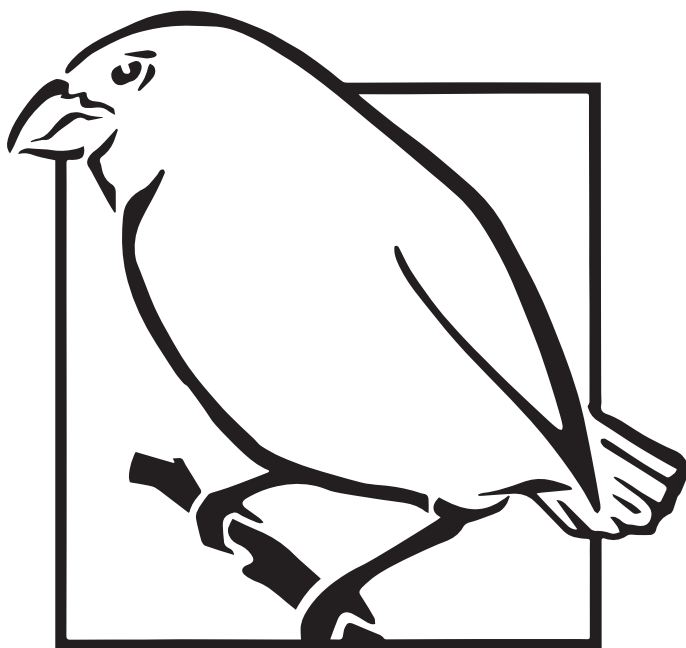


Newsletter

May 2018



Three generations attending Hsi the garden, Credit: Paul Bates



**DARWIN
INITIATIVE**

The Darwin Initiative supports developing countries to conserve biodiversity and reduce poverty. Funded by the UK Government, the Darwin Initiative 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 Fauna and Flora (CITES)

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Meeting of brigades & management committee Sartatane, Credit: WILD Foundation

Contents

Publicity and information about the Darwin Initiative	3
A word from Darwin	4
Project articles	5
Achieving the Global Strategy for Plant Conservation in the Moroccan High Atlas	5
Securing coastal livelihoods and conserving marine biodiversity through Locally-Managed Marine Areas in Cabo Delgado, Mozambique	7
Addressing CBD objectives – a view from the Ayeyarwady River, Myanmar (Burma)	9
The balanced approach yielding benefits for biodiversity and development in Yala Swamp	11
Putting the Buzz back into the shea parklands of Burkina Faso: working with local communities to restore ecosystems, help pollinators and migratory birds, and support local livelihoods through shea butter	12
Empowering communities, replenishing the ocean	14
Dolphin biodiversity in the Falkland Islands' waters	16
Community conservation of wild Arabica coffee – people and the Convention on Biological Diversity	18
Elephant conservation through community empowerment in Mali	21
A ray of light for mobulid bycatch in small-scale fisheries	23
Sustainable hunting, conservation and human wellbeing in Baka lands in Cameroon	25
St Helena's Cloud Forest and the Convention on Biological Diversity	26
Improving livestock management for economic-environmental stability in Mesoamerica's Moskitia	28
Balancing water services for development and biodiversity in the Tana River Delta, Kenya	30
Newsletter contacts	31



*Ripe coffee cherries ready for picking,
Credit: Sheko Woreda, SNNPR*

Publicity and information about the Darwin Initiative

For more information on the Darwin Initiative please visit [gov.uk/government/groups/the-darwin-initiative](https://www.gov.uk/government/groups/the-darwin-initiative)

For further details about current and completed Darwin Initiative projects, including their final application forms, please visit darwininitiative.org.uk

We also have a blog, that includes news and thoughts on issues being tackled by the Darwin Initiative – both at the project and programme level. You can read it here darwininitiativeuk.wordpress.com

We're also keen to share other Darwin project blogs. If you have a blog you'd like to share on our website, please get in touch at darwin-newsletter@ltsi.co.uk

Publicity and referencing Darwin Initiative

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



Credit: ILCP

A word from Darwin

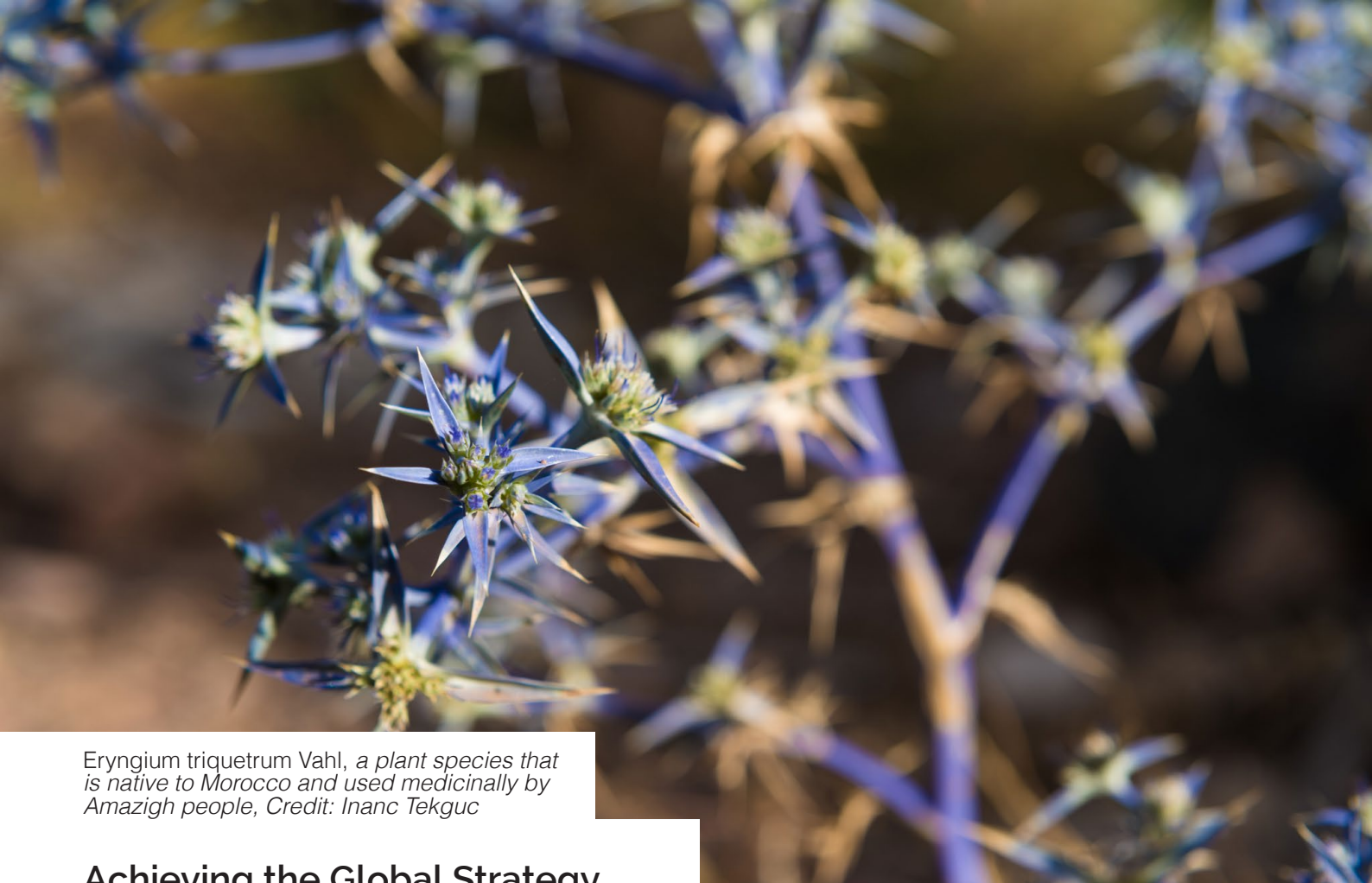
22nd May marks the International Day for Biological Diversity, which this year is themed on “Celebrating 25 Years of Action for Biodiversity” to mark the 25th anniversary of the entry into force of the Convention on Biological Diversity (CBD).

The Darwin Initiative itself was announced just over 25 years ago, with the first projects beginning shortly afterwards. From the very beginning the CBD has been a core convention that projects work towards, and today this focus remains as important as ever.

Last year, in celebration of our **25th Anniversary**, we explored the long term impact Darwin has had on biodiversity and wellbeing. In this edition we hear from recent and ongoing projects about how the fund continues to contribute to meeting the goals of the CBD all these years later.

We are pleased to announce that under Round 24 of Darwin we funded 32 new Main Projects, 1 Post Project, 3 Fellowship Awards and 16 Scoping Awards. We wish all our new projects the best of luck, and look forward to hearing updates from them in future editions of the newsletter!

