under 1.1 and will work with AFLUK and pasture users to clearly mark these in Y2.

4.4 Survey tourist agencies, identify key messaging, and develop outreach materials targeting tourists to influence tourist behaviour, highlighting cultural value of tulips and laws governing tulip cutting

This is due to start in Q2 of Year 2. However, partners have already developed various outreach materials including posters (produced by Bioresurs) and notebooks (produced AFLUK). FFI also commissioned a young, local artist to produce hand-drawn sketches of six

tulip species for use in awareness raising materials throughout the project. Eco-bags, featuring these drawings were produced in March 2020 (see EF 4: 4.2.1) and will be disseminated to key stakeholders, including, tour operators, in Y2 and Y3.

4.5 Distribute tourist outreach materials through tourist agencies and local businesses; survey tourists to assess impact

Due to start in Year 3.

4.6 Design and implement a series of cultural events working with local community leaders, teachers and other local influencers (e.g. tulip festivals, bulb plantings, school activities)

In June 2019, with additional co-funding secured from the Finnis Scott Foundation, FFI's Kyrgyzstan team, together with a Senior Researcher from the National Academy of Sciences, held a series of half-day awareness seminars at all three project sites. The workshops sought to celebrate and raise awareness of the unique cultural history of tulips in Kyrgyzstan and also to generate local interest in supporting wild tulip protection (supporting activity 4.1). The seminars were attended by 113 people, including school children, community members and staff from the Shamshy Forestry Unit. More information is available in EF4: 4.1 and 4.4.

Bioresurs had planned to organize a Tulip Festival in Gareev Botanical Garden in March 2020, however due to the ban on public gathering caused by the COVD-19 outbreak, this was postponed to spring 2021.

4.7 Design and transport mobile interpretation boards on tulips and tulip conservation to project communities, to will be eventually housed in Gareev Botanical Garden.

AFLUK produced one mobile board showcasing all work carried out by the project on pasture management (see EF4: 4.5). More boards will be produced in Y2. Staff form Gareev Botanical Gardens will help to design the new boards to ensure they are useful, informative and interesting for visitors of Botanical Garden, where the boards will be housed.

4.8 Conduct surveys to understand changes in attitudes, perceptions, and behaviours, regarding wild tulips their cultural value and protection

This activity is due to start in Q2 of Year 3.

3.2 Progress towards project Outputs

Output 1. Increased knowledge of wild tulip species is informing both in-situ and ex-situ conservation and management development at national level

Before the project start, very little research had been carried out on wild tulips in Kyrgyzstan. Expeditions carried out by Bioresurs and a PhD student from Cambridge University Botanic Garden addressed major data gaps on distribution, threats, ecology and genetics from 20 of Kyrgyzstan's 27 wild species at 31 sites (including the three project sites) (see EF: Output 1- 1.2). This will be followed by more detailed baseline work on tulip abundance and grassland habitat in the project sites in summer 2020 (**indicator 1.1**). Following bulb and seed collection trips in July 2019, ex situ collections of nine tulip species have been established (**indicator 1.2**) and scientists from Bioresurs and Gareev Botanical Garden initiated a series of germination experiments (see EF: Output 1- 1.2) to support and inform cultivation and eventual population reinforcement for at least one threatened species in Y3 (**indicator 1.3**). Five local experts (including two woman) from the National Academy of Science have improved their technical understanding of tulip conservation through involvement in bulb and seed collections and

germination trials in Y1 (**indicator 1.4**). They will have the opportunity to enhance these skills in Y2 when they visit the UK for a learning exchange trip with Cambridge University Botanic Garden. All information collected by the project will be used in Year 3 to create a national tulip conservation strategy in Y3 (**indicator 1.5**).

Output 2. Members of grazing communities are more knowledgeable and actively engaged in sustainable pasture planning and management

Following consultation meetings and awareness raising workshops carried out in Y1, 226 pasture users (34% (79) women) from Baul, Suluktu and Shamshy have greater awareness on pasture degradation, the importance of pasture management plans and methods for restoring pasture (**indicator 2.1**). In Y2, AFLUK and LRI will work with pasture committees and pasture users at each site to revise existing pasture management plans, ensuring that the plans are updated based on the needs of local pasture users, and that specific plans to reduce grazing in high priority tulip areas are also included (**indicator 2.2**). The project will also support pasture users to adopt and implement the plans and we aim to ensure that 80% of pasture users at the project sites sign up to and begin application of these updated plans by end of Y2 (**indicator 2.3**). Work to influence a further 20 Pasture committees to adopt sustainable approaches to pasture management across Kyrgyzstan (**indicator 2.4**) will begin in Y3.

Output 3. Pasture users are applying skills and techniques that support recovery of grasslands benefiting livelihoods and biodiversity

Through awareness workshops carried out in Y1, the project provided introductory training in pasture management to 134 pasture users (**indicator 3.1**). Plans to hold a more in-depth series of training on sustainable pasture and livestock management have had to be postponed to later in Y2 due to the outbreak of COVID-19 in Kyrgyzstan. By the end of the project we expect that the vast majority of training participants will be applying improvement management methods in their pastures (**indicator 3.2**). Experts from LRI have developed a pasture monitoring form for use by pasture users, and 50 users will be supported to use this form in the field by end of Y2 (**indicator 3.3**). A Participatory Impact Assessment – to be carried out in Y3 – will be used to assess whether work to improve pastures has led to a perceived improvement in livestock health (**indicator 3.4**).

Output 4. The importance, protection and the cultural value of tulips is articulated, celebrated and shared; to support community led in-situ conservation of tulips.

Fencing of sites containing threatened tulips was trialled in Y1 (six x 0.1 ha plots fenced in Shamshy) and a further 5ha will be fenced in Y2 (**indicator 4.1**). Additional fencing was scheduled for March 2020 but had to be postponed due to the COVID-19 outbreak. Fieldwork by Bioresurs has provided information on tulip rich pastures in each site, and marking of conservation zones (**indicator 4.2**) will happen in Y2 as part of work to update the Pasture Management Plans for each site (scheduled for Year 2). Initial discussions with communities to set up protection groups have begun and are positive, but the formal establishment of these groups (**indicator 4.3**) – due to take place in March 2020 – has been postponed to Y2 due to the COVID-19 outbreak. When restrictions on movement are lifted and when social gatherings are permitted, Bioresurs will train these groups and support them to begin monitoring and protection work in Y2. All partners are creating outreach materials for the project. Work to incorporate these materials into expeditions run by local tourist operators will begin in Y2 as planned (**indicator 4.4**). Awareness raising events organised by FFI and AFLUK have so far provided new knowledge on tulips to 339 people at the project sites. As we produce new outreach materials and carry out a number of events in Y2-3 we expect to reach at least 2,000 people by the end of the project (**indicator 4.5**).

3.3 Progress towards the project Outcome

Outcome: Improved management of 500 hectares of pasture, increased cultural awareness, and direct protection of endemic tulips; resulting in healthier, more resilient grasslands that benefit the livelihoods of over 300 pastoralists

Indicator 0.1. By the end of the project (from a baseline monitoring in year 1), there is a reduction (100%) of poached grassland area, with increased presence of natural palatable forage and indicator invertebrates in 500ha of montane pasture.

A methodology for monitoring pasture quality and invertebrates has been finalised and AFLUK and the pasture users will jointly collect baseline data in June-July 2020. Annual monitoring will be carried out in a number of plots within and outside of zones subject to light grazing and data will be used to demonstrate whether changes in pasture management are leading to a recovery of these grasslands and their biodiversity.

Indicator 0.2. 300 people (30% female) engaged in pasture management report improved confidence in their ability to manage their pastures by end of project.

226 people (34 % female) have so far participated in the meetings and workshops on improved pasture management and related legislation. During discussions with pasture users and pasture committees, it became clear that pasture users were not involved in the creation of the previous pasture management plans and therefore had little buy-in or confidence in their ability to implement such plans. In Y2, AFLUK and LRI will support the pasture users and committees to update existing pasture management plans and will deliver a series of training workshops to improve confidence among the users in pasture management and monitoring. We expected more users to sign up to the training workshops planned for Y2 and that at least 300 people will report increased confidence by the end of the project.

