Department for Environment Food & Rural Affairs

Darwin Initiative Main Annual Report

DARWIN INITIATIVE

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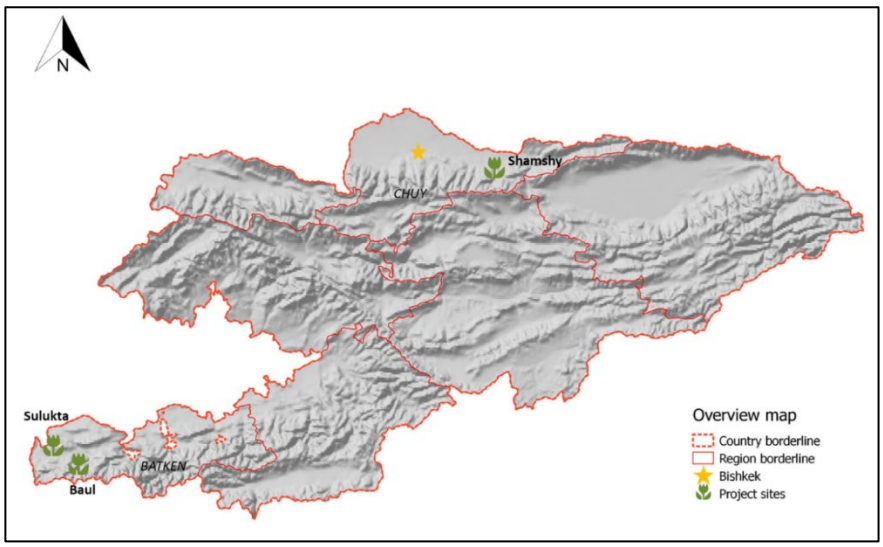
Darwin Project Information

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 2020 – Mar 2021) and number (e.g. Annual Report 1, 2, 3)	1st April 2020 – 31st March 2021
Project Leader name	Jarkyn Samanchina
Project website/blog/social media	https://www.fauna-flora.org/projects/securing-wild-tulips-montane-grasslands-kyrgyzstan
Report author(s) and date	Jarkyn Samanchina, Nazgul Turdumatova, Ormon Sultangaziev, Mariia Chernyavskaiiya, David Gill, Kayirkul Shalpykov, Sairagul Tajibaeva. April, 2021

1. Project summary



The montane grasslands of Kyrgyzstan are globally important with 27 species of wild tulips (35% of global diversity), including 11 nationally Red Listed species. 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 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 [redacted] GBP per month. The project will work in Shamshy village in Chui Region and Baul village and Sulukta town (in Batken Region. Pastures are managed centrally by the Kyrgyzstan government in conjunction with local Pasture Committees. Other threats include recreational flower picking, climate change and habitat loss. The project will increase understanding of Kyrgyzstan's grasslands and tulips and work with local communities to protect tulips through sustainable grazing management, protection and culturally-relevant awareness-raising activities, benefiting communities, grazing pastures and tulips.

2. Project partnerships

FFI's leads overall project and financial management, coordinates work plans by the main partners, promotes smooth communication, participates directly in selected activities, sources additional expertise, provides technical advice, leads on monitoring and evaluation and acts as a conduit for collaboration between the project's national and international partners

Bioresurs - experts in botany and plant conservation - led all surveys, monitoring and species conservation activities in the project sites. Over Y2, Bioresurs collaborated with local research institutions: the Institute of Chemistry and Phytotechnology (ICP); Institute of Biology (BI), Kyrgyz National University (KNU), the Kyrgyz-Turkish Manas University, the Botanical Garden named after Gareev and the Seed Laboratory of the Frunze Forestry of the State Agency on Environment Protection and Forestry of the Government of the Kyrgyz Republic (SAEPF).

Association of Forest, Land Users of Kyrgyzstan (AFLUK) is an NGO that works towards sustainable forest and pasture management. It led all work related to pasture management in the project. This involved close engagement with local self-governments (LSGs) in Shamshy and Kulundy in the Project sites; National Pasture Users Association of Kyrgyzstan "Kyrgyz Jayity", Kyrgyz Scientific Research Institute for Livestock and Pastures (KSRILP), and Leilek Forestry (situated by one of the project sites, Baul) and SAEPF. Regional administrations also participated in public discussions during pasture management policy development.

Cambridge University Botanic Garden (CUBG) – holders of the UK's national tulip collection – are providing technical input across the project and are supporting the establishment of ex situ collections. They also lead supervision of a PhD student – Brett Wilson - who is jointly supervised by Royal Botanic Gardens, Kew and FFI. Brett's PhD addresses questions related to the evolutionary history, genetics and conservation priorities for tulips across Central Asia.

FFI staff maintain constant contact (by phone, online meetings) with all partners to monitor progress and support implementation. Because of the COVID-19 situation, FFI hosted just one formal steering group meeting in Y2 with the lead national partners (AFLUK and Bioresurs). AFLUK and Bioresurs regularly coordinated upcoming events with each other and kept FFI informed ahead of all major activities. All partners participated in a project WhatsApp group, "Darwin Tulips", which has enabled regular sharing of photographs and updates from the field.

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.

Completed and reported on in Y1.

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

A - Tulip surveys

To address national level knowledge gaps in the distribution, ecology, genetics, and threats to tulips, for the second year running, Bioresurs organised surveys throughout Osh, Jalal-Abad, Talas, Issyk-Kul and Chui regions. This is informing in-situ and ex-situ conservation at a national level, and puts data collected at our 3 project sites into a national context. Y2 surveys had a delayed start (due to travel restrictions related to Covid-19) and this meant that fieldwork – completed form late April to early June - did not fully overlap with the flowering season for several target species. The expedition team included nine Kyrgyz scientists from the Institute of Biology, Institute of Chemistry and Phytotechnology, Kyrgyz National University and Kyrgyz-Turkish "Manas" University. Data on floral composition, tulip species diversity and threats were collected in 22 wild tulip habitats (18 newly surveyed; 4 revisited from Y1), adding to data

collected from 31 sites in 2019 (49 sites surveyed in total). The 2020 surveys also yielded new records for two species: *Tulipa kolpakowskiana* and *T. talassica,* meaning that in total the project has gathered information on 22 tulip species in Kyrgyzstan (81% of the national total).In addition, *T. heterophilla*, *T. dasystemon, T. talassica* were collected for genetic analysis, and herbarium materials were transferred to the Institute of Biology and CUBG with necessary permits in place. For details please refer to the Annex 4 for more information on samples collected in different regions.

B - Monitoring of fenced and reference areas in the Shamshy project site

In addition to survey work across Kyrgyzstan, the project monitored impacts of fencing in one of the project sites, Shamshy. Three approaches were applied to monitor: 1) tulips abundance 2) vegetation cover and 3) soil microbiology. Data on abundance were collected in May 2020 (to compare to a May 2019 baseline) in 5 fenced and 5 unfenced areas by Ormon Sultangaziev, FFI Central Asia ecologist and analysed by Brett Wilson, Cambridge University PhD student. After one year there was no overall change in abundance of tulips but there was a statistically significant increase in 'healthy' tulips in fenced plots relative to unfenced, indicating that fencing may play some role in protecting tulips from grazing. Data on vegetation– e.g. plant species diversity, heights, species condition – were collected from July 15th-19th 2020 by pasture experts from the KSRILP. Surveys took place in 5 fenced sample plots and in 10 reference areas. Collected data are summarised in the Annex 5, but preliminary findings indicate that in fencing positively influenced to recovery of the vegetation. Microbiological soil analysis was conducted in three fenced areas in Shamshy and one unfenced plot in September 2020 to provide an additional baseline indicator for soil health. Preliminary results showed the fencing by is supporting soil recovery. More details are described in the Annex 6.

