



Darwin Initiative Annual Report



Department
for Environment
Food & Rural Affairs

Important note: To be completed with reference to the Reporting Guidance Notes for Project Leaders:
it is expected that this report will be about 10 pages in length, excluding annexes

Submission Deadline: 30 April

Darwin Project Information

Project Reference	19-021
Project Title	Values and Valuation: New Approaches to Conservation in Mongolia
Host Country/ies	Mongolia
Contract Holder Institution	University of Leicester (UOL)
Partner institutions	Mongolian Society for Range Management (MSRM) Mongolian Academy of Agricultural Sciences (MAAS) (incorporating Mongolian State University of Agriculture and Centre for Ecosystem Studies (CES) Mongolian Nature Protection Civil Movement Coalition (MNPCM) Ministry of Environment and Green Development (MNEGD) (formerly Ministry of Nature, Environment and Tourism (MNET)
Darwin Grant Value	Total for 3 years = £234,828. For Year 2 only = £73509.09 (including £656.09 agreed carry forward from Year 1)
Start/end dates of project	1.4.2012- 1.4.2015
Reporting period (eg Apr 2013 – Mar 2014) and number (eg Annual Report 1, 2, 3)	April 2013-March 2014. Annual Report 2
Project Leader name	Dr Caroline Upton
Project website	www2.le.ac.uk/departments/geography/research/projects/darwin-values-and-valuation-mongolia
Report author(s) and date	Dr Caroline Upton; Professor D. Dorligsuren; Dr D. Dorjgotov; Dr N. Nyamaa; Professor J. Undarmaa; B. Bayarmaa; Dr Roy Bradshaw, Dr T. Shaviraachin. 30 April 2014.

1. Project Rationale

As a signatory to the major global biodiversity conventions (CBD, CITES, CMS), Mongolia is officially committed to the protection of an important biodiversity heritage, but is currently struggling to meet these commitments. The fourth CBD country report (2009) highlighted growing threats to and loss of biodiversity, linked to factors such as desertification and pasture degradation, a major mining boom, climate change and poorly regulated hunting and logging. In the 2009 report, the effective participation and inclusion of communities, their local knowledges, values and practices in conservation practice and planning were highlighted as interlinked and critical areas where CBD commitments had yet to be realised. Mongolia's 5th National CBD Report, issued in March 2014,

continues to highlight desertification, degradation of over 95% of pastureland (widely attributed to overgrazing), climate change and mining-related pollution as key threats to biodiversity. It also specifically highlights concerns over the impact of negative changes in biodiversity on ecosystem services, including carbon storage and associated socio-economic and cultural issues, where these contribute to the overall well-being of local communities. Mongolia is currently working towards a new National Biodiversity Strategic Action Plan (NBSAP) to supersede its current National Biodiversity Action Plan (1996), in accordance with Aichi 2011-2020 targets and linked to Mongolia's commitment to development of a 'Green Economy'. Critical gaps persist, however, in relation to specific strategies and tools for the assessment of biodiversity and wider ES values, and ways in which they may be incorporated effectively into national accounting (Aichi Target 2). In particular, the importance of non-economic valuation, especially of cultural services continues to be largely omitted from current policy making and planning. The provision of economic incentives for conservation has been integrated into national law (in accordance with Aichi Target 3), albeit with limited enactment of these provisions to date. Aichi Target 14, related directly to the restoration and protection of key ES and their contributions to livelihoods and well-being, is highlighted as a key consideration in Mongolia's 5th National Report. However, detailed strategies for developing and implementing a comprehensive ES framing and evaluation remain in their early stages. The carbon sequestration potential of pastureland is recognised, in relation to Aichi Target 15 and wider climate governance mechanisms, as part of future national conservation planning.

The Darwin project '*Values and Valuation: New Approaches to Conservation in Mongolia*' (2012-2015) provides a novel, integrated approach to a number of these critical issues, with particular reference to pastureland degradation and associated biodiversity loss, the valuation and protection of key ES, herders' livelihoods and well-being, carbon sequestration mechanisms, participation, traditional knowledge/ values and incentives for conservation. Project partners from the Mongolian Society for Rangeland Management (MSRM), the Mongolian Academy of Agricultural Sciences (MAAS), including the Centre for Ecosystem Studies (CES), and the Mongolian Nature Protection Civil Movement Coalition (MNPCM) are working with Dr Caroline Upton and colleagues at the University of Leicester (UOL) to develop and implement these approaches. Through MSRM's well-established network of herder groups ('*heseg*') and drawing on contemporary concerns with ecosystem services and their links to biodiversity and well-being, the team have been working with herders in four contrasting ecological zones to explore, map and value ecosystem services and to develop and trial pilot Payment for Ecosystem Services (PES) schemes. Of particular importance to the approach is the participatory development of locally appropriate approaches to non-economic valuation and to evaluation of cultural services, thus facilitating recognition of customary knowledge, values and practices in conservation planning. The team is pilot testing the socio-economic and ecological viability of particular PES schemes, particularly in relation to the Plan Vivo (PV) standard and the voluntary carbon market, at selected case study sites in Mongolian rangelands. Through these activities the project team aim to provide government policy makers with important decision making tools, including tradeoffs with mining and possibilities for future state funded PES schemes, based on data which incorporates traditional knowledge and values. They further aim to provide local communities with tangible incentives and capacity for conservation and sustainable resource use through the pilot PES schemes and to provide appropriate training and capacity building in PES/ ES to policy makers academic and herders.

The four main project sites are shown in Figure 1, below. Within each of the four main project sites (Ikh Tamir *soum*, Arkhangai *aimag*; Undurshireet *soum*, Tov *aimag*; Ulziit *soum*, Dundgov *aimag* and Bogd *soum*, Bayankhongor *aimag*), three subsidiary *heseg* (herders' groups) have been identified, thus encompassing 12 herder groups in total.

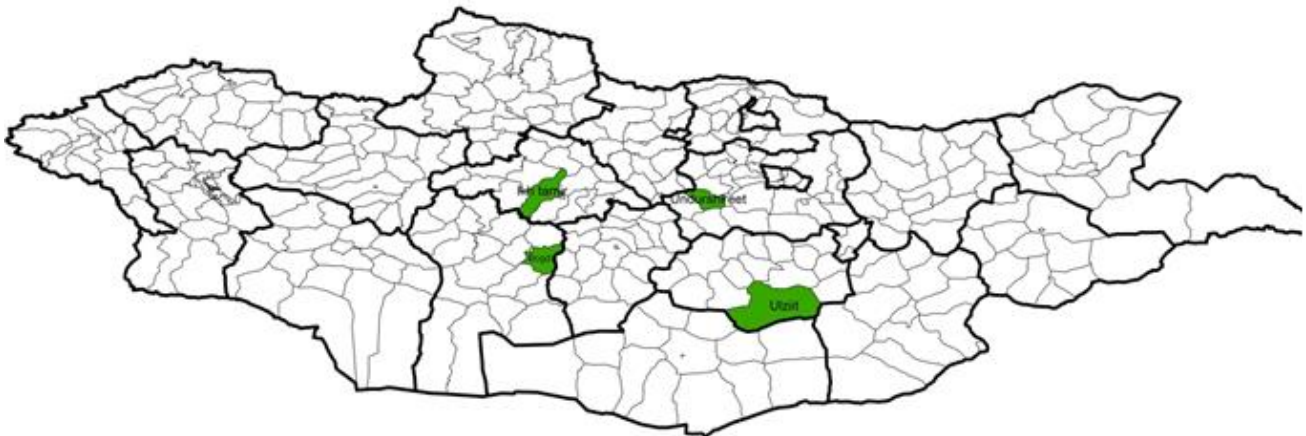


Figure 1: Mongolia, showing location of the four main project sites

2. Project Partnerships

As stated in the 1st Annual Report, The Mongolian Society for Range Management (MSRM) are the main in-country project partners, managers and coordinators. They work closely with University of Leicester (UOL) as the UK lead institution. Other in-country project partners are as listed under 1) above. These key partners continue to work and collaborate in accordance with the MOU developed and signed by all parties in Year 1, as part of project inception activities.