Indicator 0.3. By end of project, at least 50% of both male and female respondents from 150 households report an improvement in pasture quality and a decrease in their vulnerability to environmental and/or economic shocks and stressors; with proportional representation of the poorest households.

Decreased vulnerability to environmental and/or economic shocks will be evaluated in Y3 through a Participatory Impact Assessment. We expected application of better pasture management will lead to improved pasture quality and livestock health and that this will help people feel more resilient to any stressors.

Indicator 0.4. By project end, there is a 20% increase in flowering rate at 5ha of degraded tulip sites for 4 tulip species, using baseline surveys from year 1.

Monitoring of flowering rates will be carried out in fenced areas in Y2 and in Y3. Results will demonstrate the extent to which grazing and trampling impacts tulips and whether larger-scale measures can be applied elsewhere in Kyrgyzstan.

Indicator 0.5. By project end 80% (50:50 women and men) of surveyed community members (200 person subset) demonstrate an increased understanding of the value, cultural importance and need to protect endemic tulips.

Awareness raising activities at the project sites have so far reached 226 pasture users and 113 other people (including 95 school children) living in the surrounding communities. In Y2-3, site-based awareness raising activities will be scaled up and numerous outreach materials will be disseminated. At the end of the project we will estimate the results of the awareness-raising events and materials.

3.4 Monitoring of assumptions

Assumption 1. Extreme climate events do not adversely affect pasture indicators or tulips (this will be managed through flexible planning and scheduling)

During Y1, no extreme climate events affected pasture indicators or tulips.

Assumption 2. Indicators can demonstrate pasture improvements within the timescales of the project (research by other projects has shown this should be achievable)

We still believe it will be possible to assess improvements in pastures quality in Y3 after changes in pasture management are achieved in Year 2.

Assumption 3. No exceptional environmental or economic shocks occur that adversely affect the price of livestock (this has not been the case in recent years and so is not expected to effect the project)

During the first year there were no significant environmental or economic shocks. However, after the first case of COVD-19 was reported in Kyrgyzstan on March 19th, the Government announced a state of emergency on March 22nd and this has since been extended to April 30th 2020. There are reports that this is now causing economic consequences (including increased unemployment) and in April 2020 the value of the Kyrgyz Som fell by more than 10% compared to the US dollar. It is still unclear how the current lockdown – and the related economic consequences - will affect the price of livestock and the wellbeing and livelihood choices of the pasture users that his project aims to benefit. At the moment, we anticipate that livestock prices will increase in line with rises in price already observed for other basic foods (e.g. flour) in Kyrgyzstan. However we are also aware that many community members (particularly those living in Baul and Suluktu) are highly dependent on remittances sent home from relatives working in Kazakhstan and Russia and that these have largely stopped in recent weeks. Other potential impacts include increased grazing in particular areas (as the lockdown movement). We will monitor how the changing economic situation impacts project delivery over Y2 and Y3.

Assumption 4. Unusual climate, political and social disruptions do not affect planned fieldwork (this will be accommodated for through adaptive management and scheduling)

The official state of emergency is due to finish on April 30th although we expect that this will be extended and that some form of social distancing will be in place throughout the summer months. We are currently adapting the project work plans and have brought forward more desk related activities (e.g. design of training materials, completion of reports and production of outreach materials) to the start of Year 2 and have postponed the majority of fieldwork activities to later in Y2. Fieldwork involving small teams working outside (e.g. ecological monitoring and bulb collection) is likely to be resumed first (possibly in the summer) and activities involving gatherings and training workshops are likely to resumed later in the year, once these are judged to be safe and are permitted again by the Government of Kyrgyzstan.

Assumption 5. Adequate size and health of tulip source population allows for collection (a collection method will be applied to stop damage to existing populations and the scoping trip results suggested that populations are large enough)

The size and state of the tulip populations were large enough to permit small collections of tulip bulbs. Bioresurs only collected a small proportion of bulbs from each species in each site.

Assumption 6. Successful replication of environmental condition to allow ex-situ cultivation (CUBG has a large amount of experience in ex-situ cultivation and knowledge exchange events will support this element of the project)

We established four different *ex situ* conservation sites (including one in in a high mountainous area) to provide a range of environmental conditions and altitudes suitable for different tulip species. Four local experts will also gain more knowledge and experience in germination and cultivation techniques for different tulip species during an exchange trip to the UK, scheduled

for late 2020, but subject to a removal of travel restrictions and restrictions on public gatherings in the UK.

Assumption 7. Pasture committees and users, including women users, continue to be willing to engage in consultations (the scoping trip helped to build relationships as well as the wider project partners having good pre-existing relationships)

Pasture committee members and pasture users, including women, have remained willing to participate in consultations. 92 people (37 women) took part in consultations and 134 people (42 women) then participated in subsequent training and awareness raising workshops.

Assumption 8. Pasture users are willing to stop or alter some current grazing behaviours (as the plan are being developed in collaboration with the communities we plan to mitigate any issues arising during the project)

This remains to be fully tested although feedback from the first workshops indicates that local people are aware of high levels of pasture degradation and that there is a strong interest in improving and implement existing Pasture Management Plans.

Assumption 9. Community members are able to implement plans with available resources, including available pasture (resource availability will be factored into the planning and feasibility phase)

This will be tested in Y2 when we support the Pasture Committees and Users to update and revise existing Pasture Management Plans. Plans will account for the available resources for each Pasture Committee.

Assumption 10. Pasture user engagement in the training and implementation (the use of similar case studies and examples to demonstrate proven successes)

Pasture users have engaged positively with consultations and initial trainings carried out in Y1.

Assumption 11. Pastures have recovered sufficiently for this to be reflected in cattle health (by staggering efforts the year 1 pastures users should be evidencing improvements)

We will evaluate this at the end of Ye3.

Assumption 12. People, including those who do not participate in project activities, do not overgraze pastures that are newly recovered (pasture use will be mapped and overlapping damage prevented)

Effective Pasture Management Plans with good buy in from the pasture users and the wider communities should help to prevent overgrazing of the recovered pastures. The project will carry out significant awareness raising and outreach activity to promote understanding of pasture laws and management among community members, including those who have not signed up to the pasture management plan. The project will also foster communication and collaboration between different pasture committees and government agencies to help avoid conflict over use of different pasture resources (e.g. in Y1 we have started to promote collaboration between Baul Pasture Committee and the Local Forest Unit, who each manage different, but adjacent, areas of pasture land).

Assumption 13. Individuals in the communities are willing to engage in protection activities (the scoping trip helping to build relationships and partners have good pre-existing relationships)

Our partner Bioresurs has good relationships with local community members in the site and is aware of many individuals keen to take part.

Assumption 14. Sites are suitable for fencing, tenure allow fencing and maintenance can be agreed upon (relationships will be built in advance to ensure that suitable sites can be found)

This was achieved for trial fencing carried out at the start of Y1, after consultations were completed with local pasture users, the Pasture Committee and the local governmental body. We will follow a similar process for further fencing scheduled for Y2.

Assumption 15. Greater awareness of tulips and knowledge of their locations, does not increase the threat of illegal cutting (clear messaging together with assessment of impact will reduce this risk)

The project will raise awareness on laws prohibiting illegal cutting and its adverse impact on wild tulips. Tulip protection groups will also monitor tulip populations and will help to prevent any increased threat from cutting in Y2 and Y3

Assumption 16. Local communities feel a connection with and pride in traditional cultures that relate to tulips that motivates conservation (there is a strong sense of culture and pride in Kyrgyzstan and tulips are a common symbol)

Our experience indicates that pride of and connection to wild tulips is limited to a small number of passionate members in the communities but that this is not yet widely felt. With the support of these local champions, the project aims to mobilise much greater interest in tulips, and we will continue to reinforce and make connections between tulips, local culture and history, as these are often overlooked.

