

June 2014 Newsletter

Fur seal off Tristan da Cunha
Credit S Scott



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A word from the Chair



Overseas Territories project news



Darwin Project news



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The Darwin Initiative supports developing countries to conserve biodiversity and reduce poverty. The Darwin Initiative (funded by DEFRA, DFID and FCO), provides grants for projects working in developing countries and UK Overseas Territories (OTs).

Projects support:

- *the Convention on Biological Diversity (CBD)*
- *the Nagoya Protocol on Access and Benefit-Sharing (ABS)*
- *the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)*
- *the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES)*

darwininitiative.org.uk


Department
for Environment
Food & Rural Affairs





Blue Cranes in South Africa
Credit C van Rooyen

A word from Defra

Welcome to the June 2014 issue of the Darwin Initiative newsletter - in our new, improved format!

You may also have noticed some differences in our website presence. We now have dedicated Darwin Initiative pages on the GOV.UK website including information and guidance on how to apply for project funding. At the same time we also took the opportunity to revamp our existing Darwin website (including a new domain name) where you still have access to historical project information and resources for existing Darwin projects.

I hope you will agree that the new Darwin website looks great (particularly the beautiful Darwin project photos – which are also now available to see and use on Flickr) but if you have any feedback on the new website or the Darwin content on the GOV.UK pages please let us know at darwin@defra.gsi.gov.uk

In case you haven't found them yet you can access the new webpages using the following links:

GOV.UK webpage

Darwin website

Darwin photos on Flickr

Call for Applications

22 May was the International Day for Biodiversity and so we coincided the launch day for a call for applications for Main Projects, Post Projects and the Darwin Plus schemes on the same day.

The deadline for Main projects is 3 July, for Post projects is 8 July and for Darwin Plus is 4 August. We're very much looking forward to receiving your applications. For guidance and application forms see the GOV.UK website.

Evidence of Poverty Benefits

One of the conditions of DFID/ODA funding is that projects must be able to provide evidence of poverty benefits within the host country. We are aware that applicants often struggle to do this and tend to focus on income benefits only whereas benefits can be indirect and wider than just increasing household income.

As a result a Learning Note is being developed to help applicants address these concerns and will be released in the next few weeks. We hope this will be of help to all in the coming months.

Telfairs Skink in Mauritius
Credit N.Cole

Newsletter contacts

The Darwin Initiative Secretariat (Defra)

To contact us:

The Darwin Secretariat is based in Defra and includes Clare Hamilton, Sally Cunningham and Huw Joynson.

If you have any general queries about how the Darwin Initiative operates please e-mail us at darwin@defra.gsi.gov.uk

For any queries on project applications or existing projects please contact our Darwin Administrators (LTS International) at

darwin-applications@ltsi.co.uk or darwin-projects@ltsi.co.uk

This newsletter is produced quarterly. To include an article on your project please contact us

Darwin-Newsletter@ltsi.co.uk

Publicity and referencing Darwin and Defra

We remind projects that if they are publicising their work then it is important that they make every effort to mention Darwin funding. This is important as it helps us to ensure the Darwin Initiative retains a high profile and helps us to secure continued Government funding.



A word from the Chair of the Darwin Expert Committee, Stephen Blackmore

Funding milestone

We recently hit an important milestone on the Darwin Initiative with the announcement of the most recent round of awards. This has pushed the total funding provided through the Darwin Initiative over £100m!

The impact around the world of this funding is impressive, as every issue of the newsletter confirms.

Call for applications

I very much look forward to Round 21, announced on the 22nd May. For this round of funding the emphasis is firmly on supporting the Convention on Biological Diversity (CBD) and, in particular, the recently introduced Nagoya Protocol on Access and Benefit Sharing (ABS). Once again proposals supporting the Convention on International Trade in Endangered Species (CITES) will be welcome.

New emphasis

A new emphasis in the next round (which reflects the importance of food security as a global issue) will be the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA).

I strongly recommend careful reading of the relevant conventions, together with the revised guidelines for applicants. This is the best way of preparing an

application that will progress successfully through the increasingly competitive application process.

DFID funding

As the Darwin Initiative goes from strength to strength and its profile grows around the world, the number of applications is steadily increasing. It is worth remembering that there are several distinct funding streams with main projects supported by either Defra or DFID.

If you are thinking about applying for DFID funding bear in mind that there may a variety of ways of demonstrating the alleviation of poverty, not simply through immediate increases in household income.

We would like to encourage applicants to consider other benefits that could potentially be derived from biodiversity and in this regard there is a wealth of recent research available on line. The [Ecosystem Services for Poverty Alleviation \(ESPA\) website](#), for example, contains some inspiring case studies.


Finally, keep sending us your news and make good use of the excellent Facebook forum.

Stephen Blackmore CBE FRSE, Chair Darwin Expert Committee



*Overseas Territories Project
News*

Displaying male on BBI Credit: S Weber



Attaching a satellite tag. Credit S Weber

Species Action Planning for the Ascension Island Frigatebird

The Ascension Island frigatebird (*Fregata aquila*) is endemic to Ascension Island in the South Atlantic ocean. The species is classified as Vulnerable on the IUCN Red List.

