

Darwin Initiative Main and Post Project Annual Report

To be completed with reference to the “Writing a Darwin Report” guidance: (<http://www.darwininitiative.org.uk/resources-for-projects/reporting-forms>). It is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

Submission Deadline: 30th April 2019

Darwin Project Information

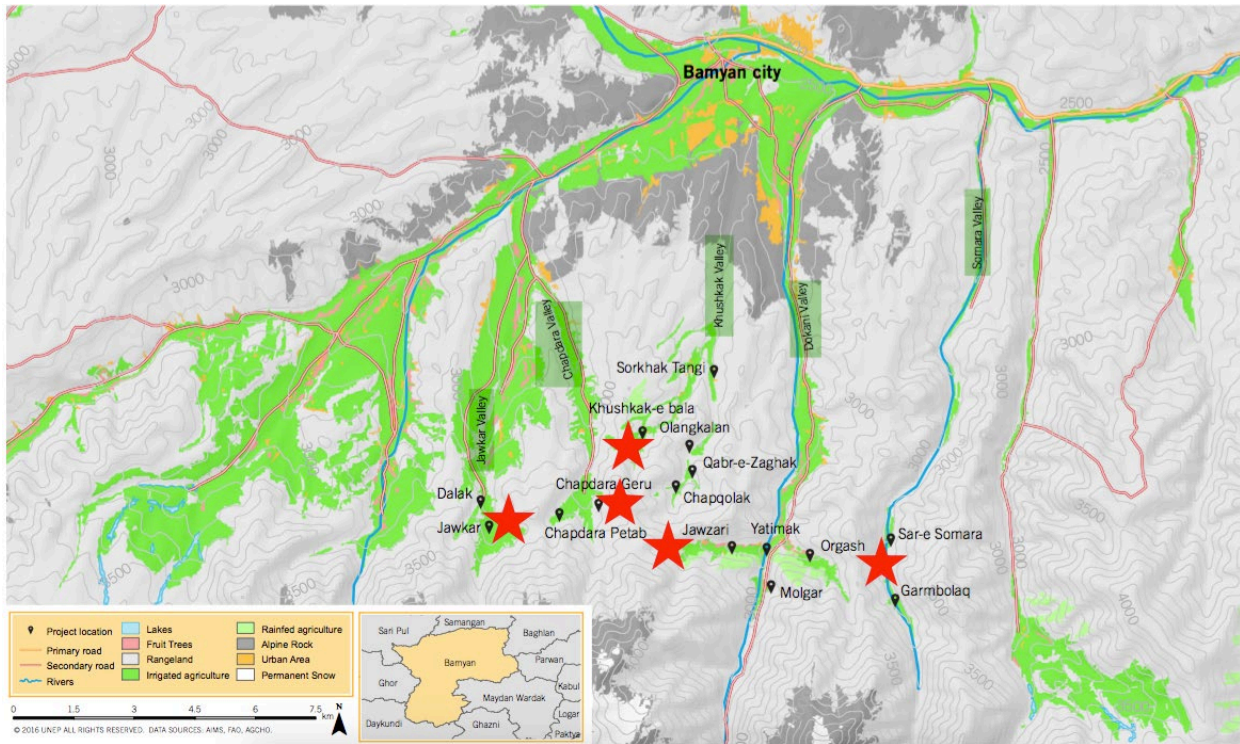
Project reference	23-025
Project title	Reducing environmental degradation through sustainable fuel interventions in Afghanistan
Host country/ies	Afghanistan
Lead organisation	Royal Botanic Garden Edinburgh
Partner institution(s)	ECO-A (formerly COAM), UN Environment
Darwin grant value	£304,326
Start/end dates of project	01.07.2016 - 31.03.2019
Reporting period (e.g., Apr 2018 – Mar 2019) and number (e.g., Annual Report 1, 2, 3)	April 2018 – March 2019
Project Leader name	Dr Sophie Neale
Project website/blog/Twitter	http://afghanistan.cmep.org.uk/
Report author(s) and date	Dr Alan Forrest

1. Project rationale

A major threat to biodiversity identified in Afghanistan’s Fifth National Report to the CBD (2014) is the unsustainable collection of woody plants for fuel. These are uprooted, preventing regeneration, and affecting the structure of the plant community and the biodiversity that depends upon it. Afghanistan is rich in biological diversity, with a flora comprising ~5000 native taxa of which ~24% are endemic. A severe lack of capacity means the scale of extractions, exactly which species are removed, and the effects on ecosystem services are poorly known.

Additionally, current heating and cooking facilities do not use fuel wood efficiently, and cause indoor air pollution that has been estimated by WHO to kill ~54,000 women and children annually in Afghanistan, plus the concomitant negative effects on household labour and finance. There is thus a clear link between environmental degradation, health and livelihoods in rural communities that can be addressed through simple interventions and monitoring.

These issues have been highlighted by the Government of Afghanistan, and its international environmental partners UN Environment. Through supporting local organisations, the provision of alternative and more efficient fuel sources has been developed: this project, based in five mountain communities in Bamyan Province (see map below) seeks to expand the provision of more efficient fuel sources and monitor the positive effects on biodiversity, livelihoods and health as well as raising awareness of the importance of sustainable use practices.



Map showing the location of the five communities that are the focus of this project: Chapdara, Jawkar, Jawzari, Khushkak and Somara.

2. Project partnerships

Prior to the start of this project, RBGE has been working in Afghanistan with both UN Environment and ECO-A (formerly known as COAM) for several years. As a result, a strong partnership and collaborative approach between all parties was already in place. The approach of UN Environment in Afghanistan has followed an “Afghan first” approach where international organisations and institutes have adopted a supporting rather than controlling or implementing role. As a result, this project was designed to outline the requirements of a successful Darwin Initiative project to our Afghan partners, and to support them to achieve project outcomes and outputs as necessary. In the first year of this project (9 months duration) this approach was largely successful due to excellent working relationships between all partners and the local expertise held by ECO-A in the target areas. In year two of the project, the relationship between the three partners remained strong in the face of difficulties in international finance transfers, variable internet connections in Bamyan affecting the ability to communicate regularly and effectively, and the retention of staff in a challenging environment.

Difficulties in sharing detailed project information have persisted into year three. While simple communication via email has meant that project activities have continued successfully, and have to a large extent been self-managed through good planning and scheduling in year one, it has been extremely difficult to receive anything but the simplest information electronically due mainly to poor and intermittent internet connections. For this reason, it was planned that face-to-face meetings would be held when all information could be shared, analysed, discussed and final outputs prepared. However, due to the difficulty in obtaining visas for Afghan citizens to visit other countries, we arranged for support letters from the Nezahat Gokyigit Botanic Bahcesi in Istanbul in order to meet partners in Istanbul in March 2019. Despite a lengthy and appropriate time period allowed for visa processing, visas were not processed in time and in fact were rejected at a later date. As a result, a change request was submitted and approved to delay final reporting until the end of 2019, to allow alternative options for information sharing. As such, this annual report is a holding document giving an indication of activities completed but without extensive supporting documentation as this is still being compiled and analysed.

3. Project progress

3.1 Progress in carrying out project Activities

Output 1. Biodiversity

- 1.1 Data collection on frequency and amount of woody taxa collected for fuelwood (including identification of species and relative quantity of each species collected).

Data acquired. As many as 17 genera were identified as fuel plants by the end of year two, with several of these consisting of several distinct species bring the total number of plant species collected to over 20. Additional species have been identified during year three, with detailed survey forms and images as yet unavailable for full description and analyses (project completion extended to end 2019 to allow for this). Special attention given to the identification of degradation or overgrazing indicators.

