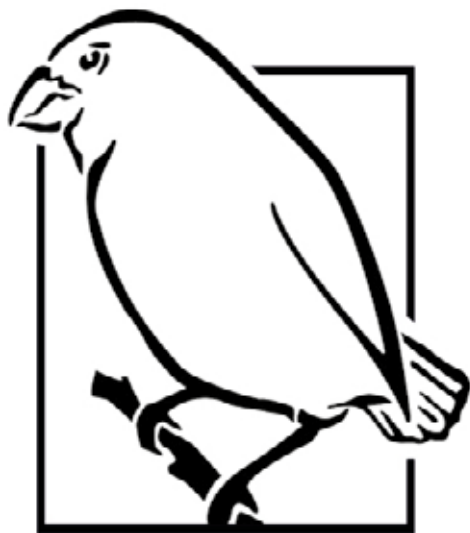


Newsletter

30th Anniversary



Symbolic crop wild relative plantation, Tanzania, Credit: Bioversity International



**DARWIN
INITIATIVE
30 YEARS**

 /DarwinInitiative

 @Darwin_Defra

Funded by the UK Government, the Darwin Initiative provides grants to support developing countries to conserve biodiversity and reduce poverty, with Darwin Plus focusing its grants on the natural environment and climate change in the UK Overseas Territories (OTs).

Projects support:

- the Convention on Biological Diversity (CBD)
- the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- the Nagoya Protocol on Access and Benefit-Sharing (ABS)
- the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)
- the Ramsar Convention on Wetlands
- the Convention on the Conservation of Migratory Species of Wild Animals (CMS)
- the United Nations Framework Convention on Climate Change (UNFCCC)



darwininitiative.org.uk



Rachael Tugume on her farm plot, Uganda, Credit: FFI

Contents

Publicity and information about the Darwin Initiative	3
A word from the Chair	4
Project articles	5
The Yayu Forest Coffee project	5
The Darwin Initiative, Madagasikara Voakajy, and I	7
One Man's Path to Impact	9
Safe haven for crop wild relatives: Malawi and Tanzania launch their very first in situ genetic reserves	11
Youth engagement in conservation and livelihood improvement	13
A reflection on two Darwin Initiative supported projects in the Amazon Forest, South America (2000-2006)	14
Safeguarding critical ecosystems through Indigenous Community Conserved Areas in Yala Swamp	16
Community-led Conservation in South Sudan	18
Female empowerment through the rescue and farming of traditional African vegetables	19
Balancing water services for development and biodiversity in the Tana River Delta	21
Championing the protection of riverine natural forests-Kidoma Private Forest Owners Association	22
Newsletter contacts	23



Ali Dido, a chilli farmer in Oda, Tana River Delta, Kenya, Credit: John Mwacharo

Publicity and information about the Darwin Initiative

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

For Darwin Plus, please visit dplus.darwininitiative.org.uk.

We also have a Biodiversity Challenge Funds channels on [Twitter](#), [Facebook](#) and [LinkedIn](#). Please feel free to follow the accounts for Darwin Initiative and Darwin Plus news.

We're also keen to share other Darwin project news. If you have news you'd like to share on our website, please get in touch at BCF-Comms@niras.com

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.



“
The Darwin Initiative exemplifies the power of a grassroots challenge fund approach, where people who really know what is needed for conservation to succeed on the ground can put forward their own ideas
”

of Warwick. One of my earliest forays into on-the-ground conservation action was in 2003 on a project that aimed to use saiga antelope conservation in Russia and Central Asia to improve rural livelihoods. Through a set of interlinked Darwin Initiative projects in Uganda, I've seen how ongoing support for in-country conservation actors can build into a powerful conservation ecosystem that encompasses governmental bodies, in-country NGOs and businesses. I have spent ten years as a member of the Darwin Expert Group and three years as Chair.

The Darwin Initiative exemplifies the power of a grassroots challenge fund approach, where people who really know what is needed for conservation to succeed on the ground can put forward their own ideas. Large-scale top-down investment in conservation and poverty-reduction has an important role, but it is funds like this one that can provide the engine of innovation and transformation upon which larger-scale programmes can build. The fund strives to respond to topical opportunities and critical needs in a way that more strategically-focussed investments would find hard to match. It also has enviably rigorous and consistent monitoring and evaluation, with an archive that teaches a lot about what works and what doesn't work in conservation and development.

It does huge credit to the UK government that it has provided continuous support to the Darwin Initiative over the last 30 years, and that it has committed to the expansion of funding and remit that were announced last year. The Darwin Initiative is strongly rooted in our government's ambition to play its part in ensuring flourishing nature for current and future generations. Over time, the fund has grown in influence and reputation, while remaining consistently at the cutting edge of conservation science and practice. This is thanks to the efforts of the whole Darwin community - our Ministers and civil servants, NIRAS-LTS International (the fund administrators), the Darwin Expert Committee, and all the people whose exciting proposals we fund.

Here's to another 30 years of transformative power!

Professor E.J. Milner-Gulland

Chair of the Darwin Expert Committee

A word from the Chair

It can be a challenge to stay optimistic working at the intersection of biodiversity conservation and poverty alleviation. The scale and implications of biodiversity loss for people and for the planet are increasingly apparent to us all, and the task of reversing this loss can feel both desperately urgent and never ending. The dependencies that billions of people around the world have on biodiversity - and particularly those whose livelihoods and identities are intertwined with nature - make them very vulnerable to the human-induced erosion of nature, as climate change, land conversion, pollution, and overexploitation accelerate.

However, reading through the articles in this 30th Anniversary edition the newsletter highlights why we should feel positive about the future - and underlines the vital role of the Darwin Initiative in catalysing positive change. Since 1992 it has been at the forefront of supporting conservation that is genuinely transformative, and now in its 30th year this is even more apparent.