For over 150 years it was confined to breeding on one small island, Boatswain Bird Island (BBI). Here it took refuge from a feral cat population on the mainland. In 2002, the RSPB initiated a project to eradicate feral cats from Ascension's mainland as a step towards reducing the vulnerability of this species.

By 2006, Ascension was declared feral cat-free and other seabirds such as the masked boobies began nesting on the mainland immediately. Then in 2012 after a 180 year absence, the territories' most iconic seabird, the Ascension frigatebird, returned to the mainland.

The Ascension Island Government Conservation Department (AIGCD) was thrilled to find two frigatebird nests on the mainland in 2012 and then a further 12 in 2013/14. The latter nests are being monitored using remote, movement-triggered cameras that can provide valuable data on aspects such as provisioning and growth rates. These data will help to inform the Species Action Plan for the Ascension frigatebird – a priority species in the Biodiversity Action Plan (BAP).

Researchers working on the Darwin Initiative BAP project have fitted 25 satellite transmitters and 23 GPS loggers to the tail feathers of the frigatebirds to learn more about their habitat use when out at sea.

Near real-time information showing the locations of these

birds can be viewed online: www.seaturtle.org/tracking/ascension

Finding out more about these birds ecology is crucial for this species' action plan. This includes how far these birds travel from the island, how long they are away for and if there are certain areas that they routinely use and may benefit from extra protection in.

The results of this work are proving of great use already. For example, it shows that the birds fly several hundred kilometres from Ascension Island in search of food, with trip duration appearing to differ between juveniles, adults incubating eggs and adults raising chicks.

Find out more about the development of the first national BAP for Ascension:

www.ascension-island.gov.ac/government/conservation/projects/bap/

For more information [click here](#) or contact Annette Broderick a.c.broderick@exeter.ac.uk

For invertebrates and fish, such as these french grunts (*Haemulon flavolineatum*), colonies of *Acropora cervicornis* serve as a unique and critical habitat-builder. Credit K. Lohr.

Darwin Initiative Supports CCMI's Efforts to Conserve an Endangered Coral Species

Staghorn coral (*Acropora cervicornis*) is one of the most threatened coral species in the western Atlantic. Since the 1980s, staghorn coral populations have declined by over 90% in some regions, as a result of disease, bleaching, and hurricane damage. Staghorn corals reproduce by broadcast spawning (releasing eggs and sperm into the water, where they are fertilized) once per year. Because the densities of sexually mature colonies are presently low, genetically distinct gametes have a limited chance of meeting, developing into embryos, and settling onto the ocean floor ("recruiting") to become new coral colonies.

To better understand the potential for sexual recruitment among remnant staghorn corals, scientists from the Central Caribbean Marine Institute (CCMI), the Cayman Islands Government Department of Environment (DOE), and the University of Miami (UM) have teamed up to analyze the geographic distribution and genetic diversity of the extant wild staghorn coral population within the Cayman Islands. Scientists have collected samples from nearly 100 wild colonies in Grand Cayman, Little Cayman, and Cayman Brac and subsequent genetic diversity analysis will be done at UM during the summer of 2014.

Scientists involved in the project are hopeful that genetic diversity among Cayman's staghorn

population will be high, as has been the case among other staghorn populations in the wider Caribbean region. High genetic diversity will mean that Cayman's population has the potential for growth and recovery in the event of a disturbance such as a hurricane or bleaching event, two issues which are at the forefront of coral reef ecology in the face of global climate change stressors.

Understanding the genetic diversity of local staghorn corals will help scientists develop appropriate conservation plans for this endangered species. Importantly, this work will also supplement CCMI's ongoing, Darwin Initiative-supported staghorn coral propagation project. This project will establish an abundance of healthy, breeding colonies to increase the probability of successful natural sexual reproduction in order to maintain the biodiversity of Cayman's coral reef ecosystem.

For more information [click here](#) or contact Kathryn Lor Katielohr@reefresearch.org



Blenhiem atoll fore reef – a completely submerged atoll investigated this year
Credit J. Turner

Strengthening the World's Largest Marine Protected Area in the British Indian Ocean Territory

The second Darwin scientific expedition has recently returned from the Chagos Archipelago having spent 18 days at sea surveying these remote atoll reefs and their islands in the British Indian Ocean Territory (BIOT), south of the Maldives.

BIOT is important scientifically as it provides a benchmark for observing the effect of changing conditions on the marine environment in the absence of direct human impact.

This indicates how relatively intact and functional reef communities and bird populations respond to these conditions, and potentially link to other regions.

The findings from this Darwin funded project will support the Chagos Management Plan. Importantly, it will also feed into global biodiversity databases, as well as the Big Ocean Network of Ocean Legacy Marine Reserves.