- 1.2 Vegetation survey conducted at sample fuelwood collection locations (and control sites) before and after alternative fuel interventions.

While 27 students from Bamyan University gathered data at monitoring sites during year two, this number increased to 34 students in year three. Surveys suggest that additional species are being recorded compared to year two, but full survey reports and images are not yet available. Sites were located as contemporary, past and future collection sites, and two years of surveys have been completed in these areas. Formal analyses of survey data awaits final data availability and will be presented by the end of the project.

- 1.3 IUCN Red List Assessments for endemic species used for fuel extraction.

This item was removed from the project in change request dated 23.03.2017. It is unlikely that detailed information will be available to make full national or global assessments for these species, but guidelines on local assessments within the Shah Foladi National Park, and the limitations of the data available and how this might be mitigated, will be formally written up by the end of 2019.

- 1.4 Identification tool for fuelwood species developed, and used to collect detailed information on species distribution.

Photographs have been largely collated and identified and will form the basis of a basic tool and a training exercise for future capacity development and education both at Bamyan University and beyond. This will be a simple visual tool, suitable for continuing surveys post-project.

- 1.5 Predictive modelling of ecosystem service replacement due to natural regeneration of woody taxa.

In development pending collation of survey results, for presentation by end of project.

2 Output 2. Awareness and Capacity Development

- 2.1 Inception and training workshops in Tajikistan: planning, design and training in sustainable use concepts for delivery to communities, planning M&E, field survey and plant collection and identification

All inception workshops completed in Y1.

- 2.2 Delivery of awareness raising sustainable use workshops in communities, delivery of training in field survey techniques and data collection.

Training in field monitoring delivered in Y2 and Y3 to students at Bamyan University by project staff trained in Tajikistan in Year 1. Sustainable use awareness events delivered to communities in Year 1 and during 2019 with feedback obtained, with details pending for end of project.

- 2.3 Delivery of training in cook stove installation, use and monitoring to communities.

Training in cookstove use delivered in Y1.

2.4 Project and stakeholder staff trained in M&E and applied.

Training undertaken in Year 1. ECO-A, NEPA, MAIL and MRRD staff have all engaged with the project, participated in field activities and in M&E throughout.

Output 3. Livelihoods and Health

3.1 300 households in four communities provided with cook stoves.

Cookstoves supplied, installed and usage training delivered in Year 1.

3.2 Data collection on household fuel extraction time and distance.

Data collected throughout the project, pre and post installation of alternative fuels, focusing in detail on a small number of representative households.

3.3 Community interviews and surveys to establish health and economic benefits.

Self-rated health and household interviews conducted throughout the project, focusing in detail on a small number of households.

3.4 Data collection on indoor air quality.

In Year 1 six air quality monitors were installed and basic information acquired and downloaded. In Year 2 three of the monitors have malfunctioned (reason not known) so data collected is less and comparability is being assessed. Reductions in CO₂ have been recorded but any data recorded will not have statistical significance nor will it be very representative. Final analysis of the before and after intervention readings will be presented by the end of the project.

Output 4. Gender Equality and Equity

4.1 Community interviews targeting data collection on health benefits for women and children.

The majority of interviews on health and wellbeing have been with women, with more general interviews targeting male and female respondents, to give a picture of the role of women and how the interventions have affected their livelihoods.

3.2 Progress towards project Outputs

Output 1. Biodiversity

“Baseline and measurable reduction in extraction of woody species for fuelwood.”

Year 1 established the baseline amounts and frequency of collection of fuel wood through observational walks with households and communities, daily schedule profiling of households and monitoring of fuel stocks pre and post winter to assess fuel usage.

Year 2 has established which plant species are collected and used, and in what relative quantities. Post cook stove installation, a reduction in the use of fuel has been documented: however, winter stocks were collected in the same amounts and daily collections were generally just as frequent as households became used to the use and value of the cook stoves.

In Year 3 continued reduction in the amount of fuel used in the cookstoves has resulted in a documented reduction in fuel wood collected, averaging at around 30%. This is lower than the 50% target but is still a significant reduction.

Output 2. Awareness and Capacity Development.

“Basic awareness of concept of sustainable use of natural resources increased amongst participating communities.”

Project inception and follow up meetings with CDCs and with communities has increased awareness of sustainable use.

“Capacity of local Afghans increased in surveying and monitoring plant species as a measure of environmental degradation and improvement.”

Project staff and 27 students at Bamyán University trained infield survey techniques in Year 2, with 34 students trained in Year 3. Awareness of the importance of fieldwork increased, with students actively requesting more and continued field studies in their courses of work.

“Capacity developed in implementing cleaner and efficient fuel technologies.”

At the time of installation of alternative fuel sources, a significant number of community members were trained in uses, and also attended workshops on sustainable use. The success of these trainings is evidenced through the positive views of the cookstoves, their ease of use, and the benefits they have brought to the households.

Output 3. Livelihoods and Health

“Community livelihoods improved through fuel accessibility and diversification and health benefits.”

300 households in five communities have been supplied with efficient clean cook stoves, with solar water heaters and bio-briquettes delivered as a shared community resource. The initial result of this is that those households who did not receive cook stoves – those in smaller villages or more isolated areas in the five valleys – are requesting them as they see the positive results especially from the reduction in indoor smoke and the efficiency of cooking and heating water by alternative means.

Fuel diversification certainly has a seasonal perspective – for example the solar water heaters are less effective in the winter, and the cook stoves do not provide significant space heating during the winter. Discussions on how to ameliorate these issues in the harshest time of the year in remote communities are ongoing. For example, existing inefficient cook stoves have a larger capacity to bake bread which according to local sources tastes better – and as such many households still use them for this purpose alongside the new cook stoves. However, several independent sources have suggested setting up community bakeries with efficient fuel sources as this is cost effective and would remove another component of fuel use and pollution from homes, as well as community benefits acquired through shared resources. While other cook stove solutions can improve space heating, they do not significantly reduce fuel wood collection, and as such winter space heating with biodiversity and ecosystem health benefits remains to be addressed.

Interviews conducted in Year 3 have almost all documented that significant time is being saved through the reduction in fuel required by the new cookstoves. This time is being used to spend more time with children and family members, and to undertake household chores and crafts that were previously overlooked. The ease of use of the alternative fuels has been highlighted.

Direct health benefits in Year 2 included informal evidence of better indoor air quality. Self-rated health assessments in Year 3 have highlighted better perceptions of health and fewer visits to doctors. Many respondents have suggested this is a direct benefit of cleaner indoor air quality.

Output 4. Gender Equality and Equity.

Gender segregated interviews on the roles in fuel wood collection have reported savings in time and effort, and improvements in health for women and children reported.

3.3 Progress towards the project Outcome

“Environmental degradation reduced via sustainable fuel interventions in four communities (300 households, 3000 individuals) leading to a reduction in woody plant extraction and improved livelihoods, health and gender equality.”

The target 300 households have received all alternative fuel interventions. In Year 2 there was a reduction in the use of wild harvested fuel because of the efficiency of the alternative methods. As expected, in Year 3 this has translated into an ~30% decrease in fuel collection –

by both women on a daily basis and by men prior to winter stocking - which is a significant reduction of pressure on the environment. The caveats mentioned in Year 2 regarding households being nervous about under-stocking during the winter has not been met. Clear benefits for health and well-being have been documented through household interviews, as well as a range of novel uses and benefits of the alternative fuel interventions.

