Darwin Initiative: Final Report

Darwin Project Information

Project reference	24-024
Project title	Integrating Biodiversity & Elephants into Peace & Development
Country(ies)	Myanmar (Burma)
Lead organisation	Elephant Family (EF)
Partner institution(s)	Compass Films (CF) Grow Back for Posterity – Myanmar (GBP) WCS Myanmar (WCS)
Darwin grant value	£ 345,888
Start/end dates of project	1 April 2017 - 31 March 2020
Project leader's name	Belinda Stewart-Cox
Project website/blog/social media	http://elephant-family.org/what-we-do/where-we-work/myanmar-burma/biodiversity-and-elephants
Report author(s) and date	Belinda Stewart-Cox, Alex Diment, Klaus Reisinger, Aung Myo Chit, Aimee Faunt; Megan Stannard – August 2020 (Covid delays)

1. Project Summary

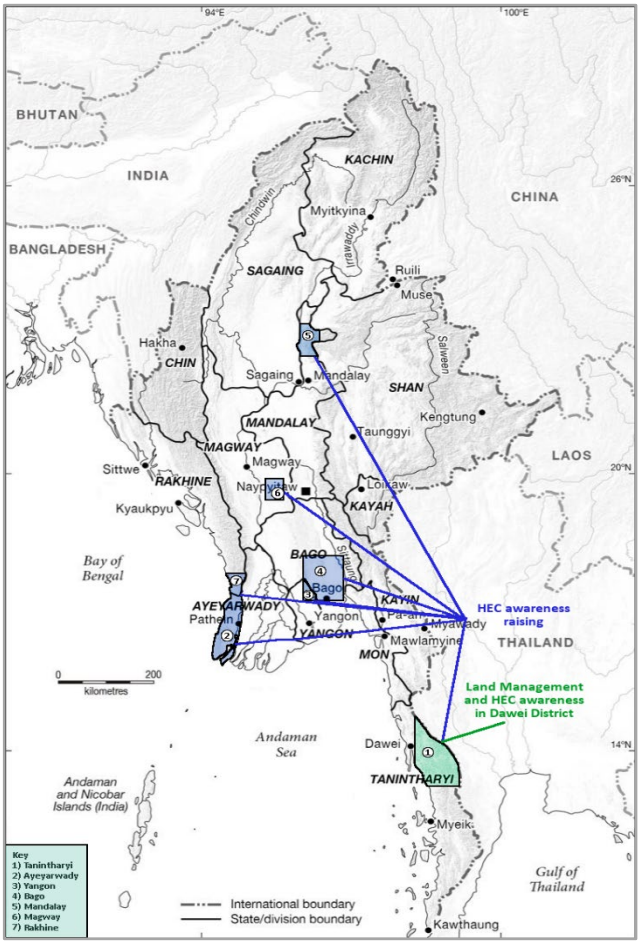
Project location: description & map

The project covered seven operational areas of varying sizes, six focusing on human-elephant conflict mitigation (GBP's work), one focusing on community land-use mapping and management planning with HEC mitigation preparedness (WCS's work):

(i) The six areas targeted by GBP (two more areas than originally proposed) were in central Myanmar, north and southwest of Yangon. The original target areas were numbers 2-5 (parts of Ayeyarwady, Yangon, Bago, and Mandalay provinces) but the HEC awareness work was extended into areas 6+7 (Magway and southern Rakhine) at the Forest Department's request following several incidents of HEC in those areas.

(ii) The WCS target area was in Tanintharyi province of SE Myanmar, between Dawei and the border with Thailand. The eastern stretch of Tanintharyi is controlled by the pro-autonomy Karen National Union rather than by the central government.

In each area, the project focused on villages in different districts, locally known as townships.



The problem

Over 70% of Myanmar's population live in rural areas and depend on natural resources for subsistence - timber as well as non-timber forest products. With widespread poverty, lack of secure land tenure and little control over natural resources, the country faces significant barriers to maintaining a healthy ecosystem and food security.

The extent of this challenge is underpinned by research which documented accelerating forest loss and serious declines in endangered species distribution, including wild elephants which had reduced from 10,000 in the 1960s to under 2,000 by 2004. Deforestation is cited as the primary driver of that decline (Songer et al. 2016[1]), exacerbating a situation in which elephant populations were used to roaming outside protected areas (Leimgruber et al. 2011[2]).

The result was a growing problem of human-elephant conflict (actual in central Myanmar, anticipated in S.E. Myanmar) and the likelihood of that conflict escalating as a result of persistent habitat loss.

When a ceasefire was agreed in 2015 and Myanmar embarked on peace negotiations with its ethnic minorities, it became clear that the lack of land-use planning was causing widespread habitat loss and fragmentation as a result of development activities such as dams, reservoirs, commercial agriculture and the relocation of farmers into forestland and thus into elephant ranges. In 2016, around 160,000 Karen refugees living in Thailand were expected to return to Myanmar's southern peninsular, and many of them were likely to settle along the proposed new trade route from Kanchanaburi to Dawei. With no experience of coexisting with elephants, this would likely have caused a rapid escalation in the number and intensity of conflicts, making farmers feel vulnerable and hostile towards elephants. The result would have been ever more human and elephant deaths.

The biodiversity challenge

This project aimed to curb the loss of elephant habitat in Myanmar and the diminished connectivity within elephant rangelands. As well as reducing overall biodiversity, those two factors also exacerbate human-elephant conflict (HEC) which causes elephants to be killed in retaliation, either by villagers or by poachers aided by villagers, in turn escalating the conflict and habitat loss.

The poverty challenge

Poverty in Myanmar's rural areas is exacerbated by chronic forest loss and the ecological deficiency and human-elephant conflict it causes. This project addressed the latter challenge using two approaches to empower people: education and participatory land-use planning.

The relevance of these challenges

The challenges were identified by the project partners who have worked in Myanmar for decades addressing conservation problems with rural communities along with the human welfare and development issues associated with them.

These challenges are relevant to wild elephants and to the people living alongside them. They are also relevant to the government agencies, particularly those under the Ministry of Natural Resources and Environmental Conservation, that are trying to address them. Relevant laws and policies are being formulated or revised in Myanmar now that it has emerged from the political and economic doldrums of 1962-1990. These instruments include laws governing land use, including the community forest law and a community conservation area law, which need input from the 'frontline' to ensure that effective protocols are adopted. Others include measures to mitigate human-elephant conflict. Both directly and indirectly, this project has helped, and will continue to help, in the formulation of legal instruments that reduce the loss of forest, human and elephant lives and livelihoods.

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[1] Songer, Melissa, et al. "Drivers of Change in Myanmar's Wild Elephant Distribution" *Tropical Conservation Science* Oct-Dec 2016: 1–10

[2] Leimgruber, Peter, et al. "Current status of Asian elephants in Myanmar." *Gajah 35* (2011): 76-86.

How the project addressed these challenges

The project design had two main components. The land-use planning one worked with communities in south-eastern Myanmar to map traditional forest-use zones and then develop land-use plans that could be registered under the community forestry law, thus securing land stewardship rights which are precursors to the full community conservation area (CCA) rights that will be possible once the CCA law is passed. The educational component worked with schools and communities in every target area to raise awareness of elephant behaviour and needs, and ways to minimise dangerous interactions.

2. Project Partnerships

The strategy to create the project's collaborative partnership was proposed by Elephant Family in 2015 when its then Head of Conservation met the in-country partners at the first Myanmar Elephant Conservation Action Plan workshop and learned of the challenges each of them faced in tackling the problems this project aimed to address. Because Elephant Family had no prior experience of working in Myanmar, this partnership was necessarily responsive and participatory from the outset and has remained so throughout implementation, with full partner involvement (emails, phone messages, direct calls) at every stage of project planning, evaluations, and report writing, including this report. The implementing partners all submit half-yearly and yearly reports to Elephant Family, which respond to the project log-frame and EF's own reporting needs for Darwin. In March 2020, EF's project leader and the independent M&E consultant spent 5-days with the country partners assessing progress made by the project and beginning the drafting of this final report.

Elephant Family has facilitated more in-country collaboration than existed previously between the partners. Before joining forces for this project, GBP/Compass Films and WCS-Myanmar worked in separate areas and on distinct, only partially overlapping, project activities. They had little operational connection or need for communication. In Yr1 of the project, GBP/CF gave information and on-site training to the WCS field team, sharing their methods and materials for teaching villagers of all ages about elephants/avoiding conflict. In turn, WCS shared its elephant/HEC educational materials with GBP. Thereafter there was little need for direct contact between the partners as each implemented its activities in different areas, except during Elephant Family's annual evaluation visit to Myanmar when project progress and issues were discussed.

Contacts between the implementing partners and government agents at local, regional and higher levels have been developed over the course of the project. Initially, members of the Forest Department (FD), its Wildlife Conservation Division (WCD), and representatives of the Ministries of Education (ME) and Religious Affairs & Culture (MRAC) attended GBP/CF's educational workshops to find out what they were up to, but very quickly recognised their value. Now conservation officials, teachers, school heads, monks and community leaders have become significant aides to project planning and implementation and, more importantly, to project continuity in future. Moreover, it is thanks to these relationships and the trust they engender that villagers now regularly report the appearance of strangers thought to be poaching to GBP and/or the government authorities.

The same is true in S.E.Myanmar where WCS has worked closely with members of the Tanintharyi Reserve (TR), Karen National Union (KNU), target communities and local CSOs, training, planning, consulting. Consequently, many personnel in those organisations now implement project activities (e.g. mapping and participatory land-use planning) on their own, contacting WCS only for advice. This is gratifying, as well as operationally essential, as some areas of KNU-controlled eastern Tanintharyi are too sensitive for WCS to access directly.

One challenge faced by both in-country partners is the regular transfer of local government officials to new postings which means forging new relationships with the replacements. However, this turnover can also be advantageous when highly supportive officials are promoted to key positions in the regional or national offices. The opportunity this presents has helped GBP/CF promote its Human Elephant Peace (H.EL.P) programme at higher levels which, in turn, prompted a request to provide materials for permanent exhibits at the new Elephant Museum in Yangon and, in 2020, helped GBP acquire the coveted status of a National NGO. Likewise, WCS has been able to improve the Community Forest Act and the imminent Community Conservation Area Act thanks to its established relationships with senior officials in the ministry who used to work in Tanintharyi.

The partnerships with Burmese officials were initially established by the in-country teams as a necessary part of project implementation, but they have now developed into a 2-way relationship in which government agents are as likely to make demands on them as vice versa. Collaboration between the in-country partners will continue when the need arises but, apart from exchanging news at national meetings or sharing an occasional beer, their separate project areas are unlikely to lead to lasting direct engagement with each other unless we, or they, propose another joint venture that needs the combination of their respective skill sets and interests.

3. Project Achievements

3.1 Outputs

The project achieved all but two (3.4 and 3.5) of its intended targets, and for 15/23 indicators, it exceeded its targets (noted in Annex 2).

Output 1: *Families across the Tanintharyi target area (5,400) are empowered and knowledgeable about bottom-up land use management processes that incorporate ecosystem functionality and local land use needs under current development and likely future impacts*.

0.1: *Inception meeting*: This was held on 14 Feb 2018 in Q4 of the project's first year, not in Q1 as planned. It was delayed, in part, so that all partners could attend the 2-day Myanmar Elephant Conservation Action Plan workshop hosted by the Forest Department. Repurposed as an M&E review, the meeting proved beneficial as it meant that in-country partners, who by then had 10-months of implementation experience, knew which elements of the logframe, especially some indicators, were not practical. See meeting agenda, Annex 7.1.

1.1: *Community capacity to develop maps and plans*: 71 villages (*8,449 families, 44,628 people*) were enabled in this way, so the target of 5,400 families in 40 villages gaining access to information and support by the end of Yr2 was exceeded by 64%. See Annex 7.x p.5 for map with names of villages)

1.2: *Three township planning exercises foreseeing growth or settlements*: This target was reached for the townships of Yebyu, Thayetchaung, and Dawei, involving 33 villages and 260,415 hectares, but not until the end of Yr3 (the aim was to finish by end Yr2). Annex 7 Appendices 8 and 9.

1.3: *Identifying high conservation value hotspots*: The target was at least 8 hotspots identified by end Yr3, but in fact 11 were identified using a combination of camera trap surveys and interviews in 28 villages, a few of them in the broader Key Biodiversity Area designation that covers all of Tanintharyi. Data on forest intactness and connectivity were incorporated into these assessments and shared with national (LOCA) and global tools (www.forestintegrity.com) measuring forest status (maps Annex 7.10 p9-10). Government, communities, and non-specialist staff are benefitting from the online tools that WCS developed, including Intact Forest and Forest Connectivity Tools. These tools, together with easier access to satellite imagery, have greatly simplified access to available data.

1.4: *Identifying & measuring biodiversity indicators for monitoring ecosystem function*: This indicator had no numerical target or time-frame, but two measures were identified as the most useful – habitat integrity and deforestation – with baselines set in Yr1. In Yr1, WCS used the bespoke tool (LOCA) to access satellite monitoring and deforestation data (see http://myanmar-geotools.appspot.com). In Yr2 this tool was developed and piloted for data monitoring. By Yr3, it was being used by local stakeholders and by government agencies. Annex 7.11a + 11b shows how this tool can be used for forest assessments, to identify intact or fragmented forest, connectivity issues, and land-use/land-cover changes over time. WCS added climate change parameters to the portal for stakeholders to run climate models of their own areas.