Our focus in the Darwin Initiative has always been on projects that catalyse change and make a difference above and beyond their lifetime. Now, with our expanded portfolio of schemes, we are in an even better position to ensure this catalysis takes place - by supporting small local organisations build capacity, novel and risky ideas and through Darwin Extra funding the upscaling of some of our Main projects.

I have personally been involved with the Darwin Initiative in various guises since the beginning. As a young lecturer in 1993, I had one of the first grants, which funded four people to come and do a Masters course at the University



Washing coffee ensuring high quality, maximizing farmers income, Credit: Emily Garthwaite

The Yayu Forest Coffee project

In 2014 we began a three-year Darwin Initiative funded project entitled 'Mainstreaming biodiversity conservation and climate resilience at Yayu Biosphere Reserve (Ethiopia)'; as a collaborative partnership between the Royal Botanic Gardens, Kew and Union Hand-Roasted Coffee, in the UK, and the Environment and Coffee Forest Forum, in Ethiopia. The overarching aims of the project were to secure and improve coffee farming incomes for the community within the Yayu Coffee Forest Biosphere Reserve, whilst at the same time preserving the biodiversity of this important forest area.

The underlying model was a simple one: if we could find an effective mechanism for providing realistic and sustainable livelihoods for coffee farmers (within the activity zones of the reserve) this would help ensure the continuation of forest-based coffee production and its associated biodiversity. The agent used to achieve these objectives was the coffee itself. The project used improved coffee quality to drive an increase in the purchase price of coffee thus impacting the income for coffee farmers. At Yayu, coffee farming occurs within the forests of the buffer zone and transition areas of the reserve, and generates up to 70% of the cash income for more than 90% of the local population. Our intervention was necessary, as many farmers in the area were struggling to make a sustainable income from coffee. Ultimately, this was leading to a conversion away from a forest-based farming system to other types of farming which would result in forest clearance.

“

At Yayu, coffee farming occurs within the forests of the buffer zone and transition areas of the reserve, and generates up to 70% of the cash income for more than 90% of the local population - Our intervention was necessary, as many farmers in the area were struggling to make a sustainable income from coffee

”

Through interventions in harvesting and processing methods, the quality of the coffee improved. In combination with changes in supply chain and cooperative management, the project increased the household income by around 30%, over the course of the project and post-project, without the use of extra inputs (e.g. irrigation, fertiliser) or additional land. The coffee was sold online, and in over 200 stores, as Yayu Forest – Ethiopian Wild Coffee. Peer-reviewed research, published as part of the project, clearly demonstrated that the coffee farms were located in areas with a forest canopy cover and quality similar to the untouched forest in the core area of the Yayu reserve. Moreover, the project demonstrated that the levels of deforestation within the coffee production areas of Yayu forest have been negligible over the last 20 years.



Union Coffee brings Yayu Forest coffee back to Yayu, Credit: Pascale Schuit

The legacy of the Darwin Initiative funded Yayu coffee project continues to this day. Yayu Forest coffee is still being purchased at scale from the project area by Union Hand-Roasted Coffee. Since 2015, Union Coffee have purchased 310,000 kg of coffee from Yayu, which amounts to paying the coffee producing community around \$(USD) 2 million.

“ The legacy of the Darwin Initiative funded Yayu coffee project continues to this day. Yayu Forest coffee is still being purchased at scale from the project area by Union Hand-Roasted Coffee

Moreover, the success of the direct trade approach employed by Union Hand-Roasted Coffee has attracted other coffee buyers to Yayu, thus extending the impact considerably beyond the remit of the original Darwin Initiative project (2015 to 2018).

Yayu Forest coffee is now available in over 600 stores (Sainsbury's and Waitrose) throughout the UK and is available for purchase on the [Union Roasted website](#), and in 2022 it



Yayu coffee sold in Waitrose, Credit: Union Hand-Roasted Coffee

became certified as organically grown. Yayu Forest coffee continues to carry on the legacy of the Darwin Initiative to this day by proudly displaying the Darwin Initiative logo on its retail packaging.

Written by Aaron Davies. For more information on project 22-006, led by RBG Kew, please click [here](#) and also [here](#).



Julie Hanta Razafimanahaka, Executive Director of Madagasikara Voakajy with HRH Prince William and the Tusk Award Winners and Finalists, Credit: Getty Images

The Darwin Initiative, Madagasikara Voakajy, and I

I first learned about the Darwin Initiative in 2003 when I joined a Darwin-funded project led by the University of Aberdeen to conserve bats and their habitats in Madagascar (10-024). I certainly did not imagine then how much impact the Darwin Initiative would have on my career and the organisation that I currently lead. At the time, I was an undergraduate student at the University of Antananarivo and the Darwin Initiative supported my first experience of conservation research, completing a project on the ecology of microchiropteran bats in Tsingy de Bemaraha National Park. I was further able to develop my conservation science skills through another Darwin Initiative project in Tsingy de Bemaraha National Park (14-006).

While implementing this project, I learned to design research projects and apply for funding. My first grants were to learn more about the ecology and hunting patterns of the leaf-nosed bat from the British Ecological Society and Wildlife Conservation Society's Research Fellowship Program.

In 2005, I learned that the momentum that the University of Aberdeen projects had created, which started in 1999 (7-027) was being used to establish a new Malagasy organisation called Madagasikara Voakajy. The Darwin Initiative provided crucial support during this phase through a project grant aimed at 'establishing a national conservation organisation' (EIDPO010). The organisation was created to fill an important gap. After our Darwin-funded training projects, there were few job opportunities available to the young Malagasy conservationists trained, and most of the recommendations we provided in our research papers were not implemented, due to a lack of people or resources. I, therefore, wholeheartedly supported the creation of Madagasikara Voakajy.