C- Pasture surveys.

In August 2020, pasture surveys were conducted within 550 ha of grassland habitat across the three project sites. These areas have been prioritised for sustainable pasture management practices (including changes to grazing regimes) in recently revised pasture management plans (see 2.5 for more detail). Data collected here is thus an important baseline for monitoring the outcomes of altered pasture management. Surveys were conducted using the 'Guidelines for the Monitoring and Assessment of Pastures and Mountain Pasture Communities', developed in Y1 by Kyrgyz Scientific Research Institute for Livestock and Pastures (KSRILP).

KSRILP assessed summer pastures condition at 13 locations within the 550 ha grassland habitat: in four sites in Shamshy (150 ha), five in Baul (300 ha) and four in Sulyuktu (100 ha). Data on vegetation cover, species composition, pasture types and the current state of pastures were collected and recommendations to maintain and improve pasture condition were given to the Pasture Committees for further implementation.

I. Summary of pasture assessment results: Shamshy.

Site name	Latitude (N)	Longitude (E)	Altitude, m	Findings and recommendations
Kok-Torpok	42˚35.592'	075˚19.784'	2079	Rest the pastures for 2-3 years to increase pasture capacity.
	42˚35.592'	075˚19.790'	2077	
	42˚35.604'	075˚19.775'	2073	
	42˚35.605'	075˚19.783'	2072	
Kok-Torpok-2	42˚35.533'	075˚19.811'	2063	Comply with grazing schedules and norms to ensure and preserve plant communities. Put a long term moratorium until the vegetation recovers.
	42˚35.530'	075˚19.804'	2064	
	42˚35.523'	075˚19.819'	2062	
	42˚35.521'	075˚19.812'	2063	
Shamshy 2 ha fenced in 2020	42˚35.494'	075˚24.173'	1698	Apply a half season rest to restore vegetation cover. This will help to increase cereal grasses, reduce undesirable weed s and
	42˚35.490'	075˚24.176'	1700	
	42˚35.484'	075˚24.164'	1699	

demonstration plot	42˚35.489'	075˚24.162'	1701	increase litter, which helps to retain moisture on the pastures.
Kok-Bulak	42˚36.034'	075˚21.718'	1805	This site is highly degraded, grass height within 2-3 cm, there is overgrazing and an increase in weeds and poisonous vegetation.
	42˚36.036'	075˚21.727'	1806	
	42˚36.036'	075˚21.717'	1803	
	42˚36.044'	075˚21.723'	1802	

II. Summary of pasture assessment results: Baul.

Site name	Latitude (N)	Longitude (E)	Altitude, m	Findings and recommendations
Chayish (Quarter 5 of Ozgorush unit of Leilek Forestry)	39˚45.339'	069˚56.648'	2096	Severe overgrazing, site degraded, non-compliance with rational use of pasture turnover. There is a need to ban grazing, until the vegetation cover is fully restored and after pasture rotation
	39˚45.333'	069˚56.649'	2094	
	39˚45.338'	069˚56.635'	2089	
	39˚45.333'	069˚56.635'	2088	
Chayish (Quarter 6 of Ozgorush unit of Leilek Forestry)	39˚45.485'	069˚56.956'	2273	Area is in good condition. These areas are suitable for grazing of goats and sheep, and are inaccessible for cattle and horses.
	39˚45.477'	069˚56.961'	2277	
	39˚45.485'	069˚56.951'	2280	
	39˚45.475'	069˚56.955'	2283	
Ak-Sar (Quarter 5 of Ozgorush unit of Leilek Forestry)	39˚44.189'	069˚55.166'	2376	Meadow pasture degraded, plant composition changed, weeds appeared, all fodder grasses do not have time to mature. Give rest for 2-3 years and afterwards introduce pasture rotation.
	39˚44.190'	069˚55.159'	2380	
	39˚44.181'	069˚55.166'	2374	
	39˚44.181'	069˚55.157'	2381	
Sary-Tash (Quarter 25 of Ozgorush unit of Leilek Forestry)	39˚46.109'	069˚55.092'	2000	Site degraded, a lot open areas like paths. Rest for 2-3 years and after introduce pasture rotation.
	39˚46.113'	069˚55.084'	2009	
	39˚46.104'	069˚55.090'	2001	
	39˚46.110'	069˚55.079'	2011	
Plot 3 (Quarter 5 of Ozgorush unit of Leilek Forestry)	Na- GPS ran out of batteries at this remote location			Forage grasses are degraded, up to 2-3 cm in height, and do not have time to mature. Put a moratorium on grazing in place until the vegetation recovers.

III. Summary of pasture assessment results: Suluktu

Site name	Latitude (N)	Longitude (E)	Altitude, m	Findings and recommendations
Field №8	39˚55.818'	069˚38.747'	1516	Pasture is degraded up to 90%. Stop grazing and sow forage grasses to increase diversity and restore vegetation cover.
	39˚55.820'	069˚38.740'	1516	
	39˚55.808'	069˚38.746'	1522	
	39˚55.810'	069˚38.739'	1522	
Tytty	39˚57.145'	069˚38.316'	1670	Stony place with shrubs. Wild tulips found in the site. The low-growing grasses such as *Fectusa valesiasa* and sedge were completely eaten, while the high-growing grasses were partially left. Reinforce and respect pasture rotation.
	39˚57.146'	069˚38.309'	1666	
	39˚57.135'	069˚38.314'	1682	
	39˚57.136'	069˚38.307'	1679	
Tytty 2	39˚56.976'	069˚38.216'	1643	The main percentage of the vegetation to be eaten is completely degraded. The pasture rotation needs to be introduced.
	39˚56.979'	069˚38.209'	1647	
	39˚56.965'	069˚38.212'	1646	
	39˚56.968'	069˚38.205'	1645	
Suluktu	N/A – GPS ran out of batteries at this remote locaiton			The area is degraded. Take urgent measures to restore the degraded area - long-term rest and/or replanting of fodder grasses.

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

In collaboration with Brett Wilson, we will disseminate a number of scientific briefing documents specifically designed to inform a Tulip Conservation Strategy meeting scheduled for Year 3. Data collected in Y1 of the project were incorporated in the article by Brett Wilson et al "Central Asian wild tulip conservation requires a regional approach, especially in the face of climate change" in Biodiversity and Conservation (2021) – see Annex 3.

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

Tulip collection continued in July-August 2020 in three regions: Chui (Kichi Kemin, Cholok, Kegety and Shamshy); Issyk-Kul (Barskoon, Turgon, Chon Ak-Suu ravine) and Jalal-Abad (Toktogul, Beke-Cha). The purpose was to boost and refresh ex situ collections (established over Y1), with focus on potential for long term recovery and reinforcement. Over Y2, 58.2g of seeds were collected from 5 species: *Tulipa ostrowskiana, T. gregii, T. heterophilla* in their natural habitats and *T. zonneveldii* and*T. Kaufmanniana* from ex-situ and 663 bulbs were also collected from six species in their natural habitats*: Tulipa ostrowskiana, T. gregii, T. heterophilla, T. ferganica, T. talassica, T. jacquesii*. Wild tulips collected for the first time include: *T. heterophilla, T. talassica, T. jacquesii.*

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

Tulips seeds and bulbs collected over Y2 were distributed to three ex situ collections established by the project in Y1: one managed by IPC in Bishkek, one by Bioresurs in Chunkurchak gorge and one in Gareev Botanic Garden (note a 4th ex situ site established in Y1 - Arashan – is also still effective but it was established mostly for awareness raising activities). With the addition of seed and bulb collections in Y2, the three main ex situ sites are now growing 13 species from bulb and 11 from seed. Combined data from Y1 and Y 2 on collected bulbs and seeds and their distributions to each ex situ collection is available in Annex 7.