1.5: *Project learning incorporated into national & regional policy frameworks by end Yr3*: Best practice findings were incorporated into Rules developed for the Conservation of Biodiversity & Protected Areas Law, an exciting revision of the legal framework for biodiversity conservation which includes a new provision for Community Conservation Areas. Lessons learned about participatory land-use planning and community forestry were fed into this law via diverse consultations. Post-project, WCS will continue to support implementation of the new Rules and a new pilot CCA in Dawei District of Southeast Myanmar. See draft of the law, the rules and a meeting record Annex 7.20, 20b + 20c.

<u>Output 2</u>: Spatial plans completed and adopted in villages in the Tanintharyi target area based upon existing knowledge of important wildlife corridors and economically productive zones and available as examples and learning tools for other regions in Myanmar & other Asian countries.

2.1: *Community spatial plans*: By end Yr2, 63 spatial plans were created, exceeding the 19 proposed, and these included 10 new ones at village-level (as opposed to community-level which usually means a cluster of villages or hamlets). These plans cover over 270,000 hectares of community land. All the plans were created using local community knowledge with input from government and civil society organisations, and they were assessed using HEC data and projections to minimise human-elephant conflict in future. Details Annex 7.12.

2.2: *Improving 50% of villagers sense of wellbeing or economic opportunity by end Yr3*: This was to be assessed based on villagers' access to and knowledge of productive zones. Baseline data were collected from sample villages in Yrs 1+2 and Yr3's comparative survey was planned for March 2020 but could not be done because fieldwork was suspended and WCS office closed 17 March because of COVID. However, the WCS team is certain from their observations and from conversations with villagers that they do feel a notably improved sense of wellbeing resulting from a surer sense of land security.

2.3: *Official recognition of community land management plans*: The aim was to have at least nine plans officially recognised at local and regional level by end Yr2. Seventeen communities have been helped to prepare community forest plans: seven CFs had been certified by March 2020, ten have been submitted for certification, three are finalising their plans for submission (total =20). So, the target has been exceeded but not by end Yr2 (Annex 7.16 for list of villages involved and 16a for map).

2.4: *Community spatial plans distributed to other regions*: The target of 19 plans distributed was achieved by end Yr2 as proposed. Copies of the plans were given to the communities involved as well as online to government through the OneMap project (https://portal.onemapmyanmar.info) but you need to be approved and given a login code to access. There is an overview of this data-sharing initiative at https://www.cde.unibe.ch/research/projects/onemap_myanmar/index_eng.html. WCS did mapping with local/national groups, including Landcore Group, Tanintharyi River Indigenous People Network (Trip-Net), Mekong Region Land Governance (MRLG) and KNU, and involved the regional government. With the Land Core Group, it worked on legislative reforms for the "Indigenous Community Conservation Areas" law – known as ICCAs in global parlance but Community Protected Areas (CPAs) in Myanmar. Another WCS partner, Landesa, is now using this model to map natural resources throughout Tanintharyi.

2.5: *Four learning events show-casing the bottom-up planning approach to decision-makers in Myanmar and other Asian countries*: Presentations were given at six events including a TNRP land-use training course in Tanintharyi; a spatial planning training course at the government Forestry Training Centre as well as to EIA officials, both held in Yangon for trainees from around the country; and to 36 participants at a land tenure research forum in Tanintharyi Region, led by GRET (Professionals for Fair Development), and attended by groups from KNU-held areas (Palaw, HteeKee, and Ban Chaung). Similar presentations were also made to the 2019 ICCB meeting in Kuala Lumpur and to officials in Cambodia (twice) and Laos. This total of 10 exceeded the target. See Annex 7.17 (ICCB poster) and 7.19 (WCS trip report).

<u>Output 3</u>: Important areas of connected habitat for elephants and for biodiversity intactness are identified, as are conflict hotspots in relevant villages such that HEC can be mitigated and avoided.

3.1: *At least 30 elephant corridors identified with local knowledge by end Yr3*. Working with the TNRP where relevant, data were collected from 5-7 informants per village by end Yr2 and three major corridors were identified comprising many smaller ones. The likely movements of elephants were also mapped during Yrs 2+3 using ad-hoc interviews with 2-5 informants per village during the land-use planning and HEC outreach visits (see maps in Annex 7.10, p.11-13). This approach was expanded to the Rakhine Yoma Elephant Range (a WCS project area in western Myanmar) using the match-funds committed by Elephant Family but not needed in Tanintharyi (see Annex 7.3a+3b, the WCS report to EF).

3.2: *Three HEC hotspots identified and targeted for mitigation actions by end Yr2.* With information provided by villagers, as well as predictive models using climate, topography, and landscape data, several likely HEC hotspots were identified and mapped in Yr2 and presented to local communities for discussion. From those, four hotspots were confirmed around 15 key villages. Annex 7.10 p14-17 for maps and photos. Mitigations actions have been agreed but not yet implemented as they are not currently needed.

3.3: *>50% of village target groups feel they have source of knowledge about elephant corridor movements and HEC hotspots*. In Yrs1+Yr2, baseline data was collected in 10 target villages. Findings from the comparative survey, done in Yr3, show that 89% of village target groups feel more aware about elephant movements and likely HEC hotspots in their area i.e. the target was exceeded by 30^{+}%. (Annex 7.14b).

3.4: *75% of village target groups have more predictive knowledge about elephant use of corridors and HEC mitigation techniques to protect crops & property*: In Yr1, baseline surveys were done in 6 villages. In Yr2, HEC mitigation training was given in 24 villages (936 adults, 1,062 students, 587 children) and in Yr3, a comparative survey was done with the Yr1 respondents in six villages. Analysis of findings revealed that 87% of respondents felt confident about predicting and mitigating HEC (Annex 7.13). However, few people have any experience of HEC because, after years of capture for the live trade to Thailand, elephant numbers are low in Tanintharyi.

3.5: *>30% reduction in human deaths by end Yr3*. This target was unattainable because the baseline figure of 95 came from government nationwide data and included mahouts killed by captive elephants. WCS compiled data from local media to get a new baseline but these proved unreliable. In Yr1, one death was reported in the target area, none in Yr2. National media recorded 8 deaths nationwide, including one in RYER prior to WCS starting its project there. See Annex 7.10 p.14-17 for media reports).

3.6: *At least 3 local civil society groups trained as facilitators in HEC awareness and PLM*. In Yr1, WCS trained two CSO groups (Takapaw + Covenant) in PLM facilitation skills at the KNU liaison office in Dawei, and another five (TRIPNet, GRET, RKIPN, RECOFTC and KWCI) in Yr2. With a total of seven CSOs, the target was exceeded by over 60%. WCS also held a 1-day training workshop in HEC-awareness for 22 rangers and staff from Tanintharyi Nature Reserve, Dawei University's Geography Department, KFD and NMSP (Karen and Mon separatist organisations). See Annex 7.2 p.22 for photos of the EF team meeting these CSOs.

<u>Output 4</u>: Forty village representatives are empowered in HEC mitigation in Tanintharyi and awareness about HEC is created across all 190 villages in five areas (Tanintharyi, Ayeyarwady, Yangon, Bago, Mandalay) such that vulnerable groups are able to co-exist peacefully with elephants and have the facility to mitigate elephant encounters.

4.1: *Print material and video broadcasts provided to 190 villages about coping strategies for HECx*: By end Yr3, HEC education materials (print & video) had been distributed to 241 villages (185 in central Myanmar, 58 schools & villages in southeast Myanmar). In central Myanmar, recipient villagers numbered 33,216, of whom 16,308 were students (7,976 boys, 8,332 girls) and 8,668 were adult women. In north Tanintharyi, 1,062 students at 25 schools (435 boys, 627 girls) received HEC educational materials as well as another 1,523 adults in 24 of those villages (593 women plus another 587 children of whom 349 were girls). Annex 7.6 p.6 for GBP M&E report and 7.14, 14a and 14b for WCS assessment of participant villages and schools.

During the lifetime of this project, GBP's HEC awareness programme distributed 54,500 DVDs, 60,200 booklets, 26,000 board games, and 4,000 (Annex 7.6 p.8). During the same period, around 1,000 HEC educational kits were distributed by WCS and some separate DVDs (Annex 7.15a). For use in Karen villages, WCS translated the H.EL.P education kits into the Karen language and made 200 copies for distribution. One thousand additional kits were printed for FFI's education team to distribute in 18 of its target villages in southern Tanintharyi and to use in its education centre.

This indicator is a reasonable measure of the information shared to facilitate human-elephant coexistence but its number of target individuals (96,000) was based on a calculation that the education programme would *directly* reach 8,000 people a year (i.e. 24,000 people) and those people would share the materials with another four people, i.e. 96,000 people would be reached directly *and* indirectly. In fact, GBP found that recipients share their materials with around five others so the total reach is more like 166,080 people, of whom at least 45% (75,000) are likely to be female (women or girls).

4.2: *Forty Tanintharyi village communities knowledgeable of HEC mitigation:* By end Yr3, 30 schools and 24 villages in the WCS target area of north Tanintharyi plus 18 villages in FFI's south Tanintharyi target area had learned HEC mitigation methods. There is a slight mismatch between this indicator and its activity in that the indicator refers to the WCS target communities in SE Myanmar but the activity was to train the WCS <u>&</u> GBP educational teams and the latter works in central Myanmar. In Yr1, GBP trained the WCS team in its H.EL.P methods, and in Yr2 it trained the FFI team (not originally planned for this project).

4.3: *At least 30% of village representatives communicate with GBP's H.EL.P team about HEC or poaching*: As noted under 6.1 below, this indicator was modified at the end of Yr2 because the original indicator was difficult to interpret as it appeared to combine the number of HEC incidents with the level of engagement by communities So, if there were few incidents of HEC, the percentage would be low and it would not have been possible to attain the proposed '75% target of village representatives being regularly consulted and called upon to act with HEC methods'. Over the years, GBP received 119 calls from village representatives (Yr1=18, Yr2=34, Yr3=67). This is over 64% of the total number of 185 villages that participated in the H.EL.P programme (Annex 7.6). The precise reason for each call is not recorded although they all had to do with elephants, HEC or suspected poaching, but a doubling in the number of unsolicited calls received by GBP reflects village leaders' growing trust in the GBP team over the project period. This is as good an indicator as any of the development of that important relationship.

4.4: *>70% of families in target villages use methods learnt from the HEC materials*: This was evaluated by sending questions by text to village leaders and then calling them for feedback. The findings show that 90% of families in the target communities know how to use the methods learned from the HEC avoidance training (GBP's M&E report Annex 7.6). This indicator is awkward as the project was designed to assess knowledge acquired rather than knowledge used. The latter depends on families experiencing HEC and thus needing to use the safety methods learned. Many did not need to use them.

4.5: *At least 50% reduction in property damage from elephants across target groups:* This is also an awkward indicator as the project never planned to measure property damage and therefore had no activity in place to do so even though the HEC educational workshops did explain ways to protect food stores (store grain away from houses in family or community towers) and fields (solar-powered electric fencing). However, after discussions with the M&E consultant who visited the project in Feb 2019 (Annex 7.2), GBP conducted a telephone survey of village leaders in Yr3 to get feedback (Annex 7.6). There is no data for Yr1, but in Yr2, 34 households had property damaged and around 340 acres of crops were lost. In Yr3, the numbers decreased to 22 households with property damage and 300 acres of crops lost. These figures are only indicative and did not achieve the target of a 50% reduction, but they did decrease and, as a result, village leaders are confident that the HEC training is worthwhile.

4.6: *At least 30% reduction in human deaths*: As with 3.5 above, the original baseline for this indicator (35) was calculated from national figures which included mahout deaths by captive elephants. So, in Yr2, local reports were compiled to use instead. In Yr1, the number of human deaths in GBP's target areas of central Myanmar was 5. In Yr2, it was 3, in Yr3 there were no human deaths (Annex 7.6). Numbers are small, but this project was largely about preventing a problem that was either beginning to happen (HEC) or was anticipated (forest clearance, the loss of connectivity in Tanintharyi). The indicator is OK provided accurate data can be acquired on the number of deaths in the target area.

4.7: *> 50% increased wellbeing and positive attitudes towards HECx*: Advised by EF's M&E specialist, this indicator was revised to use levels of engagement as a proxy indicator for positive attitudes and improved wellbeing as this could be assessed using existing surveys conducted before-&-after outreach events to measure knowledge of elephants and use of HEC methods. In Yr1, 80% of participants knew about HEC safety measures, but their knowledge of elephants increased from 65% to 75%. However, during the M&E review at the inception workshop, the partners realised that questions asked in Yr1 were 'leading' and therefore weak, so they were strengthened. Yr2 surveys (Annex 7.6) suggest that participants' HEC safety knowledge increased from 60% to 80%, and their elephant knowledge from 65% to 83%. In Yr3, the increase was 48% to 90% in HEC safety measures and 50% to 80% in elephant knowledge, the highest increase. Overall, a growing number of participants said they had acquired the knowledge of elephants and HEC safety methods needed to stay safe and this confidence is assumed to translate into a greater sense of wellbeing and more positive attitudes towards elephants. This proxy indicator is not ideal, but wellbeing and attitudes are notoriously tricky to measure and quantify at all simply.

Outcome

Intended outcome (unchanged): Land is managed sustainably and incorporates local knowledge and technical expertise, in five areas of high biodiversity and elephant conflict in Myanmar, anticipating human migration and serving as national examples.

Indicator 0.1: *Spatial plans from 40 villages available in draft form and plans incorporated in regional government planning processes by 2020*

Spatial plans are available for 63 villages with plans embedded into local and regional government decision-making (see Outputs 1.1, 2.1 and 2.3 above and the landscape maps Annex 7.8+9).

Indicator 0.2: Twenty-one local villages are consulted, including a proportionally representative number of women, and are actively engaged in development planning by 2018.