Over 240 hours were spent underwater surveying species, habitats and communities on the coral reefs, and 15 islands of ecological importance were surveyed.

The team started long term monitoring of corals, assessing the benthic community structure and recovery from coral bleaching and disease.

On land, the long-term monitoring of internationally important breeding seabirds focused on 10 designated and 2 proposed important bird area (IBA) islands that hold more than 98% of the breeding populations.

Expedition activities also involved

- measuring the breeding habitat requirements of the sooty tern *Onychoprion fuscatus*
- tracking red-footed booby *Sula sula* to study their feeding and foraging behaviour
- monitoring the spread of invasive species
- studies to determine the population dynamics of the coconut crab *Birgus latro* (an IUCN Red-Listed Data Deficient species) in the northern atolls
- surveys of sea cucumbers in shallow waters surrounding the islands (a previously poached animal)

You can read more about the expedition from the blog posted from Chagos at

<http://chagos-trust.org/2014-biot-expedition>

The scientific results will be presented at the Chagos Conservation Conference at the Zoological Society of London in the late autumn.

For more information [click here](#) or contact John Turner j.turner@bangor.ac.uk



Sustainable management of marine resources on Tristan da Cunha

Tristan da Cunha is an extremely remote island in the South Atlantic with a unique community of around 260 islanders. Their economy is highly dependent on a fishery for crayfish.

In 2011 the fishery was awarded Marine Stewardship Council certification for sustainable management. However, the ecosystem that supports the fishery is poorly understood, and is vulnerable to threats including invasive species, marine incidents and climate change.

This two-year Darwin Initiative project (DPLUS005) aims to improve understanding of the shallow marine ecosystem surrounding the islands, to underpin sustainable management of marine resources. A key target for the project was a survey of the marine life in shallow waters (down to 30m) at Gough Island, a remote part of the Tristan archipelago, 200 miles southeast of Tristan.

In January and February this year, we ran a dive survey at 26 locations on the north and east coasts of Gough. The aim was to compare underwater life at Gough with that at Tristan. We already had basic information on subtidal habitats and species from previous diving surveys on Tristan (funded by Darwin in 2013).

The species found at each site differed due to a change in the water temperature ranges. Species like trumpet anemones and yellowtail fish were common in the warmer waters of Tristan, but very scarce at Gough. At Gough, colder water species such as pink urchins and

bat stars were common, but absent from the top islands such as Tristan.

This survey information is important in understanding the shallow marine ecosystem that surrounds the islands, and how they can differ and be susceptible to climate change in different ways.

Sites suitable for longer-term monitoring of keystone species at Gough were identified, and methods trialed. At Tristan, the giant kelp is already at the upper limits of its temperature tolerance, and therefore particularly at risk from climate change.

The project, with staff based on Tristan, will now concentrate on improving our understanding of the dynamics of the shallow marine ecosystem. Islanders will be trained in underwater survey methods, and provide expert advice to the Fisheries Department to support sustainable fisheries management, vital to the Tristan economy into the future.

More photos from our Gough survey can be seen on the Tristan website (tristandc.com), and on the Gough Island Facebook page.

For more information [click here](#) or contact Claire Stringer clare.stringer@rspb.org.uk



Cayman Islands, the Mastic Trail and Reserve. Credit J. Johnson

Promoting the creation and appropriate management of protected areas in Anguilla and the Cayman Islands

The establishment of protected areas and their management continues to be one of the strongest approaches to conserve and safeguard sites rich in biodiversity that are threatened by pollution, deforestation and a variety of other human impacts.

Anguilla and the Cayman Islands have made it a priority to either review existing protected areas and their legislation or designate additional sites towards protecting this biodiversity. Darwin Plus has funded a project to enhance each Territory's network of protected areas by enhancing institutional capacity and the application of innovative identification and management approaches.

There are four organisations involved in this project: the Anguilla National Trust (ANT), the National Trust for the Cayman Islands (NTCI), and the Royal Society for the Protection of Birds (RSPB).

Since 2013, the organisations have been applying a new ecosystem management approach which involves the application of the Toolkit for Ecosystem Services Site-based Assessment (TESSA).

Twenty eight sites have been identified across Anguilla (13 sites) and the Cayman Islands (15 sites) for potential protected area designation. These sites were selected as priority based on their overall ecological and cultural value.

In January 2014, the RSPB provided training in the application of TESSA for these sites through workshops held on both islands which has enabled active stakeholder participation in the project. After these workshops it is hoped that the ecosystem services

approach will allow decision makers to appreciate the importance of an area based equally on its environmental and economic value.

The message from this exercise is clear: a site is often worth more according to the benefits accrued from the value of the services provided by its ecosystem compared to the site in an alternative developed state.

Tourism is a driving force for economic development on both Anguilla and the Cayman Islands. As a result, the trend has been for development to take precedence over protecting the ecology and biodiversity of an area.

Public awareness is therefore considered crucial to the success of this initiative and will be on-going throughout to ensure everyone involved remains up-to-date on progress and are reminded of the important role of protected areas in each territory.