“

I certainly did not imagine then how much impact the Darwin Initiative would have on my career and the organisation that I currently lead

”

In 2007, I became a Darwin Fellow (EIDPS019). This meant I could spend a year in the UK studying Applied Ecology and Conservation. Studying abroad to improve my skills and knowledge had been a childhood dream. When I came back in 2009, Madagasikara Voakajy was selected to deliver two new Darwin projects, one on bushmeat hunting in Madagascar, led by Dr. Julia Jones at Bangor University (17-006), on which I become a Project Manager, and the other on chameleon trade and conservation in Madagascar through DICE at the University of Kent (17-010). Significantly, this was the period when Madagasikara Voakajy matured beyond single projects, and I become involved in conservation, research and community engagement across a number of sites and threatened species.

In 2011, and six years after its formation, I became the Executive Director of Madagasikara Voakajy and when, in 2013, the Darwin Initiative started to open to non-UK organisations I was able to develop, lead and implement my own DI-projects. It was a personal challenge to obtain a Darwin grant and after two unsuccessful attempts Madagasikara Voakajy obtained our first grant in 2018 to save the Granddier's baobab populations in western Madagascar (25-026). In 2021, we obtained our second grant to support youth engagement in lemur conservation initiatives in eastern Madagascar (28-009).

I can say that Darwin Initiative has been supporting my conservation journey, which culminated in me winning the Tusk Award for Conservation in Africa in 2021. Thanks to Darwin funding, we attracted many partners and funders. Madagasikara Voakajy has grown from focusing only on research and capacity building to embracing the challenge of conservation and development. We have a presence in five key areas and continue to support other conservation

organisations at many other sites. Our next challenge is to manage a Darwin Extra grant!

"Madagasikara Voakajy are a really important influence on conservation in Madagascar nationally, not just at their sites but nationally. Madagasikara Voakajy fill a really important niche in Malagasy conservation. They are fully Malagasy-led, they have great relationships with the communities where they work, they are also really open and always seek to learn from evidence and collaborate with others. There is no doubt that their origins (with strong collaborations with researchers) in Darwin Initiative projects has influenced this culture."

- Professor Julia P G Jones, Bangor University

"The roots of Madagasikara Voakajy can be traced back to the 1990s. A group of intrepid students from the University of East Anglia undertook an expedition to Madagascar to develop survey protocols for chameleons, reptiles that were under considerable pressure from international trade. Richard Jenkins was one of those students, and after working on a number of Darwin projects subsequently became the first Director of the newly formed Madagasikara Voakajy. It has been a pleasure to work with this highly effective organisation through several subsequent Darwin grants and Fellowships, and watch its staff grow and develop into leading lights within their field, while having real conservation impact on the ground."

- Richard A. Griffiths, Durrell Institute of Conservation and Ecology, University of Kent

Written by Julie Hanta Razafimanahaka. For more information on the most recent project mentioned in the article, 28-009, led by Madagasikara Voakajy, please click [here](#).



The golden mantella frog (Mantella aurantiaca), Credit: Madagasikara Voakajy



Dr Bhaskar Adhikari with a member of Jalthal Community Forest User Group, Nepal, Credit: Lila Nath Sharma, ForestAction

One Man's Path to Impact

Although it is considered to be one of the most biodiverse nations on Earth for its size, until recently, Nepal had no published *Flora* to support conservation of its natural resources, and few trained botanists to research its varied and beautiful plants. The Darwin Initiative addressed these gaps in many ways, not least through the work of Dr Bhaskar Adhikari.

“

Today, Bhaskar is a successful taxonomist at the Royal Botanic Garden Edinburgh (RBGE). He has conducted field trips throughout Nepal, from the lowland Tarai to high alpine regions, written many scientific publications, and authored multiple plant families for the *Flora of Nepal* – an essential resource underpinning botanical research, conservation and monitoring

Today, Bhaskar is a successful taxonomist at the Royal Botanic Garden Edinburgh (RBGE). He has conducted field trips throughout Nepal, from the lowland Tarai to high alpine regions, written many scientific publications, and

authored multiple plant families for the *Flora of Nepal* – an essential resource underpinning botanical research, conservation and monitoring. In 2015 he was awarded a Certificate of Appreciation by the Government of Nepal for his significant contribution to the *Flora*. Most importantly, Bhaskar's work improves livelihoods, protects and restores biodiversity, and promotes sustainable use of plant resources through both in-person training and user-friendly publications, such as a recent, bilingual guide to invasive non-native species (available free [here](#)).

But, to start at the beginning, Bhaskar grew up in Masure, a small village in western Nepal. On the daily hour-long cross-country walk to school, he would snack on wild fruits of *Berberis*, *Myrica* and *Rubus*. His grandfather, who had great knowledge of herbal medicines, provided another early link to plants. In 1997 Bhaskar moved to Tribhuvan University, Kathmandu, to study for a BSc in Botany, achieving a first class degree and in 2001 - the best MSc in the whole University - winning him a gold medal presented by King Gyanendra. One of Bhaskar's tutors at this time was Krishna Kumar Shrestha, a key player in an early Darwin Initiative project, *Plant Information and Technology Transfer for Nepal* (6-052), coordinated by London's Natural History Museum.

”

In 2003, on Professor Shrestha's recommendation, Bhaskar joined the RBGE-led Darwin project, *Building Capacity for Plant Biodiversity Inventory and Conservation in Nepal* (12-030), as a Darwin Scholar, selected through open competition.