A number of issues that prevented additional success, both predictable and unpredictable – have been documented and the final report and outputs will record these and offer potential solutions in light of the information gathered during this project.

3.4 Monitoring of assumptions

Outcome Level Assumptions:

Assumption 1:

“Working partnership between communities and project staff established and maintained, in which ECO-A has extensive local experience.”

This assumption has been met, with communities remaining engaged through continual contact and dialogue, and through frequent visits for field surveys and community interviews.

Assumption 2:

“Reduction in woody species extraction leads to biodiversity status improvement and associated ecosystem services benefits (good scientific evidence for this, monitoring started with long term plan in place).”

Analyses of impacts ongoing.

Assumption 3:

“Potential issue that new cook stoves will encourage increase in stove usage for cooking and heating, leading to increase in fuel wood collection balanced against reduction through increased stove efficiency.”

Stove stacking is certainly an issue and is certainly occurring. This was highlighted as a potential issue in the project reviews by the Darwin Committee, and while project partners felt it was unlikely to be a problem this opinion was formed based upon use for cooking as opposed to other uses such as heating. Stove stacking is occurring for two main reasons

- (a) while the new stoves are being used extensively for cooking with a concomitant reduction in fuel use, the old stoves are still being used to cook bread as they have a larger capacity and according to many reports the bread tastes better and has a “smoky” flavour favoured and appreciated by many people. This is generally only a sporadic rather than routine occurrence and most respondents report extensive use of the new cookstoves primarily due to ease of use.
- (b) Existing cook stoves provide heat around the house compared to the new cook stoves which were not designed to fulfil that function – although they do so in the immediate vicinity. This is especially an issue during the winter, which can be extremely cold and harsh. This has been flagged as a topic for discussion when considering moving forward with sustainable fuel interventions, the potential re-design of cook stoves or other technological solutions. Further information is being gathered from communities and from local organisations and ministry offices.

Despite this, a reduction in fuel use has been reported alongside other benefits, and as such we do not expect stove stacking to bring dis-benefits to the project outcome, and in fact will stimulate further discussion and developments to alleviate ongoing issues. There is no evidence that stove-stacking has significantly negatively impacted on the outcome of the project, to reduce degradation through woody plant collections.

Assumption 4:

“Security and political situation is stable enough for in-country partners to undertake work. This has had less effect in Bamyan than in any other province to date, where project workers have worked safely and successfully for several years.”

Assumption met with security in Bamyan relatively stable.

Assumption 5:

“Communication methods are appropriate & take account of gender – workshops are gender-separated and appropriately led to allow women to participate fully, interview questions are sensitively worded and asked by appropriate team members. ECO-A and UNEP have extensive experience of this.”

Communication has been largely gender segregated, and conducted by gender specific staff (photographic evidence not available, as most mature women have requested that their photos are not used in project materials).

Assumption 6:

“Workshops and training materials can be accurately translated in a timely fashion; UN Environment have access to high-quality translators with specialities in environmental and sustainability material.”

Assumption generally met, although some delays in UK partners receiving material to assess although this has more to do with the unreliable internet connections than with translation.

Assumption 7:

“Stoves & solar heater installations are safe, sturdy, easy to maintain and appropriate to household; local experts will install the interventions & contact points will be established.”

Assumption met – continual contact with Design Lab through ECO-A for all fuel interventions, with additional skills acquired locally.

Assumption 8:

“Suppliers of stoves continue to stay in business and capable of fulfilling the orders; the stoves are made from easily sourced metal and will be supplied by a local enterprise to a design developed and tested by Bamyan artisans through several iterations, solar heaters and bio-briquettes are simple technologies and easy to repair.”

Assumption met. Individuals trained in ECO-A Design Lab has increased local skills and knowledge for manufacture and repair.

Assumption 9:

“ ‘Stove stacking’ (using the efficient stove in addition to traditional methods instead of as a replacement) will not occur – this could lead to no reduction in fuelwood usage or an increase; the local design & testing of stoves should prevent the need for this.”

Assumption under constant re-evaluation – see comments under Assumption 3.

Output Level Assumptions: Biodiversity

Assumption 10:

“Identification and survey tools must be accessible and usable for local staff and communities; these will be tested by project staff & necessary translations done.”

Change document dated 23.03.2017 removed identification tools from the project, but they are being developed in discussion with project partners as a resource for future monitoring and education activities.

Assumption 11:

“Fieldwork in Bamyan possible due to political and environmental stability. Current situation is stable & NGOs are able to carry out work with local communities with no problems. UN Environment partnering will give access to high quality security information and logistical assistance as necessary.”

Assumption met.

Assumption 12:

“Changes in vegetation can be detected within project time-frame – this would be recorded in a follow-up survey outside project lifetime to assess lasting change and long-term project impact.”

Realistically, vegetation changes will be difficult to detect within project time frame, especially as in year 2 a reduction in fuel use has been recorded but will not translate to reduced collections until year three and beyond. The assumption will be ameliorated by setting up and continued monitoring of appropriate plots located in three valleys. Plans for continued monitoring will be given in the final report.

Assumption 13:

“Community engagement with project should ensure data gathered is representative & accurate; ECO-A local community expertise & UN Environment assistance in developing data collection methods will assist this.”

Assumption met.

Assumption 14:

“Communities and local landscapes will not be affected by ecological disasters such as flooding, landslides or fires.”

No evidence for this as yet.

Output Level Assumptions: Awareness and Capacity Development

Assumption 15:

“Fieldwork in Tajikistan possible due to political and environmental stability. For UK partners, CMEP will follow institutional guidelines drawing on FCO advice and information from colleagues in Tajikistan. For in-country partners, advice will be sought from governmental sources and UN sources.”

Assumption met – no security barriers to travel to Tajikistan in Year 2 of project.

Assumption 16:

“Afghan staff are able to obtain visas to visit Tajikistan.”

Assumption NOT met – Afghans were unable to obtain visas in 2017. This was due to the fact that obtaining Tajik visas in the Tajikistan Embassy in Kabul has been difficult due to financial matters. In 2016 visas were obtained at the small border consulate in Ishkshim, but with increased Taliban activity in this area in 2017 the consulate was closed. Plans to meet in Istanbul (Turkey) have also proved impossible due to the inability to acquire visas for Afghan nationals. As a result, discussions and documentation development will be developed through non-Afghan partners and colleagues during 2019.

Assumption 17:

“Possible to have field equipment and materials sent to Tajikistan for workshop.”

Assumption met in Year 1, with additional materials transported to Bamyan by UN Environment staff in 2018.

Assumption 18:

“Communities and staff are engaged with project and will attend workshops; ECO-A will work with community leaders and members of the CDCs (Community Development Councils) to inform them of the project as soon as it is confirmed, developing a partnership with each community, identifying enthusiastic and influential members who can build networks as well as assisting project staff in workshop design and logistics to allow greatest participation such as selecting times where many community members are not required to graze livestock or harvest crops, or encouraging vulnerable members to contribute.”

Assumption met. Community engagement through CDCs has been effective, and some evidence collected that CDCs are actively involved in environmental decision making locally.

Assumption 19:

“Presumes women will be culturally comfortable attending field training workshops. If this does not prove to be the case, women could be trained in theoretical survey methods and data collection, with training on how to collate, curate and analyse survey data instead of collecting it. Project staff and associates will feel engaged, supported and confident enough to deliver high-quality training locally in-country; project partners will provide additional support as necessary, with time spent at Tajikistan course covering how to deliver training. Remote assistance in difficult vegetation identifications and data quality control will be given by CMEP.