As the project progresses, climate change adaptation strategies will form a key component of new and existing management plans given the many threats from the impacts of climate change (particularly extreme weather) faced by these small island states.


Upon completion, it is anticipated that Anguilla and the Cayman Islands will have a solid network of protected areas. This will be further strengthened by the relevant legislation which will ensure that key habitats, their biodiversity, and ecosystem services are sustained for future generations.

For more information [click here](#) or contact Farah Mukhida antpam@anguillanet.com

Konis Santana National Park: Irasequiro
River leaving Lake Iralalaro Credit C Trainor

Darwin Project News





Romanian village in the Transylvanian project site.
Credit B Gibbons

Award-winning Transylvanian project bringing multiple benefits

Under Darwin funding from 2005-2012, Fundatia ADEPT Transylvania's work has led to the designation of a large lowland farmed area of Romania as a Natura 2000 site. ADEPT and has worked within the site to conserve biodiversity and to bring benefits to the farming communities. Our approach to management of the area is based on supporting continued current farming practices that are threatened by their low economic viability. Abandonment or intensification will destroy the habitats, therefore socio-economic benefits are not ancillary to good management of this site: they are the main means of its protection.

On 21 May the result of the first year of the EU's Natura 2000 awards were announced. A Darwin-funded project in Târnava Mare, Romania won the Socio-Economic Benefits Award, with 'an impressive example of Natura 2000 providing economic growth and sustainable livelihoods in rural areas. The project enables farmers to make a better living by working sustainably on high nature value land, while also preserving a unique landscape with rich biodiversity. Thanks to the project, 2300 farming families in the region generate income of more than €2.5 million annually, and similar ideas are now being applied in other parts of Romania'.

ADEPT Director Nat Page says that "*this was only*

possible because of the imaginative, sympathetic and flexible funding from Darwin Initiative, which saw the potential of the project and allowed adaptive management during the project".

The Sighisoara-Tarnava Mare SCI Natura 2000 site, in Southeast Transylvania, Romania, was established in 2009 as part of a Darwin Initiative project. Darwin Initiative has supported Fundatia ADEPT, and Anglo-Romanian NGO, from 2005-2012, during which time ADEPT gathered the data necessary for the Natura 2000 designation, and carried out a range of conservation and community support activities within the site.

The project increased socio-economic benefits by:

- Agri-environment payments: Romania's only pilot project for the HNV grassland agri-environment measure in was in the SCI. This led to simplified application and effective management criteria for the grassland habitats. The direct result of the SCI advisory services is an additional €2m of income, for 2,300 farmers.
- ADEPT introduced innovative mowing machines to the area which make the mowing of slopes more practical and economic.
- As a result of milk hygiene training and improved

equipment delivered by the SCI advisory team, the price per litre of milk received by producers in the SCI is 25% higher than neighbouring areas, giving additional income of €350,000 per year to over 200 dairy farmers in the area. It has also halted the decline of cow numbers, which was a threat to traditional grassland management especially haymeadows. From a conservation point of view, every cow means one hectare of dry grassland maintained by mowing.

- Marketing including creation of farmers' markets has added value to products specifically linked to consumer perception of the natural landscape. At the markets, 40 producers are now earning over €75,000 per year from Târnavă Mare branded products (up from €2,500 in 2008).
- ADEPT also developed a system of walking trails and mountain bike trails in the area, and has brought 3,000 more visitors to stay in the area, in 2012, compared with 2011 before the trail was completed. This brings €120,000 to the area per year, divided among the 30-40 guest houses who are in the network.
- ADEPT has also carried out schools classes in 8


schools, 250 children per year. We used indicator species brochures developed under the Darwin project for teaching in schools, and to enable schools monitoring projects.

- Finally, local pride has developed which underpins the above benefits and makes them more sustainable.

This project is innovative because its activities integrate a wide range of solutions, delivered by a single dedicated team. ADEPT directly carries out some classic habitat restoration activities, but its main work was with farmers and communities, improving incomes linked to the high-nature characteristics of their area.

For more information [click here](#) or contact Nat Page nat@fundatia-adept.org





The edge of Bwindi Impenetrable National Park surrounded by farming land of the local communities. Credit M Harrison

Bridging the gap between research and policy: linking conservation and poverty alleviation in Uganda

Bwindi Impenetrable National Park in south-west Uganda is home to the critically endangered mountain gorilla. It is also within one of the poorest and most densely populated regions in East Africa.

To address the challenge of conserving gorillas and ensure that conservation contributes towards local livelihoods, a series of integrated conservation and development interventions have been implemented within communities of Bwindi. Our research examined these interventions in the context of resource users of the national park, and the findings set the foundation for the second stage of our project – advocacy by the Uganda Poverty and Conservation Learning Group (U-PCLG) to improve policy and practice in Uganda of linking biodiversity conservation and poverty alleviation.