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

Germination trials continued in Y2 and detailed results are included in Bioresur's report. Germination rates from bulbs are generally high although germination rates from seed vary between the 11 species: ranging from no germination at all in *T. dasystemonoides* to rates of over 80% in *T. tarda* and *T. kaufmaniana.* Results from these trials are informing understanding of the growth requirements of different tulip species and will be used to guide species and site selection for 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

Postponed to Y3 due to restrictions on travel.

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

In Y3 we will implement a multi-stakeholder strategy workshop and a Red List workshop. These will be informed by the project's survey results (see 1.2) and ongoing analysis and distribution mapping completed under Brett Wilson's PhD (funded through a NERC scholarship).

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

Consultation meetings with 92 stakeholders (with 40 % female participants) in Suluktu, Baul and Shamshy were completed by AFLUK in Y1.

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 and the consultation meetings carried out with 92 stakeholders, AFLUK completed a review in Y1 on pasture management at each project site and made initial recommendations for improvements. These are summarised here to provide context for related activities completed in Y2:

- Across all 3 sites, integrate locally identified actions to the existing Community plans for Pasture management (CPPM) in order to make them more in line with the specific needs and capacities of local pasture users.
- In Baul, develop a joint action plan between the Pasture Committee and Forestry Unit to coordinate management of grazing between these two different stakeholders.
- In Suluktu, establish a new Pasture Committee under the Suluktu city hall and then supporting it to develop its own Pasture Management Plan (as Suluktu pastures users are currently using an contributing to overexploitation of pastures in nearby, Kulundu)
- In Shamshy, devolve 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.

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

Planning exercises were completed in Y1 and they revealed that although all three project sites have a Pasture Management Plan in place, local people did not participate in the plans' original development and therefore do not understand or follow them. The plans in place at project start are seen as too generic and are not tailored to the specific situation of each site. This inspired the project team to improve the existing plans: see 2.4-2.5.

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 Y2, AFLUK focused on addressing a number of recommendations made in Y1 (see 2.2) to improve existing Community plans for pasture management (CPPM) at all three sites. Local workshops designed to refine the CPPMs were carried out in Baul and Suluktu on June 18-21, 2020 and in Shamshy on August 14-15 with 149 participants out of 30 % female. Beneficiaries were guided through a process to simplify the existing CPPM. They also supported participants to include the following changes to the CPPMs and their related governance:

- For each CPPM, actions are now delegated to seven local 'commissions', responsible for a different function: 1) livestock population control; 2) pasture infrastructure improvement; 3) pastoral placement; 4) grazing fees collection; 5) animal health; 6) pasture assessment and monitoring; 7) conflict resolution and illumination. Preliminarily members for these commissions were nominated at each of the project sites and their permanent official role will be approved after the national election for local councils (in April, 2021).
- A " Pasture Council "Jailoo" consisting of village activists will be established. The Jailoo will be responsible for ensuring local concerns, voices and traditional knowledge are fed into decision making by the Pasture Committees. This is an innovative practice for pasture management which is completely new for Batken and Chui regions
- Recommendations to protect key tulips habitats from grazing were added to the CPPMs.

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

AFLUK presented proposed changes to the CPPMs to local decision makers at each of the project sites and these were subsequently approved by deputies at each LSG Council.

№	Project sites	Date	Number of attended deputies	supported the approval of the CPPM	Out of	
					Female	Male
1	Baul	03.02.2021	21	19	1	18
2	Suluktu	01.02.2021	31	26	6	20
3	Shamshy	03.03.2021	11	11	4	7
In total			63	56	11	45

In Suluktu, proposed changes to the CCPM were discussed with the Kulundu LSG office on February 1st 2021 after which they were approved during the Kulundu LSG council meeting.

In Shamshy, proposed changes to the CCPM were presented to a stakeholder meeting on March 3rd 2021 participated by the head of the Shamshy LSG, the chairman of the local council and the chairman of the pasture committee. They were then approved during a Shamshy LSG council meeting.

In Baul, the approval process involved gaining support from both Leilek Forestry (secured on January 28th) and Katran LSG – responsible for the local Pasture Committee (secured on January 29th 2021). The final adapted CPPM – signed by both agencies - was then discussed at a public meeting on February 3rd where it was approved by the local Council of Katran LSG in accordance with the pasture use national legislation of the Kyrgyz Republic.

In Baul, the completion of joint management plan for pasture between two different agencies is an entirely new approach in Kyrgyzstan and is a major achievement. The joint plan has since been presented at meetings held by the Leiliek Regional Administration Office (February 8th 201) and at a national level Pasture Management Forum in Bishkek (19th February 2021) attended by 200 people working on livestock, pasture resource management and agricultural in general. In both meetings, the joint plan gained a lot positive feedback and the General Director of the National Association of Pasture Users "Kyrgyz Jaiyty" noted the need to disseminate it to other regions for improving pasture management and promoting intersectoral cooperation.

In addition to work to refine existing CPPMs in the 3 project sites, AFLUK are also working to help establish a new Pasture Committee for Suluktu. Suluktu is predominantly a coal mining town, but almost every household keeps cattle, sheep, goats and the grazing of their livestock (currently governed by a Pasture Committee in a different town, Kulundu, is not regulated). A dedicated Pasture Committee is needed to better manage local use of pastures. AFLUK organised three highly productive meetings with the Major's office in Sukuktu (in June 2020, August 2020 and February 2021) after which local staff initiated the development of relevant legal documentation required to create a new committee. The process is currently on hold as officials are occupied with upcoming local elections but we will be to resumed in Y3

In addition to securing improvements to the existing CPPMs, AFLUK signed Agreements with the local self-government bodies (LSG) and Leilek Forestry of the SAEPF to introduce sustainable pasture management approaches in 550 ha of grassland habitat in project sites for the period of 2020-2022. Within these areas, grazing will be limited following recommendations made in each CPPM. Details of the Agreements can be found in the table below:

Partner	**Area of land (ha)**	**Name of the place**	**Signing date**	**Signatories**
Leilek Forestry (LF)	300	quarters № 5, 6, 25 LF	22.06.2020	Mr. Murzakulov T., director of Leilek Forestry unit
Kulundu LSG	100	"8th field" and in the "Tytty" grazing areas	18.08.2020	Mr. Murzaev A., chairman of Kulundu LSG
Shamshy LSG	150	Turakayyn gorge	10.08.2020	Mr. Erik uulu Azamat, chairman of Shamshy LSG

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

Support and direction of the implementation of the newly amended CPPMs will take place in Y3 after the members of the newly established commissions at each project sites are formally approved in April 2021.

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

KSRILP developed a number of relevant indicators to measure implementation of management plans (see Annex 2 to Guidelines for the Monitoring and Assessment of Pastures and Mountain Pasture Communities). They then completed anonymous surveys with 123 pasture users to develop a baseline of current understanding and use of the CCPMs at each project site. Baseline results indicate that many participants were not satisfied with the work of pasture committees and were not familiar with the CPPMs developed prior to the project. Repeat surveys will be carried out in Y3 to monitor changes in attitudes, understanding and uptake of the newly amended CPPMs. The below table shows data on number of participants in the project sites and more detail is available in AFLUK's full report.

№	Project sites	Date	Number of participants	Out of	
				Female	Male
1	Baul	June 20-21, 2020	39	12	27
2	Suluktu	June 18-19, 2020	45	20	25
3	Shamshy	August 14-15, 2020	39	14	25
		In total	**123**	**46**	**77**

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

Workshops to explore replication of sustainable pasture approaches developed by this project to other Pasture Committees in Kyrgyzstan will be completed in Y3. However it is worth noting that the Management Plan developed for Leilek Forestry unit and Baul pasture committee has already been recommended to be replicated in other regions for improving cross sectoral integration in sustainable pasture management and biodiversity conservation.