IWC and MNEGD were not included in these agreements as they are not undertaking paid work as part of the project. UOL are, however, in consultation with them to ensure discharge of mutual obligations, as set out in the original project proposal and confirmed under letters of support therein. In Year 2, links with the Ministry of Nature, Environment and Green Development (MNEGD; the national focal point for CBD, CITES and CMS) were further developed through meetings in February 2014 and summer 2013. In Year 2 a new collaborator, the Zoological Society of London (ZSL), who have a team based at the National University of Mongolia (NUM), Ulaanbaatar, were brought into the project, in direct response to reviewers' recommendations from Year 1, and as discussed and agreed with Darwin Initiative. The ZSL/ NUM team are also currently involved in reviewing national biodiversity strategies, production of the recent 5th National CBD Report and development of NBSAP in conjunction with the Mongolian government. They are therefore ideally placed to provide further input on potential wildlife impacts of planned Plan Vivo activities at selected sites.

As PI, Dr Caroline Upton (UOL) continues to have overall responsibility for the project and component activities, shared and devolved as appropriate to colleagues depending on their specialist skills:

Responsibility for **Activities 1.1-1.5** (completed; ongoing follow-up activities) associated with the valuation and mapping of ES, continues to be shared between Dr Roy Bradshaw (UOL) and Dr Nyamaa Nyamsuren (MAAS), as environmental economists; Dr C. Upton as a social scientist concerned with development of methods and tools for non-economic valuation of ES; Dr D. Dorjgotov/ Professor D. Dorligsuren (MSRM) as key partners and experts in community development work; Professor U. Jamsran as expert on evaluation of ecological issues and services.

Activities 2.1-2.8, associated with pilot PES schemes through Plan Vivo (PV), have been undertaken primarily by MSRM and UOL. MSRM have taken the lead role in training of and working with PES groups in preparation for Plan Vivo activities (Activities 2.1 and 2.2; now successfully discharged). Specific responsibility for Activity 2.3 was assigned to Professor U. Jamsran (CES),

and has been progressed to the stage of review for final approval by Plan Vivo. Other Activities are due for initiation and completion in Year 3.

Activities 3.1-3.7 are concerned primarily with establishment of baselines and monitoring and reporting against those baselines, again assigned on the basis of specific expertise; for example Professor U. Jamsran leads on the ecological/ biodiversity monitoring; environmental economists, MSRM and UOL on socio-economic/ livelihoods baseline.

Detailed step by step breakdowns and timelines for particular activities were agreed and formed the basis for work in Year 2, replicating the successful approach in Year 1. The critical Year 2 summer and autumn fieldwork period (July- September 2013) was planned collaboratively between all partners and specific sub teams. A detailed written fieldwork specification and protocol was finalised and agreed by all partners prior to summer/ autumn 2013 data collection periods. In July 2013, Dr Upton (UOL), Dr Bradshaw (UOL), Dr Nyamsuren (MAAS), B. Bayarmaa (MNPCM) and D. Ichinkhorloo (MSRM) travelled together to two of the fieldwork areas (Ulziit soum and Bogd soum), where they undertook data collection to fulfil requirements of Activities 1.3 and 1.4, and also to provide further data for Activities 3.3 and 3.4. This joint trip was purposely arranged to ensure full and uniform implementation of a range of fieldwork tools and methods across all sub teams. These data collection methods were subsequently replicated by Dr N. Nyamaa in Ikh Tamir soum and D. Ichinkhorloo in Undurshireet soum.

Relationships between project team members have continued to be managed through a) meetings with all partners during Dr Upton's regular visits to Mongolia (at least twice per year); b) regular email exchanges; c) shared information through project drop box site, accessible to all partners, wherein key documents; breakdowns, timelines and progress reports on particular Activities etc are shared, d) skype calls, e) ongoing local liaison with the (small) project team through MSRM. Dr Upton liaises with Plan Vivo/ Bioclimate in the UK, with whom a separate MOU has been agreed and signed, but has also facilitated direct links between Bioclimate and Undarmaa Jamsran (CES).

During Year 2 of the project, strong working relationships have continued to between all partners. There have been no major changes to management structures over the second year of the project.

Formal partnerships with other UK based institutions are with Plan Vivo/ Bioclimate, as set out in the original project proposal. This partnership has been formalised through an MOU and payments dispersed for work done on development of the technical specification and review of the Project Information Note or PIN. The PIN has now been approved, registered and is being promoted through the Plan Vivo website <http://www.planvivo.org/projects/registeredprojects/>

In summary, as set out above:

- Project partnerships with key in-country partners were based on demand stemming from the host country in terms of national biodiversity commitments and issues. MSRM, the key in-country partner has also previously specifically stated the need for research to enhance the sustainability of community-based pasture use models and to incorporate values and PES type approaches.
- In terms of achievements, the partnerships at the core of this project have continued to function successfully, in the discharge of a range of approaches which are still relatively new and untested in the Mongolian context e.g. around assessment and valuation of ES. An additional challenge was encountered where an in-country partner, Professor Jamsran at CES, was temporarily unavailable in late 2013 due to personal circumstances and illness. Dr Upton and Professor Jamsran have since rescheduled tasks as necessary.
- Successful functioning of project partnerships can be evidenced from project progress indicators (see Section 3). Additional evidence in terms of meeting minutes/ agendas and email exchanges can be supplied on request.

3. Project Progress

3.1 Progress in carrying out project activities

Output 1: Key Ecosystem Services (ES) at selected sites in contrasting ecological zones valued, with participation of local herding communities

Of the five activities related to this output (Activities 1.1-1.5), two were completed in Year 1 (Activities 1.1. and 1.2), as previously reported. The remainder (Activities 1.3-1.5) were completed in Year 2, in accordance with the project timetable. Further follow up activities and analysis are ongoing in relation to Activity 1.5, as specified below. Specifically:

Activity 1.3 (mapping of key ES): completed at all study sites. Within each of the study soums (districts) work was completed with three herder groups, typically of between 5-30 households. In total the team completed ES identification and participatory mapping exercises with some 200 herder households, complemented by 10 herder group workshops, and Activity 1.4, below.

Activity 1.4: ranking and valuation exercises were completed with the same herder households and groups as above. These included conjoint analysis/ choice modelling; group-based deliberative approaches, and participatory photography and video. Existing economic data for key ES was also collated in each area and through discussion with local officials.

Activity 1.5: Initial analysis of data from Activities 1.3 and 1.4 has been completed. This has included the construction of a SOLVES database for spatial exploration and quantification of social values for ecosystem services – the first application of this approach in Mongolia. A report on the preliminary model in relation to one of the project areas, Ikh Tamir, Arkhangai, is appended. Final iterations and outputs from the model for all study areas are currently under development. On completion of these iterations, results of this spatial analysis of ES and ES values will be integrated with analysis of the nature, trends and rankings of ES (e.g. as derived through completed ES surveys for all respondent households – sample form included in appendices), the conjoint analysis/ choice modelling exercises, market values of key provisioning services and visual methods, to provide a holistic assessment of ES and ES valuations. Final validation and ground truthing of these outputs will be undertaken with participating herder households in summer 2014.