The research findings showed that frontline villagers (those living within 0.5km of the national park) were poorer than people living further away. They were in a poverty trap with little education and were suffering from crop raiding by wild animals. This has led to local resentment of the national park and feelings of unfairness due to crop raiding and inequity of benefits. This has led to local people illegally collecting resources from the park.

With support from the project team, U-PCLG members translated research findings from Bwindi into key targets for policy and practice. They then, from all of the targets identified, selected to advocate for four:

- greater equity in tourism revenue sharing,
- more jobs from the national park filled by local people,
- reduced human-wildlife conflict and
- better access for local people to sustainable resource use.

U-PCLG members also began the process of converting research into advocacy products, which included policy memos and media engagement initiatives.

This process of bridging the gap between research and policy-making generated much discussion on the key messages of biodiversity – poverty linkages for different target audiences and how to describe these in a language that each target audience can understand. This process was also a fundamental part of how our Darwin project is supporting the newly formed U-PCLG to become an active and cohesive advocacy group.

For more information [click here](#) or contact Dilys Roe dilys.roe@iied.org

Aweer traditional storage facility for farm harvest. Also used to monitor wildlife encroaching into farms. Credit J Bett



Community-based conservation and livelihoods development within Kenya's Boni-Dodori forest ecosystem

There is a direct link between poverty and biodiversity in the area we work. The lives and livelihoods of the Aweer community depend heavily on the natural resources from Boni-Dodori forest ecosystem. The community collects honey, wild fruits, tubers and herbs for their subsistence use.

Additionally, their housing structures are entirely constructed from materials collected from the forest. They clandestinely hunt wild game for meat despite there being a law against this. Furthermore, the community practices slash and burn agriculture which is the main economic activity.

However, the community has continued to live in abject poverty due to biodiversity related causes and challenges. Due to the presence of a wide variety of wildlife in the area, there are high incidences of human-wildlife conflict, with this taking the shape of animals straying into people's farms in most cases.

As a result of these wild animals (mainly buffalo, elephants and hippopotamus) raiding their crops, the community hardly realizes enough yields and in most cases are food insecure and no surplus remains for sale. Yields realized hardly last till the next season and households are forced to rely on food aid, exacerbating the poverty situation in the area.

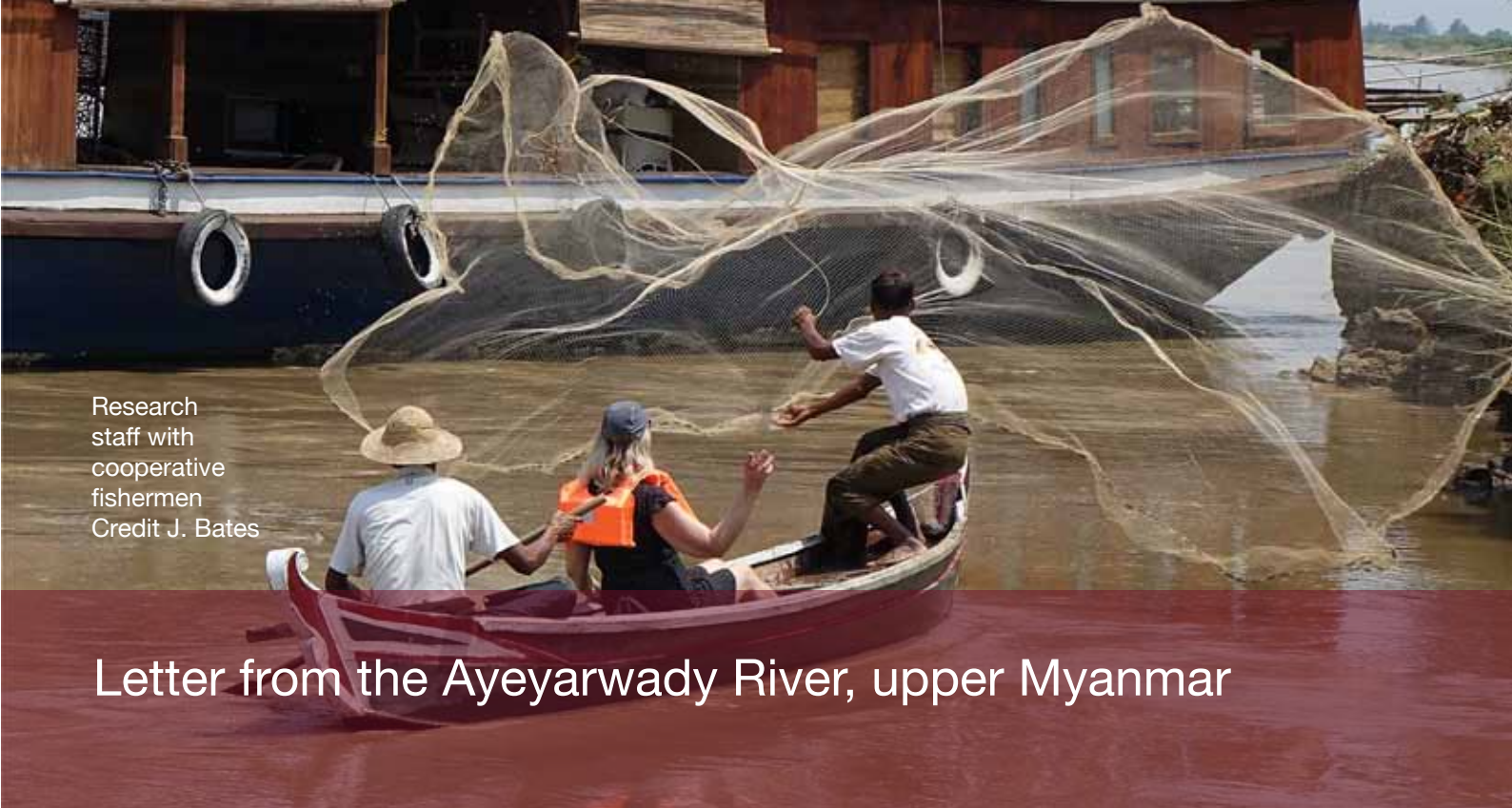
Our Darwin project is contributing to the evidence base on linkages between poverty and biodiversity through monitoring the benefits generated by direct interventions geared towards poverty alleviation of the targeted