Dr Bhaskar Adhikari studying and recording plants for the Flora of Nepal, Credit: Lila Nath Sharma, ForestAction

In partnership with local institutes, the project trained 18 Nepali Scholars to collect plant specimens, assess species' conservation status, manage herbarium collections and conduct taxonomic research – laying vital groundwork for the *Flora of Nepal*.

Bhaskar received the top prize for his personal project – an account of the genera *Parnassia* and *Chrysosplenium*, later published as part of the *Flora of Nepal*. He also somehow found time during training trips to Edinburgh to interview for a PhD studentship! In fact, three Darwin Scholars from the project went on to complete PhDs, with Bhaskar receiving a scholarship from the Royal Horticultural Society, RBGE and the University of Edinburgh to study Himalayan *Berberis*, including writing the account of this group for *Flora of Nepal*.

Awarded his PhD in 2010, Bhaskar became a full-time postdoctoral researcher at RBGE, working with Mark Watson and Colin Pendry on the Flora of Nepal. In 2016, he came full circle, as Project Manager on a new Darwin project *Science-Based Interventions Reversing Negative Impacts of Invasive Plants in Nepal* (23-031) built knowledge and capacity to

tackle the growing challenge of invasive plants, engaging local communities to improve livelihoods, conserve biodiversity and offset carbon.

In 2019, this led to a permanent role at RBGE as a Biodiversity Scientist focusing on temperate Asia, with the skills developed on Darwin projects a contributing factor in Bhaskar's appointment. Since then, he has coordinated work on two Darwin projects led by ForestAction, *Uprating Community Forest Management in Nepal: Enhancing Biodiversity and Livelihoods* (26-022) and *Linking Science to Management: Restoring Community Forests in Nepal* (29-028), both helping mainstream biodiversity conservation into community forest management in Jalthal area. Bhaskar is also sharing his expertise in creating bilingual field guides further afield, through the recently funded Capability and Capacity project Building Capacity and Community Resilience for Grassland Conservation in Bhutan. There will, no doubt, be many similar projects to come.

Written by Alexandra Davey. For more information on project DARCC002, led by Royal Botanic Garden, Edinburgh, please click [here](#).



Farmers at the Bwawani genetic reserve launch with plants, Credit: Bioversity International

Safe haven for crop wild relatives: Malawi and Tanzania launch their very first in situ genetic reserves

Combatting food insecurity and the ecological impacts of climate change, especially for agrobiodiversity, is a relentless race against time. Global efforts to foster sustainable agricultural practices and safeguard agrobiodiversity and its associated traditional knowledge can ensure better nutrition, health, and wellbeing. In this light, countries in Southern Africa with highly biodiverse habitats have envisioned the importance of in situ conservation as part of the long-term solution.

Malawi, Tanzania and Zambia are leading by example, conserving the often untapped potential of wild relatives of cultivated crops. Crop wild relatives (CWR) are those wild plants that are closely related to crops that are widely cultivated for consumption, such as rice, sorghum, and millets, amongst many others. Conservation of CWR is essential as they provide a genetic pool that can be drawn from when conventional varieties are threatened by pests or diseases. Diverse, improved cultivars or varieties can also adapt to changing environmental conditions or nutritional needs and demands of consumers.

Through the Darwin Initiative funded project *Bridging the gap between agriculture and environment* the very first in situ genetic reserves were established in Nyika National

Park, Mulanje and Zomba Mountain reserves (Malawi) and Bwawani forest, Nondwa village in the Bahi district, Dodoma region (Tanzania). In Zambia, three national parks (Kafue, Kasanka and South Luangwa, under the jurisdiction of Department of National Parks and Wildlife) were selected as their priority conservation sites, and negotiations are ongoing for these sites to be established as genetic reserves.

“ Conservation of crop wild relatives is essential as they provide a genetic pool that can be drawn from when conventional varieties are threatened by pests or diseases. Diverse, improved cultivars or varieties can also adapt to changing environmental conditions or nutritional needs and demands of consumers ”

These genetic reserves are the first members of the new South African Development Community (SADC) CWR Network that was formally approved by SADC Ministers of Agriculture and Food Security, and Fisheries and Aquaculture

at their annual joint meeting in May 2021, which is the first regional network for the in situ conservation of crop wild relatives in the world.

Nolipher Mponya, from the Malawi National Plant Genetic Resources Centre, partner on the Darwin Initiative SADC CWR project, explained: *“These newly established genetic reserves host some unique species not found in other protected areas, and this designation will ensure that the management plans developed will ascertain their active monitoring and conservation for the long-term”.*

William Hamisy, from the Tanzania National Plant Genetic Resources Centre under the Tropical Pesticides Research Institute, thanked the Darwin Initiative and the **Alliance of Bioversity International** and CIAT for the financial and

technical help enabling the launch of the genetic reserve which will help restore the wild habitats for CWR and also actively manage their populations.

Through the funding received from the Darwin Initiative, our partner countries (Malawi, Tanzania and Zambia) were able to carry out the steps to conservation planning for CWR which allowed them to identify and select the diversity hotspots in their protected areas to further enhance their commitment to conserve CWR and their habitats. This holds great promise for sustainable agriculture and climate adaptation.

Written by Prishnee Bissessur. For more information on project 26-023, led by Bioversity International, please click [here](#).



Participants at the Bwawani genetic reserve launch, Credit: Bioversity International



Rachael Tugume at home with her harvest, Credit: FFI

Youth engagement in conservation and livelihood improvement

Since 2013, Fauna & Flora International (FFI) has been working with three Private Forest Owners Associations (PFOAs) (Bulyango, Kasenene and Kidoma-Bulimya) in Northern Albertine Rift, Uganda, to encourage community-based natural resource governance through the reforestation of critical chimpanzee wildlife corridors. Within the PFOAs, 25 Village Savings and Loan Associations (VSLA) were established to incentivise communities to engage in conservation actions and provide access to affordable microcredits for communities to undertake conservation-friendly agriculture.