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

Training modules on "Sustainable Pasture Management in Kyrgyzstan" and "Development of a Community Plan for Pasture Management" were developed in Y1.

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

Using the modules developed under 3.1, Mr. B. Naizabekov, an independent expert on pasture management, and Ms. N. Kilyazova and Mr. A. Abdyraimov, specialists from KSRILP, led trainings on " sustainable pasture management and monitoring'. Workshops were conducted over June-August, 2020 to 105 pasture users in three Project sites (details see below table). The training focussed on methods for pasture improvement, modern and traditional methods of pasture assessment, indicators for assessing the pastures condition and identification of the main

vegetation types, plants and tulips and invertebrates present in healthy grasslands. Anonymous questionnaires distributed to all participants showed a good level of participation and interest in the training and participants reported that their knowledge was higher than before the training.

#	Name pilot site	Date	Number of participants			% man	% women
			man	woman	total		
1	Shamshy	Aug. 14. 2020	25	6	31	81	19
2	Baul	June 20. 2020	22	12	34	65	35
3	Suluktu	June 18. 2020	30	10	40	75	25
	Total		**77**	**28**	**105**	**73**	**27**

The workshops were followed by a one-day practical training in pasture monitoring in each pilot site. The trainers helped participants to practice approaches on traditional pasture management, and complete pasture assessments (see 3.5).

#	Name pilot site	Date	Visited site	Number of participants			% man	% women
				man	woman	total		
1	Shamshy	Aug. 15. 2020	Turaikan valley	8	2	10	80	20
2	Baul	June 21. 2020	Kara-Tash	17	4	21	81	19
3	Suluktu	June 19. 2020	Maitongbos	8	4	12	76	24
	Total			**33**	**10**	**43**	**77**	**23**

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

Questionnaires completed with 123 pasture users under 2.7 indicated that knowledge of pasture management in general and pasture improvement techniques in particular was poor. In Y3 we will support users to trial and adopt practical measures for improving pasture condition, including rotation of livestock

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

During workshops carried out under 3.2, the experts facilitated discussion on methods of pasture improvement but these revealed low levels of current understanding around pasture improvement. More focussed capacity building work will continue in Y3.

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

Stakeholders in the three project sites gained theoretical and practical knowledge on the methods of assessment and monitoring of pastures and forage through trainings conducted by specialists from KSRILP (see activity 3.2). Forty-three people across the few sites participated in a practical trial of the monitoring guidelines and joint pasture monitoring will be completed again with in Y3. The Guidelines for the Monitoring and Assessment of Pastures and Mountain Pasture Communities were translated into Kyrgyz and 100 copies will be printed and distributed to Pasture committees. Posters with information on conducting pasture monitoring have also been designed and will be distributed to Pasture committees in Y3.

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

As part of the questionnaires completed under 2.7, the same 123 users were asked about herd health and quality of livestock products. All responded that the quality of milk, dairy products and meat produced is currently good and participants noted that they do not use wool in the household, although a small portion do for carpet weaving.

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

Our plans to establish and train two community protection groups have been postponed to Y3 (due to the COVID-19 outbreak).

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

Equipment for fencing has been bought and suitable areas identified. However erection was postponed to Y3, initially due to COVID-19 restrictions, and then due to early that closed the road to the site. Fencing described here will be additional to monitoring pots described under 1.2

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

Annual work plans included in the approved CPPM for each project site (see 2.4-2.5) include actions to identify tulip conservation zones and apply seasonal limits to grazing in these areas. On the ground, AFLUK have already marked tulip conservation areas within 3 ha in Baul to support monitoring and conservation of *T. affinis*. In Shamshy a 2ha areas has also been marked, surrounding the monitoring plots identified under 1.2. In Suluktu, we will support work to identify marked tulip conservation areas once a new Pasture Committee and Pasture Management Plan is developed for the city.

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

Three tourist agencies ‘Silk Road Tourism Association’, ‘Mountains of Asia, “Mountain Lake Karakamysh’ signed agreements with AFLUK to organise tours to tulip habitats during the blooming period; post information in social networks about tulips; provide information about tulips to tourists; comply with all requirements of the Kyrgyz Republic legislation while visiting tulip growing areas; promote the development of informational materials about tulips.

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

Dr. G. Lazkov, Ph.D. of the Institute of Biology submitted an article about tulips to the magazine "Tourism of Kyrgyzstan" for publication. This magazine has been published annually since 2005 and has a wider readership including the media, tourism professionals, teachers and students. Surveys of tourists will start in Y3.

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)

Over Y2, nearly all planned school event or cultural events (e.g. a planned tulip festival at Bishkek Botanic Garden) were postponed to comply with restrictions on gatherings during the height of the pandemic. Some selected and relevant activities carried out in Y2 include:

- In March 24, 2021, AFLUK organised a school the event "Together We Will Protect and Preserve the Wild Tulips of Kyrgyzstan" at S. Ibraimov Agricultural College in Bishkek with 37 participants. Dr. G. Lazkov, delivered a presentation on tulip conservation and

students helped to weed the Arashan tulip nursery site, where tulip bulbs received from the project had been planted in Y1.

- AFLUK produced calendars, featuring 11 Red Data Book Listed tulips with Russian, Kyrgyz and Latin names with message. These were distributed to the Ibraimov Agricultural College, to pasture users at the project sites; to the public body on pasture resources management; the public body got environmental protection and biodiversity; scientific-research institutions; a tourism companies.
- Bioresurs had a preliminary negotiation with a school principal in Baul regarding establishing a demonstration site for wild tulips (an idea that was the initiative of the local staff).

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

FFI and Gareev Botanic Gardens developed roll-out displays (5 in total) featuring information on wild tulips and ongoing in-situ and ex-situ conservation work carried out through the Darwin Initiative. The posters will ultimately be housed in the Botanical Garden but will first be being used for promotion at a wild tulip festival and at local events with school children.

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

A Participatory Impact Assessment is due to start in Y3.

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

Data on tulip abundance across Kyrgyzstan was collected in both Y1 and Y2. In the 3 project sites, new baselines on species diversity, vegetation, and pasture condition and productivity were established in Y2 and follow-on monitoring will be completed in Y3. Monitoring of vegetation cover in the Shamshy sample plots was completed in Y1 and Y2 with data collected on tulip abundance, vegetation and soil health (indicator 1.1.). Four ex situ collections were established in Y1 and new collections made in Y 2 mean that 13 species are now conserved ex situ (indicator 1.2). Germination trials are underway ahead of planned reinforcement of tulip species in Y3 (indicator 1.3). A learning exchange trip to the UK for five local experts to improved technical understanding and skills regarding tulip conservation postponed to Y3 (indicator 1.4). Information is being collected 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

In Y1, 226 pasture users (34% (79) women) from Baul, Suluktu and Shamshy had greater awareness on pasture degradation, the importance of pasture management plans and pasture improvement methods (indicator 2.1). In Y2 AFLUK, following close collaboration and consultation with stakeholders ay the project sites, successfully supported the revision of three Community Plan for Pasture Management (indicator 2.2). Implementation of the management plans and uptake by local people will be supported and measured in Y3 (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, although outputs from the project (including an innovative cross-sectoral pasture management plan), have already been shared at regional and national fora on pasture management.