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

This project aims to secure healthy and diverse montane grassland ecosystems, with self-sustaining tulip populations. To achieve this biodiversity impact we are working to reduce threats in order to recover at least 500ha of tulip habitat through improved pasture management and to reduce the extinction risk faced by highly threatened tulip species through population reinforcement and *ex situ* conservation. Work carried out in Y1 provides a strong platform to achieve this impact. Baseline data on tulip distribution across Kyrgyzstan has been collected and areas targeted for *in situ* conservation identified (EF1). Work to address the main threat to tulips – grazing – has begun and we are well placed to influence positive changes in pasture management in Y2 (EF 2). *Ex situ* collections for nine endemic or near endemic species have been established and germination trials to identify candidate species and methods for population reinforcement are underway (EF1).

By working to improve the management and condition of pastures across three sites, the project aims to support resilient and economically thriving pastoral communities. In Y1, we made good progress towards this aim, consulting local pasture committees to understand current barriers to improving pasture condition and initiating training and awareness raising for 134 pasture users (EF: Output 2). We identified that users had little understanding or buy in to existing Pasture Management Plans. In Y2 we will work with users to update these plans to ensure they are locally appropriate and that their implementation if feasible. A large-scale training programme – scheduled for Y2 – will also help pasture users to acquire and apply new knowledge and skills necessary for recovery of degraded pasture (e.g. livestock rotation, sowing of drought resilient native and locally appropriate grass seeds etc.) and we will ensure participation of marginalised members of these communities is prioritised. We expect to see improvements in pasture condition by the end of Y3 leading to healthier grasslands, improved health of livestock and greater resilience in these communities to economic and ecological shocks.

4. Contribution to the Global Goals for Sustainable Development (SDGs)

SDG 1: No Poverty. We have begun work to improve pasture management in three sites which we expect will help to improve the livelihoods of impoverished pasture users by building their resilience and reducing their vulnerability to shocks and disasters.

SDG 2: Zero Hunger. We have begun work to improve pasture management in three sites which we expect will help to enhancing livestock's productive capacity by improving pasture quality

SDG 5: Gender Equality. The project is actively promoting participation of women in the project activities (especially in relation to pasture management). 79 women (34% of the total) have so far taken part in consultations and training activities. We hope to increase the role of women in management and decision making around pastures and to ensure women's skills in relation to livestock management are improved through the project..

SDG 12: Responsible Consumption and Production. We have begun work to improve pasture management in three sites. We will help local pasture users to redevelop existing Pasture Management Plans to ensure that grazing of livestock does not harm the long-term production and sustainability of montane pastures in Kyrgyzstan.

SDG 15: Life on Land. Our work to improve pasture management will support the conservation, restoration and sustainable use of a terrestrial mountain grassland ecosystem and its biodiversity, in order to enhance its capacity to provide benefits for sustainable development. Ultimately this will help to halt biodiversity loss, and preventing the extinction of threatened tulip species

5. Project support to the Conventions, Treaties or Agreements

- In Y1, the project conducted baseline research on the 20 poorly-known tulip species (74% of the national total) and is thus contributing to the CBD and Aichi Target 19 (science for conservation).
- Research on pastures carried out in Y1 included interviews with local communities and are in line with Aichi Target 18 (respect for traditional knowledge).
- In Y1 we laid the ground work to establish conservation zones and piloted fencing of areas to allow tulips to regenerate in key zones. Larger-scale roll out in Y2 will contribute to CBD Article 8 (in-situ conservation) and Aichi Targets 12 (prevention of extinction), 13 (maintaining genetic diversity of cultivated species) and 14 (preserving ecosystem services and livelihoods).
- Four ex situ conservation collections including nine endemic and subendemic tulip species were established in Y1. This is supporting Aichi Targets 12 and 13 in regard to preventing extinctions and maintaining genetic diversity through ex-situ protection.
- In Y1 we also initiated work to update Pasture Management Plans and The livestock and provide related training for pasture users. This will support CBD Article 10 (sustainable and equitable use) and Aichi Targets 1 (awareness of sustainable principles), 4 (sustainable production), 5 (preventing the reduction of natural habitat) and 7 (sustainable agriculture management
- Ultimately we expect that the activities carried out by this project will contribute to healthier grasslands and pastures that will be more resilient to climate change, and that will contribute to Aichi Target 10 (climate change mitigation).

6. Project support to poverty alleviation

The three project sites are located in Kyrgyzstan's two poorest regions, Chui and Batken. The areas are rocky and have poor soil and livestock grazing is often the main, if not only, livelihood option available. Through consultation meetings and interviews with 131 pasture users, our work in Y1 has focussed on developing a clear picture on pasture condition, management and use at these sites. We have also worked to understand how local pasture users view pasture management and whether they are aware of, support and actually use the existing Pasture Management Plans (which govern how pastures are used, and thus directly influence grazing and therefore livelihoods). We have provided initial training to 134 pasture users and in Y2 we will work with these users to update existing Pasture

Management plans to ensure they are locally appropriate and that implementation if feasible. A large-scale training programme – scheduled for Y2 – will also help pasture users to acquire and apply new knowledge and skills necessary for pasture improvement (eg livestock rotation, sowing of drought resilient grass seeds etc). We will prioritise involvement of women and marginalised people in all training and planning workshops carried out in Y2 and Y3 and we will ensure that final, updated Pasture Management Plans are transparent and allow fair use of pastures from across the communities. Ultimately, we expect to see improvements in pasture condition by end of Y3 leading to healthier more resilient grasslands and improved health of livestock – a critical asset for these communities.

7. Project support to gender equality issues

Women and men in Kyrgyzstan access and benefit from natural resources differently, along culturally assigned roles, and men still dominate positions of power. This is especially true for livestock and pasture management and the majority of Pasture Committee members are male. The project has taken steps to increase the involvement of women in pasture management activities, involving women in all interviews and consultations and actively promoting their attendance at training workshops (79 women (34% of the total attendees) have so far participated in project consultations and workshops). We noted that women were among the most active contributors to workshops and that women are often actively involved in pasture management on the ground, especially in Baul and Suluktu, where a large percentage of the male population have left for jobs in Russia and Kazakhstan. The workshops have provided a platform to review existing pasture management and discuss ways to mobilise greater involvement of community members, including women, in its implementation. In Suluktu, one group of women volunteered to lead work on pasture monitoring and will be working closely with the Pasture Committee in 2020. This represents a small step towards increasing the role of women in management and decision making around pasture management. We will continue to ensure high participation of women in all future events and will ensure women play an active role in the updating of Pasture Management Plans.

8. Monitoring and evaluation

A steering group (which met twice in Y3) is overseeing project implementation and reviewing progress against the project activities and indicators. FFI's Kyrgyzstan Programme and the two national partners (AFLUK and Bioresurs) met regularly throughout the project year. All partners also participate in a project WhatsApp group, "Darwin Tulips", which has also enhanced informal activity monitoring and sharing of updates from the field.

Each partner organisation has been 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 monitor progress against the output-level indicators, with survey data, literature reviews, training reports, workshop reports and planting records allowing us to verify progress against all outputs in the log-frame. However FFI also recognised a need to increase the involvement and responsibility of partners in the tracking, monitoring and evaluation of outcome and output level indicators, as we noted that some activities had been carried out without sufficient understanding of how they contribute to these indicators, and what associated data were needed verify progress. We organised a refresher training session on the project log-frame in February 2020 and have agreed to hold more regular meetings throughout Year 2 to jointly monitor progress towards output and outcome level indicators.

9. Lessons learnt

Project communication is generally smooth and the different experience and expertise offered by the partners is supporting effective delivery of a complicated, inter-disciplinary project. We

have fostered strong communication through regular meetings, phone calls, emails discussions and administration of a project WhatsApp, which has allowed all partner staff members to share updates and photos and generally contribute to strong relationships and bonding between the partners.

Despite this, we learnt that more regular formal monitoring of the activities carried out by each partner are needed to keep the project on course and ensure effective monitoring of all outcome and output level indicators (as mentioned in section 8). Reviews of field reports in October 2019 identified a need to strengthen some aspects of the project (especially in relation to monitoring of pasture vegetation and condition) and we have since worked with the existing partners to recruit additional expertise from national level experts in pasture management, who have provided training to the project partners and have participated in recent field trips.