In May 2020, FFI received funding from the Darwin Initiative to implement the project: Community-led approaches to reforestation benefitting chimpanzees and livelihoods in Uganda.

Rachael Tugume, a 28-year-old woman from Kidoma PFOA, joined the association after leaving her low-paying job in Kampala and wanted to find an alternative livelihood within her home village. She began her farming journey by growing cassava, beans, nuts and bananas, which she sold to pay her family's medical and school fees. After all her bills, Rachael had no money left for saving. She was also unaware of cost-saving farming techniques such as using locally-available manure as a fertiliser. Monkeys and other primates often raided her crops on a plot near Kanyabarogo riverine in Kidoma.

After joining Kidoma PFOA, currently supported by FFI with funding from Darwin, she gained knowledge of human-wildlife conflict management and advice on what crops were

the most economically viable. Rachael replaced her plot of beans and maize near Kanyabarogo riverine with a ginger crop and now grows maize and beans in other plots where monkeys cannot access them. She now has a savings account in the VSLA group, saving roughly 600,000 Uganda shillings (Ugx) (approximately £130) annually. Rachael has also started using local manure as a fertiliser and intercropped her gardens with agroforestry trees (planting 100 assorted agroforestry tree seedlings on her farm). Due to her skills in agroforestry techniques, Rachael was selected as a trainer at the community level.

Rachael earns 25,000 Ugx (~ £5.40) per week from local sales of ginger, with each kilo priced at 5,000 Ugx. With this income, she buys essential home items like salt and soap and saves the rest with the VSLA group. Last season, she earned 680,000 Ugx from the sale of dry ginger, which she has invested back into rabbit rearing. She bought five mature rabbits and constructed a rabbit hutch. Rachael hopes to earn more income from selling her rabbits while making more organic fertiliser from rabbit urine.

"Where would I get such knowledge and from who if FFI had not taught me and empowered me with the right information and inputs," Rachael asked. She appreciates FFI for supporting her with agroforestry tree seedlings she planted on her farm to increase productivity, "I hope to keep improving as I am empowered now to engage in other environmentally-friendly enterprises like piggery and Apiary. My appreciation goes to the Darwin Initiative, which made it easy for FFI to empower me and my fellow association members."

Written by Tumwa Silver & Rogers Niwamanya. For more information on project 27-017, led by Fauna & Flora International, please click [here](#).



Project team field visit to communities in Laguiño (Yavari border with Peru, Brasil and Colombia), Credit: Sabedores project team

A reflection on two Darwin Initiative supported projects in the Amazon Forest, South America (2000-2006)

Our projects focused on the concerns of the indigenous communities related to deforestation, river pollution, overfishing and use of non-traditional farming methods such as forest clearance to create grassland for cattle grazing, and cultivation of monocultures such as soya. We worked with elders and leaders of Amazon Forest communities looking at ways to address these problems, bringing them together with local and international governmental and non-governmental organisations in a series of practical workshops. These were centred in the Colombian town of Leticia and extended to bordering community forest areas in Peru, Brazil, and Ecuador. Workshops held in the cultural area of the Banco de la República, Leticia were attended by up to 200 participants including indigenous representatives from 16 Amazon ethnic groups, academic institutions, organisations, and the public sector.

“ We worked with elders and leaders of Amazon Forest communities looking at ways to address these problems, bringing them together with local and international governmental and non-governmental organisations in a series of practical workshops

The methodologies used for workshops wove together traditional indigenous expertise and academic knowledge and were based on over ten years' work by the core team of researchers with communities in the mid Caquetá and Leticia areas of the Colombian Amazon. Key to this was focussing the work on the spiritual beliefs of communities. An example of this was the identification and mapping of habitats using the indigenous classification of these areas. In the indigenous belief, forest spaces such as salt lakes, islands, rivers along with their flora and fauna belong to spirits who must be consulted before collecting or hunting.

“ Key to this was focussing the work on the spiritual beliefs of communities. In the indigenous belief forest spaces such as salt lakes, islands, rivers along with their flora and fauna belong to spirits who must be consulted before collecting or hunting

” Outputs from the workshops, such as maps, workshop transcription and digital documentation were deposited in the library of the cultural section of the Banco de la República, Leticia to remain as a permanent public reference. Practical outputs included reforestation of areas in resguardos (areas put aside by the Colombian government for indigenous people), the recuperation of



Project leaders together with indigenous elders and leaders of communities, Banco de la República, Leticia, Credit: Sabedores project team

traditional knowledge of healing plants, planting of medicinal plant gardens and traditional education projects within communities.

Equally important as the workshops was their preparation, follow-up and community meetings in between, taking into consideration that communities follow an oral tradition. The elders highlighted the necessity of recuperation of indigenous identity as key to recovery and conservation of traditional sustainable methods of managing the forest and varzea regions, and this was brought to the fore in the latter part of the projects.

Governments cannot afford to sideline indigenous communities when they are attempting to prepare policies related to environmental issues and climate change. Over the years, generally, increasing consideration has been given to listening and interacting with indigenous communities, such as in the Paris Agreement, Decision 1/CP.21 and the Convention of Biological Diversity Article (CBD 8j). However, work remains to be done to acknowledge the depth of knowledge held by indigenous *sabedores* (wise people) and leaders of communities who hold the secrets of sustainable forest living.