As yet, communities have not been engaged directly in survey and data gathering, rather project staff have accompanied community members on collecting trips. Both female and male community members have engaged with project staff, in gender segregated discussions. With students at Bamyān University, female and male students are comfortable working in the field, and working together.

Assumption 20:

“Recruiting staff and associates to the project will be possible and not create delays in project operations.”

Assumption partially met. Most project staff were working with ECO-A anyway, but adding additional staff has proved difficult for various reasons. As this project is the major work programme for ECO-A now this has not been detrimental to the project. Changes in liaison officers during Year 2 and Year 3 led to some communication delays and inefficiency but this has now been resolved.

Assumption 21:

“Hired and trained staff will remain with project throughout project lifetime; encouragement and support will be given to project staff remotely and via face-to-face project meetings where feasible, encouraging retention of knowledge and skills for project duration.”

Assumption largely met. ECO-A staff and colleagues at Bamyān University have remained in position and are expected to do so beyond the life of the project.

Output Level Assumption: Livelihoods

Assumption 22:

“Assumes no barriers to installation and primary use of efficient stoves in each household or community, ameliorated by ECO-A expertise in community engagement.”

Assumption largely met. A small number of households did not want to be involved in the project. The reasons for this have been explored over the course of Year 3 with resultant discussions as yet not analysed.

Assumption 23:

“Assumes wood will not be cut for fuel and sold to other communities instead, data collected to verify this.”

No evidence for this has been recorded. If any households have enough finance to buy fuel, they buy either gas or coal, rather than wild harvested wood.

Assumption 24:

“Stove stacking (use of efficient stoves additional to, not instead of original stoves) may increase fuel use, however it is expected that occurrence of this will be minimal as a result of local design and community testing of various models to ensure their features are appropriate for a wide range of home uses such as cooking, baking, heating water and heating the home.”

See comments under Assumption 3.

Assumption 25:

“Fuelwood collectors who earn their livelihood through sale of collected wood may be disadvantaged through reduction of income caused by reduced fuel requirements due to more efficient stoves; assessments should be made of risk of potential loss of livelihood. Assessment & community discussion of how to include fuelwood collectors in workshops & training where possible to diversify their skills and potentially lead to other sources of income should be carried out.”

See comment under Assumption 23 above.

Output Level Assumptions: Gender Equality

Assumption 26:

“Within Afghanistan, cultural practices (particularly in rural areas) mean that inclusion of women in project design needs to be sensitive and appropriately handled. Female staff at ECO-A and UN Environment will take responsibility for gender equity and for ensuring all data collection methods, training and engagement are sensitively designed to allow full, active and appropriate participation of women with the project.”

Assumption met. Mixed gender staff assume responsibility for engaging with communities appropriately, although in some joint workshops it has been noted that there are fewer female attendees and that they do not participate as fully as when they are engaged in a gender segregated way. This has not been observed to be an issue with students at Bamyān University who generally work together irrespective of gender.

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

This project has contributed to a reduction in environmental degradation through promotion of the sustainable use of biodiversity, and achieved practical outcomes through alternative fuel interventions. This link between awareness, documented benefits, and positive outcomes for communities are widely conceptualized but rarely reported in the field. Demonstrating real life benefits through sustainable interventions with biodiversity outcomes is a major and replicable impact.

Households have reported not only a decrease in the use and subsequent collection of fuel wood, but have also reported positive benefits relating to improved health due to a reduction in indoor pollution and the time and effort required in fuel wood collection. Poverty alleviation can be achieved through a variety of interventions, but in this case the benefits have been directly linked to environmental improvements brought about through a change in behaviour driven by community involvement. This link between real livelihood benefits will ensure that the concomitant environmental benefits are maintained.

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

This project is actively supporting progress towards achieving several Sustainable Development Goals.

SDG 3. Ensure healthy lives and promote well-being for all at all ages.

Installation of efficient cook stoves and other alternative fuel sources has resulted in health benefits due to improved air quality, improved ease of cooking and heating leading to better hand conditions, and also a reduction in time spent collecting fuel which allows more free time for a range of other tasks. This address SDG 3.9. “By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination”.

SDG 5. Achieve gender equality and empower all women and girls.

This project does not directly address sub-goals under SDG5 but see Section 7 for a report on gender equality issues addressed in this project.

SDG7. Ensure access to affordable, reliable, sustainable and modern energy for all.

While the alternate and efficient fuel sources installed as part of this project cannot be deemed “modern” they are sustainable, reliable, can be repaired locally, and are more affordable for the mountain communities involved. They also diversify the fuel sources available to communities. These solutions have also raised a number of additional questions about the availability, use and cost of fuel in Bamyan, and these are currently under discussion for future applications and improvements.

SDG 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

Sustainable use of natural resources is at the heart of this project, and awareness raising alongside alternative fuel sources has been conducted in five mountain communities. The following two sub-goals are especially pertinent in this regard, and the installation of efficient fuel sources has reduced degradation in the mountain communities of Bamyan.

15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development.

15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.

5. Project support to the Conventions, Treaties or Agreements

A reduction in fuel consumption has led to ~30% decrease in fuel wood collection, thus contributing to the sustainable use of natural resources under CBD Article 10 and GSPC Target 12. This reduction in use will ultimately lead to a reduction in degradation (Aichi Target 5) and *in situ* conservation of wild plants and habitats (CBD Article 8) as well as conservation of ecosystem services provided (Aichi Target 14). Long term monitoring plots and plans are in place to document this.

Identification and monitoring of effects has occurred through training of local partners and students at Bamyan University (CBD Article 7) with a collaborative approach and information shared (CBD Article 17).

Education and Awareness has been increased through staff and student training and community sustainable use workshops (CBD Article 13).

6. Project support to poverty alleviation

Better indoor air quality leading to improved health has been reported through self-rated health assessments, with fewer visits to doctors required therefore reducing healthcare costs – although with the caveat that some households report never using healthcare professionals as they cannot afford it. Additional benefits, for example a reduction in cracked hands and injuries from cold conditions and fuel collection have also been reported. Easier access to hot water has also been reported as a health and life benefit.

Daily fuel wood collections by women have reduced. Seasonal stockpiling of fuel wood, predominantly by men, has also reduced. Women have reported that the additional time gained has mostly been spent with their children and other family members, and in some cases the time is used for additional activities such as sewing, agriculture etc. Additional time has been saved as baking in the cookstoves is easier than using the traditional tandoor. All households interviewed explained that the alternative fuel resources had a positive influence on their day-to-day lives.

7. Project support to gender equality issues

Gender discrimination is not being addressed directly in this project, but it is rather addressing gender inequality due to the roles played by different genders in Afghan communities.

Women are responsible for the day-by-day collection of fuel wood, and this has been reported to have decreased by all women interviewed due to the installation of the cookstoves along with a range of health benefits for them and their children.

The novel use of cook stoves that are taken into the mountains on the back of a donkey, to enable men to cook for themselves while looking after livestock, was noted by those men as a benefit for their wives as they would no longer have to expend time and energy bringing food to the mountains for the shepherds. Further, seasonal fuel wood collections by men have also reduced, giving a direct benefit to men at a particularly challenging season.

8. Monitoring and evaluation

UN Environment in Afghanistan work under the approach that all government ministries and agencies are involved in project approval, and are included in workshops, meetings and project monitoring and evaluation. As such, MAIL, MRRD and NEPA have all been involved directly in monitoring this project on a routine basis against outputs. This approach has been successful thus far, and is strengthening relationships between local actors in Bamyan province. NEPA have been especially active in this regard, and have attended trainings and participated in several project activities across the project.