Output 2: Pilot PES schemes developed and implemented at selected study sites, with participation of local herding communities

Of the eight activities related to this output (Activities 2.1-2.8), **Activity 2.1** was completed in Year 1, as scheduled, with further work with the new PES/ Plan Vivo herder group in Bogd soum completed in summer 2013 (as specified in Half yearly report, October 2013).

Activity 2.2 was also effectively discharged in Year 1, with final follow up work by MSRM with PES/ Plan Vivo herder groups/ heseg in May 2013 and March 2014 to feed into Plan Vivo Project Design Document and Validation Report (Activity 2.5, due for completion by 30/6/14). The Plan Vivo PIN has already been approved and registered (see Section 2, and link at <http://www.planvivo.org/projects/registeredprojects/>). A summary of key heseg/ herder group activities, as derived from MSRM/ herder group meetings and which form part of full Project Design Document (PDD) for submission to Plan Vivo, is appended. The PDD requires approval before Activity 2.4 can commence. Therefore, this Activity will be ongoing in Year 3, as per the project timetable. Further evidence in relation to Activity 2.2 is the agreement between local government officials and heseg/ herder groups over carbon rights and mutual responsibilities, which forms part of the PDD (also appended).

Activity 2.3: The initial technical specification has been developed, based on fieldwork, soil and vegetation analysis in summer 2013 and Year 1 of project. This is now being reviewed, finalised and approved by Plan Vivo through PDD and Validation Report (Activity 2.5) and as part of the standard PV process. A summary report relating to this Activity is appended.

Activities 2.5-2.8 are scheduled for Year 3.

Output 3: Assessment of contributions of PES to livelihoods and conservation in different ecological contexts

Work on **Activity 3.1** commenced through discussions with herder groups as part of the Year 1 fieldwork, with further evaluation on the basis of MSRM lengthy experience of working with these groups. This was completed in summer 2013, as per the project implementation timetable, and as part of Activities 1.3 and 1.4.

Activity 3.3, an in-depth socio economic survey, focusing on established livelihood indicators, amongst other parameters has been completed for all study sites (over 300 herder households) (full SPSS database available on request). Summaries of key livelihood indicators and baselines by herseg/ herder group are appended. In addition, a sample of herder households from each herder group/ herseg and location have been provided with and completed a household account book over the last year, detailing amongst other parameters, livestock sales, costs and income etc. MSRM will undertake full analysis of the complete set of account books in summer 2014, in order to ensure completion of accounts over a full annual cycle.

Thus the above datasets, taken together with the ES surveys completed under Activities 1.3 and 1.4, have facilitated completion of Activity 3.3 also.

Biodiversity indicators have been developed based on extensive rangeland vegetation surveys at all study sites (Activity 3.2). These are set out in the appended report from CES. This also summarises existing vegetation status and biodiversity, in accordance with Activity 3.4. ZSL have been commissioned to provide further input on animal biodiversity. Key species lists for study areas are also appended.

Output 4: Education and capacity building of key stakeholders (government officials, local herders) in ES values, development, management and efficacy of PES schemes in Mongolian context.

Of the five activities related to this output (Activities 4.1-4.5), only two were due to be ongoing in Year 2 in Year 1 (Activities 4.2 and 4.5). Activity 4.2 relates to liaison with and training of government officials throughout the three years of the project. Formal training is scheduled for Year 3, while consultation and liaison is established and ongoing, as evidenced by original letters of support for the project and subsequent letters in Year 2 (appended). Discussions are underway for a training workshop for government officials, policy makers and key in-country academics in November 2014. For Activity 4.5, dissemination activities are summarised in Section 9 of this report.

3.2 Progress towards project outputs

Output 1: Key Ecosystem Services (ES) at selected sites in contrasting ecological zones valued, with participation of local herding communities

Indicators: Economic/ non economic values for key ES at study sites produced; ranking and mapping of key ES completed; analysis of contributions re biodiversity, well-being reported.

As highlighted in 3.1 above, data collection and preliminary analysis for this Output has been completed. Further development and refinement of models (e.g. SOLVES) and integration of multiple datasets is ongoing, and will enable final reporting in relation to this output. There are no changes in assumptions or measurement of output indicators, although some datasets from local government sources are still awaited, to enable completion of full analysis and reporting. Evidence in relation to this output is as set out under Section 3.1 above.

Output 2: Pilot PES schemes developed and implemented at selected study sites, with participation of local herding communities

Indicators: Appropriate technical specifications for evaluation of scheme benefits agreed; schemes validated and agreed with herders' communities; appropriate PES management and monitoring practices implemented; certificates issued on voluntary carbon market, mechanisms for profit sharing implemented.

Progress towards this Output is on track, as evaluated against its component Activities. Activities under Output 2 are not all scheduled to be completed until the end of the project in Year 3. Indicators as stated above relate to the whole project period. To date, the initial technical specification has been completed, for review and approval by Plan Vivo in Year 3, in accordance with the project implementation timetable. Validation of PES schemes, as proposed by participating herding communities, and through the Plan Vivo process, is underway, as evidenced by approval and registration of the Project Information Note (PIN) by Plan Vivo. There are no changes in assumptions or measurement of output indicators. The second main assumption against this output, namely 'Continued support from local government officials for implementation of scheme, including continued support for tenure agreements with herders' groups', continues to hold true. Evidence of their continued support for the pilot PES strand of this project is given through letters of support (national government) and agreement templates with local government (appended), including C rights of participating local communities.

Output 3: Assessment of contributions of PES to livelihoods and conservation in different ecological contexts

Indicators: Monitoring programmes completed using agreed technical specifications for evaluation of carbon benefits, and established and participatory biodiversity and well-being indicators.

An initial technical specification has been developed, in preparation for submission to and approved by Plan Vivo through PDD and Validation Report (Activity 2.5, due for completion in Year 3).

Baseline monitoring for livelihoods/ well being and biodiversity/ ES status (Activities 3.3 and 3.4) has been completed, except for additional wildlife evaluations/ surveys by ZSL/ NUM, which were not feasible over the winter period in Mongolia. Work on the desk based aspect of this additional work package is ongoing. There are no changes in assumptions or measurement of output indicators. The new tripartite Plan Vivo certificate encompassing not only carbon, but also well-being and biodiversity measures, piloted through this project, is now integral to the approach taken in the new Plan Vivo standard, issued in 2012.

Output 4: Education and capacity building of key stakeholders (government officials, local herders) in ES values, development, management and efficacy of PES schemes in Mongolian context.

Indicators: Workshops/ training events at study sites and in Ulaanbaatar, including information exchange/ training by PES ambassadors from selected PUGs. Implementation of PES schemes. Valuation of ES at study sites, including development of methodology for non-economic valuation.

As set out above, workshops/ training events under this Output were not due in Year 2. Progress towards implementations of PES schemes and valuation of ES is covered in reports on Outputs 1-3 and their component activities, above. There are no changes in assumptions or measurement of output indicators.

Overall, good progress has been made towards achievement of final project outputs, and in accordance with the project timetable and logframe indicators, as specified above.

3.3 Progress towards the project Purpose/Outcome

Project purpose: To generate policy and practice relevant knowledge of values of ecosystem services (ES) in Mongolia and pastoral contributions therein and to test efficacy of Payment for Ecosystem Services (PES schemes), in order to enhance biodiversity and livelihoods.