Thirty-three village level fully participatory consultations were completed during the project period in three townships (see Output 1.2) and are online. Also 655 people (32% of them women) representing at least 235 villages participated in consultations for the Regional Environmental Plan (still in prep, see https://www.facebook.com/pages/category/Environmental-Conservation-Organization/Tanintharyi-Region-ECD-246350175915284/.

Indicator 0.3: Technical experts/community trackers provide evidence and mapping of forest cover and species-use of landscapes, especially elephants by 2020.

The collection, analysis and mapping of data provided by informed representatives from relevant communities was achieved by end Yr2 (Outputs 1.3 + 1.4 above). Maps of forest cover and HEC incidents and associated photographs available in the WCS PowerPoint Annex 7.10).

Indicator 0.4: Consultations with regional/national government reps on refugee resettlement by 2019.

This outcome indicator has been achieved even though fewer Karen refugees returned from Thailand than anticipated (largely because the economic incentive of Dawei's industrial site and the associated highway have not yet been built). Nevertheless, meetings were held with the New Mon State Party (NMSP), Border Coalition, KNU and its affiliated CSOs. As well as discussing the livelihood implications of returning refugees, these meetings also covered the region's Key Biodiversity Area designation. Meeting attendance records, minutes and photographs are with WCS (their reports to government) with references made on https://progressivevoicemyanmar.org/2019/08/30/between-a-rock-and-a-hard-place-the-struggle-of-returning-refugees-to-resettle-their-lands-in-ye-phyu-township/).

Indicator 0.5: HEC awareness is raised for 75% of families interviewed compared to 2017 baselines.
HEC awareness has been raised in the Tanintharyi target area by over 85% (see Outputs 3.3 + 3.4 above). In the target areas of south-central Myanmar (in six regions rather than the four proposed), HEC awareness has been raised by up to 90% (4.4 above). Villagers have also helped reduce elephant deaths as well as HEC (evidenced by the increase in calls to the GBP and/or the authorities) and the consequent arrest of poachers (output 4.3 above). See Annex 7.6, and Annex 7.x13.

Outcome Assumptions

Overall, the assumptions associated with this project held true, particularly at the level of outcome. An assumption for Output 1 (that the KNU government would continue to allow project activities in KNU-controlled areas) was undermined but this was anticipated as a potential risk, though it was not possible to identify in advance which villages would be affected. The WCS project team resolved these difficulties by working with proxy organisations based in the villages that were off-limits, training Karen trainers who then went to the KNU areas to carry out the proposed activities. A second approach was to work with village leaders who could travel out of the KNU areas to participate in land-use planning and other training workshops. This worked well as an alternative strategy, achieving an extra level of capacity building and empowerment.

Contribution to Impact

The longer-term impact this project aimed to help was: Forest habitats in Myanmar are sustainably managed to increase ecosystem function, improve local livelihoods and minimise biodiversity-loss while preventing human-wildlife conflict and incorporating use of landscapes by wildlife.

It is fair to conclude that this project has made a positive contribution towards that impact

- Project products (mapping tools, outreach materials) are being used by government agencies and target communities to improve forest management and safeguard the livelihoods of over 44,000 people in 71 communities (see Output 1.1 above) while also helping to secure over 270,000 hectares of community forest (Output 2.1).
- The project approaches (participatory land use/land management planning and facilitating human-elephant coexistence through the H.EL.P programme) are being replicated elsewhere in Myanmar, evidenced by WCS' new project in Rakhine Yoma (Annex 7.3a+b) and EF's new DI project (27-012).
- Project analysis has contributed to a national Forest Management tool (http://myanmar-geotools.appspot.com/), a global forest integrity assessment (https://www.forestintegrity.com/); and official endorsement of the H.EL.P approach to human-elephant conflict mitigation.
- Government departments continue to engage with spatial planning processes in Tanintharyi and other regions, and the momentum developed by this project's spatial planning and HEC mitigation methods has led to new initiatives such as a the 'Ridge to Reef Conservation' project funded by AFD and the 'Safeguarding Lives and Livelihoods' project funded by Darwin (27-012).
- This project has also had a positive impact on legislative reform, with lessons learned being used to strengthen the biodiversity laws, including adding the new category of Community Conservation Area, and the penalty for killing an elephant being increased from seven to ten years.
- The communications achievements of this project, including the repeated TV broadcasts of the H.EL.P educational videos about elephants and HEC, and their inclusion in the National Elephant Museum, have greatly increased the awareness nationwide of the threats facing elephants and farmers alike. This publicity, coupled with regular presentations about the H.EL. P project made to senior levels of government, has also raised the levels of awareness among senior decision-makers.

4. Contribution to Darwin Initiative Programme Objectives

4.1 Contribution to Global Goals for Sustainable Development (SDGs)

This project is facilitating participatory land use planning, allowing communities to use their natural resources sustainably as well as set aside conservation areas. It is also facilitating human-elephant coexistence to reduce elephants being killed by poachers of in retaliation for human-elephant conflict, especially crop-raiding. These impacts contribute to 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'.

4.2 Project support to Conventions or Treaties (eg. CBD, Nagoya Protocol, CITES etc)

Outputs 1+2 support Action 2.2.1 of Myanmar's National Biodiversity Strategy and Action Plan (NBSAP): "work with at least two states or regions to incorporate biodiversity into integrated land use plans". WCS works to ensure that traditional practices and natural values are recognised and built into a long-term, sustainable approach to land use. Raising awareness of the importance of elephants to forests and their watersheds, as well as their behaviour and ecology, is vital if elephants are to be valued ecologically and culturally in Myanmar. These messages are incorporated into the WCS and GBP education programmes.

Outputs 2+3 support Action 12.1.3 of the CBD: to "integrate the conservation of wide-ranging species … into local, regional and national landscape planning". Although the project's primary focus is to create a framework for land-use planning that accommodates elephant movement, elephants are an umbrella species, so connecting habitats and maintaining functioning ecosystems for them supports the conservation of all wide-ranging species. Both WCS and GBP have regular contact with the CBD focal point (the head of the Forest Dept) and submit annual reports as well as giving presentations about the project.

Indirectly, this project also contributed to CITES deliberations by translating into Burmese the EF report on the illegal trade in elephant skin that is threatening Myanmar's wild elephants (see Annex 7.4a + 4b). The English version of the report was read by delegates at the 70th meeting of CITES Standing Committee (Sochi, October 2018) and thereby contributed to the amendment of Decisions 17.217 and 17.218 which govern the trade of Asian elephants and their parts. These amended decisions were ratified at the 18th Conference of the Parties to CITES (CoP18) in Geneva (17-28 August 2019). In Myanmar, the report was

picked up by all the main media as well as by the Ministry of Environment and key parliamentarians (notably U Zaw Thein and Daw Naw Hla Hla Soe, both active in their support for conservation and elephants). They in turn shared the report with other lawmakers and their associated legal advisors.

4.3 Project support to poverty alleviation

One key achievement towards poverty alleviation is in supporting the foundation of local livelihoods – land tenure. Through this project, WCS has increased land security for 44,628 people across 71 villages by helping them map their community land, develop management plans for that land and register it officially as a community forest (see Outputs 1.1, 2.1-2.4). Although there are still challenges in getting land tenure legally recognised in the long-term – notably the slow policy reforms of relevant land laws – the efforts made by this project have been effective in helping communities document their land-claims and deter land-grabbing by outsiders. The community forest registration already achieved for 7 villages (and another 8 submitted) by this project is a kind of land stewardship that is not as secure as land ownership but it is more secure than having no legal recognition at all. And once the law is passed to allow Community Protected Areas, these villages have the skills and documents they need to create official CPAs with neighbouring communities.

A second achievement towards poverty alleviation has been teaching villagers about elephants and how to avoid conflict with them. GBP/CF's H.EL.P workshops have fostered a strategy of peaceful coexistence, encouraging people to accept elephants as neighbours rather than enemies and reducing the likelihood of human injury or death from defensive-aggressive elephants. This approach improves the prospects for an efficient and viable property protection scheme in future, without further reducing elephant numbers. Protecting lives and key elements of livelihood is a first step towards alleviating poverty. Moreover, proxy indicators (Outputs 2.2, 3.4, 4.7) suggest that this project has increased the confidence of all project participants because they now know how to avoid being physically harmed by elephants, how to protect their grain stores from being raided by elephants, and they are less likely to lose traditional community forestland to influential land-grabbers. The psychological and emotional boost from this increased confidence also contributes to poverty alleviation.

4.4 Gender equality

Gender equality is a core value for every project team. Every effort is made to provide equal opportunities for those of any gender while also delivering project activities. Elephant Family consists primarily of women and the WCS project team is gender balanced, with a female landscape coordinator, and four female community outreach staff. This helps the team engage more effectively in communities where both men and women are, and need to be, equally involved.

During all land-use planning field-work, the WCS team consults elders, women and men in planning meetings, ensuring that representatives of each age and gender class participate. Separate meetings are held with women and men to make sure that both genders can express their ideas and opinions equally. When collecting resource-use information, women and men are also consulted separately, as their perspectives on important resources, and key species for management, can be very different.

The GBP field team currently comprises men (although its part-time accounts manager is female) but most of the teachers and educational staff it works with are women, and all workshops are equally open to men, women, boys and girls. Overall, more women than men attend daytime workshops because men are usually out at work but this is useful as women are often responsible for minding the household stores and may be the only parent in the village full-time, putting them at risk of elephant encounters near the home. However, GBP also holds presentations at night and men do attend these. Curiously, GBP's data suggests that 40% more female (n=9,126) than male (n=5,218) students attended school workshops. However, male and female participants engage equally in the Q&A sessions that follow presentations.

4.5 Programme indicators

Did the project lead to greater representation of poor people in biodiversity management structures?

Participatory Land Use Plans (PLUPs): Village land use planning, including delineation of community forests, and CCAs have given local villagers a level of tenure and decision-making mandate over the natural resources in their areas (Indicators 0.2, 1.1 and 1.2).

Awareness-raising training has led to improved Human-Elephant Coexistence, including farm-based approaches to avoid human injury and death (and thereby escalation of conflict), village-level early warning systems integrated with the religious community, and greater two-way communications between villagers and Forest Department authorities has empowered villagers with greater confidence in the management of elephants.

Were any management plans for biodiversity developed and formally accepted?

Community spatial plans (n=14) were received officially at local-level and submitted for higher approval, seven community forests were certified, with another eight in the official pipeline (Indictors 0.1, 2.1, 2.3 and 2.4).

Were they participatory in nature or were they 'top-down'? How well represented are the local poor including women, in any proposed management structures?

The land use planning processes with all participant communities were entirely bottom-up and participatory and over half the participants were women. Management of all land-use plans and community forests will be led by community members.

How did the project positively influence household (HH) income and how many HHs saw an increase?

There were no direct interventions or measures of HH income. However, even though Covid has prevented WCS from completing its Yr3 comparative surveys, the team is confident from feedback they get that community members feel economically more secure because they have got (n=7) are applying for (n=13) community forest certification (Indicators 3.3, 3.4).

4.6 Transfer of knowledge

This project has transferred a great deal of knowledge to villagers and local officials participating in this project, knowledge that was new to them and, in the case of PLUP activities, was generated by them under this project and is therefore new for their area, but is not new otherwise. Knowledge was also shared with senior members of relevant authorities (see 4.7 below) for use in policy formulation and practical conservation as noted in 3.1 (outputs 2) and 3.2 above.

Formal qualifications

- Min Thu Kyaw Khaung (male) a former GBP staff member, is studying for an MSc in Wildlife Ecology at Yangon University and joined the education team to collect data for this thesis. When he has completed his MSc, he will re-join the team.
- Tin Myo Thu (male), a WCS project staff member, received certified GIS training from ESRI in California funded by the SCGIS International Scholarship programme

4.7 Capacity building

WCS project staff members

- In 2018, Tin Myo Thu (male) attended the 21st Annual Society for Conservation GIS Conference and the 38th Annual ESRI International User Conference, and received GIS training in California (13 June-19 July) funded by the SCGIS International Scholarship programme. On his return, he was promoted from GIS Technician to Deputy Landscape Coordinator.

GBP project staff members

- Min Thu Kyaw Khaung (male) is studying for an MSc in Wildlife Ecology at Yangon University
- From Yrs 1-3, Aung Myo Chit was asked to give two lectures a year about this project's H.EL.P activities to students in the zoology and psychology departments of Yangon University.

- In Yrs 1+2, Aung Myo Chit gave presentations about this project to; senior staff at the Ministry of Education & Forest Department; the Union government's parliamentary environmental committee; Yangon University students (5 talks). Over 3-years, GBP gave 12 presentations to 459 other government officials (Yr1=66, Yr2=285, Yr3=135) inc. the Chief Minister of Yangon (x2 mostly recently 20 Oct 2019), Dr Nyi Nyi Kyaw, FD Director General (x3, most recently 12 Sept, 2019), Yangon division officials (x2) & GAD (x3), and, in Yr3, to senior members of the newly established Forest Police, 10 members of the Parliamentary Environment Committee in Naypyitaw and to senior staff at MONREC (Ministry of Natural Resources & Environmental Conservation). See Annex 7.6 for some photos.

5. Sustainability and Legacy

5.1 Project achievements certain to endure

In Southeast Myanmar

Land-use plans: In the Tanintharyi area, land use plans have developed a life of their own and will continue to be used in government and KNU-controlled areas. For example, the officially recognised and internationally known Kamoungthwe community group, supported by the local CSO TripNet (Tenasserim River & Indigenous People Network), is preparing its own Community Conservation Area plan, using land-use plans developed through this project with the support of people trained and mentored by WCS. Another community, in the KNU-controlled Ban Chaung valley, has also used its land-use maps to provide incontrovertible proof of its ancestral land rights.