During Year 3 NEPA staff have continued to participate in project activities, and all local ministry offices have been involved in project M&E. Partners in Bamyan have routinely attended line ministry meetings and events to discuss and present the Darwin Initiative project work, and received feedback from local actors. This aspect of the project is considered to have been very successful.

9. Lessons learnt

The difficulty of transferring money to Afghanistan and Tajikistan (the latter for training costs) was not foreseen to be as problematic as it was. This was due to international banking inefficiency and a local banking problem in Tajikistan, and the unreliable nature of some banks regionally. We have had to use different accounts with different institutes at times, and ECO-A have now established a more reputable account that is proving easier to transfer finance to. In Year 3 this did not pose a significant problem.

It was impossible to predict extreme variations in exchange rates brought about by the UK Brexit referendum, and this has led to the belief that potential variation in exchange rates should be included in applications at a much higher rate in the future, perhaps building in a contingency fund to future applications. Paradoxically, exchange rates have now improved, allowing a re-budget to be planned for Year 3 allowing for additional meetings and workshops. As a result the project has remained on budget overall, albeit with the loss of three months to make up the deficit, with resultant loss of some targets through change requests.

Generally, all activities (including reporting) have been as efficient and successful as expected, but due to the vagaries of the weather and communications in remote Afghanistan, a more relaxed approach to timetabling would be beneficial. UK expectations in this regard are rarely met in Afghanistan due to a variety of factors. This has been particularly true of transferring and sharing documents with weak and often absent internet connections, which even when available are often not of enough strength or quality to successfully acquire data. This is the main reason for the request to extend the project until the end of 2019, to allow full collation of information and discussion with project partners. Without improvement in such conditions, it is difficult to envisage how this can be ameliorated, but for future work in such challenging conditions this could be built into the schedule in a far stricter manner.

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

A single comment was made after the review of the Y2 report requiring a response at the next annual report:

Reviewers Comment #2:

Response required for next Annual Report

Indicator 2.2 will be revised in a change request as suggested by the previous reviewer. If the indicator results in a drop in number of target beneficiaries from that originally provided, then this must be justified in the change request.

Response:

No change request was submitted. The project partners are currently calculating the number of people reached through sustainable awareness trainings, meetings and outreach activities, and will document this in the final report.

11. Other comments on progress not covered elsewhere

Our inability to meet partners face-to-face at this stage of the project has hampered some discussions – which are simply inefficient and sometimes not fully understood if conducted via email. One example of this is the development of long term monitoring at Bamyan University, where although staff and students are very enthusiastic and the development of materials is straightforward, the university is in no financial position to undertake field activities. This is perhaps a consideration in extremely poor and challenging locations that could be better addressed in future applications by including sustainable financing components. Many areas in Afghanistan have become somewhat dependant on external funding, and this is difficult to address within a relatively small (by international development standards in Afghanistan) 3-year project.

12. Sustainability and legacy

Awaiting final recommendations from communities and in country partners about how to implement legacy beyond the localities and timeframe of the project. Further, plans for Bamyan University curriculum development are also under continuing discussion and will be reported on at the end of the project.

The proposed exit strategy remains valid. In terms of the lifetime of individual fuel interventions, there will be a greater number of people with skills to install and repair these. Monitoring of savings in health and fuel costs will be set against potential repair and replacement costs.

13. Darwin identity

Project partners are aware of the Darwin Initiative and that it is funded by the UK Government, and all presentations given about the project make mention of this. However, as this is the first Darwin Main Project in Afghanistan, the funding route is not widely appreciated in Afghanistan as many potential applicants are put off by security concerns. We hope to promote this project more explicitly in terms of the fact that with excellent in country partners, projects that do not physically visit an area that is potentially insecure can still be successful. This will be an added benefit.

The project website is established and online, albeit still developing content. The Darwin Initiative logo and links to the websites are in place.

14. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2018 – 31 March 2019)

Project spend (indicative) since last annual report	2018/19 Grant (£)	2018/19 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)			4%	
Consultancy costs			0%	
Overhead Costs			-2%	Includes indicative audit cost of £1,500
Travel and subsistence			-8%	
Operating Costs			-9%	
Capital items (see below)			-9%	
Monitoring & Evaluation (M&E)			0%	
Others (see below)			80%	Large percentage variance due to small sums involved
TOTAL	90,414	90,093		

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2018-2019

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
<p>Impact Environmental degradation reduced in upland rangelands, with livelihoods, health and fuel security improved in rural mountain communities.</p>		<p>Environmental degradation reduced by a ~30% reduction in fuel wood collection, with documented benefits for health, well-being and fuel security.</p>	
<p>Outcome Environmental degradation reduced via sustainable fuel interventions in four communities (300 households, 3000 individuals) leading to a reduction in woody plant extraction and improved livelihoods, health and gender equality.</p>	<p>1 Baseline data gathered on woody plant extraction (species, amount, distance, frequency) by end of Year 1 and reduction in extraction after alternative/efficient fuel intervention (end of Year 2 & end of Year 3). 2 Awareness and capacity increased at community level (reaching at least 1000 individuals in participating communities) and at a more detailed level for at least 25 individuals attending gender-separated training courses and workshops, relating to sustainable use, links to livelihoods, and technical capacity in survey and monitoring by end of project. 3 Livelihoods of 300 participating households improved through: (a) alternative and diversified fuel sources, (b) reduction in labour required in fuel collection, (c) reduction in health costs due to decreased indoor smoke, (d) support of local business involved in manufacture and installation of</p>	<p>1 Bamyán University students have gathered data on the plants collected for fuel with more than 20 species identified. The qualities and preferences of plants collected, percentage used, and information about plants previously collected but no longer seen has been documented to give a detailed picture of fuel collection and use in Bamyán. Following a reduction in fuel use in Year 2, Year 3 has documented a ~30% reduction in fuel wood collection. 2 Bamyán University has trained over 60 students in survey techniques, following a collaborative and interactive approach with communities. Female and male students worked collaboratively together. 3 300 households in five communities have received efficient cook stoves, and a smaller selection of solar water heaters and bio-briquette tools for use at community level. CO and particulate matter are being measured, although 3 of the 6 air quality monitors did not survive. Self-</p>	<p>M&E of project objectives and outputs by partners and stakeholders.</p>