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

In Y2, 105 pasture users and other stakeholders (77 men and 28 women or 73% and 27% respectively) were trained in sustainable pasture and livestock management, adding to 134 (74

women) trained in Y1 (indicator 3.1). By the end of the project we expect that the vast majority of training participants will be applying improvement management methods in their pastures, but it is still too early to demonstrate this (indicator 3.2). Experts from KRILP have developed a pasture monitoring from for use by pasture users, and 105 users were trained to use this, with 43 people trialling it in the field in 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 tulip in Y2 was postponed to Y3 due to the COVID-19 outbreak and poor weather (indicator 4.1). Conservation zones for tulips have been marked in two sites and results were integrated into updated the Pasture Management Plans (indicator 4.2). Protection groups were formed but they are not yet active in the field as their initial training of was postponed to Y3 due to COVID-19 (indicator 4.3). Three tourist agencies signed Agreements with (AFLUK) to incorporate tulip tourism into their packages (indicator 4.4). Awareness raising events on tulips have so far reached to 604 people (265 in Y2 and 339 people in Y1) in the project sites. New outreach materials have been prepared and we will carry out a number of events in Y3 that will allow us to reach > 2,000 people by project end (indicator 4.5).

3.3 Progress towards the project Outcome

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.

The project took important steps towards this indicator in Y2 after AFLUK signed Agreements with the local self-government bodies (LSG) and Leilek Forestry of the SAEPF to introduce sustainable pasture management approaches to 550 ha area of grassland habitat (150 ha in Shamshy; 100 ha in Kulundu and 300 ha in Baul) Monitoring of vegetation cover, species composition and pasture condition across these areas was completed in Y2 and will be repeated Y3 to detect any initial changes in grazing pressure and any responses in the vegetation.

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.

Surveys with 123 pasture users in Y2 revealed that most users have poor engagement with the existing Pasture committee and are not familiar with Community Plans for Pasture Management. The results indicated a low appreciation and confidence on methods involved with pasture management. To address this, we have worked to revise Community Plans for Pasture Management to make them more relevant and accessible to local pasture users, and have also provided training to 226 users (34% female) in Y1 and 105 pasture users (27% female) in Y2 on sustainable pasture management, and those trained in Y2 gained additional practical knowledge on methods for pasture monitoring. As a result, we hope to observe improved confidence in pasture management among users by the end of Y3, and this will be measured through a PIA.

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 PIA. We expect that application of better pasture management will lead to improved pasture quality and 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 five fenced areas 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.

Most of the awareness raising activities scheduled for Y2 within the local communities were postponed due to COVID-19. We plan to complete a large number of site-based awareness raising activities in Y3. By the end of the project we aim demonstrate increased understanding of tulips among community members living by the project sites.

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 Y2, 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 believe it will be possible to assess some initial improvements in pastures quality in Y3, For example we already observed positive changes in soil microorganisms within a year of fencing, suggesting that the recovery of soils and vegetation begins immediately when land is rested.

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)

COVID-19 has caused an economic crisis in Kyrgyzstan and food prices have increased and consequently so has the price for meat and livestock. Currently this does not appear to have had a knock on impact on the number of livestock grazed on the pasture lands, as although slaughtering of livestock for events within the country decreased, there appears to have been an increase in exports.

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 (lockdown) because of COVID-19 disrupted the field trips and we were unable to get to the field in time for the flowering season. We manged to carry out the majority of field trips after the period of national emergency had finished. National elections also impacted the project as we had to move meetings with local policy and decision makers to the times of year when they were not focussed on elections.

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 mountainous area) to provide a range of environmental conditions and altitudes suitable for different tulip species.

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. In Y2, 105 people (28 women) took part in training and workshop and 123 people participated in various interviews.

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. Approval of updated management plans in Y2 indicates there is local willing to address unsustainable levels of grazing.

Assumption 9. Community members are able to implement plans with available resources, including available pasture.

Management plans were successfully revised in Y2 to make them more accessible to local people. In Y3 we will support community members to implement these plans.

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 trainings carried out in Y2.

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 Y3.

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)

In Y3, the project will have a major focus on awareness raising 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 is also fostering communication and collaboration between different pasture committees and government agencies to help avoid conflict over use of different pasture resources.

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 lead partners Bioresurs and AFLUK established good relationships with local community members in the sites and are aware of many individuals keen to take part in protection work.

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 continue more fencing work in Y3.

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)

During the field trips (in Y2 only tulips bulbs cutting was noticed at one site onl, although this low level of threat might have been due to reduced presence of people during the COVID-19 lockdown. Nevertheless, the project will raise awareness on laws prohibiting illegal cutting and bulb collection 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 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. 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 (1) improve pasture management and therefore recover tulip habitat and (2) reduce the extinction risk faced by highly threatened tulip species through population reinforcement and ex situ conservation collections. In Y2, we made a significant step towards promoting the recovery of tulip habitat; agreements were signed by three Pasture Committees to allocate 550ha land for sustainable pasture management (where restricted, light or rotational grazing will be applied) alongside the revision of Community Plans for Pasture Management, which outline a number of priority actions for supporting recovery of these areas. On a species level, actions to intensively protect critical habitat for tulip populations in two of the three sites were also included the above mentioned plans. *Ex situ* collections increased from nine species to thirteen.

By working to improve the management of pasture lands across three sites, the project aims to support resilient and economically thriving pastoral communities. Activities leading up to this impact have a focus on (1) promoting inclusion of local people in the design and implementation of pasture management plans and (2) building the necessary skills and confidence in pasture users to apply these plans on the ground. In response to results from local consultations carried out in Y1, in Y2, the project was successful in supporting revisions to three existing 'Community Plans for Pasture Management' that our interview data suggested were previously poorly understand and not applied on the ground. Plans were made more accessible to local pasture users and included an agreement to delegate responsibilities to seven local people for different functions of pasture management. An agreement was also made to appoint a local council (formed by local activists) to ensure that local concerns can be raised to the Pasture Committees. This work was complemented by a series of training workshops held over Y1 and Y2 designed to build knowledge, skills and confidence in pasture management, monitoring and improvement techniques. 105 people received this training in Y2, adding to 134 trained in Y1.

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 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 change pasture users attitude from livestock quantity to quality, enhance 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). 74 women (32% 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. The existing Pasture Management Plans were revised according to comments and recommendations from stakeholders. The Project will now focus more on building capacity of both pasture communities and pasture users for effective implementation of the 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

- The project conducted baseline research on 23 poorly-known tulip species (85% of the national total) and is thus contributing to the CBD and Aichi Target 19 (science for conservation).
- A section on traditional knowledge on pasture management was incorporated into the Community Plan of Pasture management and the document was approved by local decision makers. This is in line with Aichi Target 18 (respect for traditional knowledge).
- In Y2 establishment of tulips conservation zones were negotiated and agreed with local communities in two sites. These activities will contribute to CBD Article 8 (in-situ conservation) and Aichi Targets 12 (prevention of extinction), 19 (knowledge, the science base and technologies relating to biodiversity are improved) and 14 (preserving ecosystem services and livelihoods).
- Four ex situ conservation collections containing 13 tulip species are up and running. This is supporting Aichi Targets 12 and 13 in regard to preventing extinctions and maintaining genetic diversity through ex-situ protection.
- We updated Pasture Management Plans and also conducted sustainable pasture management trainings to pasture users. These 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. By working to improve the management and condition of pasture lands across these sites, the project aims to support resilient and economically thriving pastoral communities. Activities leading up to this desired impact focus on (1) promoting inclusion of local voices within pasture management and (2) building skills and confidence in pasture users to apply pasture management in practice. In response to results from local consultations carried out in Y1, in Y2, the project was successful in supporting revisions to three existing 'Community Plans for Pasture Management' that our interview data suggested were poorly understand and not applied on the ground. Plans were made more accessible to local pasture users. The plans included an agreement to delegate responsibilities to seven local people for different functions of pasture management. An agreement was also made to appoint a local council (formed by local activists) to ensure that local concerns and suggestions can be raised to the Pasture Committees. The revision of these plans is a critical step to engagement local users in sustainable pasture management. This work was complemented by a series of training workshops held over Y1 and Y2 designed to build knowledge, skills and confidence in pasture management, monitoring and improvement techniques. 105 people received this training in Y2, adding to 134 trained in Y1.