Progress towards the overall project purpose is clearly demonstrated through the above review of progress towards Activities and Outputs. The measurable indicators for the project purpose are clearly linked to Outputs, Activities and Indicators. For example, the first measurable indicator for the project purpose, i.e. 'ES mapping and valuations in diverse ecological contexts, incorporating traditional knowledge and values, and linked to associated resource management/ conservation planning', is clearly linked to Activities 1.1-1.5. The second relates to Activities 2.1-2.8 and 3.1-3.6. Means of verification are appropriate. The main assumptions still generally hold true, despite recent

issues with/price collapses in carbon markets. For the voluntary carbon market, Plan Vivo continues to report good sales of certificates from comparable schemes, and the extended tripartite certificate is likely to have a broader appeal. Marketing for this project has officially commenced through PIN approval and registration on the Plan Vivo website, but can only now be pursued more actively in Year 3 as planned, linked to approval of the PDD and technical specification. Uptake of certificates and any income generated cannot therefore be guaranteed, as repeatedly stated throughout the project. The project is thus likely to achieve the Purpose/Outcome by the end of the funding, although a number of key unknowns remain, which have the potential to affect full delivery of these. Again, these are not new issues/ constraints, but are worth restating at this stage. These are 1) extent of uptake of tripartite PV certificates in the market, as highlighted above; 2) speed of implementation of agreed PV measures and success in meeting agreed targets by participating *heseg*/ groups, thus triggering release of funds and distribution of benefits. As far as possible, preparatory action has been taken to reduce the risk of such delays, through MSRM's facilitation of detailed planning by *heseg*. Nonetheless, there is always the possibility that a range of issues, for example adverse climatic conditions (e.g. repeats of natural disasters, locally known as *dzud*, as experienced periodically in Mongolia over the last 2 decades) could adversely affect progress over the final year of the project. Contingency measures are already built into the project in that PV agreements with community groups, are typically of 5 years or more duration. Agreements with *heseg* will thus continue beyond the Darwin project, with MSRM as the in-country coordinator. Thus mechanisms will still be in place for PV agreements to be administered and financial benefits dispersed over the longer term, even if the first financial disbursement falls outwith this project period. 3) radical changes in government support or policy. As detailed in sections above, the project has taken all possible steps to avoid such an outcome. The planned training workshop in November will further embed this approach in government policy and thinking.

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

The Goal as stated in the original application form, was '*effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity, but constrained in resources*'.

The project is contributing especially to the implementation of the CBD in relation to this higher goal, as specified in Section 2 and Section 4 (below). The CBD in turn informs national targets and strategies, as articulated through the National Biodiversity Conservation Action Plan, national strategies for implementation of Aichi targets, and the associated, ongoing development of the new National Biodiversity Strategic Action Plan. The project thus contributes to realisation of these related domestic targets, for example as specified in the very recently issued 5th National Report of Mongolia, and discussed further in Sections 2 and 4. Key species in Mongolia's grasslands, including in project sites, also include migratory species listed under CMS; thus project activities and outcomes, especially where particular *heseg* have specified actions related to conservation of migratory species, are valuable as potentially providing important new mechanisms and incentive for the conservation of such species.

The project is contributing to poverty alleviation and well-being through seeking to provide new income sources through pilot PES schemes (Plan Vivo *heseg*/ groups), and sale of associated tripartite certificates; through supporting livelihood diversification and alternatives (again through PV funds, e.g. where *heseg* specify non herding activities as goals). It is also contributing towards well-being through enabling recognition, valuation and incorporation of a full range of values around ES into conservation policy and planning, including non economic valuations of cultural services. Pertinent indicators are specified for Outputs in Section 3.2 above and for Project Purpose in Section 3.3. Further evidence is provided in Appendices.

4. Project support to the Conventions (CBD, CMS and/or CITES)

As specified under Sections 2 and 3.4, Mongolia's fourth CBD country report (2009) highlighted growing threats to and loss of biodiversity, linked to desertification and pasture degradation, mining and climate change. Mongolia's 5th National CBD Report, just issued (March 2014) reiterates these issues and concerns, with reported degradation of over 95% of pastureland widely attributed to overgrazing, and linked to biodiversity loss. At the same time herders' traditional knowledge and practices and community participation in conservation and resource management continue to be presented as key resources for realisation of national conservation goals and international commitments through CBD. The 2014 5th National Report also specifically highlights concerns over the impact of negative changes in biodiversity on ecosystem services, including carbon storage and associated socio-economic and cultural issues, where these contribute to the overall well-being of local communities. Mongolia is currently working towards a new National Biodiversity Strategic Action Plan (NBSAP) to supersede its current National Biodiversity Action Plan (1996), and in accordance with Aichi 2011-2020 targets. What continues to be missing, however, are strategies for the assessment of biodiversity and wider ES values, and ways in which they may be incorporated effectively into national accounting (Aichi Target 2). In particular, and as noted in Aichi indicators for Target 2, although the required 'integration of biodiversity values into national and local development and poverty reduction strategies...(and) national accounting' should include social and spiritual as well as economic values, in practice non-monetary values and methods are not well developed. This is certainly true of Mongolia, where no published work is available on non economic valuation of ES to date. Furthermore, although the provision of economic incentives for conservation has been integrated into national law (in accordance with Aichi Target 3), there has been limited enactment of these provisions thus far. Aichi Target 14, related directly to the restoration and protection of key ES and their contributions to livelihoods and well-being, are highlighted as key considerations in Mongolia's 5th National Report, with the emphasis primarily on water and pasture resources and on ES conservation through protected areas (PAS). Again, detailed National strategies for developing and implementing a comprehensive ES framing and evaluation, including through collation and analysis of sub national datasets, are absent. The carbon sequestration potential of pastureland is recognised, in relation to Aichi Target 15 and wider climate governance mechanisms, as part of future conservation planning. Aichi Target 18, which requires the respect, recognition and incorporation of traditional knowledges and practices into national conservation planning, in accordance with CBD Article 8j, is highlighted in Mongolia's 5th National CBD report as an area where little progress has been made, thus meriting enhanced attention in the future. Overall, The project 'Values and Valuation: New Approaches to Conservation in Mongolia' addresses and integrates a number of these key contemporary issues and problems through:

- i) Providing a much needed case study, including methodological testing and development, of the spatial and social distribution and values of key ES at study sites in Mongolia. This is of particular relevance to Aichi Targets 2, 14 and 18, and associated National planning
- ii) Providing the first trial of pilot PES schemes in rangelands in Mongolia, through Plan Vivo, thus addressing issues of participation, economic incentives, ES/ livelihoods nexus (e.g. Aichi Targets 2, 3, 4, 14, 15).
- iii) Proving evidence of the socio-economic and biodiversity/ ES impacts of such schemes, and prospects for sustainable use of ES/ biodiversity (CBD Article 10)
- iv) Providing and facilitating exchange of knowledge; capacity building and training to embed and enhance delivery of ES based approaches at National level, plus tools for their delivery (e.g. through PES schemes).

In relation to CMS and CITES, the protection of migratory species falls within the remit of some study areas and Plan Vivo proposals; hence contributions to realisation of this convention are also made through the above mechanisms. Dr Upton's desk based review of the IWC artificial nest scheme for Saker Falcon conservation, linked to trade under CITES and now suspended in Mongolia, will provide additional context in analysis of economic incentives for conservation.

Over the last 12 months, a number of meetings have been held with government officials, including at MNEGD, the host country focal point for key biodiversity conventions. These build on initial support for the project (evidenced by support letters included with the original application) and meetings in Year 1. In Year 2 on the most recent visit by Dr Upton in February 2014, further meetings/ project discussions were held with:

- J. Davaabaatar, Vice Director of Land Agency, Government of Mongolia (letter appended)
- Dr Binye, Director of Ministry of Industry and Agriculture, Government of Mongolia (letter signed by acting State Secretary, appended)
- Mr T. Banzragch, MNEGD (REDD Task Force; Director Department of Sustainable Development and Strategy Planning)/ D. Enkhbat, Government of Mongolia. Previously, meetings were held with Mr D. Batbold at this Ministry (Mongolia's focal point for key biodiversity Conventions). A joint support letter has been provided for the Ministry as a whole (appended).