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

NA

11. Other comments on progress not covered elsewhere

12. Sustainability and legacy

We are building sustainability into all aspects of the project. We aim to leave in place updated Pasture Management Plans which, through the work carried out under this project, will be more feasible, better account for local needs and realities and will have greater buy-in and support from local pasture users and community members. Alongside this, we are providing comprehensive training to pasture users in three villages and will make all materials available to the Pasture Committees for ongoing, regular refresher training of users, post-project. As pasture users apply updated management plans and adopt techniques learnt through the project we expect to see gradual improvements in pasture condition and that this will strengthen local incentives to maintain and implementation of Pasture Management Plans post-project. Working with pastures experts and users, we are developing a simple monitoring tool will be applied by pasture users, allowing them to continually monitor their pastures over the long-term. Results on pasture recovery will be widely shared and we aim to influence a further 20 pasture committee across Kyrgyzstan to updates and improve approaches to pasture management.

All of the research outputs from the project will feed into a National Tulip Strategy that will be developed in Y3 and which will determine future conservation actions, leads and resources for activities. This will help to create a long term driver and focus for tulip conservation in Kyrgyzstan and Central Asia. Ex-situ collections, established in Year 1, will be maintained as part of Gareev Botanical Gardens' collections, facilitating long term maintenance.

13. Darwin identity

The Darwin Initiative logo is used on all project documents and presentations that are given during project work. The logo is used consistently by all project partners and a requirement for this is clearly outlined in their sub-grant agreements.

FFI created a page on its website for the project (https://www.fauna-flora.org/projects/securing-wild-tulips-montane-grasslands-kyrgyzstan) and also regularly posts updates on its social media channels (e.g. https://twitter.com/FaunaFloraInt/status/1247891983034511360/photo/1)

All materials produced by the project include the Darwin logo. FFI also produced 300 beautiful eco-bags featuring hand-drawn tulips sketched by a local artist alongside the Darwin Initiative logo (see EF4: 4.2.1 and 4.2.2). Compared to other handout materials (e.g. leaflets and calendars) the bags will have a much longer life and we expect that they will be used for many years in Kyrgyzstan, helping to promote the identity of the Darwin Initiative in the country.

In February 2019 we also invited 20 other leading conservation stakeholders from Kyrgyzstan to attend a series of presentations that covered latest progress made by the Darwin Initiative project.

14. Safeguarding

An update on FFI's safeguarding policies is included as an annex, in EF Admin: A1. 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 read and 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 regularly are in close communication with the partners, 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 pasture management and support the development of more detailed and transparent pasture management plans, which will be designed to help promote access of marginalised and vulnerable people to natural resources.

In EF Admin: A1 we also provide links to our position papers on Free, Prior and Informed Consent Position; Gender in Conservation; Displacement and Restrictions on Access to Resources and Conservation, Livelihoods and Governance.

15. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2019 – 31 March 2020)

This is marked as a draft as we are awaiting final posting of expenses made in the last week of March. All amounts will be confirmed in the Actual Claim form.

Project spend (indicative) since last annual report	2018/19 Grant (£)	2018/19 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				Partners postponed some community workshops and meetings scheduled for March 2019 after the outbreak of COVID-19. We also secured unanticipated co-funding to deliver community workshops in Summer 2019, and this reduced the need to spend all Darwin Initiative funding on these activities.
Capital items (see below)				
Monitoring & Evaluation (M&E)				
Others (see below)				
TOTAL				

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2019-2020

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
Impact Resilient and economically thriving Kyrgyz pastoral communities supported by healthy and diverse montane grassland ecosystems, with self-sustaining tulip populations.		We are working to recover at least 500ha of tulip habitat through improved pasture management and to reduce the extinction risk faced by highly threatened tulip species through population reinforcement and *ex situ* conservation. Work carried out in Y1 provides a strong platform to achieve this impact. Baseline data on tulip distribution across Kyrgyzstan has been collected and areas targeted for *in situ* conservation identified (EF1). Work to address the main threat to tulips – grazing – has begun and we are well placed to influence positive changes in pasture management in Y2 (EF 2). *Ex situ* collections for nine endemic or near endemic species have been established and germination trials to identify candidate species and methods for population reinforcement are underway (EF1). By working to improve the management and condition of pasture lands the project aims to support resilient and economically thriving pastoral communities. In Y1, we made good progress towards this aim, consulting local pasture committees to understand current barriers to improving	[redacted]

		pasture condition and initiating training and awareness raising for 134 pasture users (EF: Output 2). We identified that users had little understanding or buy in to existing Pasture Management Plans and in Y2 we will work with users to update these plans to ensure they are locally appropriate and that implementation if feasible. A large-scale training programme – scheduled for Y2 – will also help pasture users to acquire and apply new knowledge and skills necessary for pasture improvement (e.g. livestock rotation, sowing of drought resilient grass seeds etc.) and we will ensure participation of marginalised members of these communities is prioritised. We expect to see improvements in pasture condition by the end of Y3 leading to healthier grasslands, improved health of livestock and greater resilience in these communities to economic and ecological shocks.	[redacted]
Outcome Improved management of 500 hectares of pasture, increased cultural awareness, and direct protection of endemic tulips; resulting in healthier, more resilient grasslands that benefit the livelihoods of over 300 pastoralists	0.1 By the end of the project (from a baseline monitoring in year 1), there is a reduction (100%) of poached grassland area, with increased presence of natural palatable forage and indicator invertebrates in 500ha of montane pasture.	0.1 A methodology for monitoring pasture quality and invertebrates has been finalised and AFLUK and the pasture users will jointly collect baseline data in June-July 2020. Annual monitoring will be carried out in plots within and outside of zones subject to light grazing. 0.2 226 people (34% female) have participated in meetings and workshops on improved pasture management. In Y2, we will support the pasture users to update existing management plans and will provide training to improve confidence among >300 users in pasture	

	0.2 300 people (30% female) engaged in pasture management report improved confidence in their ability to manage their pastures by end of project. 0.3 By end of project, at least 50% of both male and female respondents from 150 households report an improvement in pasture quality and a decrease in their vulnerability to environmental and/or economic shocks and stressors; with proportional representation of the poorest households. 0.4 By project end, there is a 20% increase in flowering rate at 5ha of degraded tulip sites for 4 tulip species, using baseline surveys from year 1. 0.5 By project end 80% (50:50 women and men) of surveyed community members (200 person subset) demonstrate an increased understanding of the value, cultural importance and need to protect endemic tulips.	management and monitoring. We expect that at least 300 people will report increased confidence by the end of the project. 0.3 Decreased vulnerability to environmental and/or economic shocks will be evaluated in Y3 through a Participatory Impact Assessment. 0.4 Monitoring of flowering rates will be carried out in fenced areas in Y2 and in Y3. 0.5 Awareness raising activities at the project sites have so far reached 226 pasture users and 113 other people living in the surrounding communities. In Y2-3, site-based awareness raising activities will be scaled up. At the end of the project we will estimate the results of the awareness-raising events and materials.
Output 1. Increased knowledge of wild tulip species is informing both in-situ and ex-situ conservation and management development at national level	1.1 Baseline surveys of tulip (abundance, distribution, threats) and associated grassland habitat in 3 sites by year 1; monitoring surveys in	1.1 Expeditions carried out by Bioresurs and a PhD student from Cambridge University Botanic Garden addressed major data gaps on distribution, threats, ecology and genetics from 20 of Kyrgyzstan's 27 wild species in 31 sites (including the three project sites) (see EF1: 1.2). This will be followed by more detailed baselines on tulip