We are also happy to announce that Round 25 of Darwin is open for applications. We are currently inviting applications to Darwin Main Projects, Fellowships and Partnership Projects. Partnership Projects have replaced Scoping Awards, and place a greater emphasis on developing partnerships between future Darwin Main Round applicants. We are inviting applications for all these schemes via the online application portal **Flexi-Grant**. We are hopeful that the next round of Darwin Plus will be launched later this year.



Eryngium triquetrum Vahl, a plant species that is native to Morocco and used medicinally by Amazigh people, Credit: Inanc Tekguc

Achieving the Global Strategy for Plant Conservation in the Moroccan High Atlas

The iconic cultural landscapes of the High Atlas Mountains of Morocco are rich in biological and cultural diversity. This diversity has been managed and maintained by Amazigh indigenous communities for millennia according to traditional and collective practices. It is increasingly threatened by multiple and interacting drivers including climate change, overgrazing, overharvesting of useful wild plants, poverty, and the gradual erosion of traditional management systems. Global Diversity Foundation's (GDF) Darwin Initiative funded project **Mobilising useful plant conservation to enhance Atlas Mountain community livelihoods** addresses these threats by developing sustainable commercialisation of plant resources, improving water management, implementing plant conservation actions and providing education and medical care to rural communities.

The project is part of our wider regional programme - the **High Atlas Cultural Landscapes programme** - that seeks to maintain the unique flora and ecosystems of the High Atlas while securing sustainable livelihoods and wellbeing for the Amazigh communities that manage them. We work locally in partnership with the NGO **Moroccan Biodiversity and Livelihoods Association**, community organisations, research institutions and government agencies.

Given our programme's focus on plants, it actively contributes to the **Global Strategy of Plant Conservation** (GSPC) of the Convention on Biological Diversity (CBD). The GSPC was formally adopted by the CBD's Conference of the Parties in April 2002 with the fundamental aim of halting the continuing loss of plant diversity. It is a key instrument for mainstreaming plant-targeted actions in conservation initiatives around the world and it provides a set of **objectives and targets** to help plant conservationists measure their success.

“

The project seeks to maintain the unique flora and ecosystems of the High Atlas while securing sustainable livelihoods and wellbeing for the Amazigh communities that manage them

”

GDF's High Atlas Cultural Landscapes programme directly contributes to achieving all of the objectives of the GSPC whilst **supporting Morocco to implement its commitments** to the CBD. It does so through field research on plant biodiversity and cultural practices of plant conservation (Objective I), in situ and ex situ conservation actions (Objective II) and supporting communities to harvest and trade wild plants sustainably and equitably (Objective III). These activities are



Young Amazigh boy tending his family's camels in the Igourdane agdal (community-managed montane pasture), Credit: Inanc Tekguc

underpinned by **capacity-building activities tailored to different audiences** (Objective V) and by a robust multiscalar dissemination programme (Objective IV).

Our experience in the High Atlas has convinced us of the value of the GSPC as a reference for charting our programme's progress and as a toolkit for developing innovative approaches to plant conservation. We have also demonstrated that in order to successfully conserve plant diversity the GSPC's five objectives must be addressed in an integrated manner. It is only through close collaboration with and support for local plant stewards, users and knowledge-holders - i.e.

the communities themselves - that plant conservation actions have any chance of being effective in the long-term. Over the past 25 years, the CBD has increasingly opened its decision-making processes allowing the voices and needs of the communities at the frontline of biodiversity conservation to be heard and to hold sway. We are proud to be part of the democratic process to support the implementation of this important international agreement that will help determine our planet's future.

For more information on project 24-010 click **here** or contact Project Leader Gary Martin, **gary@global-diversity.org**

“ Over the past 25 years, the CBD has increasingly opened its decision-making processes allowing the voices and needs of the communities at the frontline of biodiversity conservation to be heard and to hold sway



” Amazigh women from the High Atlas commune of Ait M'hamed on a plant collecting expedition, Credit: Inanc Tekguc



Women fishing, Cabo Delgado,
Credit: Rebecca Short

Securing coastal livelihoods and conserving marine biodiversity through Locally-Managed Marine Areas in Cabo Delgado, Mozambique

Northern coastal Mozambique has the highest levels of marine biodiversity in East Africa. However, overfishing, unsustainable fishing practices, and growing populations are increasing pressures on marine resources in Cabo Delgado.

Marine resources are critical to the people living in this region. In rural areas in the north of Mozambique communities experience some of the highest levels of poverty in the country, with 46% of the population in Cabo Delgado suffering from chronic malnutrition. The Our Sea, Our Life (OSOL) project works with six vulnerable communities to manage local fisheries, contributing towards CBD objectives of conservation of biological diversity, and the sustainable use of its components. The goal is to improve the resilience of coastal ecosystems and community wellbeing by creating sustainably financed Locally-Managed Marine Areas (LMMAs), and supporting Village Savings and Loan Associations (VSLAs) to invest in alternative small-scale businesses and secure a diversity of income.

OSOL is coordinated by the Zoological Society of London (ZSL) in collaboration with Associacao do Meio Ambiente (AMA), CORDIO East Africa, Universidade Nova de Lisboa, UniLurio and Universidade de Aveiro.

Since its start in 2013, the OSOL project has identified key issues through biological and socioeconomic research, finding that several marine species populations (e.g. IUCN Red List groupers *Epinephelus fuscoguttatus* – Near Threatened (NT) and *Plectropomus laevis* – Vulnerable; Napoleon wrasse *Cheilinus undulates* – Endangered; and white tip reef shark *Triaenodon obesus* – NT) are depleted due to unsustainable fishing practices in the Cabo Delgado province. The ecological resilience of the coastal ecosystem will be undermined by the rapidly expanding human population linked to the exploitation of natural gas in Cabo Delgado. The population of Pemba, as the provincial capital and major port city with an international airport, is projected to increase by 175% by 2040. This will increase pressure on marine resources, driving food insecurity and poverty for coastal communities. The project is working to address this, contributing to Aichi Strategic Goal B to reduce pressures on biodiversity and promote its sustainable use.

The project is at an exciting stage, with a total of 500ha of critical production habitat in “replenishment zones” being now strictly no-take zones, and 4,000ha of shallow gleaning areas in temporary closures that have led to increased income for local fishers. This aims to enhance the benefits from ecosystem services, as per Aichi Strategic Goal D. VSLAs are an extremely successful element of Our Sea Our Life. Currently, over



Community meeting, Credit: Mike Riddell

466 households (of which more than 50% are women) are enrolled in 23 VSLAs, totaling more than 20,000 EUR of savings and benefiting around 3,000 people in the six pilot villages. The VSLA model is replicated with the help of Village Agents (ambassadors for OSOL). The involvement of CCP members in community banking allows the VSLAs to be a platform for members' and wider community's engagement in co-management plans and implementation, aligning with Aichi Strategic Goal E.

“
women are active in organising community savings and exploring new ways of investing their money in small scale businesses such as tea rooms, selling cakes, and buying or selling seafood

Our Sea Our Life aims to ensure that 30% of CCP members are women. Women's participation within the 6 CCPs currently ranges from 15% to 30%, however, we have found that due to the local culture, lack of

confidence, and to the predominance of men within this economic activity (fishing), women rarely play a strong role in decision-making. The project is trying to address this and women are active in organising community savings and exploring new ways of investing their money in small scale businesses such as tea rooms, selling cakes, and buying or selling seafood. The project has supported improvements in horticulture in the Nsangué Ponta and Lalane communities, diversifying the local vegetable production and improving access to seeds. OSOL is also trialling oyster farming methods in Quiwia communities, which if successful can be replicated in other OSOL sites.

Thanks to the support from the Darwin Initiative the project already alleviates the pressure on marine resources and secures the livelihoods of 10,000 beneficiaries. The aim is to expand this vision to 50 LMMAs by 2025 improving the living conditions of 100,000 coastal community members and enhancing the resilience of coastal ecosystems!

Article written by Jeremy Huet and Ana Pinto. For more information on project 20-023 click [here](#) or contact Ana Pinto, ana.pinto@zsl.org



Destination Ayeyarwady Environmental learning schools, Credit: Paul Bates

Addressing CBD objectives – a view from the Ayeyarwady River, Myanmar (Burma)

The locals call them 'labai' and the visitors 'the Irrawaddy River dolphin'. For the Myanmar (Burmese) fishing communities these almost mystical cetaceans are their friends – aquatic sheep dogs who for generations have helped the fishermen and women find, corral, and catch the river fish (for an excellent video of this see [here](#)).