5. Project support to poverty alleviation

The project is working to support poverty alleviation through pilot testing PES schemes (Plan Vivo), as an additional income source for herder groups/ *heseg*, and linked directly to conservation/ sustainable use of ES/ biodiversity. Expected beneficiaries of the work are participating project *heseg*/ herder groups and their constituent households. Through training and dissemination mechanisms, notably 'PES Ambassador Herders' (Activity 4.5; Ambassador Herders' to be identified and trained in Year 3), and training of government officials/ policy makers (also Activity 4.5), mechanisms have been put in place for knowledge transfer and the further replication of this approach, with due regard to any lessons learnt during the pilot phase. In addition, the identification and valuation of ES under Activities 1.1-1.5 is expected to contribute to the recognition and policy integration of wider notions of well-being amongst local/ indigenous populations. Thus both direct and indirect impacts are expected from this project. Income from Plan Vivo schemes is only scheduled to commence later in Year 3, thus evidence for actual impacts is not available for Year 2.

6. Monitoring, evaluation and lessons

Project progress continues to be monitored and evaluated against specific Activities, as set out in the original project implementation timetable, and in accordance with assigned responsibilities and detailed work packages and timelines, as explained in Section 2. These are in turn linked to the specific measurable indicators and means of verification for each Activity, all of which are tied to the overall project purpose, as explained above. As set out in the original project proposal, and included within these Activities, a variety of specific, technical monitoring activities are proposed for different aspects and at different stages of the project. These include i) monitoring against technical specifications for carbon sequestration; ii) monitoring against agreed suites of biodiversity and livelihood/ well-being indicators and participatory indicators (the latter developed with herders' groups) pre and post implementation of PES schemes. These enable clear tracking of progress towards project goals in terms of livelihoods, biodiversity conservation and PES efficacy/ implementation. In the case of i) they are also integral to validation of carbon sequestration and issuance of carbon certificates. Host country partners have been closely involved in all aspects of this monitoring e.g. through collaboration of Professor Jamsran (CES) with Plan Vivo/ Bioclimate and UOL staff in developing and agreeing technical specifications for i) and suite of biodiversity indicators for ii). MSRM staff, in conjunction with UOL and MAAS, will undertake monitoring and evaluation of training, as delivered to policy makers, student trainees and PES ambassador herders in Year 3. There have not been any changes to the basic M and E plan over the reporting period. Lessons learned from this year's work emphasise the importance of requiring partners to provide and disseminate regular progress updates against detailed workpackages and timelines.

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

As stated above and in the half year report, specific actions have been undertaken in response to the comment that ‘it is recommended that the project link more closely with an organisation that has strong technical expertise in conserving biodiversity in Mongolia.’

As agreed with Darwin Initiative we have therefore commissioned ZSL (working in conjunction with NUM) to undertake a desk-based study in the first instance, including specific comments on Plan Vivo proposals where these may impact wildlife, with the option of targeted wildlife surveys in late spring/ summer 2014.

The comments related to livestock economics in the Review did not require any specific actions as these are already covered within the project, as explained above (e.g. household account records, local data and statistics, in conjunction with the socio-economic survey).

Reviewers also commented on sustainability issues in relation to carbon markets and suggested that a risk assessment exercise could be conducted in relation to long term sustainability of PV activities. This will be incorporated in the PDD document, to be submitted to PV in Year 3. Risks will also be mitigated through exploration of possible alternative/ additional funding sources in the future, through evolving links with policy makers and in accordance with national conservation planning and commitments.

8. Other comments on progress not covered elsewhere

The design of the project has been enhanced through the incorporation of additional biodiversity expertise through ZSL, as set out above. The fourth site, Bogd soum, included in the project partway through Year 1, has now been fully incorporated into all Activities. Data analysis strategies in relation to development of models such as SOLVES, have been further refined, for example through ongoing repeated iterations of this model, which will in turn feed into IDRISI scenario building/ modelling, integration of all data sources and final ground truthing with herding communities in summer 2014. Difficulties encountered during the year include the illness of Professor Undarmaa in winter 2013/14, which temporarily delayed progress on some Activities, and also recurrent health problems of Dr Bradshaw, which slowed down some aspects of the analysis. These have been resolved, so no further action is needed. Some datasets from local administrations are still awaited. These are being followed up by MSRM now, as they are needed for parts of the modelling and final analysis of datasets. There are some risks in relation to the uptake of PV certificates through C markets, and speed of implementation of PV activities by *heseg*, as discussed above. Strategies for dealing with these risks are also discussed in Section 7.

9. Sustainability

The ongoing development of links with policy makers and CBD focal points has been critical for enhancing the sustainability and profile of the project. Evidence for interest in and support for the work is provided through letters appended and also through enthusiastic responses to the planned training workshop in November 2014. The affirmation of key priorities and needs for biodiversity conservation in the recently published 5th National Report emphasises the timeliness and importance of the project’s contributions. These will continue to be emphasised in meetings, trainings and discussions with government ministers and policy makers in Year 3, as part of Output 4. Associated indicators and means of verification will provide evidence of increasing interest in and capacity for biodiversity conservation associated with the project. As previously reported, the exit strategy for the project, designed to ensure its sustainability, is also closely linked to these training, capacity building and dissemination activities, through their focus on the key groups of i) government officials/ policy makers; ii) ‘Ambassador Herders’; iii) students at key host country academic institutions. The PES work through Plan Vivo (Activities 2.1-2.8) and evidence of its impact (Activities 3.1-3.7) is also designed to enhance sustainability, through herders’ groups themselves and also through government policy makers, in conjunction with the evidence presented from Activities 1.1-1.5. As part of the exit strategy, end of project workshops, briefings and consultations with policy makers will seek to agree specific mechanisms and strategies for government support in the future, based on the evidence obtained through the project for values

and trade-offs around ES, efficacy of PES schemes and contributions to key biodiversity commitments through conventions such as CBD. This approach will also serve to mitigate risks in relation to carbon markets (see Section 7, above). The pilot PES/ PV schemes being instituted during the current project are designed to continue beyond the Darwin project, with MSRM as the in-country coordinator. Support mechanisms to enhance this sustainability are included in the draft PDD (to be completed in Year 3), and must be judged robust by PV for the PDD to be approved.

10. Darwin Identity

Darwin identity is promoted through the project website, the Plan Vivo PIN and website, and through outputs/publications specified in Annex 3. It is also highlighted in all training events and meetings (e.g. with policy makers etc). It has been promoted through invited 'case study' presentations in Year 2, e.g. at the high profile UK NEA follow-on workshop on Cultural, Shared and Plural Values (spring 2014). This project has a clear Darwin identity and does not form part of a larger project. There is already some familiarity with and understanding of the Darwin Initiative in Mongolia, for example through the Steppe Forward Programme, which involved NUM and ZSL, both now collaborating as part of the current project. In Year 3 Darwin identity will be further highlighted through published articles, reports and training materials.

11. Project Expenditure

Table 1 project expenditure during the reporting period (1 April 2013 – 31 March 2014)

Project spend since last annual report	2013/14 Grant (£)	2013/14 Total actual Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
C. Upton (UOL)			0	
R. Bradshaw (UOL)			0	
D. Harper (UOL)			0	
GIS (UOL):				
C. Jarvis			0	
T. Shaviraachin (Researcher)			0	
N. Nyamaa (MSUA)			0	
D. Dorligsuren/ MSRM			5% (total staff budget)	
(D. Dulmaa/ D. Ichinkhorloo)				
J. Undarmaa (CES)			0	
B. Bayarmaa (MNPCM)			0	
ZSL			0	
Total			5%	Slight overspend by MSRM, agreed with UOL (<10% total staff costs). £1698 over. £850 covered through underspend against original consumables budget (<10%). Remainder to be recouped in Year 3.