communities.

By addressing human conflict, through reduction in crop raids, the project will by-and-large address the needed increase in farm yields and thereby there should be an increase in food security. Surplus food will be sold and proceeds used to cater for household needs such as school fees and medical expenses. We are also developing initiatives to build the capacity of these communities in sustainable agricultural practices. This should help maximize yields within a small area and thereby reduce the need to clear more forest areas for agriculture.

Several efforts are also being made to integrate biodiversity conservation into national and county strategies and programmes in Kenya. The project has provided input into the Lamu County Integrated Development Plan (CIDP, the blueprint for the county's development for a period of five years) where conservation of biodiversity-rich priority areas has been captured for purposes of County government planning. The community, through the support from Darwin Initiative funds has advocated for increased development funds within County development plans for the benefit of the local communities and reduction in poverty levels.

For more information [click here](#) or contact Kiunga Kareko Kkareko@wwfesarpo.org



Research
staff with
cooperative
fishermen
Credit J. Bates

Letter from the Ayeyarwady River, upper Myanmar

It is brutally hot in Myanmar in May. We are travelling north on our research vessel, the M.S. Hintha, on the Ayeyarwady and the heat haze hangs heavy over the surface of the river.

It was all very different this morning when we walked in the cool of the Tawygyi Wildlife Sanctuary forest. Here, recent conservation work has done much to protect the Sanctuary's once highly threatened fauna and flora, including the critically endangered Eld's deer. However, the stricter enforcement of the Sanctuary's boundaries has reduced the grazing area for the cattle of the adjacent village of Nga Ye.

In the spirit of the Darwin Initiative, we are here to promote 'win-win' solutions and our Darwin colleague, Mr Aung Myo Chit of the in-country NGO, 'Grow Back for Posterity', was taking the first practical steps. He was discussing a pilot project, which would make 'fuel biscuits' from two waste products, compressed cow dung and the dry husks of ground nuts, a common crop here in the Dry Zone. This ingenious idea for a livelihood intervention, if successful, will reduce tensions between village and Sanctuary whilst creating much needed employment within this poor riverine community and potentially many others like it. Meanwhile, up-river, we are also linking up with local fishermen in Hsithe village

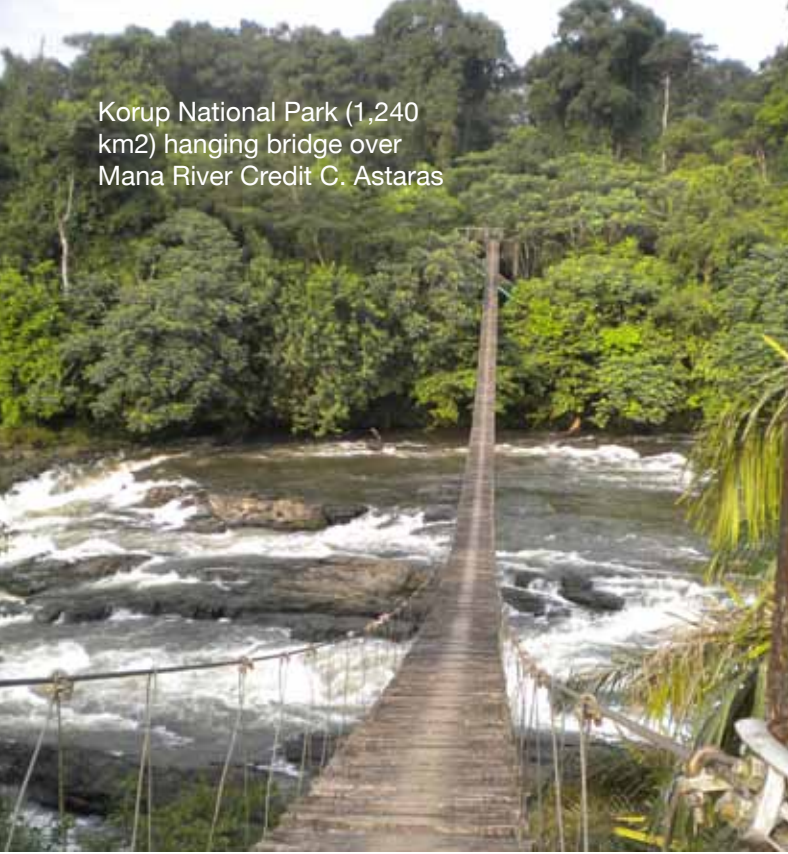
who for generations have practiced co-operative fishing with the Ayeyarwady (Irrawaddy) River dolphins. Our project seeks to help supplement incomes, preserve the fishermen's cultural traditions, and promote the conservation of these rare cetaceans through sustainable ecotourism.