“ Governments cannot afford to sideline indigenous communities when they are attempting to prepare policies related to environmental issues and climate change ”

The methodology used in our project team remains relevant as a way forward to constructively bring together local and academic expertise.

We would like to thank the Darwin Initiative for their support and all who participated in the project, many of whom are no longer with us.

Written by Ann Mitchell & Sandy Gray. For more information on both projects, led by University of Strathclyde, please click [here](#) for 9-008 & [here](#) for 12-016, or the paper “*Sabedores-Sabedoras: indigenous methods of recuperation, preservation and management of Forest Varzea, Amazonas – Colombia, Brazil, Peru, Ecuador*” published through the project.



Yala Swamp support group mentoring local children, Credit: Emily Mateche

Safeguarding critical ecosystems through Indigenous Community Conserved Areas in Yala Swamp

Yala Swamp is one of the wetlands of great importance in Africa. It is a Key Biodiversity Area and a proposed Ramsar site. The swamp is a complex of wetlands in the delta of the Yala River with four main components: the swamp itself, comprising of large stands of papyrus reeds, and three satellite lakes – Lake Kanyaboli, Lake Sare and Lake Namboyo. Key wildlife in Yala Swamp include the Sitatunga antelope, hippos, large flocks of wetland birds, birds found only in papyrus swamps (such as the Papyrus Yellow Warbler) and species of cichlid fish that are extinct in Lake Victoria.

The swamp provides essential ecosystem services including water regulation, filtration of water flowing into Lake Victoria, nutrient recycling, carbon storage, erosion control and acts as a buffer against flooding. Yala Swamp supports diverse livelihoods through provision of goods such as food, fresh water, fuel wood, livestock fodder, thatching material, genetic resources and natural medicines.

Over the last few decades, there has been a significant decline in the abundance of natural resources due to a number of threats including overexploitation, encroachment, habitat degradation, and climate change coupled with high levels of poverty. Despite significant milestone developments in biodiversity conservation and ecological restoration within Yala Swamp, degradation of natural resources still persists, adversely affecting both biodiversity and human well-being.

“ Despite significant milestone developments in biodiversity conservation and ecological restoration within Yala Swamp, degradation of natural resources still persists, adversely affecting both biodiversity and human well-being. Nature Kenya is working to put Yala Swamp on a sustainable footing through funding from the Darwin Initiative ”

Nature Kenya is working to put Yala Swamp on a sustainable footing through funding from the Darwin Initiative.

Through a multi-stakeholder approach, Nature Kenya worked with local communities and the Siaya and Busia County governments to develop a Land Use Plan (LUP) to balance the various interests and address the threats within the wetland. To kick start the implementation of the LUP, multi-agency stakeholders with support from Nature Kenya established an 8,404 ha Indigenous Community Conserved Area (ICCA) at the heart of Yala swamp. The ICCA constitutes natural areas surrounded by open-access farming/grazing land, riverine forest and papyrus wetland. Guided by a management plan

with technical backstopping from the government, the ICCA is managed for multiple-use for the benefit of important cultural values and biodiversity, ecotourism, farmers, livestock herders, fisherfolk and island dwellers. The ICCAs guarantee continued flow of ecosystem services to enable production and ensure development overall is sustainable.

The Siaya and Busia counties and the Kenya Wildlife Service support the Yala ICCA Committee in enhanced management of the Yala Delta. They do this through the implementation of a management plan which guarantees perpetual conservation of critical parts of the Yala Delta to continue offering ecosystem services for the developed parts of the swamp.

To enhance ownership of biodiversity conservation at the village level, Nature Kenya supported formation of Village Natural Resource and Land Use committees (VNRLUCs) in all the swamp-adjacent villages. VNRLUCs facilitate governance, conservation and development actions and diversify sustainable livelihoods in line with the ICCA model. The VNRLUCs are already actively engaged in ICCA management and restoration through tree and papyrus planting.

Samwel Ndira is a living testimony of taking individual responsibility to protect biodiversity right from his homestead adjacent to River Yala. Apart from growing trees, he has designated a big proportion of his land to focus on natural regeneration. He is currently preparing a seed bed targeting production of 100,000 indigenous tree seedlings mainly Nile tulip, *Albizia*, and *Acacia spp.* In addition to the indigenous trees he is also seeking to raise 10,000 other seedlings this season, alongside growing fruit trees like pawpaw for food and income.

When asked about his motivation, Ndira discusses how knowledge gained through trainings supported by Nature Kenya has helped him generate income used to support his daughter's education from secondary school to University at Egerton, Njoro.

"My most recent harvest from my woodlot were seedlings worth Ksh. 28,000 which I used to pay school fees for my daughter. If seedlings only fetch that much, how about mature trees? Trees are wealth, trees hold the future of ecosystems - that's why I'm heavily investing in trees".

“

My most recent harvest from my woodlot were seedlings worth Ksh. 28,000 which I used to pay school fees for my daughter. If seedlings only fetch that much, how about mature trees? Trees are wealth, trees hold the future of ecosystems - that's why I'm heavily investing in trees

”



A dragonfly in Yala Swamp, Credit: John Mwacharo

Through both collective and individual efforts like Ndira's, a total of 150ha of degraded area within the Yala Swamp ICCA was restored through direct papyrus planting. Another 183ha of the River Yala riparian zone was restored through the planting of 182,577 indigenous tree seedlings and 171ha (170,917 exotic tree seedlings) of on farm woodlots were established. Management guidelines were applied to promote natural regeneration of papyrus in 200ha of degraded areas within Yala Swamp and 200ha of riverine vegetation within the River Yala riparian zone, thus ensuring protection of the ICCA.

Written by Emily Mateche. For more information on project 25-031, led by Nature Kenya, please click [here](#).