Consultancy costs				
Overhead Costs				
Travel and subsistence				£287.81 over. Covered through underspend on consumables budget (<10% of consumables budget)
Operating Costs				
Capital items (see below)				
Others (see below)				
Consumables/ datasets				
Sample analysis for soil/ biomass carbon for Plan Vivo technical specification				
Total				£850 against staff overspend £287.81 against T and S overspend. Possible due to reported delay in provisions of some datasets. These will now be covered under Year 3 consumables budget.
TOTAL				

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

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2013-2014

Project summary	Measurable Indicators	Progress and Achievements April 2013 - March 2014	Actions required/planned for next period
<p>Goal/Impact</p> <p>Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.</p>		<p>Contributions to positive impact on biodiversity: To be measured and evaluated for case study/ PES sites under Activities 3.6 and 3.7 in Year 3 as scheduled, by comparison with baselines and indicators established under Activities 3.1, 3.2 and 3.4.</p> <p>Contributions to positive changes in conditions of human communities associated with biodiversity:</p> <p>Preparatory steps completed to provision of new income sources through sustainable resource use and conservation practices via pilot PES schemes (Plan Vivo <i>heseg</i>/ groups), and sale of associated tripartite certificates, in accordance with project schedule (Activities 2.3. 2.4). Full implementation scheduled for Year 3.</p> <p>Equitable sharing of costs and benefits is a key requirement for Plan Vivo projects.</p> <p>Above actions grounded in new evidence for and understanding of local values and practices around ES and biodiversity, which will</p>	

	inform enhanced planning both for conservation and livelihoods, via established links with MNEGD.		
<p>Purpose/Outcome</p> <p>To generate policy and practice relevant knowledge of values of ES in Mongolia and pastoral contributions therein and to test efficacy of PES schemes, in order to enhance biodiversity and livelihoods.</p>	<p>ES mapping and valuations in diverse ecological contexts, incorporating traditional knowledge and values, and linked to associated resource management/ conservation planning.</p> <p>PES schemes developed and implemented, including validation, issuance of certified carbon credits for voluntary market, distribution of benefits.</p> <p>Project methods, reports and datasets used/ cited in policy documents, resource management plans at diverse scales.</p>	<p>Linked to Activities 1.1-1.5. Completed in Year 2, with further in-depth analysis, refinement of models (e.g. SOLVES) and integration of datasets ongoing.</p> <p>Related to Activities 2.1-2.8 and 3.1-3.6. Activities 2.1, 2.2 and 2.3 (initial technical specification) have been completed (see below) and the Plan Vivo PIN has been officially approved and is being promoted through the PV website. Activities 3.1-3.4 have been completed (excepting additional work scheduled for ZSL in 2014), in accordance with project schedules (see below). Activities 3.5 & 3.6 scheduled for 2014.</p> <p>Linked primarily to Output 4 and reporting Activities under other Outputs (see below). Ongoing, through liaison with CBD/ CITES/ CMS focal points; national and local policymakers; plans for November 2014 training workshop/</p>	<p>Completion of additional analysis and modelling under Activity 1.5. Final adjustment and ground truthing of models, including IDRISI, through summer 2014 fieldwork. Feed into series of planned articles with project partners, linked to Activity 4.5.</p> <p>Obtain final PV approval of technical specification and Project Design Document as part of standard PV process; completion of Activities 2.4-2.8.</p> <p>Preparation and publication of articles (see above); training workshop/ conference for government officials, policymakers and key on- country academics (November 2014); local workshops/ seminars with PES ambassador herders, spring 2015; policy reports</p>

		conference.	and final meetings with national policy makers(Activity 4.5)
Output 1. Key ES at selected sites in contrasting ecological zones valued, with participation of local herding communities.	Economic/ non economic values for key ES at study sites produced; ranking and mapping of key ES completed; analysis of contributions re biodiversity, well being reported.	Progress towards this Output is on track, as evaluated against its component activities. Data collection and first round of analysis for this Output has been completed. Further development and refinement of models (e.g. SOLVES) and integration of multiple datasets is ongoing, and will enable final reporting in relation to this output. Indicators are appropriate	
Activity 1.1 Development and trialling of methodologies for non-economic valuation of ES		Completed Year 1	
Activity 1.2 Agree timetable, strategy and methodologies for valuation and mapping of ES with local communities		Completed Year 1	
Activity 1.3 Conduct spatial and social mapping of key ES with local communities and through collation and analysis of existing satellite/land use data (e.g. through GIS)		Completed at all study sites i.e. Ikh Tamir, Bogd, Undurshireet and Ulziit soums, with some 200 herder households, plus 10 herder group workshops.	
Activity 1.4 Conduct ranking and valuation of key ES with local communities and through collation and analysis of existing economic data, including through GIS mapping		Completed with the same herder households and groups as above. Field activities included conjoint analysis/ choice modelling; group-based deliberative approaches, participatory photography and video. Existing economic data for key ES also collated in each area and through discussion with local officials- some further data awaited.	
Activity 1.5 Analysis and reporting on dimensions and spatial distribution of values of key ES		Initial analysis undertaken. Specifically, construction and use of SOLVES database for spatial exploration and quantification of social values for ecosystem services .Final outputs from the model currently being checked and refined through repeated runs and iterations. On completion, these results of spatial analysis of ES and ES values will be integrated with parallel analysis of the nature, trends and rankings of ES, conjoint	

		analysis/ choice modelling exercises market values and visual methods, to provide a holistic assessment of ES and ES valuations. Final validation and ground truthing of these outputs will be undertaken during the summer 2014 fieldwork period.
Output 2. Pilot PES schemes developed and implemented at selected study sites, with participation of local herding communities.	Appropriate technical specifications for evaluation of scheme benefits agreed; schemes validated and agreed with herders' communities; appropriate PES management and monitoring practices implemented; certificates issued on voluntary carbon market, mechanisms for profit sharing implemented.	Progress towards this Output is on track, as evaluated against its component Activities. The initial technical specification has been drafted, for review and approval by Plan Vivo in Year 3, in accordance with the project implementation timetable. Validation of PES schemes, as proposed by participating herding communities, and through the Plan Vivo process, is underway, as evidenced by approval and registration of the Project Information Note (PIN) by Plan Vivo. There are no changes in assumptions or measurement of output indicators.
Activity 2.1 Development and trialling of methodologies for non-economic valuation of ES		Completed Year 1
Activity 2.2. Agree management, monitoring and land use/management rights and protocols for PES schemes, including record keeping, roles and responsibilities, distribution of benefits etc with herder groups (e.g. PUGs), government stakeholders and amongst project team		Majority of work completed in Year 1. Final follow up work by MSRM with PES/ Plan Vivo herder groups/ <i>heseg</i> in May 2013 and March 2014 to feed into Plan Vivo Project Design Document and Validation Report (Activity 2.5, due for completion by 30/6/14).
Activity 2.3. Develop technical specifications for validation of carbon sequestration and other community benefits		An initial technical specification has been developed, based on fieldwork, soil and vegetation analysis in summer 2013 and Year 1 of project. This is now to be reviewed, finalised and approved by Plan Vivo through PDD and Validation Report (Activity 2.5, scheduled for Year 3) and as part of the standard PV process.
Activity 2.4. Monitor activities and compliance, and report on basis of agreed technical specification (ongoing following scheme establishment)		Due for completion in Year 3, following Plan Vivo approval of PDD.
Activity 2.5. Obtain Plan Vivo approval of validation report and project registration for carbon-based PES schemes		Scheduled for Year 3, following Plan Vivo approval of PDD.