Supporting TNRP: in the Tanintharyi Nature Reserve (TNR), this project has worked closely with the Tanintharyi Nature Reserve Project (TNRP) which receives funding as an environmental impact compensation from the international energy companies that own the gas pipeline running through TNR. Joint activities supported by this project, especially ones focused on land-use and HEC, have laid a solid foundation for results that will be sustained. TNRP has a 4-year implementation cycle, agreed with the companies. The current agreement ends at the end of Myanmar's 2020 financial year. However, there is a long-term plan that runs to 2028, when the natural gas is likely to be exhausted. WCS will work with TNRP to support its long-term sustainability, and will be contracted by the companies to provide technical support in developing the next 4-year management plan.

Containing NMSP encroachment: Two settlements supported by the New Mon State Party (NMSP) are now established north and east of TNR. This challenge has been addressed using community land use plans which are being prepared, in part by TNRP staff trained through this project, for official Myanmar government recognition. This work will also continue.
– reinforced by school activities on the many international days for nature () -

HEC mitigation preparedness: there is currently not much HEC inside TNR because elephant numbers in the area are low and they do not leave the reserve to raid settled areas. Nevertheless, WCS did work with TNRP education staff in 7 villages to raise awareness about elephants and HEC – reinforced by school activities on the many international nature days (elephant day, tiger day, environment day, forest day etc) using a range of tools, including the board-game, DVDs and posters (Annex 7.15b + 7.18). As a result, villagers feel prepared for any HEC events that may affect them in future.

Elephant Distribution Database: this includes data from camera traps and SMART patrol records of elephant tracks and sign, and is funded through TNRP. These funds will continue each year. Land cover change is also mapped every year, with support from WCS and the gas companies.

In Central Myanmar

GBP is now an official national NGO: When this project started, GBP was a relatively young, semi-official organisation. In the last 3-years, thanks to its successful delivery of project activities and the favourable feedback received from local officials (reinforcing the presentations given to middle and high-level officials in all relevant agencies), GBP has become a fully legal Myanmar NGO. This is no mean feat for a small organisation with limited human and financial resources. It means that GBP now has the status to receive international funds and help make changes a little more easily.

Constructive relationship with government agencies: Since 2017, GBP has forged effective working relations with every agency concerned with project work at all levels of the administration (Forest Dept,

Forest Police, MoE, MoI, GAD). This is evidenced by the CBD focal point, Dr Nyi Nyi Kyaw, Director-General of FD, asking GBP to give him and his HQ staff regular updates on this project; the MoI asking for copies of all GBP's HEC education materials to add them to the MoI library and National Archive; and, in 2020, GBP was the only NGO asked to participate in the popular government-hosted Mawtinzun Pagoda Festival held each year in the Ayeyarwady Delta when the submerged pagoda emerges from the sea and is briefly accessible for hordes of devotees. GBP talked about elephants and HEC every day for 7-days.

Improved inter-agency links: GBP made it possible for township FD staff, whose official budget is tiny, to join H.EL.P community workshops by covering the cost of travel to/from villages. This not only allows FD staff in rural areas to learn about elephants/HEC and become HEC mitigation advisors, it also facilitated better communication between village and FD officials. Now, community leaders (including monks) who work with GBP often visit the local FD office to share information when they go into town each month for official meetings. This mutual support system will endure, partly because it gives village leaders an opportunity to discuss land use and tenure issues with FD officials and because GBP foster these relationships in our next Darwin-funded project (27-012).

HECx enabled: Giving villagers of all ages, teachers, community leaders and other officials the knowledge needed to understand elephants, minimise conflict and live harmoniously alongside them, is a legacy that will endure provided crops (aka livelihoods) are also protected which is one aim of EF's next Darwin project. This knowledge has changed attitudes towards elephants, evidenced by villagers now reporting the presence of poachers and/or dead elephants (Annex 7.6), thus aiding 8 arrests. This tolerance is a necessary prerequisite for the human-elephant coexistence that the H.EL.P programme aims to achieve.

Nationwide awareness: This project's communication achievements will endure thanks to repeated TV broadcasts nationwide of the H.EL.P videos and a growing number of followers to its Facebook page. The public response generated by these media reinforced the presentations given by GBP to senior government officials (Annex 7.6) and prompted changes to the law protecting wildlife (increasing the penalty for killing an elephant and adding a penalty for trading in elephant skin).

5.2 Project developments that will continue after project completion

Practice

Working with CSOs in KNY-controlled areas: Because TNRP cannot do surveys in KNU-controlled areas, it has adopted the same methods as WCS to develop land-use plans, also working through the Tenasserim River & Indigenous People Networks (TRIPNet). Last year, negotiations were initiated between KNU and the Myanmar government's Forest Department. The first meeting was in Naypyitaw in August 2019, followed by the first ever KNU/FD meetings involving civil servants only, i.e. no military representatives, held in November and December 2019.

Promoting transboundary conservation: TRIPNet is helping the Kamoungthwe community apply for collective tenure of a 'Peace Forest' to connect TNR with the Myinmoletkhat Key Biodiversity Area south of it. Augmenting the biodiversity value of this proposed Peace Forest are the 17 protected areas that make up Thailand's Western Forest Complex and the three protected areas in the Kaeng Krachan Forest Complex. Both conservation complexes are contiguous with forests on the Myanmar side of the border. This effort will continue with WCS teams in both countries helping as requested.

Promoting CCAs: The Myanmar Government could register KNU-controlled protected areas as Community Conservation Areas (CCAs) once that law has been gazetted. Similarly, the Myinmoletkhat Key Biodiversity Area, around a mountain massif, could become part of the KNU protected area system. The Myanmar government is now working on the rules and regulations that will enable community protected areas to be incorporated into the national system.

Official recognition for community forests: Those that were registered as part of this project, or are being prepared for registration with help from WCS, will continue after project completion under a 30-year lease granted by the Community Forestry Act.

PLUP process officially adopted: The participatory land-use planning approach implemented by this project is now being used by the Forest Department and will continue as part of institutional practice.

FD training: Participatory land-use planning has been incorporated into the curriculum of the Central Forestry Development and Training Centre – a government training school for rangers, both newly recruited and those sent for refresher training as part of job development. Both training courses use materials developed by this project.

H.EL.P approach to HEC mitigation adopted by others: As well as sharing its H.EL.P materials and approach with WCS, GBP also shared them with FFI (to use in southern Tanintharyi) and with Chances for Nature, a German NGO that works in Cochin State. Both NGOs now have an MOU with GBP.

Installations at the National Elephant Museum: Opened in 2018 with help from WWF, this museum occupies a renovated building in the spacious compound of Yangon Zoo. GBP/CF was asked to provide permanent exhibits, including life-sized posters of elephants and loops of films shown on two televisions.

Introducing villagers to elephants: Some GBP target areas are too remote to access by vehicle so they used captive elephants provided by the Elephant Emergency Response Unit (EERU) of the Myanma Timber Enterprise to transport equipment, education materials and supplies. This provides an opportunity to introduce villagers to elephants in a safe but intimate setting and proved highly beneficial as most villagers had either not seen, or not been so close to an elephant – a transformative experience that inspires both empathy and awe.

Policy

Land Core NGO: At the start of this project, the Land Core Group was a working group within in the government-chaired Forest Sector Coordination Meetings. Now it is an official Myanmar NGO that can receive funds from abroad and is developing new roles for itself, including information dissemination.

Ridge to Reef: The French government, through AFD, has provided a new 'Ridge to Reef' grant to continue the community land-use planning activities done by this project and extend them to the coastal region where a community fisheries co-management scheme will be developed.

CBPA Law updated: The Conservation of Biodiversity and Protected Areas (Law was updated in 2018 and, in August 2019, a consultation process began to develop the rules and regulations needed for its implementation. Led by the FD, five major consultations were held in 14 regions of the country, involving many ethnic groups. This process is linking this CBPA development to the National Land Use Policy and the reform of the Land Law. To ensure the best possible outcome from this the process, WCS is convening and coordinating contributions from the international NGOs working in Myanmar (Annex 7.20a, b + c).

Punishment for poaching & trading strengthened: Thanks to lobbying efforts by GBP, the wildlife law was modified to increase the sentence for killing an elephant from seven to ten years. GBP also alerted the authorities and NGO colleagues to a new threat – killing elephants for skin. This was taken up by the Smithsonian, WWF-Myanmar and Voices for Wildlife and was included in all the H.EL.P programme education materials including the films that are broadcast on national TV.

***Use of village loudspeaker system to avoid HEC*:** Pioneered by one monk who offered to help GBP with its HEC mitigation programme, every village in the project target areas now uses its government-installed loudspeaker system to warn villagers of the presence of elephants nearby. When elephants are spotted, villagers inform the head monk so that he can alert the whole community. An MOU is also being finalised to provide teaching materials to the Monastery Association, the network of monks that provides an education for around million rural children nationwide.

Raising HEC awareness in the Forest Police: In 2017, the Army and Police joined forces to create a new unit, the Forest Police, within the Ministry of Home Affairs but it was soon transferred to the Forest Department. With little capacity and a limited budget, new FP recruits joined FD officials at the H.EL.P education events from 2018 to acquire knowledge about elephants/HEC and recognition by villagers. This shared travel cost was covered by GBP from its training budget.

Sharing knowledge through higher education: At the request of Chief Minister of Yangon region, from 2018, GBP has given talks on elephants, HEC and wildlife conservation to the Yangon Teacher Training College and to students at Yangon University. Graduates from both institutions will work nationwide.

The future for project staff and resources

- WCS staff will continue working on the project, now funded and expanded by other donors. The equipment and supplies purchased through this project will continue to be used by those staff to implement the broader follow-on project.
- GBP staff will work on the new Darwin-funded project, continuing to deliver HEC education outreach in new target areas while training farmers in this project's target areas to protect their crops from elephants using seasonal solar-powered electric fencing. That continuity ensures that relationships with communities in elephant areas will not only be maintained but strengthened.

Validity of the original exit strategy

This project aimed to institutionalise its activities and its approach into existing government and community management systems, policies and laws, thereby ensuring that they not only continued after this project ended in the areas where they were implemented but spawned new versions of themselves in other areas with other communities, either managed by WCS or GBP or by those trained by them under this project. In that respect, this project has undoubtedly succeeded and the original exit strategy has proven to be sound. It is probably fair to say that the project's achievements have exceeded the hopes and expectations of those who drafted the original project.

6. Lessons learned

Lessons learned from this project vary between the two main target areas – central and southeast Myanmar – because they are ethnically, politically, and administratively different. Most people in central Myanmar are Burmese and the region has always been controlled by central government. Most residents in the target area of the southeast are Karen and over half the land - the area adjoining the Thai border - is controlled by the Karen National Union (KNU) which has long resisted direct rule by Myanmar, adding extra spice to the normal challenges of project implementation.

In Southeast Myanmar

Tanintharyi Nature Reserve Project (TNRP) is stable and functional thanks to secure and generous funding from foreign gas companies, so its collaboration with WCS-Myanmar has been constant and effective.

Collaboration with the KNU was more difficult than expected because the peace agreement turned out to be fractious and fragile. This made it hard to work with communities in areas controlled by the KNU because WCS team members were not allowed to enter those areas. This problem was circumvented by working with Karen CSOs and village influencers who came to WCS for training in areas accessible to all. Occasionally, local members of the WCS team did attend high-profile meetings in KNU territory but getting the necessary permission was so time-consuming that it was not usually a cost-effective effort.

In the last two years, the New Mon State Party also caused some problems by expanding its territory and influence in northern Tanintharyi (the area of TNRP) in opposition to the KNU as well as the Myanmar central government. TNRP staff, as well as WCS, had to negotiate community zones in northern TNRP where they could work freely, without incurring NMSP suspicion.

Civil Society Organisations (CSOs) in the target area were also suspicious of WCS, as an INGO, at least at the outset of their collaboration, so it was necessary for WCS to be patient, build trust, be adaptable, and wait to be invited by the CSO rather than impose its own timeline on proceedings.

Other challenges included government staff changes. Local officials (e.g. head of TNRP or the Dawei Forest Dept office) are usually transferred every 1-2 years which meant forging a new relationship with the replacement. This was dispiriting, although sometimes the successor turned out to be better than the predecessor. It could also be advantageous when an official with whom WCS had an especially good relationship was promoted to a more senior position in the ministry with direct oversight of the TNRP.

One small set-back was discovering that TNRP and the forest areas south of it support fewer elephants than had been supposed. In fact, it became clear that wild elephants are quite rare in areas controlled by the KNU, apparently because so many have been captured for domestication and/or live sale to Thailand.

Another factor that had a bearing on project planning was the delay in developing the Dawei Special Economic Zone along with the highway connecting it to Kanchanaburi in Thailand. As a result, Karen

refugees who were expected to return and settle along the road did not do so, and the elephant corridor that spans the proposed route was not blocked. So, the project focused on preventing HEC that may happen in future, if elephant numbers increase thanks to Thailand's newly strengthened laws governing captive elephants and to the beneficial impact of WCS' ecological awareness training.

In Central Myanmar

The Human-Elephant Peace Programme (H.EL.P), the collaborative venture of GBP and CF that provides HEC mitigation training, is working very well. GBP is one of few NGOs that sends its teams into the field for days at a time, staying overnight in villages. Because of this, GBP has developed strong relationships with the communities they visit – the villagers, local leaders, and monks – and its way of delivering HEC education and mitigation training is popular, as evidenced by the fact that village leaders and government officials urged them to deliver unplanned or repeat presentations.

Some M&E components of the project were recognised as a challenge at the inception meeting. In Yr2 changes were made to the way feedback data were collected and in Yr3, following a visit by an M&E specialist, further changes were made. The fault was not so much the inexperience of GBP or WCS in delivering M&E data as the weaknesses inherent some of the indicators in the original project plan. Both partners aim to strengthen the M&E component of their projects future.