	<p>stoves.</p> <p>4 Improvement in health and wellbeing for women in participating households as a result of measured decrease in indoor smoke by end of project compared with pre-intervention baseline (end of year 1)</p>	<p>rated health of women – and by proxy their children – show anecdotal evidence of an improvement in air quality and health.</p> <p>4 Baseline data on indoor air quality collected in subset of households. Self-rated health questionnaires have given an estimate of health for women and children, indicating poor health especially during the winter months.</p>	
<p>Output 1. Biodiversity Baseline and measurable reduction in extraction of woody species for fuelwood</p>	<p>1.1. Data collected on species, quantity and location of fuelwood extraction for four communities before (end of Year 1 baseline) and after alternative fuel source intervention (end of Year 2, end of Year 3) with intervention resulting in 50% decrease in average fuelwood extraction in Kg/month by end of project</p> <p>1.2. IUCN Red List assessments of 20 woody species used by the communities involved for fuelwood produced and submitted to IUCN by end of project</p> <p>1.3. Replicated vegetation surveys before and after alternative fuel source interventions to determine potential species, vegetation and diversity changes, with plans implemented for long term monitoring</p> <p>1.4. Model projections for the effects of reduced woody extractions on ecosystem services and vegetation changes.</p>	<p>1.1. >20 species identified with % uses and collections noted. ~30% reduction in fuel wood collection achieved across 5 communities – significant reduction but short of target. Suggest that target was over-optimistic under challenging circumstances.</p> <p>1.2. Assessments removed from project in change request dated 23.03.2017</p> <p>1.3. Permanent monitoring plots identified, vegetation survey training completed, Two years of surveys undertaken successfully. Differences between plots and valleys noted, but this does not appear to follow a linear pattern against the past-present-future collection sites as the system of selecting collection sites is not a linear system but has a more informal rotation component. Application of a semi-formal degradation index is being developed. Over-grazing indicator species noted. Differences in resource management noted.</p> <p>1.4. Data collection targeted to achieve this by end of project, and methods being developed. Will be reported at end of project.</p>	
<p>Activity 1.1. Data collection on frequency and amount of woody taxa collected for fuelwood (including identification of species and relative quantity of each species collected)</p>		<p>Locations and photographs obtained of taxa used for fuel, across five valleys. Identification ongoing but differences between valleys in taxa used and amounts used has been identified.</p>	
<p>Activity 1.2. Vegetation survey conducted at sample fuelwood collection locations (and control sites) before and after alternative fuel interventions</p>		<p>Permanent survey plots identified and vegetation surveys completed in Years 2 and 3. Awaiting full data collected to implement analyses.</p>	
<p>Activity 1.3. IUCN Red List Assessments for endemic species used for fuel</p>		<p>Assessments removed from project in change request dated 23.03.2017</p>	

extraction	
Activity 1.4. Identification tool for fuelwood species developed, and used to collect detailed information on species distribution	Photographic evidence will allow development of simple visual monitoring and identification tool, and allow incorporation into Bamyan University curriculum.
Activity 1.5. Predictive modelling of ecosystem service replacement due to natural regeneration of woody taxa	Awaiting data to implement simple methods, to be reported on at end of project.
<p>Output 2. Awareness & capacity development</p> <p>Basic awareness of concept of sustainable use of natural resources increased amongst participating communities</p> <p>Capacity of local Afghans increased in surveying and monitoring plant species as a measure of environmental degradation and improvement</p> <p>Capacity developed in implementing cleaner and efficient fuel technologies (efficient stoves and biogas).</p>	<p>2.1. Ten project staff and community leaders trained and successfully delivering sustainable use workshops in local communities by end of project</p> <p>2.2. At least 1000 individuals more aware of sustainability through sustainable use workshops and other awareness raising activities such as participatory mapping, by end of project</p> <p>2.3. Fifteen people trained in field identification and vegetation survey at field courses delivered in Tajikistan. These attendees will also be instructed and supported in how to deliver this training course to others.</p> <p>2.4. Twenty-five people trained locally in-country by those project staff who attended field training course in Tajikistan. These locally trained people will be trained to carry out vegetation survey and data collection in participating communities.</p> <p>2.5. 30 people trained in installing and using efficient stoves, solar heaters and bio-briquettes. Five young metal smiths will be trained in the basics of stove construction.</p> <p>2.6. Capacity in government departments increased (NEPA, MAIL, MRRD) in the role of sustainable technology of promoting community resilience through participation in training workshops in Tajikistan and participation in monitoring and evaluation exercises (6 staff)</p>

<p>Activity 2.1. Inception and training workshops in Tajikistan: planning, design and training in sustainable use concepts for delivery to communities, planning M&E, field survey and plant collection and identification</p>	<p>Training was undertaken in Tajikistan in August 2016 (Year 1).</p>
<p>Activity 2.2. Delivery of awareness raising sustainable use workshops in communities, delivery of training in field survey techniques and data collection</p>	<p>Community project inception and awareness raising undertaken in March 2017 at time of alternative fuel delivery (see report). Field survey training undertaken in Year 2. Sustainable use workshops undertaken with CDCs throughout project, awaiting number of events and participants for final report.</p>
<p>Activity 2.3. Delivery of training in cook stove installation, use and monitoring to communities</p>	<p>Completed in March 2017.</p>
<p>Activity 2.4. Project and stakeholder staff trained in M&E.</p>	<p>Staff from MRRD, MAIL and NEPA trained and participating in project M&E with framework developed.</p>
<p>Output 3. . Livelihoods & Health Community livelihoods improved through fuel accessibility and diversification and health benefits</p>	<p>3.1. At least 300 households (~3000 individuals) in four communities provided with a combination of efficient stoves, solar heaters and bio-briquettes, with logistical support & training in use provided to users, particularly women.</p> <p>3.2. At least 30% reduction in average time spent and distance travelled to collect fuel wood by end of project compared to historical and pre-installation 2016 baseline, recorded through fuelwood data collection and participatory community mapping.</p> <p>3.3. 10% reduction in average health expenditure per person by end of project compared to historical and pre-intervention baseline at end of year 1 in participating communities.</p> <p>3.4. 50% reduction in indoor smoke in community households after installation of efficient stoves compared with pre-installation baseline data.</p> <p>3.1. 300 households in five communities supplied with cook stoves, solar water heaters and bio-briquettes. Training provided in installation, use and maintenance. Feedback on cook stoves has been positive, and the addition of solar water heaters was especially popular as it takes the pressure off the cook stoves for continually boiling water for tea and for hand washing.</p> <p>3.2. Reduction in time spent collecting fuel reported by all interviewees. Detailed numbers to allow measurement against target will be reported at end of project.</p> <p>3.3. Health expenditure difficult to quantify as several households have explained that they never have money to pay medical fees. Reduction in visits to doctor reported for many families, therefore reduction in cost assumed.</p> <p>3.4. Trials in workshop and households demonstrate reductions in indoor smoke pollution. Although some households report the use of the traditional tandoor, this is generally for one off visits when extra bread is required and does not have a specific seasonal component.</p>
<p>Activity 3.1. 300 households in four communities provided with cook stoves</p>	<p>Achieved, with addition of solar water heaters and bio-briquettes in place of biogas installations.</p>
<p>Activity 3.2. Data collection on household fuel extraction time and distance</p>	<p>Data collected through fuel stock surveys throughout the year, demonstrating a reduction in fuel use. A reduction in collection time documented for Year 3, although no change in distance as the same locations for fuel collection are in use.</p>

<p>Activity 3.3. Community interviews and surveys to establish health and economic benefits</p>	<p>Self-rated health and daily schedules acquired for a subset of communities, detailing health improvements and fewer visits to doctors.</p>
<p>Activity 3.4. Data collection on indoor air quality</p>	<p>Subset of households with CO and particle monitors installed, although three are no longer functioning. Indoor smoke effects included in self-rated health assessments.</p>
<p>4. Gender Equality & Equity Improved livelihood and health benefits for women, empowerment and engagement through inclusion in training and</p>	<p>4.1. >500 women benefitting from reduced indoor smoke, increased time spent outdoors using solar water heaters, better access to hot water for washing, and reduced time spent collecting firewood.</p> <p>4.2 Women participating in project training sessions perceive benefit through learning skills and improving knowledge, and increased feelings of empowerment through inclusion, compared to before involvement measured through survey of participants.</p> <p>4.1. 300 households now have access to cook stoves, solar water heaters and bio-briquettes. Self-rated health assessments suggest reductions in indoor smoke. Daily schedules repeated, and show some changes with more free time available due to less fuelwood collection, and also multi-tasking with cookstoves making life easier for women.</p> <p>4.2. Women participating in cook stove training and sustainable use workshops. Complex nature of household relationships suggests that many more men attend workshops than women, but women report informally that the cook stoves are highly appreciated. Additional cook stove uses – for example shepherds carrying them to the mountains when herding in the summer – has a knock on benefit for women who no longer have to bake bread and carry to the mountains as the shepherds take ingredients and make dough and bake on the hillside directly. This has been a popular development, and due to outdoor cooking and solar heaters does not impact indoor smoke quality during the summer months.</p>
<p>Activity 4.1. Community interviews targeting data collection on health benefits for women and children</p>	<p>Gender segregated interviews show health improvements, and more free time that fosters more time spent with children and family and additional time for other work such as sewing.</p>