It was this wonderful wildlife that our Darwin project set out to help conserve in 2014. How did we do? Did we meet the objectives of the CBD? One year since the completion of the 1st Phase of the project is perhaps a good time to reassess. For us the answer is definitely 'yes', but we did not do it alone, with many other programmes and organisations contributing. There is still much to be done, but the project has made a significant impact in at least seven different ways.

First, in terms of conserving biological diversity, after years of decline, dolphin numbers finally appear to be on the rise with a **reported 10% increase in 2017**. Despite this, they remain Critically Endangered, with only 76 individuals; just as 'one swallow does not make a summer', one successful year for the dolphin does not make a trend. But it is a possible indication of better things to come.

Second, the Myanmar (Burmese) government has recognised the iconic importance of the river dolphin. In January 2018 they announced they will expand the Irrawaddy Dolphin Protection Area a further 118 km to the north – more than doubling its length to 190 km.

Third, in terms of the equitable sharing of benefits of conserving wildlife, the project's community programme has been an amazing success and in November 2017

won a national award 'Best Community Involvement in Tourism', Myanmar. Known as 'Destination Ayeyarwady', it has three clear aims:

- Conserving the Irrawaddy River dolphin (*Orcaella brevirostris*) and other wildlife on the Ayeyarwady River;
- Conserving the traditional culture of cooperative fishing with dolphins with cast nets;
- Providing additional income for fishing communities who have traditionally fished co-operatively with the dolphins.

All money from the community programme stays in the village and is divided between the service provider, community projects, and wildlife conservation.

Fourth, the success of the 1st Phase of 'Destination Ayeyarwady' has triggered a wonderful follow-up response, with over \$16,200 (in money and in kind) being **raised in donations** for a 2nd Phase. We thank **GeoDiscover**, Yangon for their great help with this fundraising. The 2nd Phase has seen the construction of a new building at Hsith village, which will not only be used as an Eco-lodge for visiting tourists to stay overnight (improving the visitor experience and boosting income to the village) but also as a rural **Environmental Learning Centre**. It will help expand the training in issues such as waste management, especially plastics. This was begun under the Darwin project but will be further developed through new programmes, bringing in school children, students, and villagers from throughout Singu District and beyond. It should be noted that many of the Myanmar (Burma) and UK staff who were closely involved in the 1st Phase of the Darwin project are still working on the 2nd Phase – most are giving their time, without pay, because of their pride, dedication, and commitment.



Destination Ayeyarwady Hsithé Visitor Centre, Credit: Paul Bates

Fifth, His Excellency the Minister of Hotels and Tourism has become a strong supporter of the project, encouraging site visits not only from staff in his own ministry but also those in state ministries including Chin State and Mandalay Division. He sees the project as a role model for Myanmar (Burma) in community-led tourism. Great interest is also being shown by other Myanmar (Burma) conservation and ecotourism organisations which are keen to replicate many of the ideas.

“ His Excellency the Minister of Hotels and Tourism has become a strong supporter of the project, encouraging site visits not only from staff in his own ministry but also those in state ministries

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Sixth, as a result of the Minister's interest, we have been able to further encourage the Ministry to promote ecotourism to Myanmar, both as a way of supporting rural communities and to help preserve the environment. One important output of this is the **new ecotourism website**,

which the Harrison Institute wrote in conjunction with the MTF (Myanmar Tourism Federation) and which highlights opportunities for bird watching, trekking, cycling, sailing, as well as visiting 'Destination Ayeyarwady', of course!

Seventh, and finally, a number of the original Darwin project staff are now also part of a new EU funded Erasmus+ project, which is promoting the teaching of 'Environmental protection' within the Myanmar (Burma) university sector. They are using their practical experience to advise on a **new curriculum and training programmes**.

Perhaps the catch phrase for the Darwin Initiative should be 'from small acorns mighty oak trees grow'. Is 'Destination Ayeyarwady' a mighty oak? Not yet, but the roots are looking good and the branches are starting to spread nicely. On behalf of everyone involved, I extend a big thank you to the Darwin Initiative for your support. We will keep watering and nourishing this particular tree and have high hopes.

You can find out more on the **Harrison Institute** and dedicated **project** webpages. For more information on project 21-012 click **here** or contact Project Leader Paul Bates, **pjjbates2@hotmail.com**



Soil sampling for carbon assessment, Credit: Emily Mateche

The balanced approach yielding benefits for biodiversity and development in Yala Swamp

Located on the north eastern shore of Lake Victoria, Yala swamp is the largest inland freshwater wetland complex in Kenya. It is recognised as an important biodiversity hotspot, especially for the nationally threatened semi-aquatic antelope Sitatunga (*Tragelaphus speki*). It is also home to East Africa's papyrus endemic birds, including the globally threatened Papyrus Yellow Warbler (*Calamonastides gracilirostris*), and is a refuge for cichlid fish believed to be locally extinct in Lake Victoria. However, Yala Swamp is highly threatened, particularly from drainage for agricultural activities at both commercial and subsistence levels.

Through support from the Darwin Initiative, in April 2017, Nature Kenya successfully concluded a three year project that made remarkable strides in securing the future of Kenya's Yala Swamp. Through partnership with the County Governments of Siaya and Busia, local communities, and the national government, we conducted an ecosystem services assessment of the Yala Swamp which provided evidence that conservation of significant areas of the swamp is crucially important for the maintenance of ecosystem services that support the economy, biodiversity, and livelihoods.

Based on the findings of this assessment, we are in the advanced stages of developing a Land Use Plan (LUP) for the Yala Swamp. The Yala Swamp LUP is a negotiated document which provides a framework on how land within the swamp and the surrounding areas will be used. The LUP will inform County Integrated Development Plans (CIDPs) for Siaya and Busia Counties, which in turn will be used to define resource allocation within the counties over the next five years.

As part of the LUP process, community conserved areas (CCAs) covering 8,404ha were established. A local committee comprised of representatives from all user groups was appointed to jointly manage the CCAs with

the national and county authorities, thereby empowering communities to engage in sustainable management and use of biodiversity within Yala Swamp. A total of 320ha of degraded areas within the CCAs were restored through papyrus planting and a management plan for the CCAs is under development. Further, farmers planted 186,293 indigenous tree seedlings within the River Yala riparian area and on farms, resulting in the rehabilitation of 175.41 hectares upstream of the Yala Swamp.

Through implementation of various sustainable nature based enterprises, the wellbeing of Yala Swamp communities has also been improved. In 2017, for example, 156 households (1,248 individuals) harvested 9.2 tons of fish (equivalent to £6,600) increasing the average household incomes for beneficiary fish farmers by 183%. Other project interventions including papyrus processing, training of community guides, and the introduction of energy saving devices, have also made important contributions to improved wellbeing. The Yala Swamp LUP, strategic environmental assessment and CCA management plan feed directly into CBD objective 1: *To promote the integration of biodiversity considerations into sectoral policies or cross-sectoral strategies*. Livelihoods activities contribute towards CBD Objective 3: *To strengthen the linkages between CBD Programmes of Work and development / poverty alleviation*.

We have made good progress. However, a lot remains to be done to truly put the Yala Swamp on a sustainable footing. Nature Kenya will continue to mobilise resources to facilitate the implementation of the Yala Swamp Land Use Plan guided by Strategic Environmental Assessment.

Article written by Emily Mateche and Serah Munguti. For more information on project 21-015 click [here](#) or contact Project Leader Serah Munguti, advocacy@naturekenya.org



Women mobilisation for tree planting, Credit: Naturama

Putting the Buzz back into the shea parklands of Burkina Faso: working with local communities to restore ecosystems, help pollinators and migratory birds, and support local livelihoods through shea butter

The shea tree (*Vitellaria paradoxa*) is found in dryland savanna, forest, and parkland ecosystems across an estimated 1 million km² between western Senegal and north-western Uganda. Shea is an important crop, providing fruit near the end of the dry season, and the nuts can be processed into a nutritious butter which helps sustain an estimated 80 million people, as well as providing an income from trade.

Shea is heavily dependent on insect pollinators; indeed, our Darwin-funded research has shown that fruit production is significantly lower when insects do not visit flowers. The shea parklands have been a long established traditional food and fuel wood production system, but with growing population pressure and the introduction of the tractor, management has moved away from a shifting cultivation and pastoralist system, to more intensive 'permanent' agriculture. This has contributed to a degraded and fragmented landscape, with a lower diversity of plants, which makes life hard for insect pollinators in the Sahel. The most important shea flower visitors are bees - most frequently small social stingless bees (*Hypotrigena spp*) but also native honey bees (*Apis mellifera adansonii*). However as shea only flowers for one month a year, these pollinators need a varied and healthy landscape to sustain their foraging throughout the year. Our research shows that the yield from the shea trees is not as high as it could be, which indicates there

are not enough pollinators at work. This is bad news for people, the shea industry, and Afro-Palaearctic migrant birds which over-winter in the Sahel, but are continuing to decline in great numbers.