Key lessons learned and recommendations

1. *Do your homework on context & conditions*; check seasonal accessibility to villages; identify key local partners to work with who know the practical and political constraints in any village, including levels of knowledge; pre-arrange village meetings; for HEC work, be clear what the problem is where.
2. *Build & nurture relationships*: an important lesson from this project is the need to build a network of robust relationships that are rooted in trust. This applies to every level of project implementation, from working relations between and within project partners organisations to collaborations between in-country field teams and the communities or government officials they need to engage. Without good relationships, it is not possible to organise successful activities, deliver substantial outcomes, or provide useful feedback. A single visit to a village is not enough to establish a strong relationship. Repeat visits are a must. So, our first recommendation is to put time and effort into engaging repeatedly with those whose trust is needed to help implement the project effectively. This project's achievements can be attributed to those people as well as to the hard work of the in-country teams.
3. *Work at every level of the governance hierarchy*: this project achieved its objectives by working closely with government representatives at every level of the administration from local (village/township) to regional (division/district) and national. To help make changes in policy and legislation, it is necessary to work at the national level. But to gain the recognition and credibility needed to have any influence at national level, it is important to engage officials at the local and regional levels so that they can see the effectiveness of the project approach in practice and can provide feedback up the hierarchy.
4. *Success may generate more demand*: a second lesson is that success can generate a demand that is greater than the project budget allows. In this project, the HEC education workshops proved so popular with head teachers, village leaders and forest department officials that GBP was asked to deliver more workshops than planned. And because it was important to keep faith with communities suffering from HEC, it agreed, but then had to work even harder, travel further and find additional budget to cover the extra costs. Some project money was saved by putting one game in each set of HEC education materials instead of two, and money was raised by selling the games in gift shops.
5. *Projects need local sponsors to provide additional unforeseen funds*: because its HEC workshops and associated materials proved so popular, and because it is a small NGO with no cash reserves, GBP needs to build funding partnerships with local sponsors to generate additional funds quickly. Wanting to keep faith with communities, it did not want to refuse its help, but saying yes meant finding extra funds quickly. Nimble local donors could help.
6. *A weak logframe makes implementation more difficult*: a third lesson learned is that a weak logframe with inappropriate indicators make it harder to monitor or evaluate project achievements effectively. Ideally, strong parameters are pinned down at the planning stage, but if not, they can and should be modified during implementation. It helps if the people involved in project design also oversee its

implementation (not the case for EF). This project did have some design weaknesses, particularly with its M&E protocols. These were reviewed and modified by project partners at the Yr1 inception meeting, and again in Yr 2 with an M&E specialist, but it is not possible to correct fundamental design flaws halfway into a project, so it is important to build feasible M&E processes into project design.

7. *Success in a target area prepares the ground for other projects*: in this case, areas in central Myanmar made safer for people and elephants by GBP/CF's H.EL.P programme (a prerequisite for human-elephant coexistence) could become rewilding sites or elephant sanctuaries where local people are also beneficiaries. Likewise, in eastern Myanmar, land that is officially recognised community forest could combine with adjoining land of the same status to become an Indigenous Community Conservation Area (ICCA) which could then generate an income for the caretaker communities. Key to building on any project, and furthering its longer-term legacy, is to listen to community participants and CSO or government partners to learn what is needed next. In this project, for example, HEC safety training can protect lives and food stores but does not protect livelihoods, especially crops, which is why GBP/CF will now train farmers to use seasonally solar-powered electric fencing to protect their fields from elephants. Likewise, land-use planning and community forestry registration strengthens a village's sense of security and livelihood sustainability by recognising them as land stewards, but that is not as secure as land ownership which is why WCS will continue to work with communities and government agencies to strengthen the conservation governance of land, including the Community Protected Area law. By maintaining a forward-looking dialogue with villagers, project implementers also maintain their relationship of trust with whole communities.

6.1 Monitoring and evaluation

The logframe was modified at the end of Yr 1 (at the inception workshop) and again during the M&E consultant's visit in Feb 2018 (changes noted below in blue italic). These changes were made to be more precise, to strengthen indicators or to reflect more accurately the original project plan.

The M&E system is undoubtedly helpful for tracking progress but must be practical in its design. Hence the need to ensure that the logframe and indicators are measurable, realistic and attainable; this should be done, ideally, from the outset but some adjustment was necessary as more experience was gained.

At Darwin's suggestion, Elephant Family recruited an independent M&E consultant to work with project partners during the evaluation visit at end Yr2. This was hugely beneficial for all partners. The logframe was amended with him, as noted below (see his report Annex 7.2). Targets which measure attitudes were challenging and proxy measures had to be developed for the final stages of the project's M&E cycle.

Changes made end Yr1 for Yr2 in Measurable Indicators (MI) & Means of Verification (MV)

Output 1. Families across Tanintharyi area (5,400) are empowered & knowledgeable about bottom-up land use management processes that incorporate ecosystem functionality and local land use needs under current development, and *anticipated impacts of resettled migrants from Thailand*.

- MI 1.1: 5,400 families from 40 villages have access to information and support to develop maps and*/or implement* plans for their communities by end Yr2.
- MI 1.4: Biodiversity indicators for monitoring ecosystem function identified *and measured*.
- MI 1.5: Learning incorporated into national and regional policy frameworks by end *Yr3.*

Output 2. Spatial plans completed & adopted in Tanintharyi etc.

- MI 2.2: By end Yr 3, *at least* 50% of villages (2,700 families) feel an improved sense of well-being or economic opportunity based on access to and knowledge of productive zones.
- MV 2.2: *Evaluation of the contribution of increased land-security to reducing poverty and disadvantage*.
- MI 2.1: At least 9 plans officially *recognised* at local and regional level by end Yr2.

Output 3: Important areas of connected habitat for elephants and for biodiversity intactness are *identified (as are conflict hotspots)* in relevant villages such that HEC can be mitigated and avoided.

- MI 3.2: Three HEC hotspots identified *and targeted for mitigation actions* by end Yr2 Baseline = 0
- MI 3.3: *>50% of village target groups feel they have a source of knowledge about elephant movements through 'corridors' and about HEC hotspots by end Yr3. Baseline established from year 1 surveys.*
- MI 3.4: 75% *of village target groups feel they have more predictive knowledge about elephant use of corridors and relevant HEC mitigation techniques for protection against* property and crop damage by elephants. Baseline to be established from year 1 surveys.

- MV 3.3-3.4: Village meeting notes of HEC monitoring *and well-being and attitude surveys.*
- MI 4.5: *50%* reduction in property damage from elephants *across target groups* by end year 3.
- MI 4.6: >50% reduction in crop loss from elephants *across target groups* by end year3. Baseline to be established during year1 surveys.

Changes made end Yr2 for Yr3 implementation

- MI 4.2: Forty village communities knowledgeable of HEC mitigation methods by end Yr3. Baseline *= 0* (changed from 'to be determined')
- MI 4.3: At least *30%* village representatives *regularly consulted and called upon to act on HEC or poaching incidents and communicate with the GBP H.EL.P. team* by end Yr3. Baseline = 0 (from '75% of village reps regularly consulted and called upon to act with HEC methods')
- MI 4.4: At least 70% of *families* in target villages use methods learnt from the *HEC* educational material by end Yr3. Baseline = 0 (removed 'vulnerable' families, added HEC)
- MI 4.5: At least 50% reduction in property damage from elephants across target groups by end Year 3. Baseline to be established from surveys (from 'established by Yr1 surveys).
- MI 4.6 removed: ">50% reduction in crop loss from elephants across target groups by end Yr3" as project never planned to protect crops, only food stores, though approx.. data were provided for Yrs 2+3..
- MI 4.6 (was 4.7): >30% reduction in human deaths *from HEC* by end Yr3. Baseline *from surveys*. (original baseline of 35 from national figures, inc mahout deaths, so inapplicable).

A key recommendation of the M&E consultant was that projects should build capacity in partner NGOs. This informs to their approach to M&E, encouraging them to think how they will monitor, measure and report evidence of progress, and to build those methods into the design of interventions. Participatory planning/capacity building was the reason for holding the inception workshop early in the project.

6.2 Actions taken in response to annual report reviews

In response to our Yr1 report, Darwin asked us to provide three annexes of information (i) a breakdown of the status of land-use plans under this project, (ii) some sample spatial plans and (iii) the results from the GBP survey to assess the awareness-raising of training participants. These were provided and were also included in the Yr2 report as annexes. At Darwin's suggestion, we also involved an external M&E consultant in Yr2 whose evaluation prompted the logframe modifications that are noted in 6.1 above, were included in the Yr2 report and were subsequently approved by Darwin. The Yr2 reviewer wanted us to record in this report which activities are funded by DI and which by other donors, while also noting whether funding would be sought to continue or replicate DI activities. Where extra funds or match funds were used to support supplementary activities (e.g. extra HEC education kits, or replicate activities in the Rakhine Yoma Elephant Range), this has been noted in 3.1 above, but it is not easy to detail precisely how funds were used otherwise. However, we can say that most GBP activities were funded by DI throughout the project. For WCS, DI funds were instrumental in setting up all project activities in Yrs 1+2 but by Yr3 the project had attracted new funding from AFD (see 8.2 below) so that most office and vehicle costs were covered by AFD which means that all activities were supported, to that extent, by those funds.

7. Darwin identity

Darwin's name/logo are well known in Myanmar because they are so widely seen on thousands of project products (presentations, TV films, media, posters, booklets, DVDs, board games, t-shirts, notebooks, uniforms, publications) distributed at all levels of engagement from local to national and international.

Moreover, GBP and WCS both had regular encounters with UK government officials over the project lifetime at meetings (e.g. WCS met Dr. Rurik Marsden, Head of DFID, 27 Feb 2020, with Sarah Russell, Deputy Ambassador), on HEC/elephant field trips (see UK Ambassador's letter of thanks, Annex7.6, or at official events organised by the Myanmar government. Those meetings generate awareness that is shared further by the Embassy and other government officials. Moreover, the work being done by this project was show-cased in the Darwin Newsletter), and by DEFRA on World Elephant Day 2019. And because of the growing renown of his HEC work, Aung Myo Chit, GBP founder-director, was invited by USAID to join a panel of experts at its public Climate Change Debate on 6-Mar-2020 during which he mentioned this project several times (photo Annex7.6).

Websites + newsletters: Elephant Family notes the support of Darwin and the UK Government online and in e-newsletters sent to 16,000+ EF supporters worldwide. Darwin and UK Aid are also credited in EF's 'What We Do' publicity to donors/partners, on the website/social media (http://elephant-family.org/what-we-do/where-we-work/myanmar-burma/biodiversity-and-elephants).

EF's communications staff placed regular updates on Facebook, Twitter and Instagram as well as on the website. The DI logo is also displayed on GBP's website and project vehicles. GBP has a dedicated H.EL.P Facebook page, the most common social media platform in Myanmar. A part-time GBP staff member constantly updates project activity reports in Burmese with the continuous presence of Darwin logos on all visual and textual publications. A link to Darwin UK is also provided on GBP's Facebook page https://www.facebook.com/Human-Elephant-Peace-769921153111397/.

NGO & field team recognition: Although WCS had significant match funds from Agence Française de Dévelopement (AFD), this project is recognised as playing an important role in completing their community land use plans, and expanding community outreach activities by working with GBP/CF and using their HEC education materials. Likewise, GBP's pilot project was funded by USFWS/Shared Earth Foundation but DI funding allowed that preparatory work to go into practice and enabled this collaboration, a fact that is acknowledged by partners and donors. Thus, the support of DI and the UK government is clearly advertised at all outreach events and on all project materials (e.g. Annex 7.6 + 7.17)

National recognition/awareness: Funding from Darwin was highlighted in press interviews given by GBP. The Ministry of Natural Resources & Environmental Conservation (MONREC), the Forest Department, Myanmar Timber Enterprise (MTE) and Forest Police staff are all aware of Darwin UK funding for GBP & WCS educational activities, through direct presentations to the directors and staff. Both teams also provide regular reports to MONREC, including annual updates, monthly progress reports and periodic presentations. All of these clearly noting the DI / UK Government contribution.

T-Shirts & teaching materials: The Darwin Initiative logo is highly visible on tens of thousands of educational materials (board games, information booklets, DVDs, notebooks, TV broadcasts) and banners used at workshops and training sessions as well as on the vehicles, uniforms and t-shirts used by GBP and WCS field teams (see 4.1 above). Finance and administration

8.1 Project expenditure

Project spend (indicative) since last annual report	2019/20 Grant (£)	2019/20 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs				
Consultancy Costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Others (see below)				
TOTAL				

Staff employed (Name and position)	Cost (£)
Caitlin Melidonis, Conservation Programme Manager	
Belinda Stewart-Cox, Acting Director of Conservation	
Megan Stannard, Conservation Officer	
Aung Myo Chit, GBP Coordinator	
Ye Nandar Aung, GBP Educator	
Zin Waing Toe, GBP Educator	
Kyaw Ko Ko Tun, GBP Educator	
Su Hlaing Myint, GBP Educator	

Klaus Reisinger, CF Producer	
Frederique Lengaigne, CF Manager	
Dr Alex Dimnet, WCS Senior Technical Adviser	
U Saw Htun, Country Director	
Naw Valuable, Community Engagement Officer	
Cho Cho Sint, Community Engagement Officer	
Naw Ser Eh, Research Officer	
Saw Eh Khu Po, Research Officer	
Myo Naing Win, Research Officer	
Hein Min Hteik, Southern Forestry Complex Driver	
Khin Myo Myo, Land & Seascape Coordinator	
TOTAL	

Capital items – description	Capital items – cost (£)
None	0
TOTAL	0

Other items – description	Other items – cost (£)
External Audit fees	
TOTAL	

8.2 Additional funds or in-kind contributions secured

Source of funding for project lifetime	Total (£)
French Development Agency (AFD)	
Helmsley Charitable Trust	
US Forest Service	
Elephant Family	
Grow Back for Posterity	
US Fish and Wildlife	
Shared Earth Foundation	
TOTAL	

Source of funding for additional work after project lifetime	Total (£)
French Development Agency (AFD)	
EU Funding	
TOTAL	

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

I agree for the Darwin Secretariat to publish the content of this section

This project has influenced the policy and practice of two governments (the Union of Myanmar and the Karen National Union) in the way that they promote biodiversity conservation, including in two politically sensitive fields - human-elephant conflict reduction and minority land-use. It has also helped shape laws affecting conservation, thereby ensuring a lasting impact, and it has altered the attitudes of participants towards elephants and the Union government in such a way as to change their behaviour. This is evidenced by the fact that Karen communities in Tanintharyi are now applying for community forest certification from the Myanmar government, and villagers in central and southern Myanmar are reporting dead elephants and suspected poachers to the relevant authority, thus helping to secure convictions and deter future poaching. Neither behaviour was common prior to this project.