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
<p>Impact: (Max 30 words)</p> <p>Environmental degradation reduced in upland rangelands, with livelihoods, health and fuel security improved in rural mountain communities.</p>			
<p>Outcome: (Max 30 words)</p> <p>Environmental degradation reduced via sustainable fuel interventions in four communities (300 households, 3000 individuals) leading to a reduction in woody plant extraction and improved livelihoods, health and gender equality.</p>	<p>1 Baseline data gathered on woody plant extraction (species, amount, distance, frequency) by end of Year 1 and reduction in extraction after alternative/efficient fuel intervention (end of Year 2 & end of Year 3).</p> <p>2 Awareness and capacity increased at community level (reaching at least 1000 individuals in participating communities) and at a more detailed level for at least 25 individuals attending gender-separated training courses and workshops, relating to sustainable use, links to livelihoods, and technical capacity in survey and monitoring by end of project.</p> <p>3 Livelihoods of 300 participating households improved through: (a) alternative and diversified fuel sources, (b) reduction in labour required in fuel collection, (c) reduction in health costs due to decreased indoor smoke, (d) support of local business involved in manufacture and installation of stoves and construction of biogas.</p>	<p>0.1 Peer reviewed article, basic yearly summary statistics released on project website, project report</p> <p>0.2 Training and workshop materials, lists of attendees, radio programming materials, photographs of workshops, summarised awareness survey results, project report</p> <p>0.3 Community interviews and record keeping presented in project reports: (a) proportion and amount of fuel sources (before/after installation); (b) time/distance spent gathering fuel wood (before/after installation); (c) financial outlay on medical services quantified; (d) number of people trained/employed in construction, installation and training.</p> <p>Baseline currently not quantified, hence year one baseline data gathered, with changes post installation monitored in years two and three.</p>	<p>Working partnership between communities and project staff established and maintained, in which COAM has extensive local experience.</p> <p>Reduction in woody species extraction leads to biodiversity status improvement and associated ecosystem services benefits (good scientific evidence for this, monitoring started with long term plan in place).</p> <p>Potential issue that new cook stoves will encourage increase in stove usage for cooking and heating, leading to increase in fuel wood collection balanced against reduction through increased stove efficiency. Data will be collected on levels of cook stove use alongside fuel wood collection (outputs 1.1 and 3.2) before/after installation in subset of households spanning socio-economic conditions, in order to monitor feedback. Solar heater installation will also ameliorate this issue. Data presented and evaluated in first/second year report to enable adaptive management as necessary in year three.</p> <p>Security and political situation is stable enough for in-country partners to undertake work. This has had less effect in Bamyán than in any other province to</p>

	<p>4 Improvement in health and wellbeing for women in participating households as a result of measured decrease in indoor smoke (plus improved sanitation and access to covered passive solar area in households with biogas installations) by end of project compared with pre-intervention baseline (end of year 1)</p>	<p>0.4 Data gathered through community interviews and average medical cost survey results presented in project report.</p>	<p>date, where project workers have worked safely and successfully for several years.</p> <p>Communication methods are appropriate & take account of gender – workshops are gender-separated and appropriately led to allow women to participate fully, interview questions are sensitively worded and asked by appropriate team members. COAM and UNEP have extensive experience of this.</p> <p>Workshops and training materials can be accurately translated in a timely fashion; UNEP have access to high-quality translators with specialities in environmental and sustainability material.</p> <p>Stoves & solar heater installations are safe, sturdy, easy to maintain and appropriate to household; local experts will install the interventions & contact points will be established.</p> <p>Suppliers of stoves continue to stay in business and capable of fulfilling the orders; the stoves are made from easily sourced metal and will be supplied by a local enterprise to a design developed and tested by Bamyan artisans through several iterations, solar heaters and bio-briquettes are simple technologies and easy to repair.</p> <p>‘Stove stacking’ (using the efficient stove in addition to traditional methods instead of as a replacement) will not occur – this could lead to no reduction in fuelwood usage or an increase; the local design & testing of stoves should prevent the need for this.</p>
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<p>Outputs:</p> <p>1. Biodiversity</p> <p>Baseline and measurable reduction in extraction of woody species for fuelwood</p>	<p>1.1 Data collected on species, quantity and location of fuelwood extraction for four communities before (end of Year 1 baseline) and after alternative fuel source intervention (end of Year 2, end of Year 3) with intervention resulting in 50% decrease in average fuelwood extraction in Kg/month by end of project</p> <p>1.2 IUCN Red List assessments of 20 woody species used by the communities involved for fuelwood produced and submitted to IUCN by end of project</p> <p>1.3 Replicated vegetation surveys before and after alternative fuel source interventions to determine potential species, vegetation and diversity changes, with plans implemented for long term monitoring</p> <p>1.4 Model projections for the effects of reduced woody extractions on ecosystem services and vegetation changes.</p>	<p>1.1 Peer reviewed article, identification tools available, project report</p> <p>1.2 IUCN Red List Assessments submitted</p> <p>1.3 Project report, community interviews</p> <p>1.4 Peer reviewed article, project report</p>	<p>Identification and survey tools must be accessible and usable for local staff and communities; these will be tested by project staff & necessary translations done</p> <p>Fieldwork in Bamyan possible due to political and environmental stability. Current situation is stable & NGOs are able to carry out work with local communities with no problems. UNEP partnering will give access to high quality security information and logistical assistance as necessary.</p> <p>Changes in vegetation can be detected within project time-frame – this would be recorded in a follow-up survey outside project lifetime to assess lasting change and long-term project impact.</p> <p>Community engagement with project should ensure data gathered is representative & accurate; COAM local community expertise & UNEP assistance in developing data collection methods will assist this.</p> <p>Communities and local landscapes will not be affected by ecological disasters such as flooding, landslides or fires.</p>
<p>2. Awareness & capacity development</p> <p>Basic awareness of concept of sustainable use of natural resources increased amongst participating communities</p> <p>Capacity of local Afghans increased in surveying and monitoring plant species as a measure of environmental</p>	<p>2.1 Ten project staff and community leaders trained and successfully delivering sustainable use workshops in local communities by end of project</p> <p>2.2 At least 1000 individuals more aware of sustainability through sustainable use workshops and other</p>	<p>2.1 Project report, list of attendees at community workshops, workshop photographs.</p> <p>2.2 Project report, list of attendees of field training and community workshops, workshop photographs, participatory</p>	<p>Fieldwork in Tajikistan possible due to political and environmental stability. For UK partners, CMEP will follow institutional guidelines drawing on FCO advice and information from colleagues in Tajikistan. For in-country partners, advice will be sought from governmental sources and UN sources.</p>