	these same areas in years 2 and 3. 1.2 By end of year 1, 4 viable ex-situ tulip populations are established in the Gareev Botanical Gardens, using field collected bulbs. 1.3 By year 3, the reintroduction of 1 threatened species has formed a viable population that covers 50 sqm by the end year 3. 1.4 By year 2, 5 Kyrgyz ex-situ conservation experts (including 2 females) are able to articulate improved technical understanding and skills regarding tulip conservation. *1.5* By year 3, a national tulip conservation strategy is established with 20 experts (8 women) and stakeholder representatives.	abundance and grassland habitat in the project sites to be collected in summer 2020. 1.2 Following bulb and seed collection trips in July 2019, four ex situ collections of nine tulip species have been established, see EF1: 1.2 1.3 Scientists from Bioresurs and Gareev Botanical Garden initiated a series of germination experiments (see EF: Output 1- 1.2) to inform cultivation and eventual population reinforcement for at least one threatened species, scheduled for in Y3 1.4 Five local experts (including two woman) from the National Academy of Science have improved their technical understanding of tulip conservation through involvement in bulb and seed collections and germination trials in Y1 and they will have the opportunity to enhance these skills in Y2 when they visit the UK to for a learning exchange trip in Cambridge University Botanic Garden 1.5 All information collected by the project will be used in Year 3 to create a national tulip conservation strategy/	
1.1 Develop survey methodology for tulips and pastures, with input from project partners and stakeholders		From June to August 2019, a technical working group jointly developed a methodology for gathering baselines on pasture condition, use, management and local awareness of pasture laws. Bioresurs followed an existing methodology for tulip species surveys.	In Y2 FFI will support Bioresurs to develop an additional protocol for collection of more detailed information on tulip abundance and flowering rates. .

1.2 Conduct baseline surveys for tulips and pastures in the project sites, and repeat monitoring in years 2 and 3	<u>Tulip surveys:</u> From April-June 2019 and in March 2020, Bioresurs and Cambridge University PhD student, Brett Wilson, led a series of tulip surveys throughout 31 sites across Kyrgyzstan: in Jalal-Abad, Osh, Batken, Talas and Chui regions. Fieldwork uncovered new information on 20 tulip species (74% of the national total). Preliminary phylogenetic trees for the Tulipa genus and species distribution models (which will be used to inform red list assessments for the species) are available in Brett Wilson's end of year 1 report for his PhD. In each of the three project sites, our aim is to collect detailed baseline data (and then carry out annual monitoring) on tulip abundance in (1) areas subject to conservation measures (e.g. fencing and the application of light grazing regimes) and (2) in control areas with no intervention applied. We piloted this approach at small scale in May 2019 when Bioresurs and PhD student Brett Wilson established six fenced and six unfenced 100m2 plots in Shamshy and collected data on tulip abundance in these areas. <u>Pasture surveys</u>	AFLUK and Bioresurs will gather additional detailed information on pasture vegetation, invertebrates and abundance of tulip species in the three sites.

	AFLUK carried out semi-structured interviews with 134 pasture users from the three sites and also carried out one focus group in each site to better understand pasture condition, use, management and local awareness of pasture legislation.	
1.3 Draft and disseminate report summarising field knowledge of tulips, species and population distributions, and assessing sites for reinforcement and protection opportunities	Reports from Bioresurs and Brett Wilson represent a significant update in knowledge on the distribution, habitat and threats faced by 20 of Kyrgyzstan's tulip species, including the eight tulip species growing in the project sites.	In Y2, we will support Bioresurs to develop a short, accessible report summarising key findings for each species and for each site, including recommendations on priority locations for tulip reinforcement and protection.
1.4 Undertake field mission to collect threatened tulip species, identifying key species with the potential for long term recovery and reinforcement	In July 2019, Bioresurs undertook field missions in Batken, Osh, Jalal-Abad, Talas, Suusamyr and Chui regions, during which they collected 478g of seeds and 1,395 bulbs from nine tulips species. Bioresurs and Gareev Botanical Garden conducted several experiments and analyses to inform best practice for germination and also identify candidate species for *in situ* reinforcement (with high seed quantity and high germination rates used as indicators for species which could be succesfully grown in sufficient numbers for reinforement purposes)	In Y2, Bioresurs will carry out more seed and bulb collections to add more species to these collection and they will also share materials with Cambridge University Botanic Garden.

1.5 Establish threatened tulip ex-situ collections at Gareev Botanical Gardens, supported by Cambridge University Botanic Gardens	The project steering group agreed to establish four separate *ex situ* tulip collections in Kyrgyzstan to provide different environments to test optimal conditions for germination and cultivation of the different tulip species. In October 2019, seeds and bulbs from the nine tulip species collected under 1.4 were planted in nursery beds prepared in **(1)** Chunkurchak gorge, a montane area on the Northern slope of the Kyrgyz ridge (managed by Bioresurs); **(2)** Gareev Botanical Garden; **(3)** The experimental site of the Institute of Chemistry and Phytotechnology of the National Academy of Sciences (also located in Gareev Botanical Garden) and (**4)** Arashan village, near Bishkek (a site managed by AFLUK)	Continue management of ex suit collections
1.6 Cultivate, grow and plant threatened tulip bulbs in-situ to reinforce priority populations; monitor plantings to assess success	Work to cultivate tulips ex situ for in situ population reinforcement is underway and is described in 1.5.	In Y2, work will focus on improving understanding of the germination and growth requirements of different tulip species to inform reinforcement planting scheduled for Y3.
1.7 Organise and execute exchange trips between Gareev and Cambridge University Botanic Gardens, focusing on staff skills improvements in ex-situ collection management and in-situ reinforcement	Due to start in Y2.	If the circumstances related to the outbreak of COVID-19 permit, four tulip experts from Bioresurs and the director of AFLUK will visit Cambridge University Botanical Garden to improve skills in horticulture, ex-situ collection management and in-situ reinforcement.

1.8 Collate background information on threatened tulips and design and implementation a strategy workshop, that results in the development of a multi-stakeholder tulip Kyrgyz conservation strategy		Background information on threatened tulips has been collated (see 1.2) and will be added to throughout the project..	Work to develop a multi-stakeholder tulip Kyrgyz conservation strategy will start in Y3
Output 2. Members of grazing communities are more knowledgeable and actively engaged in sustainable pasture planning and management	2.1 300 pasture users (30% female), from 3 different communities, have greater awareness of pasture degradation and improvement methods by the end of year 1. 2.2 By end of year 2, 3 grazing plans are fully designed and discussed within the 3 communities. 2.3 80% of pasture user committee members (32% women members), in 3 communities, signed up to apply grazing plans by year 3. *2.4* By end of year 3, a total of 20 pasture committees will be influenced to adopt sustainable approaches to pasture planning and management on 100,000s hectares, through a 'Sustainable Pasture Management Agreement.	2.1 Following consultation meetings and awareness raising workshops carried out in Y1, 226 pasture users (34% (79) women) from Baul, Suluktu and Shamshy have greater awareness on pasture degradation, the importance of pasture management plans and pasture improvement methods (indicator 2.1). 2.2 In Y2, AFLUK and LRI will work with pasture committees and pasture users at each site to revise existing pasture management plans, ensuring that the plans are updated based on the needs of local pasture users, and that specific plans to reduce grazing in high priority tulip areas are also included. 2.3 The project will also support pasture users to adopt and implement the plans and we aim to ensure that 80% of pasture users at the project sites sign up to and begin application of these updated plans by end of Y2. 2.4 Work to influence a further 20 Pasture committees to adopt sustainable approaches to pasture management across Kyrgyzstan will begin in Y3.	
2.1 Hold consultation meetings and discussion groups with three pasture committees and at least 50 pasture users to understand current pasture management and health; results analysed		In August and September 2019, AFLUK held consultation meetings in Suluktu, Baul and Shamshy to inform local government representatives and pasture users about the project and to facilitate discussions on pasture quality and	Continue to use results to inform training and pasture management plan revisions scheduled for Y2.

	current pasture management in each site and how these link to wild tulip conservation (using focus groups methods developed under 1.1). In all three sites meetings were attended by representatives of the Ayil Aimak (local government), the pasture committee, forestry unit employees and local pasture users. In total 29 people (23 men and 6 women) participated in Baul; 39 (18 men and 21 women) in Suluktu and 24 (14 men and 10 women) in Shamshy.	
2.2 Write report that reviews current pasture management practices and assesses these against reforms, making recommendations and assess feasibility for improvements	Based on the semi-structured interviews carried out with pasture users (1.2) and the consultation meetings carried (2.1), AFLUK completed a review on pasture management at each project site and made initial recommendations for improvements. The review is included in AFLUK's end of year report (EF2: 2.1) and key findings from each site are included in the main report.	Continue to use results to inform training and pasture management plan revisions scheduled for Y2.
2.3 Results (2.2) used for livestock and pasture planning exercise, with community members and stakeholders engaged in designing content of workshops	From October 2019 to February 2020 AFLUK prepared the exercises, handouts and presentations to be used for pasture planning workshops (2.4), engaging several local stakeholders in the development of this content. AFLUK met with representatives from the Ayil Aimak, Pasture Committees and Forestry units in	Handouts and materials prepared so far will be used again in training scheduled in Y2.