“ we have been spreading the word, educating and increasing awareness around the important role of pollinators ”

With Darwin Initiative support, BirdLife International and their Burkinabe partner Naturama are trying to change the way shea resources are managed. The 'Trees, Bees & Birds' (TBB) strategy is a farmer-led approach which promotes simple, low cost changes in management such as: encouraging natural regeneration, and also planting, of shea and other trees and shrubs; planting a variety of agricultural crops instead of just one or two; mulching and composting instead of using agro-chemicals; creating natural beehives by leaving dead wood for 'bee hotels', and keeping bees for honey; and, perhaps most importantly, allowing for extended periods of fallow, which allows land to rest and recover.

With two years of Darwin support we have established that pollinators appear more abundant at sites with greater tree and shrub diversity. Excitingly, we have also seen that where the landscape is more natural and healthy, the actual yield is comparable to a yield assisted by 'manual or hand' pollination. It is early days yet, but this supports the theory that when we improve plant diversity on farms, we see an increase in pollinators, and



Honey bee visiting shea, Credit: Aoife Delaney

increased in shea yield. And with this, we expect to see greater numbers of birds too. In other words, a win for birds, insects and people alike! We believe an approach which protects these ecosystem goods and services also reduces the vulnerability of human populations across the shea belt, and provides enhanced capacity to adapt to climate change, through sustaining healthier and more resilient stocks of natural capital.

Together, our International team has written biodiversity guidelines based upon Naturama's TBB work, and these have been successfully adopted by the Global Shea Alliance, a 500-strong member organisation which aims to increase sustainability across the shea value chain, both in the food and cosmetic industries. And we have been spreading the word, educating and increasing awareness around the important role of pollinators. Naturama has been undertaking training and capacity building with Burkinabe communities on the 'Trees Bees and Birds' strategy, and developing education and awareness campaigns in schools throughout the region. There are 20 pollinator ambassadors in communities around Kaboré Tambi National Park in Southern Burkina Faso, who are actively spreading the 'TBB' message throughout the communities, educating the next generation as to how animal pollinators help deliver the vast majority of all our food crops, worldwide!

With thanks to the Darwin Initiative, the future is looking brighter for shea, people and birds across the Sahel, in terms of biodiversity conservation, sustainable development and benefit sharing.

For more information on project 23-017 click [here](#) or contact Project Leader Elaine Marshall, elaine.marshall@birdlife.org



Women's group, Credit: Naturama



Packing nets, Credit: ZSL

Empowering communities, replenishing the ocean

Net-Works redesigns global supply chains to create sustainable and scalable solutions that reduce marine plastic, increase fish stocks, and improve the lives of marginalised coastal communities living in biodiversity hotspots of developing countries. We connect these communities to global brands via a fair and inclusive business model that delivers 'less plastic, more fish', contributing towards CBD objectives of conservation of biological diversity, and the sustainable use of its components as expressed in its article 1. Net-Works was co-founded by global conservation charity the Zoological Society of London (ZSL) and carpet tile manufacturer Interface, Inc. and is led by ZSL.

On the current trajectory of plastic pollution and overfishing, there will be one tonne of plastic for every three tonnes of fish in the ocean by 2025. The people most affected are those in marginalised rural communities within biodiversity hotspots of the developing world, especially in Southeast Asia. Despite this region contributing greater than 60% of the world's marine debris, it is the centre of marine biodiversity and is home to 55% of the global population of artisanal reef fishers and suffers the highest level of fishing pressure.

“
Increasing incomes from seaweed reduces dependence on fishing – enabling communities to set aside larger no-take zones
”

Net-Works has been working on a simple, scalable and holistic model to deliver less plastic, more fish and improve the lives of marginalised coastal communities across Southeast Asia. The programme applies the principles of fair trade and inclusive business, creating efficient community-based supply chains for raw materials (plastics and seaweed carrageenan) that are available in abundance. We link these raw materials to conservation actions that reduce plastic pollution and restore coastal ecosystems.

Increasing incomes from seaweed reduces dependence on fishing – enabling communities to set aside larger no-take zones. The raw materials are sold into global supply chains, giving international brands opportunities to source premium products with positive social and environmental stories. At the same time, this gives fishing communities a more transparent and dependable price and provides sustainable funding sources for local conservation and development actions. This ensures the sustainability of larger, more effective multi-habitat Marine Protected Areas (MPAs), and quality controls and standards can be maintained independent of external donors. Local supply chains are managed through community banks, bringing communities together in informal cooperatives. Community banks provide much needed access to financial services, using the globally recognised and proven Village Savings and Loan Association (VSLA) model. These community banks are the 'social glue' at the heart of Net-Works, enabling members to invest in their sustainable livelihoods, building a Net-Works' conservation constituency.

We must act now

OR

PLASTIC WILL OUTWEIGH
FISH IN THE OCEAN

2025

1 TON OF
PLASTIC
FOR EVERY
3 TONS OF FISH

2050

MORE PLASTIC
THAN FISH

Fishing communities in
South East Asia will be
some of the hardest hit
by this increase.

Source: Ellen MacArthur Foundation

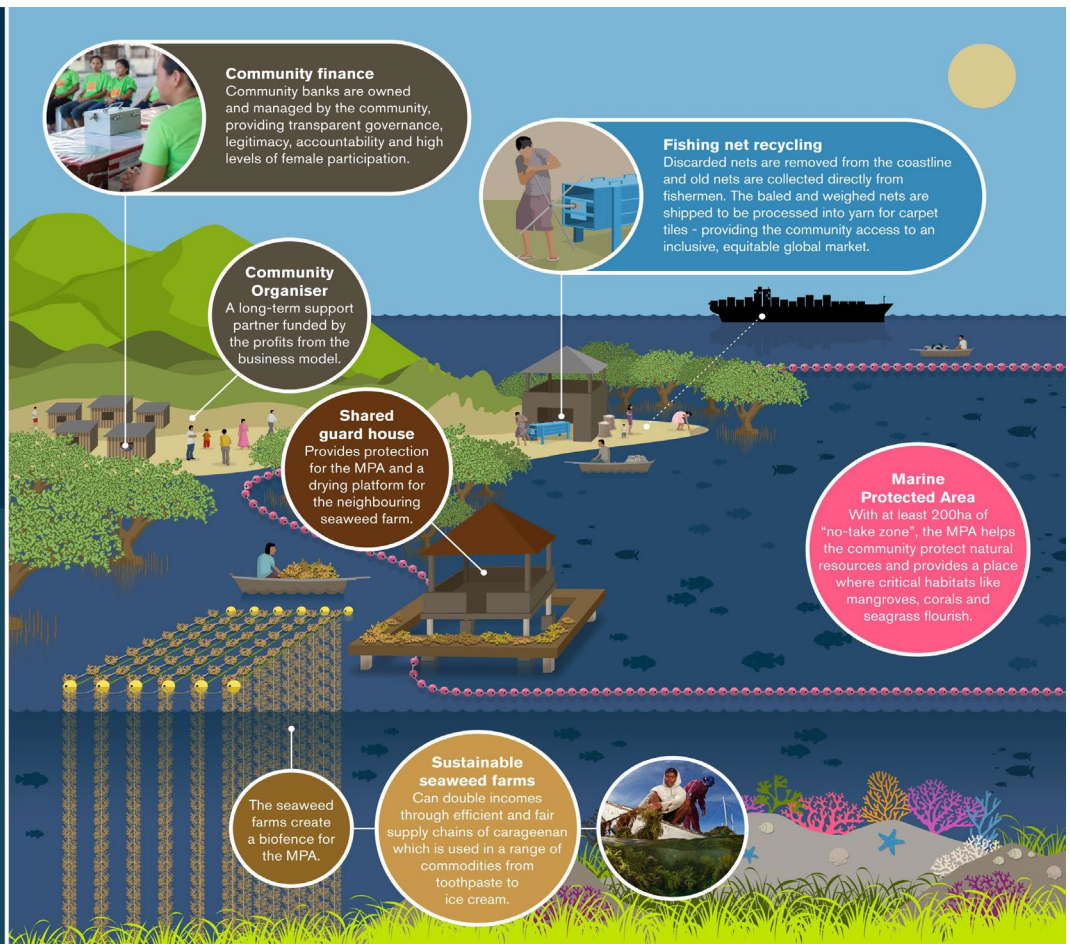
Net-Works

reduces plastic and
replenishes fish stocks
through community-based
coastal enterprises.

www.net-works.com

What's the impact of a Net-Works hub?