<p>degradation and improvement</p> <p>Capacity developed in implementing cleaner and efficient fuel technologies (efficient stoves and biogas).</p>	<p>awareness raising activities such as participatory mapping, by end of project</p> <p>2.3 Fifteen people trained in field identification and vegetation survey at field courses delivered in Tajikistan. These attendees will also be instructed and supported in how to deliver this training course to others.</p> <p>2.4 Twenty-five people trained locally in-country by those project staff who attended field training course in Tajikistan. These locally trained people will be trained to carry out vegetation survey and data collection in participating communities.</p> <p>2.5 30 people trained in installing and using efficient stoves, solar heaters and bio-briquettes. 5 young metal smiths will be trained in the basics of stove construction.</p> <p>2.6 Capacity in government departments increased (NEPA, MAIL, MRRD) in the role of sustainable technology of promoting community resilience through participation in training workshops in Tajikistan and participation in monitoring and evaluation exercises (6 staff)</p>	<p>mapping exercise attendee list, household questionnaire responses</p> <p>2.3 List of Tajikistan field course attendees, field course training outcomes, field survey course materials, project report.</p> <p>2.4 List of in-country field course attendees, field course training outcomes, project report</p> <p>2.5 List of attendees from installation training workshops project report</p> <p>2.6 Workshop attendees list, workshop outline, project report.</p>	<p>Afghan staff are able to obtain visas to visit Tajikistan</p> <p>Possible to have field equipment and materials sent to Tajikistan for workshop.</p> <p>Communities and staff are engaged with project and will attend workshops; COAM will work with community leaders and members of the CDCs (Community Development Councils) to inform them of the project as soon as it is confirmed, developing a partnership with each community, identifying enthusiastic and influential members who can build networks as well as assisting project staff in workshop design and logistics to allow greatest participation such as selecting times where many community members are not required to graze livestock or harvest crops, or encouraging vulnerable members to contribute.</p> <p>Presumes women will be culturally comfortable attending field training workshops. If this does not prove to be the case, women could be trained in theoretical survey methods and data collection, with training on how to collate, curate and analyse survey data instead of collecting it. Project staff and associates will feel engaged, supported and confident enough to deliver high-quality training locally in-country; project partners will provide additional support as necessary, with time spent at Tajikistan course covering how to deliver training. Remote assistance in difficult vegetation identifications and data quality control will be given by CMPEP.</p>
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<p>3. Livelihoods & Health</p> <p>Community livelihoods improved through fuel accessibility and diversification and health benefits</p>	<p>3.1 At least 300 households (~3000 individuals) in four communities provided with a combination of efficient stoves, solar heaters and bio-briquettes, with logistical support & training in use provided to users, particularly women</p> <p>3.2 At least 30% reduction in average time spent and distance travelled to collect fuel wood by end of project compared to historical and pre-installation 2016 baseline, recorded through fuelwood data collection and participatory community mapping</p> <p>3.3 10% reduction in average health expenditure per person by end of project compared to historical and pre-intervention baseline at end of year 1 in participating communities</p> <p>3.4 50% reduction in indoor smoke in community households after installation of efficient stoves compared with pre-installation baseline data</p>	<p>3.1 Project report</p> <p>3.2 Project report, community maps, recorded data, community interviews with fuelwood collectors</p> <p>3.3 Community interviews, survey of health service providers, project report</p> <p>3.4 Indoor air quality monitoring report, community interviews, project report, peer reviewed article on indoor air quality improvement</p>	<p>Assumes no barriers to installation and primary use of efficient stoves in each household or community, ameliorated by COAM expertise in community engagement.</p> <p>Assumes wood will not be cut for fuel and sold to other communities instead, data collected to verify this.</p> <p>Stove stacking (use of efficient stoves additional to, not instead of original stoves) may increase fuel use, however it is expected that occurrence of this will be minimal as a result of local design and community testing of various models to ensure their features are appropriate for a wide range of home uses such as cooking, baking, heating water and heating the home.</p> <p>Fuelwood collectors who earn their livelihood through sale of collected wood may be disadvantaged through reduction of income caused by reduced fuel requirements due to more efficient stoves; assessments should be made of risk of potential loss of livelihood. Assessment & community discussion of how to include fuelwood collectors in</p>

			workshops & training where possible to diversify their skills and potentially lead to other sources of income should be carried out.
<p>4. Gender Equality & Equity</p> <p>Improved livelihood and health benefits for women, empowerment and engagement through inclusion in training and</p>	<p>4.1 >500 women benefitting from reduced indoor smoke, increased time spent outdoors using solar water heaters, better access to hot water for washing, and reduced time spent collecting firewood.</p> <p>4.2 Women participating in project training sessions perceive benefit through learning skills and improving knowledge, and increased feelings of empowerment through inclusion, compared to before involvement measured through survey of participants.</p>	<p>4.1 Community interviews, project report</p> <p>4.2 Case studies, community interviews, workshop/training feedback and evaluation survey</p>	<p>Within Afghanistan, cultural practices (particularly in rural areas) mean that inclusion of women in project design needs to be sensitive and appropriately handled. Female staff at COAM and UNEP will take responsibility for gender equity and for ensuring all data collection methods, training and engagement are sensitively designed to allow full, active and appropriate participation of women with the project.</p>
<p>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)</p> <p>1.1 Data collection on frequency and amount of woody taxa collected for fuelwood (including identification of species and relative quantity of each species collected)</p> <p>1.2 Vegetation survey conducted at sample fuelwood collection locations (and control sites) before and after alternative fuel interventions</p> <p>1.3 IUCN Red List Assessments for endemic species used for fuel extraction</p> <p>1.4 Identification tool for fuelwood species developed, and used to collect detailed information on species distribution</p> <p>1.5 Predictive modelling of ecosystem service replacement due to natural regeneration of woody taxa</p> <p>2.1 Inception and training workshops in Tajikistan: planning, design and training in sustainable use concepts for delivery to communities, planning M&E, field survey and plant collection and identification</p> <p>2.2 Delivery of awareness raising sustainable use workshops in communities, delivery of training in field survey techniques and data collection</p> <p>2.3 Delivery of training in cook stove installation, use and monitoring to communities</p> <p>2.4 Project and stakeholder staff trained in M&E and applied</p> <p>3.1 300 households in four communities provided with cook stoves</p> <p>3.2 Data collection on household fuel extraction time and distance</p> <p>3.3 Community interviews and surveys to establish health and economic benefits</p> <p>3.4 Data collection on indoor air quality</p> <p>4.1 Community interviews targeting data collection on health benefits for women and children</p>			

Annex 3: Standard Measures

Table 1 Project Standard Output Measures

Code No.	Description	Gender of people (if relevant)	Nationality of people (if relevant)	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
Established codes								
4A	Undergraduate students to receive training	Inclusive	Afghan	0	27	34	61	20
4B	Number of weeks of training provided	na	na	0	4	4	8	2
7	Training materials provided	na	na	2	0	0	2	4
10	Field guides	na	na	0	0	0	0	1
11B	Papers submitted	na	na	0	0	0	0	1
13B	Species collections enhanced	na	na	0	45	35	90	200
20	Value of assets handed over	na	na	£5981.18	0	300.00	£6281.18	£2,000
22	Field plots/sites established permanently	na	na	9	0	0	9	9

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)
Darwin Initiative Afghanistan	Website					http://afghanistan.cmep.org.uk/

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

This report is a “holding” report as many materials collected have yet to be made available to all project partners, and as such these will be submitted as evidence at the end of project report by 31 December 2019.

An example of follow-up interviews has been included.

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	YES
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	NA
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	YES
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	NO
Have you involved your partners in preparation of the report and named the main contributors	YES
Have you completed the Project Expenditure table fully?	YES
Do not include claim forms or other communications with this report.	