So, temperature apart, all the initial signs are positive as we take the first tentative steps of our new Darwin Initiative project.

With best wishes from a beautiful Myanmar.

For more information [click here](#) or contact Paul Bates pjbbates2@hotmail.com

Korup National Park (1,240 km²) hanging bridge over Mana River Credit C. Astaras



Reducing illegal poaching which harms local communities leads to greater food and livelihood security in Cameroon

Wild animal meat (“bushmeat”) is important for the livelihood of forest-dependent people in the Congo basin. Commercialized bushmeat hunting has dramatically increased harvest rates, reduced populations of game species, and altered forest structure and composition in many parts of the African tropical forest zone.

Conservation efforts have largely been unable to curtail the intense, pervasive, and illegal commercial bushmeat hunting (much of it aimed for Nigerian markets across the border). Often this poaching occurs within the region’s most important tropical forest protected areas, which many threatened species call home. Poaching within these protected areas threatens the food security of the rural poor who mostly depend on bushmeat for protein.

This partnership aims to develop an evidence-based anti-poaching patrol design and evaluation protocol. The protocol will dramatically increase the capacity and efficiency of protected area managers across Central Africa to stop poaching. Anti-poaching patrols are widely used in Central Africa but they require substantial resources. However, there is no robust mechanism to critically evaluate their performance over time. This renders park managers practically “blind” when designing them.

The protocol we are developing is centred on the novel use of bioacoustic monitoring techniques to monitor gunshots in the protected areas. These techniques will provide unprecedented year-round feedback on gun

hunting spatial and temporal patterns within the park.

A monitoring grid of twelve acoustic sensors has been collecting baseline data on poaching and wildlife activity in Korup National Park for a year, providing unique insight on hunting patterns. We are currently analysing the data to develop algorithms for optimal anti-poaching deployments.

We are also concurrently monitoring the level of bushmeat utilization and prices in local communities to be better able to interpret the socioeconomic effects of increased conservation in the region.

Our project’s legacy depends on successfully rolling-out the anti-poaching decision-support protocol throughout Central Africa, effectively multiplying the project’s benefits. We are glad to announce that we have already secured funds to introduce the acoustic monitoring grid in Rumpi Hills Forest Reserve of Cameroon – a site recognized internationally for its high levels of floral/ faunal endemism and biodiversity.

We look forward to hearing from protected area managers from other parts of Central Africa about ways of introducing the protocol at their site, and to discuss their possible participation in the training workshop scheduled for the final year of our project (2015-2016).

For more information [click here](#) or contact David Macdonald david.macdonald@zoo.ox.ac.uk

Balancing development and conservation in Kenya's largest freshwater wetland - a new Initiative at Yala Swamp

The Yala Swamp covers an area of 17,500 ha on the north-eastern shore of Lake Victoria. It is Kenya's largest freshwater wetland, and is of great importance both for biodiversity and as a source of ecosystem services. It is a key site for the Sitatunga antelope and several other mammals; for numerous wetland birds, including the globally threatened Papyrus Yellow Warbler; and for cichlid fish endemic to Lake Victoria, many of which have been exterminated in the main lake by introduced Nile Perch. In addition, it acts as a 'filter' for water flowing into the lake, and provides the people who live around it with vital resources such as fish, Papyrus and wood. These people number approximately 250,000, and many are extremely poor subsistence farmers.

Currently the American company Dominion has already converted 1,700 ha of the delta to rice fields, and proposes to convert a further 15,000 ha. The conversion work carried out to date has impacted on natural habitats directly, but – together with earlier engineering schemes – has also caused hydrological changes over a wider area.

Building on a climate change vulnerability assessment undertaken as part of another Darwin project, "Ecosystem conservation for climate change adaptation in East Africa" and with technical support from the Royal Society for the Protection of Birds, we will carry out a detailed assessment of ecosystem services provided by the swamp. The results of the assessment will be used to objectively demonstrate to all partners the need to conserve significant intact swamp areas for both people and wildlife. We will then work with all the partners, particularly Dominion Farms and the local community, to

rehabilitate degraded riverine habitats upstream of the swamp, prioritise degraded swamp areas to be allowed to regenerate naturally and implement other measures to reduce pressure on the swamp resources.