- Support over 20,000 local people
- Redress the balance of plastic to fish
- Double the income for 150 families
- Provide access to finance for 150 families
- Collect 14 tons of damaging nets per year
- Farm 750 tons of seaweed per year



“
By setting high social and environmental standards and improving efficiencies, Net-Works can offer farmers a fair price that can double local incomes

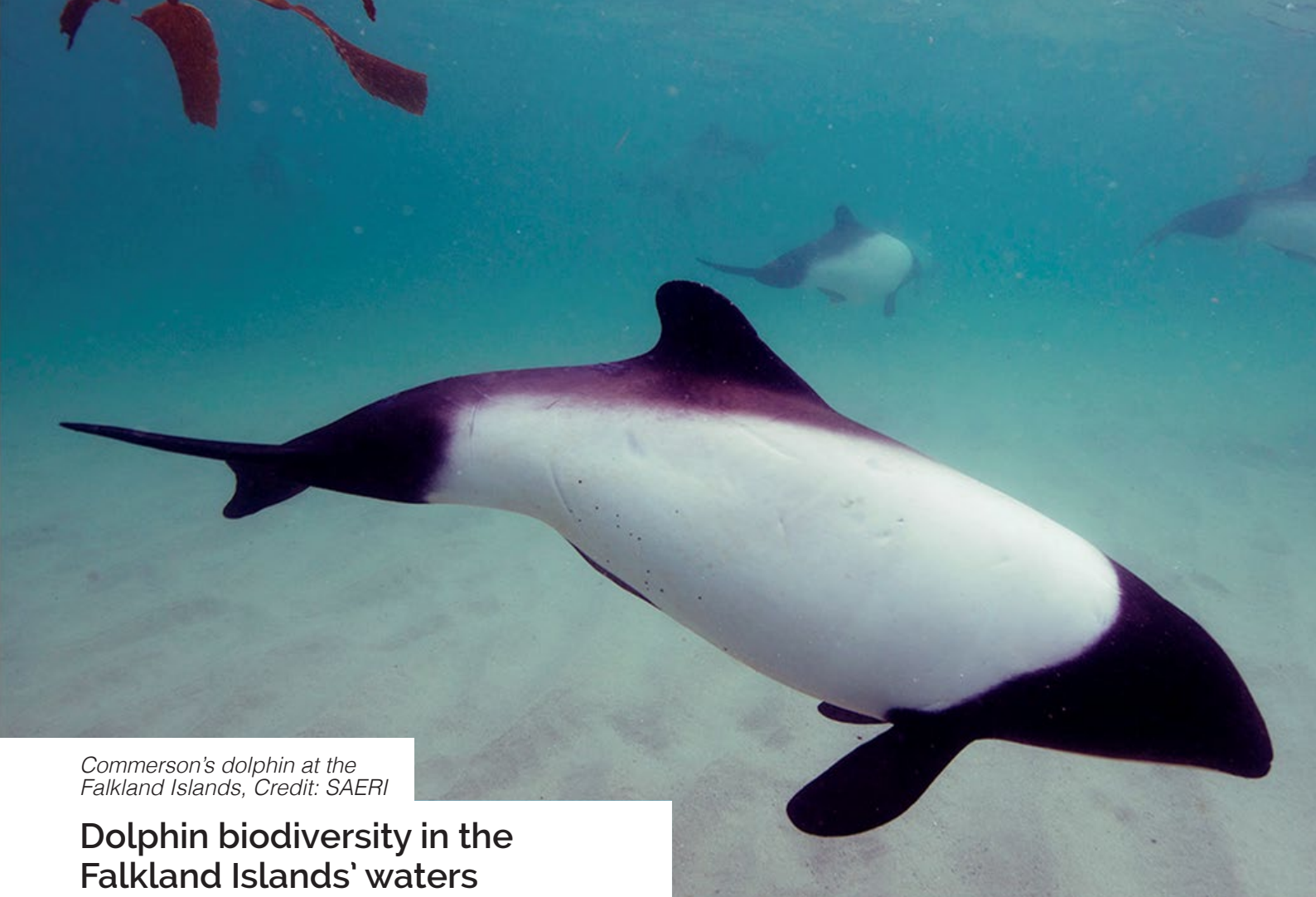
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Net-Works started by developing a prototype around discarded fishing nets that are recycled into nylon yarn and sold to Interface, Inc. to make high design carpet tiles. We have been progressively building on this foundation. We are now building out the supply chain for carrageenan (seaweed extract), which will be the economic engine for **scaling Net-Works across Southeast Asia**. Carrageenan-bearing seaweed is used by the cosmetics, toothpaste, firefighting and food industries, and projected to have a global market value of around \$1bn by 2021. Seaweed farming is a popular activity in coastal communities across Southeast Asia: over 1 million people are dependent on seaweed farming in the Philippines, where it accounts for 35% of fisheries production. Seaweed has the potential to provide a valuable source of income to these communities. However, the current seaweed supply chain is fraught with inefficiencies and inequalities. As a result, carrageenan is fast becoming the palm oil of the sea.

We link seaweed farming to MPAs, in line with the bigger and better MPAs already prototyped through this project. By setting high social and environmental standards and improving efficiencies, Net-Works can offer farmers a fair price that can double local incomes. In addition, it provides the necessary technical support services, affordable loans, and insurance, and incentivises conservation.

In 2018 and 2019 we plan to complete the full-scale pilot of the forecast costs and revenues in three villages and prepare ourselves to be impact investment ready. By the end of 2019 we aim to have 100,000 Southeast Asian people benefiting from less marine debris, 2,500 families with access to finance, 1,200 ha of ocean well protected to replenish fish stocks, and double incomes for seaweed farmers in the three pilot communities. Securing impact investment, our medium term goal is to establish 50 hubs that better protect 1 billion m2 of the ocean, provide 10,000 impoverished families with access to finance and improved sources of income, and create a more resilient environment for 1 million people by 2022. Ultimately, our long term vision is for Net-Works to benefit the 3.35 million Southeast Asian artisanal reef fishers by reducing marine plastic and increasing fish stocks. With support from the Darwin Initiative, we're on our way towards this!

Article written by by Nick Hill, Surshti Patel, and Ana Pinto. For more information on project 24-027 click [here](#) or contact Ana Pinto, ana.pinto@zsl.org



Commerson's dolphin at the Falkland Islands, Credit: SAERI

Dolphin biodiversity in the Falkland Islands' waters

With so much technology and information available to us today, it is hard to believe that we only have a superficial knowledge of the dolphins and whales inhabiting our oceans. Even for well-studied species, we know little about the size of their populations, whether they are increasing or decreasing in numbers, or what threatens them. And for many regions we are struggling to even understand how many species, subspecies, and populations there are of these highly charismatic and ecologically important marine species.

In the Falkland Islands' waters, cetacean monitoring has been limited to a few explorative, mainly offshore, surveys. Information about cetaceans' presence, abundance, and genetic characterisation is missing. This lack of data has been recognised as a major threat to the effective conservation of cetaceans in the 'Falkland Islands Species Action Plan for Cetaceans' by the Environmental Planning Department of the Falklands and by the International Union for the Conservation of Nature (IUCN).

Our 'Dolphins of the Kelp: Data priorities for Falkland's inshore cetaceans' project is a multi-partner initiative funded through Darwin Plus. Led by the South Atlantic Environmental Research Institute (SAERI), the project aims to investigate genetic diversity and to estimate abundance of Commerson's (*Cephalorhynchus commersonii*) and Peale's dolphins (*Lagenorhynchus australis*), the only two species of cetaceans inhabiting Falkland waters year-round.

The project has recently entered into its last six months and the results so far have been thrilling. The first result concerns the genetic relationship of the Falkland's dolphins with populations of the same species inhabiting the waters off South America. In order to carry out an analysis, tissue samples were collected in January-February 2017, under the supervision of Professor C. Scott Baker of the Marine Mammal Institute, Oregon State University. This was the first time ever that genetic material was collected from Falkland's dolphins. Preliminary analyses suggested that both Commerson's and Peale's dolphins in the Falklands represent a separate population from mainland South America populations.