Annex 1: Project logframe (with minor revisions Yrs 1 + 2 as agreed with Darwin)

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Overall Objective - Impact: Forest habitats in Myanmar are sustainably managed to increase ecosystem function, improve local livelihoods and minimise biodiversity-loss while preventing human-wildlife conflict and incorporating use of landscapes by wildlife.			
Project Outcome: Land is managed sustainably and incorporates local knowledge and technical expertise, in 5 areas of high biodiversity and elephant conflict in Myanmar, anticipating human migration and serving as national examples.	**0.1** Spatial plans from 40 villages available in draft form and plans incorporated in regional government planning processes by 2020. **0.2** 21 Local villages are consulted (inc. a proportionally representative number of women) and are actively engaged around development planning by 2018. **0.3** Technical experts/community trackers provide evidence and mapping of forest cover and species-use of landscapes, especially elephants, by 2020. **0.4** Consultation with regional and national government representatives about refugee resettlement in three townships in Tanintharyi by 2019. **0.5** Human-elephant conflict awareness is raised for 75% of families interviewed compared to 2017 baselines.	**0.1** Mapping of landscapes by GIS undertaken, ground-truthed, and reported. **0.2** Development plans available for inspection; meeting attendance, gender presence and support for decisions will be documented. **0.3** Satellite images of forest cover, photographs of and maps of elephant and notable wildlife movement. Location and incidents of HEC, specifically crop-raiding. **0.4** Government meeting attendance records, meeting minutes and photographs. **0.5** Surveys of well-being & changing attitudes towards elephants, and human-elephant conflict reports/data, and livelihoods baseline data.	Political stability will be retained. Local communities are willing and able to actively and freely participate in discussion about development plans. No land use planning results in higher rates of deforestation. Wildlife presence recorded provides an accurate representation of the wider landscape. Elephant crop-raiding takes place more frequently in areas of higher development compared to rural areas. Central Government can coordinate approaches and recognise common participatory processes. All incidents of human-elephant conflict are recorded; people adhere to HEC mitigation recommendations.
Outputs: **1**. Families across Tanintharyi area (5,400) are empowered and knowledgeable about bottom-up land use management processes that incorporate ecosystem functionality and local land use needs under current development, and under anticipated future impacts.	**1.1** By end 1st quarter in 1st year of project, partners & stakeholders meet to participate in partner's inception meeting in Myanmar. **1.2** 5,400 families from 40 villages have access to information and support to develop maps and/or implement plans for their communities by the end of Year2. **1.3** Three township scenario planning exercises foreseeing growth or settlements completed by end Yr2.	**1.1** Inception meeting minutes, photographs. **1.2** Gender disaggregated statistics and livelihoods baseline data. **1.2-1.5** Village meeting minutes and photographs / registers of participation. **1.2-1.5** Large poster maps produced for all villages, regional monitoring data. **1.6** Land Policy and land-use regulations.	All partners available at the same time for the meeting. Villagers fully participate in land-use planning discussions within time frame of project. Karen National Union Government continues to allow project activities in KNU-controlled areas.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	1.4 >8 high conservation value areas identified by the end of Year 3. **1.5** Biodiversity indicators for monitoring ecosystem function identified & measured. **1.6** Learning incorporated into national & regional policy frameworks by end Year 3.		
2. Spatial plans completed and adopted in villages in Tanintharyi area based upon existing knowledge of important wildlife corridors and economically productive zones and available as examples and learning tools for other regions in Myanmar & other Asian countries.	**2.1** By end Year 2, 19 spatial plans created with local knowledge from communities and technical input from government and civil society, designed to lessen human-wildlife conflict while offering economic return in sustainable use zones. **2.2** By end Year 3, at least 50% of villages (2,700 families) feel an improved sense of well-being or economic opportunity based on access to and knowledge of productive zones. **2.3** At least 9 plans officially recognised at local and regional level by end Year 2. **2.4** 19 examples of plans distributed to other regions and at national level by end Year 2. **2.5** Four learning events held to showcase the project's bottom-up planning approach to other communities (in Myanmar + other Asian countries) and decision-makers by end Yr1.	**2.1** Plans available. **2.2** Evaluation of the contribution of increased land-security to reducing poverty and disadvantage. **2.3** Adoption of plans documented. **2.4** Report of training and information dissemination events at regional and national level. **2.5** Report on learning event.	Communities adhere to sustainable use guidelines. Plans adopted by end of project. Participants in other Asian landscapes interested in attending workshop.
3. Important areas of connected habitat for elephants and for biodiversity intactness are identified, as are conflict hotspots in relevant villages such that HEC can be mitigated and avoided.	**3.1** Increase of 30 elephant corridors identified with local knowledge by the end of year 3. Baseline = 0 **3.2** Three HEC hotspots identified and targeted for mitigation actions by the end of year 2. Baseline = 0 **3.3** >50% of village target groups feel they have a source of knowledge about elephant movements through 'corridors' and about HEC hotspots by end Year 3. Baseline to be established from year 1 surveys.	**3.1** GIS maps of elephant corridors mapped. **3.2** GIS maps of HEC hotspots. **3.3-3.4** Village meeting notes of HEC monitoring and well-being and attitude surveys.	Elephant habitat requirements for movement and corridors serve as adequate proxies for the predictability of conflict incidents and for other wildlife species. Incidents of property damage, crop loss and elephant-related human deaths are reported.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	3.4 75% of village target groups feel they have more predictive knowledge about elephant use of corridors and relevant HEC mitigation techniques for protection against property and crop damage by elephants. Baseline to be established from Yr 1 surveys. **3.5** >30% reduction in human deaths by end of year 3. Baseline = 95. **3.6** At least 3 local civil society groups trained as facilitators in HEC awareness & PLM.	**3.5** Gender disaggregated statistics. **3.6** Notes from training, photographs and feedback from civil society organisations.	Local civil society groups are identified and willing to be trained in HEC awareness and PLM.
4. Forty village representatives are empowered in HEC mitigation in Tanintharyi and awareness about HEC is created across all 190 villages in five areas (Tanintharyi, Ayeyarwady,Yangon, Bago, Mandalay) such that vulnerable groups are able to co- exist peacefully with elephants and have the facility to mitigate elephant encounters	**4.1** Print material and video broadcasts provided to 190 villages, including 96,000 students and 75,000 women about coping strategies in human- elephant coexistence by end of year 3. (GBP & WCS) **4.2** 40 Tanintharyi village communities knowledgeable of HEC mitigation methods by the end of year 3. Baseline = 0 (WCS) **4.3** At least 30% village representatives are called upon to act on HEC or poaching incidents and communicate with the GBP H.EL.P. team by end of year 3. Baseline = 0 **4.4** At least 70% of families in target villages use methods learnt from the HEC educational materials by end Year 3. Baseline = 0 **4.5** At least 50% reduction in property damage from elephants across target groups by end Year 3. Baseline to be established Yr 1. **4.6** At least 30% reduction in human deaths by end Year 3. Baseline = 5 (Yr1 number) **4.7** At least 50% increased well-being and positive attitudes towards human-elephant co-existence by end Year 3, based on Yr1 figures.	**4.1** Reports and photographs of HEC mitigation workshops in action. **4.2-4.8** Gender disaggregated data available on the impact of HEC on livelihoods and mitigation. **4.2** Survey results of attitudes to elephants. **4.3** Village meeting notes of HEC monitoring by communities. **4.4** Pre- and post-surveys of women and other participants at HEC workshops. **4.5** Village meeting notes of HEC monitoring by communities. **4.6** Village meeting notes of HEC monitoring by communities. **4.7** Pre- post- surveys of women and other participants at HEC workshops	Villagers see value in collaborating and calling upon village representatives for HEC mitigation efforts. Awareness material is used to mitigate HEC. Villages are willing to partake in the awareness programme. Property damage and elephant- related human deaths are reported.

Activities (each activity is numbered according to the output that it will contribute towards)

1.1 Partner's inception meeting held with project leaders from Elephant Family, WCS, Compass Films and Grow Back For Posterity in attendance. [Led by EF]
1.2 Review existing land-use plans with 19 villages with draft plans, and confirm zonation and local regulations, considering forest connectivity and local elephant populations and movements [led by WCS]
1.3 Complete participatory land-use planning in at least an additional 21 villages, including awareness raising, and considering ecosystem function, future development and resettlement scenarios and local elephant and wildlife populations and movements. [led by WCS with government and local civil society groups]
1.4 Feed learning from local level into regional and national land-use policy reform, primarily working through the Land Core Group and OneMap Myanmar. [led by WCS]
1.5 Monitoring of livelihoods and wellbeing, completed in a representative sample of target villages.

2.1 Through combining all 40 village plans into a broader landscape plan, incorporate this into district and regional development planning, considering relevant scenarios including refugee and IDP resettlement. [led by WCS along with government and local civil society groups]
2.2 Present plans to regional government for acceptance and adoption [led by WCS]
2.3 Develop and distribute report on the benefits of the approach for community land tenure and livelihoods, as well as resource management, biodiversity, and coexistence with wildlife. [led by WCS with support from EF]
2.4 Attend and support Land Core Group workshops to mainstream this approach with other local communities in Myanmar, also present findings and approach at relevant regional fora, to decision makers from areas facing similar land use issues in other countries (e.g. in Cambodia, Indonesia or India) [led by WCS with support from other partners]

3.1 Local communities actively engaged with Elephant movement/presence surveys and mapping. [led by WCS with support from EF and GBP]
3.2 Hotspots of likely HEC under current and future scenarios identified through local knowledge and mapping [led by WCS]
3.3 Delivery of HEC awareness/mitigation work in hotspots (using materials and approaches tested in 4 below) [led by GPB, with support from WCS]
3.4 Regular Forest cover monitoring via GIS and remote sensing. [led by WCS]
3.5 Team members from KNU and civil society groups, such as KWCI, trained in HEC awareness and PLM [led by WCS with input from GBP]

4.1 Production of educational kits for HEC awareness/mitigation [Led by GBP supported by CF]
4.2 Training workshop held for new GBP educational teams and WCS team [Led by GBP supported by CF]
4.3 Introductory workshop for teachers/headmasters to introduce campaign material. 3-5 workshops will be held annually depending on the region. [Led by GBP supported by CF]
4.4 Hold school outreach conferences at 40 schools annually each year for three years in Tanintharyi, Bago, Ayeyarwady, Mandalay, Sagaing or specific target spots confirmed each year based on need. [Led by GBP supported by CF]
4.5 Conduct impact surveys to analyse effectiveness of the HEC awareness campaign/school conferences [Led by GBP supported by CF]
4.6 Monitor and evaluate campaign progress [Led by CF, supported by GBP]
4.7 Adapt content of educational kits to meet new and changing requirements and realities as needed. [Led by CF, supported by GBP]
4.8 Hold workshops for NGO and media representatives to encourage independent communication initiatives on other biodiversity issues, ethics and technical production. [Led by CF, supported by GBP

Annex 2 Report of progress and achievements against final project logframe for the life of the project

Project summary	Measurable Indicators	Progress and Achievements
Impact: Forest habitats in Myanmar are sustainably managed to increase ecosystem function, improve local livelihoods and minimise biodiversity-loss while preventing human-wildlife conflict and incorporating use of landscapes by wildlife.		Project outputs (e.g. mapping tools and outreach materials) are being used by government and 71 communities to improve forest management, supporting improved livelihoods for over 44,000 people and helping to secure over 260,000 hectares of community land. Project approaches are being replicated elsewhere in Myanmar and project outputs have contributed to a national forest management tool, and a global forest integrity assessment. Government departments now follow spatial planning processes in Tanintharyi and other regions, and the momentum developed by this project led to new initiatives, inc. a large grant from AFD to incorporate marine and coastal spatial planning approaches. The project had a positive impact on legislative reform, with lessons learned being applied to the reforms of biodiversity laws, in particular the development of Community Conservation Areas, a new category of protected area. Project partners were also instrumental is increasing the penalty for killing elephants from seven to ten years. The number of elephants killed by poachers rose and fell sharply in the target areas of central Myanmar from 13 in Yr1, to 18 in Yr2 and 4 in Yr3. The Yr2 increase appeared to be linked to the trade in elephant skin, but the intense media coverage, combined with raising awareness in communities brought the number down by end Yr3. This effort will continue under the next Darwin-funded project (2020-22) to save lives and protect livelihoods.
Outcome: Land is managed sustainably and incorporates local knowledge and technical expertise, in 5 areas of high biodiversity and elephant conflict in Myanmar, anticipating human migration and serving as national examples.	**0.1** Spatial plans of 40 villages available in draft form, plans incorporated into regional government planning processes by 2020. **0.2** 21 Local villages are consulted (inc. a proportionally representative number of women) and are actively engaged around development planning by 2018. **0.3** Technical experts/community trackers provide evidence and mapping of forest cover and species-use of landscapes, especially elephants, by 2020. **0.4** Consultation with regional and national government representatives about refugee	**0.1** Spatial plans available for 63 villages, with all of them embedded into local and regional government decision-making. **0.2** In this project, 33 village-level consultations completed. This work will continue, in the light of future development pressures (e.g. a large natural gas power-plant proposed by TOTAL near a marine national park). Also 655 people (32% women) representing at least 235 villages participating in consultations for the Regional Environment Plan. **0.3** This target was achieved in Yr2. **0.4** Meetings held with the New Mon State Party (NMSP), Border Coalition, KNU and local CSO representatives, related to the Key Biodiversity Area designation of the area, and the livelihood implications of returning refugees. **0.5** Post-workshop surveys indicate that over 75% of HEC workshop participants surveyed have absorbed the HEC safety and mitigation techniques taught (Outputs 3.4, 4.2, 4.4).