Community Wildlife Ambassadors on patrol with Wildlife Service staff, Credit: Nicolas Tubbs, FFI

Community-led Conservation in South Sudan

In the ‘forgotten forests’ of South Sudan, along the Congolese and Central African Republic border, Fauna & Flora International (FFI) has been working to bring 430km² of critically threatened forest, including habitat for endangered species – particularly chimpanzees and pangolins – under more effective management.

With support from the Darwin Initiative, FFI has been engaged in a broad range of conservation activities designed to reconcile the respective needs of people and wildlife in the area and formulate results that will secure long-term benefits for both. By using a holistic landscape approach to biodiversity protection and resilient livelihoods piloting, this project has provided benefits to over 900 direct and 3,000 indirect beneficiaries in South Sudan, improved protected area management in two Game Reserves, Bire Kpatuos and Bangangai, and made meaningful progress in establishing Community Conservation Areas in the buffer zones surrounding the reserves.

On-the-ground reserve management has been strengthened through training and resource provision. A stronger relationship between the reserves and surrounding populations has also been achieved through the establishment of a team of Community Wildlife Ambassadors. Drawn from the communities surrounding the Game Reserves, these individuals join regular biomonitoring patrols and reporting with the Wildlife Service. Crucially, these patrol units include women and a significant number of young people, thereby ensuring that traditionally disenfranchised sections of society are engaged in the protection of their natural resources – and rewarded for their efforts, not just

financially but in terms of improved status and self-esteem. This collaborative model remains unique in South Sudan and creates an unusual example of government-civilian cooperation alongside a general national context of mistrust.

Demarcation of the two Game Reserves and associated governance and management structures has now been formally recognised within South Sudan. Protected area regulations are now well respected by local communities, and the presence of rangers deters poachers from further afield from targeting the formally protected areas. Without ongoing patrolling, it is likely that these nationally-important forest habitats and their wildlife would be significantly degraded and denuded.

Encouragingly, camera-trapping surveys conducted in collaboration with Bucknell University and the South Sudanese government have already revealed that Bangangai is a vital stronghold for pangolins and numerous primate species, including the endangered eastern chimpanzee and, intriguingly, a rare form of red colobus monkey. Other threatened species captured on camera include antelopes such as the bongo and charismatic carnivores such as the African golden cat.

This project has contributed to a higher-level impact on biodiversity conservation by contributing to the more effective management and improved protection of threatened species and habitats, and to the scientific knowledge base on South Sudan’s rare but little-known wildlife.

Written by Lydia Spilsbury. For more information on project 25-002, led by Fauna & Flora International, please click [here](#).



Traditional African vegetables under participatory evaluation, in Anjazafotsy Betafo, Madagascar, Credit: Bodo Rabary and Sognigbe N'Danikou

Female empowerment through the rescue and farming of traditional African vegetables

Based on the 2021 global hunger index, Madagascar is one of the countries fighting undernourishment and malnutrition. Over 35% of women at reproductive age are affected by anaemia and about 42% of the children under five are classified as malnourished, with those in the highlands being the most affected (>60% stunting). Yet Madagascar is also a biodiversity “hotspot” – a place where exceptional concentrations of endemic species are undergoing rapid loss of habitat. The island has lost more than 70% of its original vegetation and urgently needs to safeguard its remaining plant diversity.

Although neglected, traditional African vegetables, commonly known as “Bredes” in Malagasy, ensure food and nutrition security and provide unique opportunities for income generation and poverty alleviation.

Our Darwin Initiative project provides a successful case study of how investment in conservation can halt biodiversity loss. Among the more than 500 landraces (a domesticated, locally adapted, traditional species) of the vegetable species which were collected, is the endemic, threatened *Vigna keraudrenii*. This species, which is a wild relative to vegetable cowpea and so important to the future of this crop, was found back during the germplasm collecting missions by researchers and students in Madagascar.

Two hundred women farmers from the Highlands of Madagascar, in the District of Arivonimamo and Betafo,

participated in our project *Traditional African vegetables strengthen food and nutrition security in Madagascar* which ran between 2019 and 2022. This project was led by the World Vegetable Center (WorldVeg) in collaboration with the National Centre for Applied Research for Rural Development (FOFIFA). The 200 women farmers were trained on how to cultivate and produce seeds of the traditional vegetables. These were African nightshades, African eggplants, amaranths, Ethiopian mustard and pumpkins. The women learned the nutritional values of these traditional vegetables which are higher in nutrition (vitamins, minerals, fibres, antioxidants) compared to most common vegetables such as carrots and cabbage. They were also taught that the use of these vegetables directly contributes to the conservation of these species – ultimately helping to avoid extinction. Eight schools participated in the project and school children and their care takers received training on nutrition and the creation of school gardens. Over 1,400 school children and 21,000 people were reached with the traditional vegetables by the project.

During the three years of the project, the trained women farmers received seed kits from varieties developed by WorldVeg at the start of each growing season. They received training on improved agronomic techniques that are friendly to the environment, and learned to produce compost and do organic farming. They were also trained in seed production techniques to develop quality seed, to ensure sustainability and also the dissemination of these species and varieties of traditional vegetables within and beyond the beneficiary communities.