The second important result was the first estimate of abundance for both species in Falkland's water within 10 kilometres from the coast. Data were collected in March-May 2017, using a Britten-Norman BN-2B Islander aircraft, flying over 217 transects for a total of 4,300 km at 150m of altitude and a speed of 167 km/hour. A total of approximately 5,500 Commerson's and 2,250 Peale's dolphins were estimated. In term of density, these numbers translate in about 29 Commerson's and 12 Peale's dolphins encountered every 100 km², a relative large number if compared with the 7 Commerson's and 3 Peale's dolphins per 100 km² encountered in the waters off Patagonia. It is important to underline that, although our estimates suggest that dolphins are quite abundant around the Falklands waters, their absolute number is

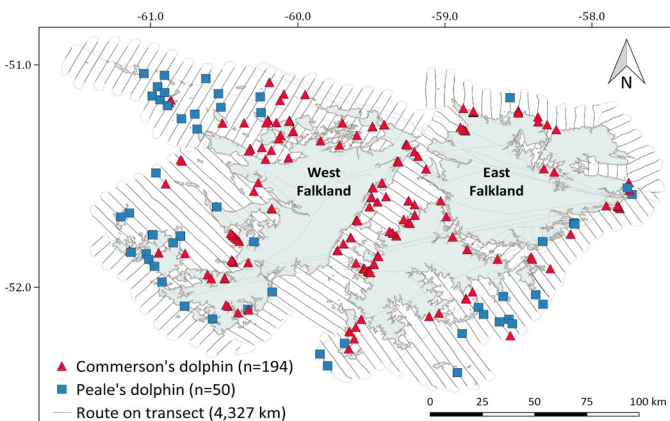


The Britten-Norman BN-2B Islander from the Falkland Island Government Air Service (FIGAS) used for the survey, Credit: SAERI

one order of magnitude smaller than the absolute number of Commerson's (22,000) and Peale's (20,000) dolphins estimated for the Patagonian Shelf (data from Dellabianca *et al.*, 2016 - Spatial Models of Abundance and Habitat Preferences of Commerson's and Peale's Dolphin in Southern Patagonian Waters - PLOSOne).

The results obtained through this project are extremely important for advancing worldwide knowledge of cetacean species and will support decision-makers to implement cetacean conservation measures. Cetaceans are essential components of marine biodiversity and their protection is essential for the proper functioning of ecological systems. Through the 'Dolphins of the Kelp' project, the Darwin Initiative is contributing to the **target 19** of the of the CBD Aichi targets through improving the science base for these species. The 'Dolphins of the Kelp' project is continuing and we are expecting more information about the distribution, habitat preferences, movement, and natural history of Commerson's and Peale's dolphins in the next few months. So stay tuned!

For more information on project DPLUS042 visit their **website**, their **project page**, or contact Project Manager Marina Costa, mcosta@env.institute.ac.fk, marinza.costa@gmail.com



Map of the Falkland Islands showing the sightings of Commerson's and Peale's dolphins made during the aerial survey, Credit: SAERI



*PFM Process discussions,
Credit: Huddersfield*

Community conservation of wild Arabica coffee – people and the Convention on Biological Diversity

Arabica coffee is found growing wild only in Ethiopia, and an adjoining area of South Sudan. Hence it is a genetic resource for which Ethiopia is responsible under the Convention on Biological Diversity. One of the last remaining major blocks of natural forests, in the south-west of the country, is one area where this wild coffee is found. However, these forests have been subject to clearance for agriculture and other forms of disturbance over the last century, and the globally important coffee gene pool is under threat.

With support from the Darwin Initiative, the University of Huddersfield and Ethio Wetlands and Natural Resources Association undertook an analysis of the causes of forest loss. This identified insecurity in forest tenure and poor forest policy as major causes of the problem, as they discouraged forest-based livelihoods and gave communities no rights over the forest and its products.

From this analysis, the Wild Coffee Conservation by Participatory Forest Management (PFM) project was developed to assist government in revising the regional forest policy to give communities rights and responsibilities with respect to the forest. At the same time, a PFM programme was developed to explore how devolution of forest management to communities could reduce forest loss and provide ways to conserve wild coffee through community engagement.

PFM was developed at the smallest operational unit in the countryside, village communities, as they were

found to be most knowledgeable about the forest and have strong links to specific areas. At that level, forest management groups (FMGs) were elected to undertake management and monitoring. The FMGs agreed to fulfil these responsibilities subject to having their traditional use and access rights outlined in PFM Agreements signed with the local government. Finally, the communities established cooperatives to market sustainably harvested forest produce. The income from these improves livelihoods and helps cover the costs of the monitoring and protection of the forest.

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By getting forest rights and livelihood benefits for the forest fringe dwelling communities Darwin support has helped turn degraded, “open access” forest into actively managed forests where communities protect a unique global genetic resource – your morning Arabica coffee
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This work has slowed forest loss from 2.6% per year outside the PFM forest to 0.18% per year inside the PFM forest, with over 76,000ha of forest now under PFM. Analysis using the Shannon Diversity Index showed that biodiversity has been maintained within natural forest, which contains the wild coffee stands. However, both species richness and evenness declined outside the natural forest in the intensively managed, peripheral forest where coffee production has been developed. Critically, the wild coffee is mapped and



Picking ripe coffee cherries on mountain forest plots cleared for coffee cultivation, Credit: Sheko Woreda, SNNPR



Basket of ripe coffee cherries picked off mountain forest plots cleared for coffee cultivation, Credit: Sheko Woreda, SNNPR

included in the community forest management plans which are jointly monitored each year with the government.

Development of the cooperatives and income from sustainable harvesting of a diverse range of forest products is the economic basis for the long term viability of this community forest management and the maintenance of the wild coffee stands. By getting forest rights and livelihood benefits for the forest fringe dwelling communities Darwin support has helped turn degraded, “open access” forest into actively managed forests where communities protect a unique global genetic resource – your morning Arabica coffee.

Overall this project has helped Ethiopia fulfil its commitments to the Convention on Biological Diversity by addressing one of the causes of the loss of forest biodiversity, developing a way to manage in-situ conservation without additional costs, and ensure the benefits of biodiversity conservation are shared equitably in a way which contributes to poverty eradication.

Article written by Adrian Wood and Matt Snell. For more information on project 19-025 click [here](#) or contact Project Leader Adrian Wood, a.p.wood@hud.ac.uk



Monitoring stands of wild coffee, Credit: Huddersfield



Credit: Carlton Ward Photography

Elephant conservation through community empowerment in Mali

The Gourma region of Mali, West Africa, suffers from impoverishment through natural resource degradation. This is compounded by insecurity and social dislocation as violent extremism has become widespread following a 2012 government coup, armed rebellion and jihadist insurgency. Yet despite this, the Mali Elephant Project has so far managed to continue its activities throughout.

An internationally important population, the Mali elephants are remarkable for how they have managed to survive when all others around them have disappeared. They make the longest annual migration of all elephants, picking their way through this harsh environment to find the resources they require, and avoiding human activity as much as possible.

“ the majority of the local population regarded the elephants like themselves, as an integral part of the ecosystem

After studying their migration for 3 years it became clear that they were at the limit of their ability to adapt any further. Their migration route needed to be preserved in its entirety, although conflict was rising as human activity was spreading and intensifying throughout the range. As this covered approximately 32,000km (somewhere between the size of Belgium and Switzerland) a landscape approach that involved

the local people was essential. An attitude survey and a series of community meetings demonstrated that the majority of the local population regarded the elephants like themselves, as an integral part of the ecosystem. “If elephants disappear it means the environment is no longer good for us” was the commonly heard sentiment.

Further socio-economic studies showed that the multiple ethnicities and clans that inhabit the range all had systems of resource management but were reluctant to respect each other's. This resulted in degradation, a loss of ecosystem productivity and resilience, impoverished livelihoods (increasing the risk of youth radicalisation), and conflict between humans and between humans and elephants. However it was also possible that with good management, habitats could be restored.

The **award-winning** Mali Elephant Project has received two grants from the Darwin Initiative, the first of which supported the development of a model of community empowerment in resource management. Its work is to bring all parts of the community together to create a common perception of the problems they face before determining solutions. These usually involve electing a representative committee of elders to define the resource management rules (which include protection of the migration route and key elephant habitat); while teams of young men patrol to ensure compliance and conduct manual tasks such as fire-break construction and tree-planting. This is possible because of Mali's decentralisation legislation which gives local communities control over their own natural resources. Empowering local people to prevent outsiders and



*Making the firebreak guideline,
Credit: WILD Foundation*

urban commercial interests from abusive resource extraction is popular and the local benefits of “elephant-centred” resource management have provided the foundation for a **successful anti-poaching strategy** and the creation of a protected area based on the biosphere reserve model.