Project summary	Measurable Indicators	Progress and Achievements
	resettlement in 3 townships in Tanintharyi by 2019. **0.5** Human-elephant conflict awareness is raised for 75% of families interviewed compared to 2017 baselines.	
Output 1: Families across Tanintharyi area (5,400) are empowered and knowledgeable about bottom-up land use management processes that incorporate ecosystem functionality and local land use needs under current development, and under anticipated future impacts.	**Indicators for Output 1:** **0.1** By the end of 1st quarter in Yr1 of project, all partner NGOs and stakeholders will meet to participate in partners' inception meeting in Myanmar. **1.1** 5,400 families from 40 villages have access to information and support to develop maps and/or implement plans for their communities by the end of Year2. **1.2** Three township scenario planning exercises foreseeing growth or settlements completed by end of Year 2. **1.3** >8 high conservation value areas identified by the end of Year 3. **1.4** Biodiversity indicators for monitoring ecosystem function identified & measured. **1.5** Learning incorporated into national & regional policy frameworks by end Year 3.	**0.1** Meeting (14 Feb 2018) slightly modified the logframe and confirmed TBA baselines. See Output 1-0.1 and Annex 7.1. **1.1** With 71 villages (8,279 families) having access to information and support, Yr2 target exceeded by 77%. Evidence in 3.1 and Annex 7.12. **1.2** By end Yr2, data collected for 3 townships, but scenarios were not completed until end Yr3. Evidence in 3.1 above and Annex 7.10. **1.3** By end Yr3, 11 hotspots identified in broader Key Biodiversity Area designation. Data on forest intactness and connectivity also incorporated into these assessments, and shared with national/global tools monitoring forest integrity: LOCA/www.forestintegrity.com. Annex 7.10 p9+10) **1.4** Yr1 biodiversity indicators identified (habitat integrity and deforestation) and baseline measures set. Yr2, online LOCA tool developed and piloted for data monitoring. Yr3, online tool used for data monitoring by local stakeholders & government agencies. Annex 7.11a. **1.5** Information incorporated into Rules for the Conservation of Biodiversity and Protected Areas Law, a revision of the legal framework for biodiversity which enables Community Conservation Areas. Lessons learned fed into this law via various consultations. Evidence in 3.1 above and Annex 7.20a,b,c. **All the indicators for this output have proved appropriate**.
Activities for Output 1: 0.1 Partners' inception meeting held with project leaders from Elephant Family, WCS, Compass Films and Grow Back For Posterity in attendance [led by EF].		**0.1** Inception meeting held in Naypyitaw in 2018 attended by all partners. Repurposed as an M&E meeting, it was arranged to coincide with the government-hosted workshop to finalise the Myanmar Elephant Conservation Action Plan (MECAP) Annex 7.1.
1.1 Review existing land-use plans of 19 villages with draft plans, and confirm zonation and local regulations, considering forest connectivity and local elephant populations and movements [led by WCS].		**1.1** By end Yr1, desk review of 48 plans completed. By end Yr2, field data available for 26 of those villages. Yr 3, field data available for another 28 villages (Annex 7.12). Total 54 existing village land-use plans reviewed and checked. Target exceeded.
1.2 Complete participatory land-use planning (PLUP) in at least 21 additional villages, including awareness raising, and considering ecosystem function, future development and resettlement scenarios and local elephant and wildlife populations and movements [led by WCS with government and local civil society groups].		**1.2** Yr1, PLUP completed for 4 additional villages involving 615 households. Yr2, another 10 village plans completed with 304 community reps, reaching 1,767 households (10,400^{+} people). Yr3, another 3 plans completed, so the total of new village plans helped by this project is 17. Although below target for new villages, the WCS team thought it more cost-effective to focus on villages with plans already semi-prepared before the project started (i.e.1.1 activity). In all, 71 village land-use plans were supported with PLUP processes.

Project summary	Measurable Indicators	Progress and Achievements
1.3 Feed learning from local level into regional and national land-use policy reform, primarily working through the Land Core Group and OneMap Myanmar [led by WCS].		**1.3** Yr1, information documented and presented at 2 national workshops; training course provided for KNU-aligned stakeholders with follow-up training on data collection. Yr2, reports in Burmese shared with senior government staff and presented at 4 workshops including at the government Forestry Training Centre. Regular engagement with KNU, local CSOs and international partners to support input into the Regional Environmental management Action Plan, coordinated by the Environmental Conservation Department.
1.4 Monitoring of livelihoods and wellbeing, completed in a representative sample of target villages.		**1.4** Yr1, baseline livelihoods data compiled for previous target villages and collected in four new villages. Census data at township level analysed. Yr 2, baseline data collected in 10 new villages along with targeted surveys for specific livelihood interventions e.g. ecotourism.
Output 2: Spatial plans completed and adopted in villages in Tanintharyi area based upon existing knowledge of important wildlife corridors and economically productive zones and available as examples and learning tools for other regions in Myanmar & other Asian countries.	**Indicators for Output 2:** **2.1** By end Yr2, 19 spatial plans created with local knowledge from communities and technical input from government and civil society, designed to lessen human-wildlife conflict while offering economic return in sustainable use zones. **2.2** By end Yr3, > 50% of villages (2,700 families) feel improved sense of wellbeing or economic opportunity based on access to and knowledge of productive zones. **2.3** At least 9 plans officially recognised at local and regional level by end Year 2. **2.4** 19 examples of plans shared with other regions and at national level by end Yr2. **2.5** Four learning events held to showcase the bottom-up planning approach in this area to other communities (both in Myanmar and other Asian countries) and decision-makers by end Year 1.	**2.1** By end Yr2, 63 spatial plans created, including 10 new village-level plans, all assessed along with human-elephant conflict data and projections to minimise HEC in future. Target exceeded (Annex 7.12). **2.2** Baseline data collected Yrs1+2. Results from comparative livelihood survey in Yr3 show an improved sense of wellbeing and land security in 71% of participants surveyed after completing the participatory land-use planning work (Annex 7.14b). **2.3** By end Yr2, 14 plans officially received at local-level and submitted for higher approval. Target well exceeded. Seven community forests certified, another 8 await certification. **2.4** Target achieved in Yr2 (Annex 7.8). Example plans made available and shared online via the OneMap project (see Ouput 2.4 above) **2.5** Targeted exceeded. Presentations given at 4 international learning events, in Laos, Cambodia (x2) and at the ICCB in Kuala Lumpur. Six other presentations given at learning events in Myanmar to numerous local partners (Output 2.5 above, Annex 7.17 + 19)
Activities for Output 2: 2.1 By combining all 40 village plans into a broader landscape plan, incorporate this into district and regional development planning, considering relevant scenarios including refugee and IDP resettlement.		2.1 Yr 1, 4 new village level plans were created, and 48 plans were reviewed to incorporate HEC. By end Yr 2, 63 plans had been done, including in 10 new villages, all with HEC data and projections to minimise HEC in future.
2.2 Present plans to regional government for acceptance and adoption.		Yr1, 3 community plans prepared. Yr2, 11 plans officially received at local level and sent for higher-level approval. One community forest certificate issued. Yr 3, five community forest certificates issued. Regular engagement with local FD officials and Chief Minister on this.

Project summary	Measurable Indicators	Progress and Achievements
2.3 Develop and distribute report on the benefits of the approach for community land tenure and livelihoods, as well as resource management, biodiversity, and coexistence with wildlife [led by WCS with support from EF].		Yr1, input into USAID-coordinated report on land-use planning. Yr 2, input into several Burmese language reports on the land-use planning process. Mainstreamed this approach through new local partner Landesa.
2.4 Attend and support Land Core Group (LCG) workshops to mainstream this approach with other local communities in Myanmar, also present findings and approach at relevant regional fora, to decision makers from areas facing similar land use issues in other countries (e.g. Cambodia, Indonesia, India) [led by WCS with support from partners].		Yr 1, presentations in Laos & Cambodia, inc. to Myanmar officials on an exchange visit to Cambodia. Yr 2, LCG regularly engaged (esp. for legislative reform of Forest Law) and new partner Landesa for local level implementation. Presentations at 5 events attended by local partners, inc. land tenure research project with over 36 relevant participants from border regions. Yr 3, presentations at the ICCB in Kuala Lumpur (July 2019).
Output 3. Important areas of connected habitat for elephants and for biodiversity intactness are identified, as are conflict hotspots in relevant villages such that HEC can be mitigated and avoided.	**Indicators for Output 3:** **3.1** Increase of 30 elephant corridors identified with local knowledge by the end of year 3. Baseline = 0 **3.2** Three HEC hotspots identified and targeted for mitigation actions by the end of year 2. Baseline = 0 **3.3** >50% of village target groups feel they have a source of knowledge about elephant movements through 'corridors' and about HEC hotspots by end Year 3. Baseline established by year 1 surveys. **3.4** 75% of village target groups feel they have more predictive knowledge about elephant use of corridors and relevant HEC mitigation techniques for protection against property and crop damage by elephants. Baseline set by Yr1 surveys. **3.5** >30% reduction in human deaths by end of year 3. Baseline = 95. **3.6** >3 local civil society groups trained as facilitators in HEC awareness and PLM.	**3.1** Target achieved in Yr2 (Annex 7.10). In Yr3, the same approach was adopted in the Rakhine Yoma Elephant Range, the WCS project area in far western Myanmar. This extra activity was supported using co-funding from Elephant Family (Annex 7.3a). **3.2** Likely HEC hotspots mapped by end Yr2 and presented to local communities (Annex 7.10). In Yr3, WCS began to replicate this approach in the Rakhine Yoma Elephant Range. **3.3** Results show that 81% of village target groups feel they are more aware of the HEC hotspots in their community areas (Annex 7.14a,c). The target was exceeded by over 30%. **3.4** The findings (Annex 7.13) show that 64% of respondents feel they know better how to mitigate HEC. This is 11% below target. WCS thinks this may be because most people have not experienced HEC since elephant numbers are low and yet the training emphasised the significant challenges involved in avoiding problems with elephants. **3.5** The original figure of 95 came from national data and included mahouts killed by captive elephants. Instead, WCS compiled data from local media to serve as baseline but they are not reliable. In Yr2, one death in Tanintharyi, none in Yr 3. National media recorded 8 deaths including one in RYER prior to WCS starting its project. **3.6.** Seven groups trained in PLM facilitation skills. With seven groups trained in PLM facilitation skills, the target was exceeded by over 60% (Annex 7.10).
Activities for Output 3: 3.1 Local communities actively engaged with elephant movement/presence surveys and mapping [led by WCS]		Approximately 7 key informants from each of nine villages (out of a total of 19 in the valley) worked with WCS to identify and map three major elephant corridors, each one comprising many smaller ones and the likely movements of elephants. Access was restricted in some KNU-controlled areas.