Activity 2.6. Issuance of first carbon certificates on voluntary carbon market	Scheduled for Year 3
Activity 2.7. Analysis and reporting for all PES schemes (project reports, community PES group reports and analysis)	Scheduled for Year 3
Activity 2.8. Further training and capacity building for PES groups as necessary	Scheduled for Year 3
Output 3. Assessment of contributions of PES to livelihoods & conservation in different ecological contexts.	Monitoring programmes completed using agreed technical specifications for evaluation of carbon benefits, and established and participatory biodiversity and well-being indicators. An initial technical specification has been developed, in preparation for submission to and approved by Plan Vivo through PDD and Validation Report (Activity 2.5, due for completion in Year 3). Baseline monitoring for livelihoods/ well-being and biodiversity/ ES status (Activities 3.3 and 3.4) has been completed, with the exception of the additional wildlife evaluations/ surveys by ZSL/ NUM. Work on the desk based aspect of this additional work package is ongoing. There are no changes in assumptions or measurement of output indicators.
Activity 3.1. Develop participatory indicators for livelihoods/ well being and key aspects of local biodiversity/ ES with local communities	Completed Year 2
Activity 3.2. Agree suite of appropriate, established livelihood and biodiversity indicators for study sites with project team	Completed Year 2 (see below)
Activity 3.3. Conduct analysis of livelihoods/ well being and contributions of key ES therein pre PES interventions, using established and participatory indicators	Completed: in-depth socio economic survey for all study sites (300+ herder households). Annual household account books also completed by selected households.
Activity 3.4. Conduct analysis of biodiversity/ ES status using established and participatory indicators pre PES interventions	Completed: Biodiversity indicators developed based on extensive rangeland vegetation surveys at all study sites. ZSL have been commissioned to provide further input on animal biodiversity. This will be completed in Year 3.

<p>Activity 3.5.</p> <p>Conduct analyses of livelihoods/ well being and contributions of PES scheme and key ES (post PES implementation) therein, using established and participatory indicators and against pre PES baseline</p>	<p>Scheduled for Year 3</p>	
<p>Activity 3.6</p> <p>Conduct analyses of contributions of PES scheme to biodiversity/ ES status using established and participatory indicators post PES interventions and against pre PES baseline.</p>	<p>Scheduled for Year 3</p>	
<p>Activity 3.7.</p> <p>Analysis and reporting (articles, project and community reports; government briefings)</p>	<p>Scheduled for Year 3</p>	
<p>Output 4.</p> <p>Education and capacity building of key stakeholders (government officials, local herders) in ES values, development, management and efficacy of PES schemes in Mongolian context.</p>	<p>Workshops/ training events at study sites and in Ulaanbaatar, including information exchange/ training by PES ambassadors from selected PUGs.</p> <p>Implementation of PES schemes</p> <p>Valuation of ES at study sites, including development of methodology for non-economic valuation.</p>	<p>Workshops/ training events under this Output not due in Year 2, but detailed planning is underway for Year 3.</p> <p>Progress towards implementations of PES schemes and valuation of ES is covered in reports on Outputs 1-3 and their component activities,</p>
<p>Activity 4.1</p> <p>(PES training with herder groups (see 2.1, 2.8 above)</p>	<p>(see above)</p>	
<p>Activity 4.2</p> <p>Liaison with and training of government officials (ongoing throughout project, policy briefing and end of project workshop)</p>	<p>Initial consultations undertaken in Year 1 and ongoing throughout the project, including with key CBD contact in country. Training is not scheduled until Year 3.</p>	
<p>Activity 4.3</p> <p>Training of PES ambassador herders (ongoing during final 12 months of project)</p>	<p>Scheduled for Year 3</p>	

<p>Activity 4.4</p> <p>Training of students/ future conservation managers through key academic institutions (development of lectures/training material & initial delivery during final year of project)</p>	<p>Scheduled for Year 3. Discussions are ongoing between UOL, MAAS and CES to ensure appropriate delivery in Year 3.</p>
<p>Activity 4.5</p> <p>Wider dissemination and communication of project results (articles, newspaper reports, conference presentations, local workshops/ seminars etc) including through PES ambassador herders. (Ongoing, 6 monthly, annual and final project reports – 6M, AR and FR respectively)</p>	<p>See Annex 3. Preparation and publication of majority of articles planned for Year 3, following final integration of results and ground truthing of models etc; training workshop/ conference for government officials, policymakers and key on- country academics planned for November 2014); local workshops/ seminars with PES ambassador herders, planned for spring 2015; policy reports and final meetings with national policy makers also planned for spring 2015.</p>

Annex 2 Project's full current logframe

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Goal: Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.</p>			
<p>Sub-Goal: Mongolia's ability to meet CBD commitments (especially under articles 8, 10, 11) and as highlighted in CBD 2011-2020 Strategic Plan for Biodiversity enhanced; also CITES/ CMS where study sites include habitats of key migratory species.</p>	<p>Development of incentive measures for sustainable use & biodiversity conservation (through ES valuation and PES schemes in study areas). Livelihood and conservation benefits realised in study areas, (assessed through appropriate established and participatory biodiversity indicators and human well-being).</p>	<p>Project reports and academic papers. Government policy documents, reports e.g. end of project NRCBD. Plan Vivo reports and certification. (as above)</p>	
<p>Purpose To generate policy and practice relevant knowledge of values of ES in Mongolia and pastoral contributions therein and to test efficacy of PES schemes, in order to enhance biodiversity and livelihoods.</p>	<p>ES mapping and valuations in diverse ecological contexts, incorporating traditional knowledge and values, and linked to associated resource management/ conservation planning. PES schemes developed and implemented, including</p>	<p>Project reports, academic papers, local resource management plans (e.g. for herders' Pasture User Groups), Government policy documents (re conservation, livelihoods), reports e.g. end of project NRCBD. Project reports on and management plans for PES</p>	<p>Government of Mongolia (e.g. through Ministry of Nature, Environment and Tourism [MNET]) continue to prioritise ES valuation and PES schemes in seeking to fulfil biodiversity (e.g. through CBD) obligations and livelihood goals. Buyers willing to purchase carbon credits in voluntary market.</p>

	<p>validation, issuance of certified carbon credits for voluntary market, distribution of benefits.</p> <p>Project methods, reports and datasets used/ cited in policy documents, resource management plans at diverse scales.</p>	<p>schemes. Certified carbon credits and evidence of marketing, income accrued e.g. through Plan Vivo. Government policy documents, reports e.g. end of project NRCBD.</p> <p>Project reports and academic papers. Government policy documents e.g. end of project NRCBD, PUG plans.</p>	<p>Herding communities (e.g. through Pasture User Groups) are willing to participate in ES valuation and PES schemes, and these are supported by local government administration at study sites.</p>
<p>Outputs (add or delete rows as necessary)</p> <p>1. Key ES at selected sites in contrasting ecological zones valued, with participation of local herding communities.</p>	<p>Economic/ non economic values for key ES at study sites produced; ranking and mapping of key ES completed; analysis of contributions re biodiversity, well being reported.</p>	<p>Project reports and articles (including participatory/ GIS maps)</p>	<p>Participation of local herding communities.</p> <p>Access to available resource maps, surveys, socio-economic and ecological datasets provided by government officials.</p>
<p>2. Pilot PES schemes developed and implemented at selected study sites, with participation of local herding communities.</p>	<p>Appropriate technical specifications for evaluation of scheme benefits agreed; schemes validated and agreed with herders' communities; appropriate PES management and monitoring practices implemented; certificates issued on voluntary carbon market, mechanisms for profit sharing implemented.</p>	<p>Project reports. Plan Vivo reports, lists of validated schemes and marketing of carbon certificates on website. Community management reports from PUG groups.</p>	<p>Local herding communities willing to participate and cooperate with each other and thus able to secure Plan Vivo validation.</p> <p>Continued support from local government officials for implementation of scheme, including continued support for tenure agreements with herders' groups.</p>