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Working with women is a quietly powerful way of providing strong support, influence, and additional incentives as an alternative to often-destructive, traditionally male-dominated natural resource management structures

Such systems are generally the prerogative of men and so the second grant supplemented this by developing women-led initiatives to generate supplementary income from practices that encourage the wise use of natural resources in key areas in the elephant range. Working with women is a quietly powerful way of providing strong support, influence, and additional incentives as an alternative to often-destructive,

traditionally male-dominated natural resource management structures. The training empowers women to collectively generate additional income enabling them to take an active role in local decisions relating to resource use by promoting the protection of sustainable use zones and regeneration of degraded land. Activities selected by women’s associations have included: small-scale cooperative livestock fattening schemes to reduce the intensity of livestock environmental impact; cultivation and harvesting of vetiver plants for multiple uses (medicinal, antiseptic and weaving); sustainable harvesting of NTFPs such as Acacia seedpods and gum Arabic; and harvesting of hay for dry season livestock fodder.

The Mali Elephant Project is a joint initiative of the WILD Foundation and the International Conservation Fund of Canada. See <https://www.wild.org/mali-elephants/> and http://icfcanada.org/our-projects/projects/mali_elephants

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If you are interested in learning more about the projects this article refers to, find out more on our website: **19-010** and **23-022**. Alternatively, contact Project Leader Susan Canney, susan.canney@zoo.ox.ac.uk



Bycatch accounts for 70 percent of Indonesia's shark and ray landings, Credit: Vidlia Rosady (MantaWatch)

A ray of light for mobulid bycatch in small-scale fisheries

Sharks and rays are irreplaceable components of ocean ecosystems, performing vital ecological roles and providing significant economic and cultural values. Yet with almost one quarter of all shark and ray species threatened with extinction, they are one of the world's most threatened vertebrate groups. At the intersection of technology and sensory biology is a ray of light that could enable small-scale fishing communities to play a vital role in halting this trend.

Given the overarching vision of the Convention of Biological Diversity to reduce biodiversity loss, sharks and rays are a group that cannot be ignored. Mobulid rays are amongst the most threatened members, having extremely low reproductive rates. International momentum, including recent listings under the Convention on the International Trade of Endangered Species (CITES) and the Convention on Migratory Species (CMS), has brought much needed attention to the issues of targeted fisheries and illegal wildlife trade. However the important issue of bycatch remains largely overlooked.

Indonesia's Ministry of Marine Affairs and Fisheries estimates that as much as 70 percent of the nation's mobulid ray landings are bycatch. The true proportion may be even greater, given that bycatch is discarded at sea, enters informal markets, or occurs in small-scale fisheries that are largely under-managed and where catches are unreported. When they become entangled, mobulid ray can damage nets, with repairs causing significant costs to fishers in terms of time and money. While fishers may sell their mobulid ray bycatch into informal markets in an effort to recoup these costs, most would prefer to avoid interactions in the first place.

Lights are used in many fisheries as a lure, and may also have a role to play in repelling unwanted species. While marine sensory biology remains an emerging field, there is compelling evidence that different species respond to different light intensities and wavelengths. To date it is predominantly large-scale commercial fisheries that have employed light. However light offers a simple and low cost solution for reducing bycatch within the world's widespread small-scale fisheries.

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Supported by a Darwin Initiative Scoping Award, MantaWatch is preparing to assess the impact of light colour and intensity on mobulid bycatch, and to evaluate the socio-economic feasibility of technology adoption by small-scale fisheries. During this project development phase we have successfully established collaborative agreements with two international technology partners, three Indonesian universities, two Indonesian government agencies, and several coastal community associations. A pilot feasibility test with 20 small-scale Indonesian gillnet fishers has produced promising results, with red LEDs reducing mobulid bycatch and enhancing target catches, suggesting there is a compelling incentive for fishers to adopt this bycatch mitigation technology.



After becoming entangled in a gillnet, a school of mobula rays is landed at a fishing port, Credit: Vidlia Rosady (MantaWatch)

“
light offers a simple and low cost
solution for reducing bycatch within the
world’s widespread small-scale fisheries

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As we prepare to launch a larger randomised control trial with our partners to evaluate the impact of light colour and intensity on mobulid bycatch, this initial scoping phase has given us confidence that light could assist the Government of Indonesia to achieve goals under a recently launched National Plan of Action for the Conservation and management of Sharks and Rays, including conserving shark and ray populations, improving fishing gear selectivity and increasing the income of coastal communities. Furthermore, light could enable fishers to make a vital contribution to achieving Aichi Target 12 “improving the conservation status of the most threatened species” and Target 6 “reducing fishery impacts on threatened species”.

Article written by Andrew Harvey and Vidlia Rosady. For more information on Scoping Award DARSC177 click [here](#) or contact Project Leader Andrew Harvey, andy@mantawatch.com



Indonesian fisher tests if red LEDs to gillnets can reduce unwanted bycatch, Credit: Vidlia Rosady (MantaWatch)



Baka women and children outside traditional hut, Credit: Eva Avila

Sustainable hunting, conservation and human wellbeing in Baka lands in Cameroon

The three-year Darwin Initiative grant in support of our work with Baka Pygmies in south-eastern Cameroon is ensuring that wildlife used as food is sustainable and in so doing food security and health of these societies are improved.

In the forests of Central Africa, pressure from growing urbanised human populations and hunting advances have led to a booming commercial wild meat trade that is causing the decline of numerous wildlife populations. Peoples that depend on wild meat and other products are affected. Clear recognition that there is an urgent need to ensure the sustainability of these resources by reducing the uncontrolled bushmeat trade whilst empowering rural and indigenous communities was declared in the Dec. 2017, 21st Conference of the Parties (CoP21) to the Convention on Biological Diversity.

“ Working with indigenous peoples to encourage sustainable hunting and conservation of wild resources

This project, with Darwin funding, is working towards the implementation of the new CBD resolution. Our collaborators are 10 communities of Baka Pygmies in

southern Cameroon. The Baka, who are traditionally hunter-gatherers, have endured for over 40,000 years as part of Central Africa's Pygmy population - somewhere in the region of 500,000 to 900,000 people.

By documenting hunting and fishing practices and volumes extracted in our study villages, we are working alongside local people to achieve sustainable levels of wild meat extraction and consumption. Unlike other bushmeat-focused projects, ours has a broader remit – we work within the triptych of human health, use of wild resources and domestic food production. By working with health professionals and agricultural experts, Darwin Initiative funding is improving the health of the Baka villages through disease prevention strategies. By encouraging food security through an increased access to sufficient, safe and nutritious foods from improved subsistence agriculture and alternative livelihoods, villagers' health is further enhanced. Our project is also determining wildlife numbers around the village areas to assess their condition and encourage their protection.

Although there are still challenges to overcome, the Darwin funding is enabling us to acquire a more complete picture of the linkages between the use of wildlife and the wellbeing of those people that are so dependent on it.

For more information on project 24-029, click [here](#) or contact Project Leader John E. Fa, J.Fa@mmu.ac.uk



A lone relict cabbage tree, habitat for native ferns, liverworts, mosses, lichens and invertebrates, Credit: Andrew Darlow

St Helena's Cloud Forest and the Convention on Biological Diversity

At 25 years old, the UN's Convention on Biological Diversity (CBD) remains a valid framework for shaping our conservation activities on St Helena. We consider this in light of the Darwin project DPLUS029 Securing St Helena's Cloud Forest Trees and Associated Invertebrates, which has recently concluded on St Helena.

The legacy of this project is now being used to further develop the conservation and restoration of St Helena's unique cloud forest. In line with **CBD article six**, the data outputs from the project are now informing our future work and conservation strategy for the cloud forest. Many of the endemic species in the cloud forest are threatened. Four key tree species: the cabbage, whitewood, dogwood and false gumwood are Critically Endangered. In turn, the endemic invertebrate communities reliant on these trees are also threatened.

Article seven of the CBD outlines the need for identification and monitoring, our project has collated a diverse data set on the habit, habitat and locations of the key species involved. Future work will use this data as a baseline to monitor change and to assess the success of subsequent work. **Article eight** of the CBD, In-situ Conservation, covers the heart of our work in the cloud forest, as in-situ conservation is the preferred option for species protection. However the degraded nature of the habitats we have inherited and the continuing pressure

from invasive species means that this methodology will not suffice for Critically Endangered species. Indeed it is likely that CBD article 8(h), "Prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species", would be one of the most costly and difficult to achieve in the cloud forest.

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St Helena is a remote small island state located midway between the South American and African continents in the South Atlantic. Human presence on the island over the past five centuries has not been favourable to the native biodiversity which evolved over an estimated 12 million years

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The CBD allows for the difficulties with in situ conservation with options for ex-situ conservation in **article nine**. Our project allowed for genetic material from the remaining individual trees to be located, collected and propagated. Where possible this was done by producing clones from cuttings and with discrete seed and seedling harvesting for the remainder. These progeny have now been planted as a series of genetically diverse orchards which contain the known genetic range for the whole species. While not strictly



An old black cabbage tree covered in epiphytes, Credit: Lourens Malan

in-situ these orchards lie on the boundaries of the cloud forest and will gradually, we hope, merge with native habitat through restoration work. This we believe offers the best chance of practically protecting the remaining gene pool and producing restoration material with the widest possible variation in line with Darwinian survival principles. The use of such plants in restoration work directly works towards **article 10(d)**.