School garden activities in Betafo, Madagascar, Credit: Bodo Rabary and Sognigbe N'Danikou

“ The project showed that promoting these vegetables in Madagascar through participatory evaluation and linking women farmers to markets provides a great opportunity for female empowerment leading to more vegetable production and income generation for households, as well as increased vegetable consumption in the communities ”

“ At the end of the project, African vegetables were very much appreciated by the Malagasy women farmers and their families. It was reported that the families not only liked the taste of these traditional vegetables but also their associated health benefits ”

At the end of the project, African vegetables were very much appreciated by the Malagasy women farmers and their families. It was reported that the families not only liked the taste of these traditional vegetables but also their associated health benefits. Alongside improved nutrition they also provided a good source of income for the women. According to Mrs Ranoroosa Myriame, from Imerintsiatosika, *“the people of the village laughed at us when we started this journey because we were growing amaranths. Indeed, amaranths (leaves and stems) were then collected wild by people only to feed pigs and chickens with seeds, no one was growing nor eating amaranths in our community before. After we started eating, they also tasted the cultivated amaranths and liked them very much. Now almost all the women in the village want to participate in their production and are asking for seeds and even ready to buy them from us.”*

Another testimony is from Ms larlette, who could be considered a female role model due to the successful management of traditional African vegetables and tends to her farm well. Through the selling of nightshades, amaranths and African eggplants she is able to earn a stable income.

Luckily, she doesn't even need to go to the market to sell her vegetables because it's the buyers who come to her to buy both the fresh vegetables but also to get seeds. She couldn't believe before that the traditional vegetables could fetch that much.

Mrs Razanatahiry from the Soanierana village of Arivonimamo, said she saves a lot by harvesting traditional vegetables in her garden to prepare meals for the farm labourers who help her with field activities. The rice meal accompanied with traditional vegetables in sauce is now very popular. She no longer overspends on meals for her family. She has also indicated that her participation in this project has opened up new opportunities for her. She is very grateful to the project and has volunteered to share the seeds with other women and other communities.

A school garden was established for students to encourage them to participate in growing (and eating) traditional vegetables. Through their involvement their nutritional knowledge has increased and they have changed their attitudes towards these vegetables, and as result these are now enjoyed as part of their meals at school and at home.

The project showed that promoting these vegetables in Madagascar through participatory evaluation and linking women farmers to markets provides a great opportunity for female empowerment leading to more vegetable production and income generation for households, as well as increased vegetable consumption in the communities.

Written by Bodo Rabary and Sognigbe N'Danikou. For more information on project 26-015, led by the World Vegetable Center, please click [here](#).



Livestock grazing at Dide Waride, Tana River Delta, Credit: John Mwacharo

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

Tana River Delta is a land of contrasts and extremes like nowhere else. Besides being Kenya's largest wetland, the delta is a perfect mix of freshwater and marine ecosystems, which support several highly threatened mammal, bird and plant species.

In 2011, RSPB in collaboration with Nature Kenya successfully led 18 ministries, state agencies, two county governments and 106 villages to agree on a Land Use Plan (LUP) for the delta: a framework to guide management of land and natural resources at the delta. Since then, a lot has changed for the better as the land use plan is under implementation. The Royal Society for Protection of Birds (RSPB), with the help of Darwin Initiative funding, supported the LUP implementation. Some notable highlights of the process include the establishment of an Indigenous Community Conservation Area and the Tana Green Heart Initiative.

The local communities and county governments of Tana River and Lamu, working with the national government, set aside 116,000 ha (48,752 ha of which is forest) as an Indigenous Community Conservation Area (ICCA). The Tana Delta ICCA is being managed for multiple uses: crop growing, livestock keeping and fishing using sustainable land management practices. It allows the delta's biodiversity to thrive and its ecosystem services to keep flowing to support production.



With funding secured from the Darwin Initiative and Global Environment Facility, communities are also piloting various means of sustainable production, which are breathing life to the once threatened delta



With funding secured from the Darwin Initiative and Global Environment Facility (GEF), communities are also piloting various means of sustainable production, which are breathing life to the once threatened delta.

Nature Kenya is also exploring sustainable financing options through the Tana Delta Green Heart Initiative. The Green Heart Initiative is the future hope for climate-smart solutions that generate jobs, improve livelihoods and conserve biodiversity, as envisaged in the Tana River Delta Land Use Plan. The initiative seeks to transform the lives of people living within and around the Tana River Delta by promoting sustainable economic growth and protection of the environment, creating new jobs and livelihoods, and boosting the regional and national economy.

A Green Heartland, covering the entire delta, will be established to include farms. Production services in the area will be based on green development principles. In the model, outgrowers will practice environmentally friendly means to boost production of fish, livestock meat, milk, vegetables, rice, fruits, honey, and prawns. The heartland will also include conservancies for tourists to enjoy the scenery, wildlife and river boat rides. An industrial estate for private companies, including local entrepreneurs, will be availed for them to establish their production bases.

The European Union, through the Community Resilience Building in Livelihood and Disaster Risk Management (REBUILD) project, and GEF are supporting components to set the foundation and catalyse actions as per the initiative's objectives. Nature Kenya, working with the Tana River County government, is scouting for potential investors and partners to realise the goal of the initiative.

Written by John Mwacharo. For more information on project 24-013, led by RSPB, please click [here](#).



A section of the Tana River Delta, Credit: Caroline Chebet

Newsletter Contacts

The Darwin Initiative Secretariat (Defra)

The Darwin Secretariat is based in Defra and includes Doug Gibbs, Serene Hargreaves, Ben Yexley, Elliott Miller and Seun Alaba.

For any queries on project applications or existing projects please contact our Biodiversity Challenge Fund Administrators (NIRAS-LTS International) at BCF-Darwin@niras.com

This newsletter is produced quarterly. To include an article on your project please contact us at BCF-Comms@niras.com

Funded by the UK Government, The Darwin Initiative provides grants to support developing countries to conserve biodiversity and reduce poverty, with Darwin Plus focusing its grants on the natural environment and climate change in the UK Overseas Territories. Since 1992, the Darwin Initiative and Darwin Plus have committed over £196 million to 1,319 projects in 159 countries.