	Shamshy, Baul and Kulundu (responsible for Suluktu's pasture lands) in February 2020 to evaluate local prioritise for improving pasture management planning and to solicit feedback on workshop materials. Meetings were also held to obtain further input from pasture users and active community members based in nine villages located around Baul and Suluktu pastures.	
2.4 Plan and hold three pasture planning workshops, reaching at least 100 pasture users; at workshops, gather data to inform development of a plan	In late February 2020, AFLUK led three one-day capacity building workshops attended by 134 pasture users (42 women and 92 men) from the project sites: 49 (37 men and 12 women) in Baul; 43 (20 women and 23 men) in Suluktu and 42 (10 women and 32 men) in Shamshy. Workshop reports are included within EF2: 2.1.	The workshops represented an important first step for increasing local buy-in to management planning and will be followed up in Y2 with more workshops dedicated to making concreate revision to the existing plans.
2.5 Using data acquired in 2.4, used to develop 'pasture and livestock plans' with pastures users and content supported by the local community	Due to start Y2	In Year 2, AFLUK, will carry out another set of workshops to build on the results from 2.4 and work with users to refine the existing plan to make it fit local circumstances.
2.6 Work directly with pasture committees and pasture users on implementation of community-led pasture and livestock plans within the timescale and resources identified	Due to start Y2	Support pasture committees and users to adapt existing pasture management plans.
2.7 Monitor and assess implementation of management plans by communities through interviews and sites visits	Due to start Y2	Train pasture users in monitoring methods and begin monitoring

2.8 'Sustainable Pasture Management Agreement' written with Pasture User Association and in consultation with Pasture Committees		Due to start Y2	Hold meetings and workshops between Pasture Users and Pasture Committee as planned.
2.9 Pasture Committee workshop organised and run, and participants sign onto the 'Sustainable Pasture Management Agreement'		Due to start Y3	Prepare materials in Y2 for workshop to be carried out in Y3.
Output 3. Pasture users are applying skills and techniques that support recovery of grasslands benefiting livelihoods and biodiversity	3.1 300 pasture users (75 in year 1, 100 in year 2 and 125 in year 3 - 30% female) are trained in methods to sustainably manage livestock and pastures. 3.2 By year 3, 90% those supported in 3.1 are applying improved pasture and livestock management methods (90% from each year – of which 40% female). 3.3 By year 2, 50 pasture users and a further 50 by year 3 (40% female), are applying pasture monitoring method to inform pasture management. 3.4 By end of project, at least 50% of both male and female respondents from 150 households report a perceived improvement in livestock health and assets; with proportional representation of the poorest households.	3.1 Through awareness workshops carried out in Y1, the project provided some introductory training in pasture management to 134 pasture users, although plans to hold a more in-depth series of training on sustainable pasture and livestock management methods have been postponed to later in Y2 due to the outbreak of COVID-19 in Kyrgyzstan. 3.2 By the end of the project we expect that the vast majority of training participants will be applying improvement methods in their pastures 3.3 Experts from LRI have developed a pasture monitoring from for use by pasture users, and 50 users will be supported to use this form in the field by end of Y2. 3.4 A Participatory Impact Assessment will be used to assess whether work to improve pastures has led to a perceived improvement in livestock health.	
3.1 Design a suite of trainings for pasture users, incorporating knowledge gained via original reports on grazing management, grazing plan and recommendations on pasture improvements techniques		Due to start Y2	Finalise training materials

3.2 Lead training events, reaching 300 pasture users across 3 communities, to build their capacity and applied skills in improved pasture management		Due to start Y2	Carry out training events as planned
3.3 Conduct consultation interviews with pasture users on use of pasture improvement methods; repeat after 1 year to understand application		Due to start Y2	Conduct consultation interviews as planned
3.4 Conduct discussion groups to learn and document the real and perceived benefits and pitfalls to pasture improvement methods; utilise to adaptively manage as necessary		Due to start Y2	Conduct discussion groups as planned
3.5 Consult and establish community pasture monitoring method through sward and forage assessment and invertebrate assessments for biodiversity to understand the health and recovery of pastures, and to monitor project impact		FFI engaged pasture experts from the LRI to develop a methodology for assessing vegetation and invertebrate communities. FFI recently received a first draft of the protocol.	In Year 2, we will work with LRI and AFLUK to revise the protocol to make sure it is as user friendly as possible. Monitoring is scheduled to take place in summer 2020 and will jointly be led by AFLUK and Pasture Committee members.
3.6 Conduct interviews and discussion groups with pasture users regarding changes in herd health and quality of products from livestock		Due to start Y2	Conduct interviews and discussion groups as planned
Output 4. The importance, protection and the cultural value of tulips is articulated, celebrated and shared; to support community led in-situ conservation of tulips.	4.1 By the end of year 2, 4 threatened tulips sites fenced, encompassing 5 ha and demonstrating recovery through a 100% reduction in trampling from year 1 baseline.	4.1 Fencing of sites containing threatened tulip was trialled in Y1 (six 0.1 ha plots fenced in Shamshy) and a further 5ha will be fenced in Y2 – additional fencing was scheduled for March 2020 but was postponed due to the COVID-19 outbreak.	
	4.2 By the end of year 1, 100 hectares of tulip rich pasture are marked as conservation zones and are being subject to controlled light grazing.	4.2 Fieldwork by Bioresurs has provided information on tulip rich pastures in each site, and marking of conservation zones will happen in Y2 as part of work to update the Pasture Management Plans for each site (scheduled for Year 2).	
	4.3 Two community protection groups with a total of 20 members (including 10 women) established and actively	4.3 Initial discussions with communities to set up protection groups had begun and were positive, but the formal establishment of these groups – due to take place in March 2020 – has been postponed to Y2 due to the COVID-19 outbreak. When restrictions on movement lifted and when social gatherings are permitted, Bioresurs will train these groups	

	monitoring and protecting tulips in 2 project sites by year 2. 4.4 Cultural value and importance of tulips, and information on local laws prohibiting tulip cutting and sales are incorporated into tours for 4 companies by end of project (at least 2 tourist operators by end of year 2 and 2 more by end of year 3). 4.5 By year 3, 2000 people (500 by end of year 1, 750 by end of year 2, 750 by end of year 3 – at least 50% women) report an increase in awareness and understanding of tulips.	and support them to begin monitoring and protection work in Y2. 4.4 All partners are creating outreach material for the projects and work to incorporate these into expeditions run by local tourist operators will begin in Y2 as planned. 4.5 Awareness raising events organised by FFI and AFLUK have so far provided new knowledge on tulips to 339 people in the project sites. As we produce new outreach materials and carry out a number of events in Y2-3 we expect to reach at least 2,000 people by the end of the project.	
4.1 Establish, train and equip two community protection groups to monitor and protect tulips and maintain fencing at four sites (once erected)		Bioresurs have developed good relationships with community members willing to form protection groups, and we had planned to establish and train two groups (approximately 10 people in each group) in March 2020. However we postponed these to Y2 following a ban on public gatherings (due to the COVID-19 outbreak). FFI has procured the necessary equipment (including GPS, hats, vests and bags) and these will be distributed to the groups once they have been trained.	Establish and two train groups (10 members each)