St Helena is a remote small island state located midway between the South American and African continents in the South Atlantic. The island is in the process of continuing human development following the recent completion of an airport for access. Human presence on the island over the past five centuries has not been favourable to the native biodiversity which evolved over an estimated 12 million years. St Helena is sadly typical rather than unique in this respect. Potentially, the future of the island's endemic flora and fauna, currently representing about a third of all known endemic species of the UK and her overseas territories, can be better managed and conserved. An unexpected benefit from improved speed of access is the increase in potential for **specialist research and training** to be brought to the island. Previously, sea access with its time constraints has often made this, and timely **technical and scientific cooperation**, impractical. Increased exposure to such cooperation and collaborative working will also drive the principles of the CBD through the **better exchange of information**.

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Our project was developed from a perceived local need and we believe provides a model for similar work on critically endangered populations

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Our project was developed from a perceived local need and we believe provides a model for similar work on critically endangered populations. For us this is a small but hopefully secure step towards longer term conservation and restoration spanning the next century. We are happy to share our experiences with other practitioners through Darwin or directly by correspondence.

For more information on project DPLUS029, click **here** or contact Project Leader Lourens Malan, **lourens-malan@enrd.gov.sh**



Veterinary training Bosawas Biosphere Reserve, Credit: Braden Gunem

Improving livestock management for economic-environmental stability in Mesoamerica's Moskitia

The binational "Heart of the Mesoamerican Biological Corridor" of Nicaragua and Honduras is the second largest wilderness in Central America and part of the greater Mesoamerican hotspot of biodiversity. Known as La Moskitia, this region harbours intact forests, high biological diversity, and regionally at-risk wildlife, including the jaguar, harpy eagle, scarlet macaw, white-lipped peccary, and numerous migratory birds. Straddling the two countries, this binational complex of protected areas also hosts over 100,000 inhabitants living in extremely remote communities, including Miskito, Mayangna, Pech, and Tawahka indigenous groups. Despite high conservation values, pristine forests, and significant watersheds, deforestation rates are high in La Moskitia, largely the result of inefficient cattle raising practices.

The Wildlife Conservation Society (WCS) is using Darwin support to deliver technical assistance for sustainable, environmentally responsible livestock management to indigenous and ladino communities who reside on the edge of core protected areas. The goal is to elevate people's standard of living and protect biodiversity, including large mammals and migratory birds.

In both Nicaragua and Honduras, WCS conducted in-depth socio-economic surveys to establish baseline data to measure impact and determine what interventions should be prioritised, identifying animal health and nutrition as paramount concerns that figured into project design. The project now involves over 140 families

between the two countries, as well as three major river basins, three biosphere reserves, and four ethnic groups. WCS and local institutions are working together on improved control of domestic animals through changed knowledge, practices, and attitudes in order to reduce conflict between jaguars and farmers, decrease hunting of wildlife in indigenous communities, and secure commitments to maintain forest.

“ WCS is addressing livestock nutrition through silvopastoral systems that combine live fences of forage producing trees with improved pastures to reduce the need for pasture expansion and its resultant deforestation ”

WCS is addressing livestock nutrition through silvopastoral systems that combine live fences of forage producing trees with improved pastures to reduce the need for pasture expansion and its resultant deforestation. WCS has also provided training on the diagnosis and treatment of livestock diseases. The technical assistance is contingent upon "Conservation Agreements" to curb deforestation and regulate hunting.

This project aims to fulfil the objectives of the Convention on Biological Diversity (CBD), especially **article 8**, which includes managing biological resources within protected areas with a view to conservation and sustainable use, promoting the protection of ecosystems, and the maintenance of viable populations of species in



River travel Bosawas Biosphere Reserve, Credit: Braden Gunem

natural surroundings. It also endeavours to provide the conditions needed for compatibility between present uses, the conservation of biological diversity, and the sustainable use of its components.

Article 7 of the CBD includes monitoring through sampling. This project, now essentially at its mid-point, includes a system of socioeconomic and biological indicators for measuring the success of our work both in local communities and on biodiversity conservation. Socioeconomic indicators focus on changes in standards of living and sources of livelihood. The biological metrics include bird and mammal sampling to detect changes in response to interventions in species abundance, composition, and diversity. The project's first round of biological sampling obtained exciting data on bird species in the territories that indicate forests are in good condition, as well as the presence of large mammals that are often now absent from other areas, including jaguars, tapirs, and white-lipped peccaries. WCS hopes that the project helps these indicators of biological diversity and the forests in which they thrive to persist over the long-term, providing a useful model for la Moskitia and other remote forested regions of Mesoamerica.

For more information on project 23-014, click [here](#) or contact Project Leader John Polisar, jpolisar@wcs.org

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Tana Delta community members and Nature Kenya staff during World Wetlands Day Celebrations 2018, Credit: G. Odera

Balancing water services for development and biodiversity in the Tana River Delta, Kenya

The 130,000ha Tana River Delta in Kenya is an extremely important area for biodiversity. As well as being recognised as a Ramsar site, Key Biodiversity Area and Important Bird and Biodiversity Area, it is a proposed World Heritage Site.

The Delta supports a range of charismatic, endemic and endangered species including five species of threatened marine turtles, lions, elephants, the endemic Tana River Red Colobus (one of the world's 25 most endangered primates), the Tana River Mangabey (Endangered), rare fish and reptiles, 350 bird species including the Basra Reed-warbler (Endangered), and internationally important populations of 22 waterbirds and 280 plants (including four Vulnerable species).

The Tana Delta Land Use Plan (TDLUP) was completed in 2015. In April 2017, with funding from the Darwin Initiative, the Royal Society for the Protection of Birds (RSPB) through Nature Kenya started piloting the implementation of the TDLUP. The best place to demonstrate how to implement the plan is in the heart of the delta, where biodiversity is richest and access to water and land is hotly contested by local people.

The project will work in this area to support 45 villages and two County Governments (Tana River and Lamu) to balance water use for development and biodiversity by establishing a Community Conservation Area (CCA) over 95,200 hectares of the core of the delta.

The project has made good progress in its first year, and highlights include:

1. An Ecosystem Services Assessment of the CCA was carried out, with stakeholders agreeing on the general boundaries of the CCA and the various services provided by Kenya's largest deltaic ecosystem.

2. Biodiversity assessments were carried out in the CCA. A key finding is that the ranges of the Tana River Red Colobus and the Tana River Crested Mangabey extend further south than initially recorded. The primates were recorded in Shetani Matwari Forest right in the heart of the CCA, highlighting the importance of conserving forest patches within the CCA.

3. Household wellbeing and socioeconomic surveys were conducted in 15 villages targeted for livelihood activities in the proposed Tana Delta CCA. These will form a baseline for measuring community livelihood improvements resulting from project interventions.

4. To support community livelihoods, 123 acres were ploughed and planted with 1,080 kg of lentils benefitting 791 households. Women's groups in Hewani and Moa villages were supported to buy 377 indigenous chickens to form a poultry project. To date, 938 eggs have been collected in both villages, and 102 chicks have been hatched. The women have earned £242 from the sale of eggs and chickens.

In conclusion, this project will address three objectives of the CBD (1) To promote the integration of biodiversity considerations into sectoral policies or cross-sectoral strategies; (2) To facilitate knowledge sharing, the dissemination of lessons learned and best practice regarding the integration of biodiversity into development sectors and poverty reduction strategies; and (3) To strengthen the linkages between CBD Programmes of Work and development / poverty alleviation. There are early signs that this project has the potential to be a model worth replicating.

Article written by Serah Munguti. For more information on project 24-013 click [here](#) or contact Project Leader Chris Magin, chris.magin@rspb.org.uk



*Rio Patuca Tawahka Asangni
Biosphere Reserve, Credit: WCS*

Newsletter Contacts

The Darwin Initiative Secretariat (Defra)

The Darwin Secretariat is based in Defra and includes Claire Millar, Fiona Charlesworth, Duncan Robertson, Siriol Leach and Shaluki Perera.

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 at darwin-newsletter@ltsi.co.uk

The UK Government's Darwin Initiative aims to promote biodiversity conservation and sustainable use of resources around the world including the UK's Overseas Territories. Since 1992, the Darwin Initiative has committed over £152 million to 1,154 projects in 159 countries.