Project summary	Measurable Indicators	Progress and Achievements
3.2 Hotspots of likely HEC under current and future scenarios identified through local knowledge and mapping [led by WCS]		Yr 1, likely hotspots were identified as well as the most appropriate technical approach to mapping habitat suitability in partnerships with relevant stakeholders. Yr2, an online tool was developed for forest connectivity analysis. At least 4 main hotspots were identified around 15 villages using information provided by community collaborators.
3.3 Delivery of HEC awareness/mitigation workshops in hotspots using materials and approaches tested in Output 4 below [led by GPB, with support from WCS]		Yr 1, GBP trained the WCS education team who then delivered HEC safety training in 10 villages (240 adults, 814 children). WCS also developed its own board game to complement the GBP one. In Yr2, HEC mitigation events were held in another 14 villages (692 adults, 950 children) with baseline data collected from 10 of the target villages. Comparative surveys were conducted in Yr3 with 50% of the original participants in each village.
3.4 Regular forest cover monitoring via GIS and remote sensing [led by WCS		In Yr1, regular forest monitoring started in key areas, using a simple online tool to allow local stakeholders to access & monitor forest cover changes & satellite maps. Yr2, baseline data was collected in 10 villages and comparative surveys were done in Yr 3.
3.5 Team members from KNU and civil society groups, such as KWCI, trained in HEC awareness and PLM [led by WCS with input from GBP]		Yr1: one course for 17 people from the KNU & three courses for Takapaw (a KNU-aligned CSO) on PLM and GPS data collection. Yr2: courses for TRIPNET & GRET personnel plus 22 rangers and staff from TNRP covering HEC awareness/PLM; Yr3: Training for Geography Faculty of Dawei University & a new group associated with New Mon State Party. Refresher training also given to groups from Yrs 1+2.
Output 4. Forty village representatives are empowered in HEC mitigation in Tanintharyi and awareness about HEC is created across all 190 villages in 5 areas (Tanintharyi, Ayeyarwady, Yangon, Bago, Mandalay) such that vulnerable groups are able to co-exist peacefully with elephants and have the facility to mitigate elephant encounters.	**Indicators for Output 4:** **4.1** Print material and video broadcasts provided to 190 villages, including 96,000 students and 75,000 women about coping strategies in human- elephant coexistence by end of year 3. (GBP & WCS) **4.2** 40 Tanintharyi village communities knowledgeable of HEC mitigation methods by the end of year 3. Baseline = 0 (WCS) **4.3** At least 30% village representatives are called upon to act on HEC or poaching incidents and communicate with the GBP H.EL.P. team by end of year 3. Baseline = 0. **4.4** >70% of families in target villages use methods learnt from the HEC educational materials by end Year 3. Baseline = 0 **4.5** >50% reduction in property damage from elephants across target groups by end Yr 3. Baseline to be established Yr 1.	**4.1** HEC educational materials (print + video) distributed to 241 villages (185 in central Myanmar, 24 in southeast Myanmar) with a total of 3,801 recipients, over half of whom were women. See Output 4.1 above, Annex 7.6 (GBP M&E report) and 7.13 (WCS report). **4.2** By Yr3, 56 villages in the WCS target area of northern Tanintharyi and an additional 18 villages in the FFI target area of southern Tanintharyi had learned HEC mitigation methods. **4.3** A total of 119 calls were received by the GBP team from village leaders (18 in Yr1, 34 in Yr2, 67 in Yr3), i.e. 64.32% of the total number of 185 villages that participated in the H.EL.P educational programme (Annex 7.6). **4.4** This was surveyed by texting questions to village leaders, then calling for feedback. Findings show that 90% of families in target communities know how to use the methods learned from HEC avoidance training (Annex 7.10). This indicator is awkward as the project was designed to assess knowledge acquired rather than knowledge used. The latter depends on families experiencing HEC and needing to use the safety methods learned. Many did not need to use them. **4.5** The project never planned to measure property damage (see GBP M&E report), even though the HEC educational events explain ways to protect property (by storing grain away from houses in family or community towers) and fields (solar-powered electric fencing). So, in Yr3, GBP conducted a telephone survey of village leaders to get feedback. There is

Project summary	Measurable Indicators	Progress and Achievements
	4.6 At least 30% reduction in human deaths by end Yr3. Baseline established Yr1 = 1. **4.7** At least 50% increased wellbeing and positive attitudes towards human-elephant co-existence by end Yr3, based on Yr1 nos.	no data for Yr1, but in Yr2, 34 households had property damaged and around 340 acres of crops were lost. In Yr3, the numbers decreased to 22 and 300 respectively. **4.6** As noted already, the original baseline (35) was calculated from national figures which included mahout deaths by captive elephants, so was revised to reflect local data. In Yr1, 5 people died in the GBP target areas, in Yr2, it was 3, in Yr3 none. Numbers are small, but this project was more about preventing a problem that was either beginning to happen (HEC) or was anticipated (forest clearance, loss of connectivity in Tanintharyi). The indicator is useful IF accurate data can be acquired on deaths in the target area. **4.7** Advised by the M&E specialist, this indicator was revised to use 'levels of engagement' as a proxy indicator for positive attitudes and improved wellbeing which can be assessed using existing surveys conducted before-&-after outreach events to measure knowledge of elephants & use of HEC methods (see Output 4.7 above and Annex 7.6) This is a tricky indicator, as wellbeing and attitudes are notoriously hard to measure and quantify.
Activities for Output 4: 4.1 Production of educational kits for HEC awareness/mitigation [led by GBP with CF]		Completed Yrs 1-3, with the distribution, in central Myanmar, of 20,000 sets of educational materials with a DVD, booklet and memory board game. Another 16,230 DVDs, 10,000 booklets and 269 posters were shared with villagers in 185 communities, as well as with teachers and key government representatives. In SE Myanmar, 12,000 booklets, 420 DVDs, 360 HEC posters, 1,120 'elephants are friends' t-shirts were given out at target schools.
4.2 Training workshop for new GBP educational teams and WCS team [led by GBP with CF]		Completed. At project outset, GBP's team was already trained during its USFWS-funded pilot project. Yr1, it trained the WCS team in Dawei and helped conduct HEC mitigation workshops in three schools. Yr2, GBP used this budget to train political & administrative leaders in Tanintharyi area with WCS (an extra activity). Yr3, GBP trained FFI's education team, in southern Tanintharyi (an extra activity) and two new recruits for its own team.
4.3 Introductory workshop for teachers/headmasters to introduce campaign material. 3-5 workshops held annually depending on the region [led by GBP supported by CF]		This activity was done region by region as GBP planned its work. Yr 1, it gave presentations to the monthly Ministry of Education teacher meetings district by district to find out which schools were in HEC areas. It also held 2 workshops in Hlegu + Thaikkyi township (Yangon region) for 500 head & assistant head teachers. In Yrs2+3, it asked senior education officials in each division or township to identify schools in HEC areas. In Yr2, it also gave a talk to 200 head & assistant head teachers at the Teacher Training College Yangon.
4.4 Hold school outreach workshops at 40 schools annually for three years (total 120) in Tanintharyi, Ayeyarwady, Yangon, Bago, Mandalay, or specific target spots confirmed each year based on need [led by GBP supported by CF]		Target more than doubled (total outreach events = 257) See Output 4.1 above and Annex 7.6 + 14a (GBP M&E report and WCS report on school and community engagement). FFI also held HEC workshops at 18 schools after training by GBP, an unplanned activity).
4.5 Conduct impact surveys to analyse effectiveness of the HEC awareness campaign/ school conferences [led by GBP supported by CF]		From Yr 1, GBP assessed impact with a simple before-&-after questionnaire completed by 8-12% of participants. For Yr 2, it added multiple-choice questions to evaluate the lessons learned, and in Yr3, it added questions answered by a show of hands before-&-after the workshop (Annex 7.6). WCS did its own assessments (Annex 7.13).

Project summary	Measurable Indicators	Progress and Achievements
4.6 Monitor and evaluate campaign progress [led by CF, supported by GBP]		Yr1, proof of progress: government reviewed the poaching law following media coverage of elephant killings; villagers in this programme began reporting poaching incidents and suspected poachers; 8 poachers (2 in Bago, 6 in Ayeyarwady) were arrested as a result of this intelligence. The two national TV stations broadcast the GBP/CF films weekly for 18 months. In Yr2, the government continued to demonstrate commitment to anti-poaching, arresting 13 poachers in Ayeyarwady region (7 in Yr2, 6 in Yr3) and increasing the penalty from 7-10 years in jail; 49 celebrities/VIPS joined a national TV campaign to promote elephant protection. GBP/CF were asked to provide permanent exhibits (videos & photos) for the new Elephant Museum in Yangon (visited by EF). Yr3, data on human and elephant deaths and damage to property were collected by phone from local leaders (Annex7.6).
4.7 Adapt content of educational kits to meet new or changing requirements and realities as needed [led by CF, supported by GBP]		To supplement GBP's educational material, WCS designed an HEC boardgame (based on snakes-&-ladders) to use with older children. This was shared with GBP. To reinforce its H.EL.P messages, GBP/CF created a 'Do's & Dont's to avoid HEC' poster, and in Yr2 it added more videos to its presentations (safe electric fencing, lessons learned from collaring elephants, the impacts of poaching) as well as 52 videos for a TV anti-poaching campaign with VIPs, broadcast daily for 6months in Yr2. The most pressing need raised during this project was to go beyond 'Staying Safe' to teaching farmers to 'Protect Livelihoods' (mainly crops). This will be addressed by a second Darwin project (2020-22).
4.8 Hold workshops for NGO and media representatives to encourage independent communication initiatives on other biodiversity issues, ethics and technical production [led by CF, supported by GBP]		In Yr1, GBP held 3 press conferences in Yangon with key print and broadcast media. These prompted regular reporting of elephant deaths and poaching, raising public awareness in Myanmar beyond this project's target areas. In Yr2, GBP held 4 press conferences in Yangon and Naypyidaw to explain the work of its H.EL.P programme. It also held joint press conferences with WWF-Myanmar to counter the illegal trade in wildlife, including ivory and elephant skin. These media campaigns prompted the government to greatly increase the capacity of the forest police. From zero before this media campaign, over 50 poachers nationwide have been arrested since it was launched.

Annex 3 Standard Measures

Code	Description	Total	Nationality	Gender	Title or Focus	Language	Comments
Training Measures							
1a	No. of people to submit PhD thesis						
1b	No. of PhD qualifications obtained						
2	No. of Masters qualifications obtained	1	Burmese	M	Wildlife Ecology	Burmese	Yangon University
3	No. of other qualifications obtained						
4a	No. undergraduate students receiving training						
4b	No. training weeks provided to undergraduate students						
4c	No. postgraduate students receiving training (not 1-3 above)						
4d	Number of training weeks for postgraduate students						
5	No. people receiving other forms of long-term (>1yr) training not leading to formal qualification (i.e. not 1-4 above)						
6a	No. people receiving other forms of short-term education/training (e.g., not categories 1-5 above)	1,398	Burmese	M = 648 F = 750	Training courses on land-use planning, GIS, & other relevant technical skills	Burmese	Training materials (in Burmese) available on request.
6b	No. of training weeks not leading to formal qualification	170 person-weeks (covered by the above training courses)					
7	No. of types of training materials produced for use by host country(s) (describe training materials)	1	GIS training manual, in collaboration with USAID programme to develop Participatory Land Use Planning				

Research Measures		Total	Nationality	Gender	Title	Language	Comments/ weblink if any
9	No. species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (ies)	WCS supported the government's 'Restoration of Natural Habitat' plans for SE Myanmar.					
10	Number of formal documents produced to assist work related to species identification, classification and recording.						
11a	No. papers published or accepted for publication in peer reviewed journals	1	Sri Lanka		NWPS Journal 200 yr anniversary issue (Annex 7.7)	English	About H.EL.P. prog. and MM-Sri Lanka exchange potential
11b	No. papers published or accepted for publication elsewhere						
12a	No. computer-based databases established (with species/ generic information) and handed over to host country						
12b	No. computer-based databases enhanced (containing species/genetic information) & handed over to host country	4	Burmese	Both	One map, LOCA	Burmese	Forest cover
13a	No. species reference collections established and handed over to host country(s)						
13b	No. of species reference collections enhanced and handed over to host country(s)						

Dissemination Measures		Total	Details (inc. date, theme, language, gender etc.)
14a	No. of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	7	WCS: 1 (Jan 2019) to Dawei Chief Minister & Cabinet on project activities and findings to date. Myo Myo (♀) and Tin Myo Thu (♂) presented, in Burmese. WCS: 1 (Jan 2020) in Rakhine to present the work in Dawei, and identify how it might apply in Rakhine. 5 staff spoke in Burmese (2 from Dawei, 3 from Rakhine Yoma, including the senior park ranger). WCS: 1 (Mar 2020) to the new Dawei Chief Minister & Cabinet to update them present project findings. The same two WCS staff presented in Burmese.

Dissemination Measures		Total	Details (inc. date, theme, language, gender etc.)				
			CF: 2 x Sri Lanka's Dept Conservation 3-May-19, 26-12-19); 3 x SL's Nature & Wildlife Protection Society (9-Mar-19, 19-Jun-19, 2-Oct-19,) Theme: GBP/CF's H.EL.P work in Myanmar for possible replication in Sri Lanka, audience ~ 40% (m) 60% (f), given in English.				
14b	No. conferences/seminars/ workshops attended at which findings from Darwin project were presented/ shared.	WCS 24					

Physical Measures		Total	Comments
20	Estimated value (£s) of physical assets handed over to host country(s)		
21	Number of permanent educational, training, research facilities or organisation established		
22	Number of permanent field plots established		

Financial Measures		Details
23	Value of additional resources raised from other sources (e.g. in addition to Darwin funding) for project work	

Annex 4 Aichi Targets

	Aichi Target	Tick if applicable to your project
1	People are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.	✓
2	Biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.	✓
3	Incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.	✓
4	Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.	
5	The rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.	
6	All fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.	
7	Areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.	
8	Pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.	
9	Invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.	
10	The multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.	
11	At least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.	
12	The extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.	
13	The genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.	

14	Ecosystems that provide essential services, including those related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.	✓
15	Ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.	
16	The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.	
17	Each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.	
18	The traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.	✓
19	Knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.	✓
20	The mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.	

Annex 5 Publications

Type * (e.g. journals, manual, CDs)	Detail (title, author, year)	Nationality of lead author	Nationality of institution of lead author	Gender of lead author	Publishers (name, city)	Available from (e.g. web link, contact address etc)
VCDs						
National Forest Integrity Tool	Modification of forests by people means only 40% of remaining forests have high ecosystem integrity (2020); Grantham, Duncan, Evans, et al.	Australian	USA	Male	Cold Spring Harbour Laboratory	https://www.forestintegrity.com/ and http://myanmar-geotools.appspot.com/

Annex 6 Darwin Contacts

Ref No	24-024
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Partner 2	
Name	**Klaus Reisinger**
Organisation	Compass Films
Role within Darwin Project	Producer of HEC educational materials (film, stills, DVDs, posters)
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Partner 3	
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Annex 7 Supplementary material (optional but encouraged as evidence of project achievement)

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	Yes, w/o Apps
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.	Apps in Dropbox
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.	