We also aim to improve the livelihoods of the poorest members of the local community through: creating fishponds to improve household diets, increase household incomes and reduce pressure on wild fish, some of which are rare and/or endangered. We will also; developing knowledge and skills in value addition and the marketing of papyrus products in order to improve their incomes. Finally, the project will provide; and, training to wildlife guides to enable them to take advantage of the ecotourism potential of the swamp's biodiversity.

This project is being implemented at a very opportune time. Kenya is implementing a new Constitution in which political and economic power is devolved from the central government to County governments. Yala Swamp is within Siaya County, so the project will enable Nature Kenya to engage the Siaya County Government in the sustainable management of Yala Swamp for the benefit of both the poor communities and wildlife, and, hopefully influence decisions on sustainable management within the whole county. Lessons learnt at Yala will be replicated at other wetlands, and counties within Kenya and beyond.

For more information [click here](#) or contact Paul Muoria species@naturekenya.org

The right tools for the job

Upland ecosystems in Uganda Credit D Sheil

To do a good job, you need the right tools. The four countries in the NBSAPs 2.0 Mainstreaming biodiversity and development project have been making the development case for biodiversity in their revised NBSAPs and top tips from this experience can be found in a set of short booklets or 'tools'.

A Rapid diagnostic tool: Biodiversity mainstreaming – integrating biodiversity, development and poverty reduction is aimed at policymakers and would be the first tool to take out of the box. It helps to understand the extent to which biodiversity and development objectives are already integrated at the national level, as well as the obstacles and constraints that need to be overcome to promote further, and more effective, integration.

That's followed by Ten steps to biodiversity mainstreaming which provides tips for how to start the mainstreaming process and integrate biodiversity needs with development priorities. It's short – only eight pages – but reflects the combined experience of project members.

Finally there's Developing a business case for biodiversity. If you want to know how to make a convincing case for integrating biodiversity into plans in

other sectors, this tool is the one to use.

These booklets were well received at the most recent CBD regional workshop for resource mobilisation for Asia and the Pacific, as they have been in workshops in Uganda and Kenya. Participants appreciated the brevity – clear pointers to where to start, based on practical experience. Watch out for the next booklet coming soon on reviewing your NBSAP 2.0.

We've got a project workshop coming up in July in Namibia where we'll think about the challenges of implementing a revised NBSAP and how to move towards mutual inclusion of biodiversity issues in development plans.

More information about the project can be found at <http://www.iied.org/nbsaps>

For more information [click here](#) or contact Steve Bass steve.bass@iied.org

Sorting lake macro-invertebrates from reed bed samples for identification
Credit: I Grant

Pesticide Impacts on Biodiversity in Ethiopia & Agro-ecological Solutions

Agricultural development and biodiversity protection

The Ethiopian government's strategy for poverty alleviation seeks to increase production of high value crops, including cotton, vegetables and flowers. This strategy includes boosting agrochemical inputs, including pesticides. Applying these practices within poverty afflicted communities is often poorly implemented. It can also increase the likelihood of pollution accompanied by adverse environmental & human health impacts. The strategy also encourages transformation of semi-arid woodland to agricultural landscapes, increasing the risk of undermining ecosystem services.

Biodiversity underpins the provision of multiple services and where properly valued can contribute to efforts to alleviate poverty. Our Darwin Initiative project aims to boost capacity to take an ecosystem approach to monitoring pesticide impacts on biodiversity, compare different agricultural approaches, and generate evidence to support agricultural policy and farmer decision making that is good for poverty reduction and biodiversity.

Desk assessment and field work

The Ethiopian team includes PAN Ethiopia, the Institute for Biodiversity Conservation, Ethiopian Wildlife & Natural History Society and Addis Ababa University supported by UK-based ecotoxicologists. A training course in the UK in August 2013 raised awareness of the impacts

of agrochemicals on biodiversity and of ecosystem services. The team then drafted a Desk Assessment of pesticide uses and possible impacts in the project areas, based on literature review and field work, including a visit by the UK ecotoxicologists and community workshops in February 2014.

Ecosystem services and poverty reduction

Two areas were prioritized (Box). At Lake Ziway, monitoring will assess the likelihood of lake pollution, food chain contamination and threats to aquatic biodiversity, providing evidence of the full costs of intensive farms. At Arba Minch, monitoring will compare the biodiversity impacts of industrial and smallholder production of vegetables and cotton. Cotton farmers being trained in a parallel PAN Ethiopia IPM project will contribute monitoring data (e.g. on pest and predator abundance), but the Darwin project will also raise community awareness of ecosystem services through participatory research methods involving farmers, agricultural extension agents, and school students. We hope to demonstrate to farmers and policy makers that ecosystem approaches can increase production and reduce poverty, without the need for toxic chemicals.

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