4.2 Identify threatened tulip species sites prioritised for fencing and then work with community protection groups to erect fencing	As mentioned under 1.2, fencing of six 0.1 ha plots gas been trialled in Y1	With the support of the community protection groups, 5 ha of tulip habitat will be fenced in Y2
4.3 Consult, identify and mark tulip conservation zones, and work with local pasture users to apply grazing management	Bioresurs developed a good understanding of priority zones in through surveys carried out under 1.1	Bioresurs will work with AFLUK and pasture users to mark conservation zones together in Y2.
4.4 Survey tourist agencies, identify key messaging, and develop outreach materials targeting tourists to influence tourist behaviour, highlighting cultural value of tulips and laws governing tulip cutting	This is due to start in Q2 of Year 2. However, partners have already developed various outreach materials including posters (produced by Bioresurs) and notebooks (produced AFLUK). FFI also commissioned a young, local artist to produce hand-drawn sketches of six tulip species for use in awareness raising materials throughout the project.	Survey tourist agencies as planned. Eco-bags, featuring these drawings were produced in March 2020 and will be disseminated to key stakeholders, including, tour operators, in Y2 and Y3.
4.5 Distribute tourist outreach materials through tourist agencies and local businesses; survey tourists to assess impact	Due to start in Year 3.	Due to start in Year 3.
4.6 Design and implement a series of cultural events working with local community leaders, teachers and other local influencers (e.g. tulip festivals, bulb plantings, school activities)	In June 2019, with additional co-funding secured from the Finnis Scott Foundation, FFI's Kyrgyzstan team, together with a Senior Researcher from the National Academy of Sciences, held a series of half-day awareness seminars at all three project sites. The workshops sought to celebrate and raise awareness of the unique cultural history of tulips in Kyrgyzstan and also generate local interest in supporting wild tulip protection (supporting activity 4.1).	Carry out more awareness raising events with community members. Bioresurs had planned to organize a Tulip Festival in Gareev Botanical Garden in March 2020, however due to the ban on public gathering caused by the corona virus outbreak, this was postponed to spring 2021.

	The seminars were attended by 113 people, including school children, community members and staff from the Shamshy Forestry Unit. More information is available in EF4: 4.1	
4.7 Design and transport mobile interpretation boards on tulips and tulip conservation to project communities, to will be eventually housed in Gareev Botanical Gardens	AFLUK produced one mobile board showcasing all work carried out by the project on pasture management	More boards will be produced in Y2. Staff form Gareev Botanical Gardens will help to design the boards to ensure they are useful, informative and interesting for visitors of Botanical Garden, where the boards will be housed.
4.8 Conduct surveys to understand changes in attitudes, perceptions, and behaviours, regarding wild tulips their cultural value and protection	Due to start in Year 3.	Due to start in Year 3.

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: Resilient and economically thriving Kyrgyz pastoral communities supported by healthy and diverse montane grassland ecosystems, with self-sustaining tulip populations. (Max 30 words)			
Outcome: (Max 30 words) Improved management of 500 hectares of pasture, increased cultural awareness, and direct protection of endemic tulips; resulting in healthier, more resilient grasslands that benefit the livelihoods of over 300 pastoralists	0.3 By the end of the project (from a baseline monitoring in year 1), there is a reduction (100%) of poached grassland area, with increased presence of natural palatable forage and indicator invertebrates in 500ha of montane pasture. 0.4 300 people (30% female) engaged in pasture management report improved confidence in their ability to manage their pastures by end of project. *0.6* By end of project, at least 50% of both male and female respondents from 150 households report an improvement in pasture quality and a decrease in their vulnerability to environmental and/or economic shocks and stressors; with proportional representation of the poorest households. 0.7 By project end, there is a 20% increase in flowering rate at 5ha of degraded tulip sites for 4 tulip	0.1 Fixed point photos, field sheets on quadrat data, and monitoring reports by Bioresources 0.2 Community interviews with pasture users in year 1 and Participatory Impact Assessment by year 3 0.3 Community interviews with pasture users in year 1 and Participatory Impact Assessment by year 3 0.4 Field records from Cambridge University Botanic Gardens (CUBG) PhD and their annual monitoring reports on tulips	Extreme climate events do not adversely affect pasture indicators or tulips (this will be managed through flexible planning and scheduling) Indicators can demonstrate pasture improvements within the timescales of the project (research by other projects has shown this should be achievable) No exceptional environmental or economic shocks occur that adversely affect the price of livestock (this has not been the case in recent years and so is not expected to effect the project)

	species, using baseline surveys from year 1. *0.8* By project end 80% (50:50 women and men) of surveyed community members (200 person subset) demonstrate an increased understanding of the value, cultural importance and need to protect endemic tulips.	0.5 Pre-/post survey results and final report on FFI cultural interviews	
Outputs: **1**. Increased knowledge of wild tulip species is informing both in-situ and ex-situ conservation and management development at national level	1.6 Baseline surveys of tulip (abundance, distribution, threats) and associated grassland habitat in 3 sites by year 1; monitoring surveys in these same areas in years 2 and 3. 1.7 By end of year 1, 4 viable ex-situ tulip populations are established in the Gareev Botanical Gardens, using field collected bulbs. 1.8 By year 3, the reintroduction of 1 threatened species has formed a viable population that covers 50 sqm by the end year 3. 1.9 By year 2, 5 Kyrgyz ex-situ conservation experts (including 2 females) are able to articulate improved technical understanding and skills regarding tulip conservation. 1.10 By year 3, a national tulip conservation strategy is established with 20 experts (8	1.1. CUBG field sheets, GIS maps and survey reports 1.2 Field records of specimen collection, documentation and management plan about the establishment of the botanical garden collections 1.3 Gareev Botanical Gardens (GBG), ex-situ cultivation reports and reintroduction records and CUBG 1.4 Exchange report and pre-and post- exchange visit surveys/ questionnaires with GBG staff 1.5 Workshop proceedings from Bioresources and agreed strategy document	Unusual climate, political and social disruptions do not affect planned fieldwork (this will be accommodated for through adaptive management and scheduling) Adequate size and health of tulip source population allows for collection (a collection method will be applied to stop damage to existing populations and the scoping trip results suggested that populations are large enough) Successful replication of environmental condition to allow ex-situ cultivation (CUBG has a large amount of experience in ex-situ cultivation and knowledge exchange events will support this element of the project) .

	women) and stakeholder representatives.		
2. Members of grazing communities are more knowledgeable and actively engaged in sustainable pasture planning and management	2.5 300 pasture users (30% female), from 3 different communities, have greater awareness of pasture degradation and improvement methods by the end of year 1. 2.6 By end of year 2, 3 grazing plans are fully designed and discussed within the 3 communities. 2.7 80% of pasture user committee members (32% women members), in 3 communities, signed up to apply grazing plans by year 3. 2.4 By end of year 3, a total of 20 pasture committees will be influenced to adopt sustainable approaches to pasture planning and management on 100,000s hectares, through a 'Sustainable Pasture Management Agreement.	2.1 Training reports, attendance log, pre-/post-training assessments conducted by AFLUK 2.2 Plans established and feedback from Pasture User Committees on implementation 2.3 Pasture User Committee meetings records and votes on grazing plan 2.4 Pasture committee workshop attendance list, discussion notes and committees signed onto agreement	Pasture committees and users, including women users, continue to be willing to engage in consultations (the scoping trip helped to build relationships as well as the wider project partners having good pre-existing relationships) Pasture users are willing to stop or alter some current grazing behaviours (as the plan are being developed in collaboration with the communities we plan to mitigate any issues arising during the project) Community members are able to implement plans with available resources, including available pasture (resource availability will be factored into the planning and feasibility phase)
3. Pasture users are applying skills and techniques that support recovery of grasslands benefiting livelihoods and biodiversity	3.5 300 pasture users (75 in year 1, 100 in year 2 and 125 in year 3 - 30% female) are trained in methods to sustainably manage livestock and pastures. 3.6 By year 3, 90% those supported in 3.1 are applying improved pasture and livestock management methods (90%	3.1 Training reports, attendance log, pre-/post-training assessments 3.2 Skill assessments of pasture users interviews in year 1 and in year 3	Pasture user engagement in the training and implementation (the use of similar case studies and examples to demonstrate proven successes) Pastures have recovered sufficiently for this to be reflected in cattle health (by staggering efforts the