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. Additionally, the Project engaged with the private sectors including tourism companies, three of which signed agreements to build tulip tours into their programmes. This is just the first step – and admittedly tourism income in Kyrgyzstan has decreased significantly in 2020 due to Covid-19 – but there is also some potential for tulip based tourism to generate an additional source of income for local communities in these areas.

7. Consideration of gender equality issues

Women and men in Kyrgyzstan access and benefit from natural resources differently, along culturally and traditionally assigned roles, and men still dominate in policy and decision making process. Especially in rural areas that is observable; local self-government heads and pasture committee leaders are male. At first glance, the traditional view of pasture management seems like a man's job, however women also gain indirect benefit from pasture and their management: 1) Almost every family in our project site has one or more cow and women milk these cows and make different kinds of dairy product for sale or for use by her family. 2) Traditionally women are closer to nature and the establishment of tulips conservation sites can contribute to their spiritual inspiration. The project has prioritised inviting women to workshops, trainings and interviews to ensure their perspectives are accounted for, that they benefit from the training and have influence over future management. So far, 72 women have been involved in trainings or (34% of all people involved). We will continue to address gender equality issues: ensuring high participation of women in all future events and will ensure women play an active role in both Pasture Management and species conservation.

8. Monitoring and evaluation

A steering group 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) discussed regularly the Project implementation issues throughout 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. 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. The project manager has been responsible for collating this data, and then following adaptive management principles throughout. For example, when we realised data collected on pasture quality in was insufficient to monitor certain output level indicators, we recruited experts from KRILP to develop and apply best practice methods for pasture assessments, enabling high quality data collection at the sites. We also followed adaptive management principles to account for the COVID-19 situation, adjusting the timing and format for various activities, throughout Y2.

9. Lessons learnt

The Project partners established good relationship with stakeholders in the project sites and this has enabled effective engagement of pasture users, policy and decision makers on discussions on sustainable pasture management at the regional and local level. Effective stakeholder management and communication has been crucial to deliver some of the major results observed, including the revision of and increased local buy-in to pasture management plans. Involving different levels and sectors of society has also helped to generate new ideas and contribute for successful project implementation. Examples include development of the country's first cross sectoral pasture management plan (thanks to engagement of both local forestry and pasture agencies).

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

Please provide details of FFI helping to develop a joint action plan between the Pasture Committee and Forestry Unit in Baul to coordinate grazing management and restore pasture areas	Following initial consultations carried out in Y1, we worked with local stakeholders to develop an adapted pasture management plan for Baul that accounted for views of local pasture users, the pasture committee and the forestry unit. In January 2021, AFLUK work bilaterally with the pasture committee and the forestry unit to then revise the proposed management plan and then brought both agencies together on January 29th 2021 to sign a joint plan that was subsequently approved at a local government council meeting
Provide details of recommendations for Kulundu Pasture Management Plan for budget and set of actions for Suluktu	The focus in Y2 has been on building political support for development of a separate Pasture Committee that would be specifically responsible for pasture land within Suluktu. This involved three productive meetings with the mayor's office in June 2020, August 2020 and February 2021, during which the mayor agreed in principle to support development of a committee and instructed staff to begin forming relevant legal paperwork. Recent progress is on hold as local government officials are currently occupied with upcoming elections. This will be resumed in Y3.
Provide details of recommendations for improving the Pasture Management Plan in Shamshy	Initial recommendations provided for improving pasture management in Shamshy – produced in Y1 - included devolving responsibility for various actors (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. This recommendation from this one site inspired similar governance changes enacted in the other two (with the formation of seven local commissions of volunteers responsible for different functions agreed in the revised Community Plans for Pasture Management in all three sites). In Year 2, the project's pasture experts also carried out more detailed assessments of grassland habitats across Shamshy, collecting data on pasture condition in four locations. Recommendations differ for different areas, but include a need to rest certain areas for a period of up to 3 years or to introduce grazing schedules that limit grazing activity for parts of the year.
It will be good to know in future how much the improvement in grasslands will become resilient and improve the health of livestock, which would be a critical asset for communities, within the lifetime of the project or beyond.	It is likely that the most significant changes to grassland resilience will happen beyond the project and that knock on impacts on livestock health will also occur afterwards. However, our data also indicate that fenced areas - where grazing is excluded - show some level of recovery of vegetation and soil health within a one year period. It is therefore likely that some level of improved grassland resilience will come about by project end within the 550ha of land allocated for sustainable pasture use in Y2, and that indicators for this – assessed through monitoring of vegetation – will demonstrate improved resilience year on year following the project end.
Ensure that monitoring, evaluation and lessons learnt are reviewed and updated	These have been updated in the report

11. Other comments on progress not covered elsewhere

12. Sustainability and legacy

We are building sustainability into all aspects of the project. We have already left in place three updated long term Pasture Management Plans which, through the work carried out under this project, are now more feasible, better account for local needs and will have greater buy-in and support from local pasture users. Pasture users have also received training on sustainable pasture management in both Y1 and 2, helping to increase their understanding of the management plans and building their skills and confidence in application of agreed actions within these plans. Extensive involvement with various stakeholders and decision and policy makers

across different sectors is also supporting wider buy-in to our project, and this also supporting long-term sustainability. 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. Results on pasture recovery will be widely shared and we aim to influence a further 20 pasture committee across Kyrgyzstan to update and improve approaches to pasture management. Indeed our work already is having some wider influence. For example, the joint management plan we facilitated between a pasture committee and forestry unit was presented at the central level national forum with participation of Minister of Agriculture, Water Resources and Development, State Agency on Environment Protection and Forestry where it was recommended to be replicated to other regions to increase cross sectoral collaboration for sustainable pasture management and biodiversity conservation. Finally, 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/1386728079117197313

All materials (handouts, calendars) produced by the project include the Darwin logo.

14. Impact of COVID-19 on project delivery

Covid-19 has had an impact on several project activities. Major impacts includes:

- Postponement of fieldwork in the spring, meaning that we missed an opportunity to monitor flowering rates of target species.
- Postponement or cancellation of school and cultural events planned in the project communities and in Bishkek
- Adjustment of timing for activities involving interaction with pasture users and local policy makers to avoid any contact during the peak of the pandemic and the national lockdown
- A planned learning exchange visit of Kyrgyz scientists to Cambridge University Botanic Garden was postpone to Y3.

None of these changes have had a critical impact on progress towards the project outcomes although the reduced focus on local cultural events did mean we missed a good opportunity to build wider local interest and support for tulip and grassland conservation. We aim to deliver increased focus on awareness raising in Year 3 to help catch-up on this, and have also produced various awareness raising materials (including eco bags, colanders, posters) to support this aim.

In all cases, FFI staff and partners followed national directives and internal staff policies regarding on COVID-19 prevention measures in Kyrgyzstan both during and after the national lockdown. When travel and gatherings were permitted again, all partners and staff followed local rules and norms on social distancing and used sanitizers and masks during field trips and meetings.

15. Safeguarding

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

Government and Charity Commission guidance and review our policies and procedures accordingly.

All project staff have been instructed to follow these policies. These policies are also included in FFI's sub-grant agreements with its project partners. No safeguarding issues have been reported during the reporting year for this project.