<p>3. Assessment of contributions of PES to livelihoods & conservation in different ecological contexts.</p>	<p>Monitoring programmes completed using agreed technical specifications for evaluation of carbon benefits, and established and participatory biodiversity and well-being indicators.</p>	<p>Project reports. Plan Vivo reports, Community management reports.</p>	<p>Appropriate and sufficient data available from external sources, in conjunction with project surveys and technical specification, to enable baseline, interim and end of project evaluations.</p>
<p>4. Education and capacity building of key stakeholders (government officials, local herders) in ES values, development, management and efficacy of PES schemes in Mongolian context.</p>	<p>Workshops/ training events at study sites and in Ulaanbaatar, including information exchange/ training by PES ambassadors from selected PUGs.</p> <p>Implementation of PES schemes</p> <p>Valuation of ES at study sites, including development of methodology for non-economic valuation.</p>	<p>Government policy documents, reports e.g. end of project NRCBD; government websites and media outlets; lectures at academic institutions; project reports; training event reports.</p>	<p>Continued engagement and support of government, herders and other stakeholders.</p>

Activities (details in workplan)

0.1 Project inception and start up meeting, Ulaanbaatar

0.2 Preliminary field visits for liaison and consultation with rural stakeholders and finalisation of case study sites

1.1 Development and trialling of methodologies for non-economic valuation of ES

1.2 Agree timetable, strategy and methodologies for valuation and mapping of ES with local communities

1.3 Conduct spatial and social mapping of key ES with local communities and through collation and analysis of existing satellite/land use data (e.g. through GIS)

1.4 Conduct ranking and valuation of key ES with local communities and through collation and analysis of existing economic data, including through GIS mapping

1.5 Analysis and reporting on dimensions and spatial distribution of values of key ES (articles, reports)

2.1 Undertake training needs analysis with prospective PES groups and institute necessary training

2.2 Agree management, monitoring and land use/management rights and protocols for PES schemes, including record keeping, roles and responsibilities, distribution of benefits etc with herder groups (e.g. PUGs), government stakeholders and amongst project team

2.3 Develop technical specifications for validation of carbon sequestration and other community benefits

2.4 Monitor activities and compliance

2.5 Obtain Plan Vivo approval of validation report and project registration for carbon-based PES schemes

2.6 Issuance of first carbon certificates on voluntary carbon market

2.7 Analysis and reporting for all PES schemes (project reports, community PES group reports and analysis)

2.8 Further training and capacity building for PES groups as necessary

3.1 Develop participatory indicators for livelihoods/ well being and key aspects of local biodiversity/ ES with local communities

3.2 Agree suite of appropriate, established livelihood and biodiversity indicators for study sites with project team

3.3 Conduct analysis of livelihoods/ well being and contributions of key ES therein pre PES interventions, using established and participatory indicators

3.4 Conduct analysis of biodiversity/ ES status using established and participatory indicators pre PES interventions

3.5 Conduct analysis of livelihoods/ well being and contributions of PES scheme and key ES (post PES implementation) therein, using established and participatory indicators and against pre PES baseline

3.6 Conduct analysis of contributions of PES scheme to biodiversity/ ES status using established and participatory indicators post PES interventions and against pre PES baseline.

3.7 Analysis and reporting (articles, project and community reports; government briefings)

4.1 PES training with herder groups (see 2.1, 2.8 above)

4.2 Liaison with and training of government officials (ongoing throughout project, policy briefing and end of project workshop)

4.3 Training of PES ambassador herders

4.4 Training of students/ future conservation managers through key academic institutions

4.5 Wider dissemination and communication of project results (articles, newspaper reports, conference presentations etc) including through PES ambassador herders

Annex 3 Standard Measures

Table 1 Project Standard Output Measures

Code No.	Description	Yr 1 Total	Yr 2 Total	Yr 3 Total	Total to date	Number planned for reporting period	Total planned during the project
Established codes							
4a	No. of undergraduate students to receive training (through MAAS and partner institutions)	0	0		0	0	100
4B	Number of training weeks to be provided	0	0		0	0	1
4C	Number of postgraduate students to receive training (through MAAS and partner institutions, see above)	0	0		0	0	50
4D	Number of training weeks to be provided	0	0		0	0	1
6A	Number of people to receive other forms of education/training (which does not fall into categories 1-5 above) (Further follow-up training of MSRM Plan Vivo herder groups, under Activity 2.2; same households as Year1, plus additional Bogd soum households)	106	50 (new Bogd hh)		156	50	200
6B	Number of training weeks to be provided (across various types and over duration of project, see above)	2	2		4	2	5
7	Number of (i.e. different types - not volume - of material produced) training materials to be produced for use by host country (video resources, maps, summary reports, posters/leaflets)	0	0		0	0	4
8	Number of weeks to be spent by UK project staff on project work in the host country	7	6		13	6	22
11A	Number of papers to be published in peer reviewed journals	0	0		0	0	6
11B	Number of papers to be submitted to peer reviewed journals	0	2		2	2	10
12A	Number of computer based databases to be established and handed over to host country (baseline socio-economic livelihood surveys; to be updated throughout the project and handed over completion;)	1	1 (existing socio-economic), plus SOLVES		2	1	2
14A	Number of conferences/seminars/workshops to be organised to present/disseminate findings	0	0		0	0	4
14B	Number of conferences/seminars/workshops attended at which findings from Darwin project work will be presented/ disseminated	4	1		5	1	10
15A	Number of national press releases in host country(ies)	0	0		0	0	2

15B	Number of local press releases in host country(ies)	0	0		0	0	3
15C	Number of national press releases in UK	0	0		0	0	1
16A	Number of newsletters to be produced (1 as article for Darwin newsletter; 1 annual newsletter, based on this annual report, in preparation for posting on project website)	2	1		3	1	6
17A	Number of dissemination networks to be established (project partners, PES herder groups, key policy makers, government institutions, academic bodies)	2	1		3	2	2
18C	Number of local TV programmes/features in host country(ies)	0	0		0	0	1
19A	Number of national radio interviews/features in host county(ies)	0	0		0	0	2
19C	Number of local radio interviews/features in host country(ies)	0	0		0	0	2
23	Value of resources raised from other sources (i.e. in addition to Darwin funding) for project work	40723	26335		67058		84893

Table 2 Publications

Type (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £
Journal	Upton, C. 2014. <i>Communities, Culture and Commodification: Mongolia's New Resource Politics.</i>	Inner Asia journal, Cambridge	(submitted. Copy available from author on request)	

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

This may include outputs of the project, but need not necessarily include all project documentation. For example, the abstract of a conference would be adequate, as would be a summary of a thesis rather than the full document. If we feel that reviewing the full document would be useful, we will contact you again to ask for it to be submitted.

It is important, however, that you include enough evidence of project achievement to allow reassurance that the project is continuing to work towards its objectives. Evidence can be provided in many formats (photos, copies of presentations/press releases/press cuttings, publications, minutes of meetings, reports, questionnaires, reports etc) and you should ensure you include some of these materials to support the annual report text.

Submitted separately in hard copy format

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	x
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	x (as hard copies)
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.	x
Have you involved your partners in preparation of the report and named the main contributors	x
Have you completed the Project Expenditure table fully?	x
Do not include claim forms or other communications with this report.	