	from each year – of which 40% female). 3.7 By year 2, 50 pasture users and a further 50 by year 3 (40% female), are applying pasture monitoring method to inform pasture management. 3.8 By end of project, at least 50% of both male and female respondents from 150 households report a perceived improvement in livestock health and assets; with proportional representation of the poorest households.	3.3 Pasture user interviews and records of pasture user committee 3.4 Community interviews with pasture users in year 1 and Participatory Impact Assessment by year 3	year 1 pastures users should be evidencing improvements) People, including those who do not participate in project activities, do not overgraze pastures that are newly recovered (pasture use will be mapped and overlapping damage prevented)
4. The importance, protection and the cultural value of tulips is articulated, celebrated and shared; to support community led in-situ conservation of tulips.	4.6 By the end of year 2, 4 threatened tulips sites fenced, encompassing 5 ha and demonstrating recovery through a 100% reduction in trampling from year 1 baseline. 4.7 By the end of year 1, 100 hectares of tulip rich pasture are marked as conservation zones and are being subject to controlled light grazing. 4.8 Two community protection groups with a total of 20 members (including 10 women) established and actively monitoring and protecting tulips in 2 project sites by year 2.	4.1 Photographs, maintenance agreement and reports from grazing associations and protection groups report on annual monitoring 4.2 Photographs, maintenance agreement and reports from grazing associations and protection groups report on annual monitoring 4.3 Protection group ToRs and report on activities	Individuals in the communities are willing to engage in protection activities (the scoping trip helping to build relationships and partners have good pre-existing relationships) Sites are suitable for fencing, tenure allow fencing and maintenance can be agreed upon (relationships will be built in advance to ensure that suitable sites can be found) Greater awareness of tulips and knowledge of their locations, does not increase the threat of illegal cutting (clear messaging together with assessment of impact will reduce this risk)

	4.9 Cultural value and importance of tulips, and information on local laws prohibiting tulip cutting and sales are incorporated into tours for 4 companies by end of project (at least 2 tourist operators by end of year 2 and 2 more by end of year 3). 4.10 By year 3, 2000 people (500 by end of year 1, 750 by end of year 2, 750 by end of year 3 – at least 50% women) report an increase in awareness and understanding of tulips.	4.4 Tourist operator survey report and operator materials outlining tulip information 4.5 Event participant awareness assessment	Local communities feel a connection with and pride in traditional cultures that relate to tulips that motivates conservation (there is a strong sense of culture and pride in Kyrgyzstan and tulips are a common symbol)

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

11.1 Develop survey methodology for tulips and pastures, with input from project partners and stakeholders

1.2 Conduct baseline surveys for tulips and pastures in the project sites, and repeat monitoring in years 2 and 3

1.3 Draft and disseminate report summarising field knowledge of tulips, species and population distributions, and assessing sites for reinforcement and protection opportunities

1.4 Undertake field mission to collect threatened tulip species, identifying key species with the potential for long term recovery and reinforcement

1.5 Establish threatened tulip ex-situ collections at Gareev Botanical Gardens, supported by Cambridge University Botanic Gardens

1.6 Cultivate, grow and plant threatened tulip bulbs in-situ to reinforce priority populations; monitor plantings to assess success

1.7 Organise and execute exchange trips between Gareev and Cambridge University Botanic Gardens, focusing on staff skills improvements in ex-situ collection management and in-situ reinforcement

1.8 Collate background information on threatened tulips and design and implementation a strategy workshop, that results in the development of a multi-stakeholder tulip Kyrgyz conservation strategy

2.1 Hold consultation meetings and discussion groups with three pasture committees and at least 50 pasture users to understand current pasture management and health; results analysed

2.2 Write report that reviews current pasture management practices and assesses these against reforms, making recommendations and assess feasibility for improvements

2.3 Results (2.2) used for livestock and pasture planning exercise, with community members and stakeholders engaged in designing content of workshops

2.4 Plan and hold three pasture planning workshops, reaching at least 100 pasture users; at workshops, gather data to inform development of a plan

2.5 Using data acquired in 2.4, used to develop ‘pasture and livestock plans’ with pastures users and content supported by the local community

2.6 Work directly with pasture committees and pasture users on implementation of community-led pasture and livestock plans within the timescale and resources identified

2.7 Monitor and assess implementation of management plans by communities through interviews and sites visits

2.8 ‘Sustainable Pasture Management Agreement’ written with Pasture User Association and in consultation with Pasture Committees

2.9 Pasture Committee workshop organised and run, and participants sign onto the ‘Sustainable Pasture Management Agreement’

3.1 Design a suite of trainings for pasture users, incorporating knowledge gained via original reports on grazing management, grazing plan and recommendations on pasture improvements techniques

3.2 Lead training events, reaching 300 pasture users across 3 communities, to build their capacity and applied skills in improved pasture management

3.3 Conduct consultation interviews with pasture users on use of pasture improvement methods; repeat after 1 year to understand application

3.4 Conduct discussion groups to learn and document the real and perceived benefits and pitfalls to pasture improvement methods; utilise to adaptively manage as necessary

3.5 Consult and establish community pasture monitoring method through sward and forage assessment and invertebrate assessments for biodiversity to understand the health and recovery of pastures, and to monitor project impact

3.6 Conduct interviews and discussion groups with pasture users regarding changes in herd health and quality of products from livestock

4.1 Establish, train and equip two community protection groups to monitor and protect tulips and maintain fencing at four sites (once erected)

4.2 Identify threatened tulip species sites prioritised for fencing and then work with community protection groups to erect fencing

4.3 Consult, identify and mark tulip conservation zones, and work with local pasture users to apply grazing management

4.4 Survey tourist agencies, identify key messaging, and develop outreach materials targeting tourists to influence tourist behaviour, highlighting cultural value of tulips and laws governing tulip cutting

4.5 Distribute tourist outreach materials through tourist agencies and local businesses; survey tourists to assess impact

4.6 Design and implement a series of cultural events working with local community leaders, teachers and other local influencers (e.g. tulip festivals, bulb plantings, school activities)

4.7 Design and transport mobile interpretation boards on tulips and tulip conservation to project communities, to will be eventually housed in Gareev Botanical Gardens

4.8 Conduct surveys to understand changes in attitudes, perceptions, and behaviours, regarding wild tulips their cultural value and protection

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	Total to date	Total planned during the project
1A	One PhD student based at University of Cambridge	Male	UK	0	0	1	0	1
6A	Pasture Users Trained (annual totals are not cumulative as same people trained year to year)	Female and Male (target 30% female)	Kyrgyz	134 (42 women / 92 men)	200 (60 women / 140 men)	300 (90 women / 210 men)	134 (42 women / 92 men)	300 (90 women / 210 men)
6B	Number of weeks of training for pasture users. 1 day per user in Y1 = 134 days.			19	85	85	19	189
7	Training modules developed			1	3	0	1	4
9	Updates and revisions to pasture management plans And National strategy for tulip conservation			0	3	1	0	4
10	Monitoring protocols developed for tulips and			0	2	0	0	2

	wildflower habitat							
11A/ B	Papers to be submitted as a result of Brett Wilson's PhD			0	0	3	0	3
14A	Awareness raising seminars organised			6	6	6	6	18
22	Sets of monitoring plots established for tulips and pasture habitat			1	3	0	4	4
23	(a) Co-funding raised from other donors and (b) in-kind support from partners							

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)

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

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	x
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	x
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	
Have you involved your partners in preparation of the report and named the main contributors	x
Have you completed the Project Expenditure table fully?	x
Do not include claim forms or other communications with this report.	