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

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

16. Project expenditure

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

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

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

[1] A change request was approved by Defra to move £11,800 of travel costs from 2020/21 to 2021/22

[2] A change request was approved by Defra to move £3,000 of other costs from 2019/20 to 2020/21

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

Project summary	Measurable Indicators	Progress and Achievements April 2020 - March 2021	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.		In Y2, we made a significant step towards promoting the recovery of tulip habitat; agreements were signed by three Pasture Committees to allocate 550ha land for sustainable pasture management (where restricted, light or rotational grazing will be applied) alongside the revision of Community Plans for Pasture Management, which outline a number of priority actions for supporting recovery of these areas. On a species level, actions to intensively protect critical habitat for tulip populations in two of the three sites were also included the above mentioned plans.	[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. 0.2 300 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	0.1 The project took important steps towards this indicator in Y2 after AFLUK signed Agreements with the local self-government bodies (LSG) and Leilek Forestry of the SAEPF to introduce sustainable pasture management approaches to 550 ha area of grassland habitat (150 ha in Shamshy; 100 ha in Kulundu and 300 ha in Baul) Monitoring of vegetation cover, species composition and pasture condition across these areas was completed in Y2 and will be repeated Y3 to detect any initial changes in grazing pressure and any responses in the vegetation. 0.2 Surveys with 123 pasture users in Y2 revealed that most users have poor engagement with the existing Pasture committee and are not familiar with Community Plans for Pasture Management. The results indicated a low appreciation and confidence on methods involved with pasture management. To address this, we have worked to revise Community Plans for Pasture Management to make them more relevant and accessible to local pasture users, and have also provided training to 226 users (34% female) in Y1 and 105 pasture users (27% female) in Y2 on sustainable pasture management, and those trained in Y2 gained additional practical knowledge on methods for pasture	

	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.	monitoring. As a result, we hope to observe improved confidence in pasture management among users by the end of Y3, and this will be measured through a PIA. 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 five fenced areas 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. 0.5 Most of the awareness raising activities scheduled for Y2 within the local communities were postponed due to COVID-19. We plan to complete a large number of site-based awareness raising activities in Y3 and by the end of the project we aim demonstrate increased understanding of tulips among community members living by the project sites.
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 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.	1.1 Data on tulip abundance across Kyrgyzstan was collected in both Y1 and Y2. In the three project sites, new baselines on species diversity, vegetation, and pasture condition and productivity were established in Y2 and follow-on monitoring will be completed in Y3. Monitoring of vegetation cover in the Shamshy sample plots was completed in Y1 and Y2 with data collected on tulip abundance, vegetation and soil health 1.2 Four ex situ collections were established in Year 1 and new collections made in Year 2 mean that 14 species are now conserved ex situ 1.3 Germination trials are underway ahead of planned reinforcement of tulip species in Y3

	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.	1.4 A learning exchange trip to the UK for five local experts to improved technical understanding and skills regarding tulip conservation postponed to Y3 1.5 Information is being collected to create a national tulip conservation strategy in Y3	
1.1 Develop survey methodology for tulips and pastures, with input from project partners and stakeholders		Completed and reported on in Y1 .	The protocol is being used for surveys.
1.2 Conduct baseline surveys for tulips and pastures in the project sites, and repeat monitoring in years 2 and 3		**Tulip surveys:** Y2 surveys had a delayed start (due to travel restrictions related to Covid-19) and this meant that fieldwork – completed form late April to early June - did not fully overlap with the flowering season for several target species. The expedition team included nine Kyrgyz scientists from the Institute of Biology, Institute of Chemistry and Phytotechnology, Kyrgyz National University and Kyrgyz-Turkish “Manas” University. Data on floral composition, tulip species diversity and threats were collected in 22 wild tulip habitats (18 newly surveyed; 4 revisited from Y1), adding to data collected from 31 sites in 2019 (49 sites surveyed in total). **Pasture surveys:**	AFLUK and Bioresurs will gather additional detailed information on pasture vegetation, invertebrates and abundance of tulip species in the three sites in Year 3 to help monitor changes to relevant indicators.

	In August 2020, KSRILP assessed summer pastures condition in 13 sites within the 550 ha pasture land: in four sites in Shamshy (150 ha), five in (Baul 300 ha) and four in Sulyuktu (100 ha). Data on vegetation cover, species composition, pasture types, current state of pastures were collected and recommendations were given to the Pasture Committees for further implementation.	
1.3 Draft and disseminate report summarising field knowledge of tulips, species and population distributions, and assessing sites for reinforcement and protection opportunities	In collaboration with Brett Wilson, we will disseminate a number of scientific briefing papers ahead of the planned Tulip Conservation Strategy meeting in Year 3. Data collected in Y1 of the project was incorporated in the article by Brett Wilson et al "Central Asian wild tulip conservation requires a regional approach, especially in the face of climate change" in Biodiversity and Conservation (2021)	Prepared data by AFLUK and Bioresurs including recommendations on priority locations for tulip reinforcement and protection incorporated into CPPM and MP.
1.4 Undertake field mission to collect threatened tulip species, identifying key species with the potential for long term recovery and reinforcement	Over Y2, 58.2g of seeds were collected from 5 species: *Tulipa ostrowskiana, T. gregii, T. heterophilla* in their natural habitats and *T. zonneveldii* and*T. Kaufmanniana* from ex-situ and 663 bulbs (including 202 offsets) were collected from 6 species in their natural habitats*: Tulipa ostrowskiana, T. gregii, T. heterophilla, T. ferganica, T. talassica, T. jacquesii*.	In Y3, Bioresurs will more focus on best practice for germination and also identify candidate species for in situ reinforcement.

1.5 Establish threatened tulip ex-situ collections at Gareev Botanical Gardens, supported by Cambridge University Botanic Gardens		Tulips seeds and bulbs collected over Y2 were distributed to three ex situ collections established by the project in Y1: one managed by IPC in Bishkek, one by Bioresurs in Chunkurchak gorge and one in Gareev Botanic Garden	Continue management of ex siut collections and monitoing.
1.6 Cultivate, grow and plant threatened tulip bulbs in-situ to reinforce priority populations; monitor plantings to assess success		Germination trials continued in Y2 and detailed results are included in Bioresur's report.	In Y3, work will focus on cultivation, threatened tulip bulbs in-situ to reinforce priority populations scheduled in 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		Postponed to Y3.	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	2.1 In Y1, 226 pasture users (34% (79) women) from Baul, Suluktu and Shamshy had greater awareness on pasture degradation, the importance of pasture management plans and pasture improvement methods 2.2 In Y2 AFLUK, following close collaboration and consultation with stakeholders ay the project sites, successfully supported the revision of three Community Plans for Pasture Management 2.3 Implementation of the management plans and uptake by local people will be supported and measured in Y3	

	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.	2.4 Work to influence a further 20 Pasture committees to adopt sustainable approaches to pasture management across Kyrgyzstan will begin in Y3, although outputs from the project (including an innovative cross-sectoral pasture management plan), have already been shared at regional national fora on pasture management.	
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		2.1 Consultation meetings with 92 stakeholders (with 40 % female participants) in Suluktu, Baul and Shamshy were completed by AFLUK in Y1.	AFLUK will continue capacity building of stakeholders on implementation of the plans.
2.2 Write report that reviews current pasture management practices and assesses these against reforms, making recommendations and assess feasibility for improvements		Completed in Y1. Results used in pasture plans of the pasture communities.	
2.3 Results (2.2) used for livestock and pasture planning exercise, with community members and stakeholders engaged in designing content of workshops		Completed in Y1. Handouts and materials prepared used in training for stakeholders in the Project sites.	
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		Local workshops designed to refine the Community Plans for Pasture Management were carried out in Baul and Suluktu on August 17-21, 2020 and in Shamshy on February 11. Beneficiaries were guided through a process to simplify the existing CPPM.	Support plan implementation
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		AFLUK presented proposed changes to the CPPMs to local decision makers at each of the project sites and these were subsequently approved by deputies at each LSG Council.	Support plan implementation

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			Direction implementation of the newly amended CPPMs will take place in Y3 after the members of the newly established commissions at each project sites are formally approved in April 2021
2.7 Monitor and assess implementation of management plans by communities through interviews and sites visits		KSRILP completed anonymous surveys with 123 pasture users to develop a baseline on current understanding and use of the CCPMs at each project site.	Repeat surveys to measure changes in implementation of the management plans.
2.8 'Sustainable Pasture Management Agreement' written with Pasture User Association and in consultation with Pasture Committees		Workshops to explore replication of sustainable pasture approaches developed by this project to other Pasture Committees in Kyrgyzstan will be completed in Y3. However it is worth noting that the Management Plan developed for Leilek Forestry unit and Baul pasture committee has already been recommended to be replicated in other regions for improving cross sectoral integration in sustainable pasture management and biodiversity conservation.	Hold meetings and workshops between Pasture Users and Pasture Committee.
2.9 Pasture Committee workshop organised and run, and participants sign onto the 'Sustainable Pasture Management Agreement'		Due to start Y3	Prepare materials 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).	3.1 In Y2, 105 pasture users and other stakeholders (77 men and 28 women or 73% and 27% respectively) were trained in sustainable pasture and livestock management, adding to 134 (74 women) trained in Y1 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 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.	3.3 Experts from KRILP have developed a pasture monitoring from for use by pasture users, and 105 users were trained to use this, with 43 people trialling it in the field in 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		Training modules on "Sustainable Pasture Management in Kyrgyzstan" and "Development of a Community Plan for Pasture Management" were developed in Y1.	Completed.
3.2 Lead training events, reaching 300 pasture users across 3 communities, to build their capacity and applied skills in improved pasture management		In Y2, 105 stakeholders were trained on methods for pasture improvement, modern and traditional methods of pasture assessment, indicators for assessing the pastures condition and identification of the main vegetation types, plants and tulips and invertebrates present in healthy grasslands	Completed.
3.3 Conduct consultation interviews with pasture users on use of pasture improvement methods; repeat after 1 year to understand application		Knowledge of improvement measures was assessed in interviews with 123 pasture users	Completed.
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		During workshops carried out under 3.2, the experts facilitated discussion on methods of pasture improvement	The activities will be continued in Y3 to see how the CPPM work and revise if 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		Completed. 43 people across the 3 sites participated in a practical trial of the monitoring guidelines	Joint pasture monitoring will be completed again with in Y3.
3.6 Conduct interviews and discussion groups with pasture users regarding changes in herd health and quality of products from livestock		As part of the questionnaires completed under 2.7, the same 123 users were asked about herd health and quality of livestock products.	In Y3 it will continued.
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. 4.2 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. 4.3 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. 4.4 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).	4.1 Fencing of sites containing threatened tulip in Y2 was postponed to Y3 due to the COVID-19 outbreak and poor weather. 4.2 Conservation zones for tulips have been marked in two sites and results were integrated into updated the Pasture Management Plans 4.3 Protection groups were formed but they are not yet active in the field as initial training of them was postponed to Y3 due to the COVID-19 outbreak 4.4 Three tourist agencies signed Agreements with (AFLUK) to incorporate tulip tourism into their packages	

	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.	4.5 Awareness raising events on tulips have so far reached to 604 people (265 in Y2 and 339 people in Y1) in the project sites. New outreach materials have been prepared and we will carry out a number of events in Y3 that will allow us to reach > 2,000 people by project end	
4.1 Establish, train and equip two community protection groups to monitor and protect tulips and maintain fencing at four sites (once erected)		Our plans to establish and train two community protection groups have been postponed to Y3 (due to the COVID-19 outbreak).	Establish and train two groups (10 members each)
4.2 Identify threatened tulip species sites prioritised for fencing and then work with community protection groups to erect fencing		Equipment for fencing has been bought and suitable areas identified	With the support of the community protection groups, 5 ha of tulip habitat will be fenced in Y3.
4.3 Consult, identify and mark tulip conservation zones, and work with local pasture users to apply grazing management		AFLUK have already mark tulip conservation areas within 3 ha in Baul to support monitoring and conservation of *T. affinis*. In Shamshy a 2ha areas has also been marked, surrounding the monitoring plots identified under 1.2. In Suluktu, we will support work to identify marked tulip conservation areas once a new Pasture Committee and Pasture Management Plan is developed for the city.	AFLUK, Bioresurs will continue work with local communities in Y3.
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		Three tourist agencies 'Silk Road Tourism Association', 'Mountains of Asia, "Mountain Lake Karakamysh' signed agreements with AFLUK to organise tours in tulip growing during the blooming period.	Outreach materials will be disseminated to key stakeholders, including, tour operators in 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)		Over Y2, nearly all planned school event or cultural events (e.g. a planned tulip festival at Bishkek	Carry out more awareness raising events with community members.

	Botanic Garden) were postponed to avoid organising or participating in gatherings during the height of the pandemic. Some selected and relevant activities carried out in Y2 include one school event in Bishkek in Mach 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 Gardens	FFI and Gareev Botanic Gardens developed outreach posters (5 in total) featuring information on wild tulips and ongoing in-situ and ex-situ conservation work carried out through the Darwin Initiative.	The posters will be housed in the Botanical Garden but will first be toured at a wild tulip festival and at local events with school children.
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 species, using baseline surveys from year 1.	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)

	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 3, 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 women) and stakeholder representatives.	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) .
2. Members of grazing communities are more knowledgeable and	2.1 300 pasture users (30% female), from 3 different communities, have greater awareness of	2.1 Training reports, attendance log, pre-/post-training assessments conducted by AFLUK	Pasture committees and users, including women users, continue to be willing to engage in consultations

actively engaged in sustainable pasture planning and management	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.	2.2 Plans approved 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	(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% 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	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 3.3 Pasture user interviews and records of pasture user committee	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 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

	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.	3.4 Community interviews with pasture users in year 1 and Participatory Impact Assessment by year 3	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.	4.5 By the end of year 3, 4 threatened tulips sites fenced, encompassing 5 ha and demonstrating recovery through a 100% reduction in trampling from year 1 baseline. 4.6 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. 4.7 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 3. 4.8 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).	4.1 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 4.4 Tourist operator survey report and operator materials outlining tulip information	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) 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

	4.9 By year 3, 2000 people (500 by end of year 1, 1500 by end of year 3 – at least 50% women) report an increase in awareness and understanding of tulips.	4.5 Event participant awareness assessment	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

1.1 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 Planned	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)	105 (28 women / 77 men)	300 (90 women / 210 men)	239 (70 women / 169 men)	300 (90 women / 210 men)
6B	Number of weeks of training for pasture users..			19	1	85	20	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	3	4
10	Monitoring protocols developed for tulips and wildflower habitat			0	2	0	2	2
11A/B	Papers to be submitted as a result of Brett			0	1	2	1	3

	Wilson's PhD							
14A	Awareness raising seminars organised			6	1	6	7	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			[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Table 2 Publications

Title	**Type** (e.g. journals, manual, CDs)	**Detail** (authors, year)	**Gender of Lead Author**	**Nationality of Lead Author**	**Publishers** (name, city)	**Available from** (e.g. weblink or publisher if not available online)
Central Asian wild tulip conservation requires a regional approach, especially in the face of climate change	Journal	Brett Wilson,· Aibek Dolotbakov, · Benjamin J. Burgess, Colin Clubbe, Georgy Lazkov, Kaiyrkul Shalpykov, Myskalai Ganybaeva, Ormon Sultangaziev, Samuel F. Brockington, (2021)	Male	English	Biodiversity and Conservation	https://doi.org/10.1007/s10531-021-02165-z.
Message: Together We Will Protect and Preserve the Wild Tulips of Kyrgyzstan	Calendar	Ms. Sairagul Tajibaeva, AFLUK, 2020	Female	Kyrgyz	Melonpro LLC	n/a

Checklist for submission

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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
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