NATURE FOR CLIMATE ACTION

UNDP Nature For Development Action Kits

Photo credit: CIFOR/Ollivier Girard
ABOUT THE 'NATURE FOR DEVELOPMENT' ACTION KIT SERIES


This action kit provides UNDP staff with an overview of the many intertwined relationships between nature and sustainable development. It also provides key facts and figures and talking points, and the programming entry points needed to make the case for investing in nature to achieve development outcomes. This kit, which also provides the tools and information needed to learn more and take action, aims to:

- highlight entry points for implementation of the UNDP Nature Pledge;
- strengthen UNDP policy, advocacy and awareness-raising efforts;
- inform effective national, regional and integrated programming efforts, and support issue-based portfolio approaches in line with national priorities and UNDP’s Moonshots;
- support resource mobilization with traditional and non-traditional funding partners;
- strengthen and forge new partnerships with sister UN agencies, other international development partners, national and local stakeholders in government; the private sector; academia; media; and other civil society groups; and
- leverage and strengthen internal UNDP capacities and expertise at all levels.

ABOUT UNDP’S NATURE PLEDGE

The Nature Pledge is UNDP’s commitment to support more than 140 countries in achieving their ambitious goals under the Global Biodiversity Framework and nature-dependent Sustainable Development Goals. The Nature Pledge focuses on three system shifts essential to put nature at the heart of sustainable development:

- The Nature Pledge provides a pathway to transform our global systems by meeting vital targets to protect and restore our planet, eradicate poverty, reduce gender and other inequalities, protect human rights, and accelerate overall progress on nature-dependent sustainable development goals.

NATURE AND CLIMATE ACTION

Healthy ecosystems are essential for safeguarding a livable planet. The loss and degradation of terrestrial and ocean ecosystems through conversion, over-harvesting, fires and other pressures, is a major contributor to greenhouse gas emissions, and greatly diminishes the ability of humans and ecosystems to adapt to climate change. Yet the solutions to climate change exist in taking action on nature, including through nature-based solutions and ecosystem-based adaptation.

The Intergovernmental Panel on Climate Change estimates that agriculture, forestry and other land uses accounted for as much as 21 percent of total greenhouse gas emissions from 2010 to 2019. In addition, rapidly deteriorating ocean health has a significant climate warming effect, far larger than the impact of greenhouse gas emissions. Rising water vapor in the atmosphere is amplifying warming and making extreme weather worse. In short, the way that humanity manages soil, food and forests is accelerating climate change.

The loss and degradation of ecosystems not only contribute to climate change, but also hinders humanity’s ability to adapt to the impacts of climate change. Ecosystems such as forests, wetlands and grasslands act as natural buffers against extreme weather events, reducing the risk of floods, droughts and landslides. Marine ecosystems, such as coral reefs and seagrass beds, protect communities from storm surges while providing essential services to maintain resilience. Healthy ecosystems also provide vital resources such as food, clean water, and medicines, which become even more critical during times of environmental stress, especially for vulnerable communities who depend on nature for their livelihoods. Intact ecosystems support traditional and indigenous knowledge systems that have evolved over centuries, offering valuable insights into sustainable practices that can help communities adapt to changing conditions.

Nature is our most powerful ally in combatting climate change. By implementing nature-based solutions, (defined as “actions to protect, sustainably manage, and restore natural and modified ecosystems that address societal challenges effectively and adaptively, simultaneously benefiting people and nature”), and by

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implementing “ecosystem-based adaptation,” (defined as managing ecosystems, such as forests, wetlands, and coral reefs, to reduce the vulnerability of human communities to climate change), we can tap nature’s ability to store and sequester carbon, and to buffer humanity from climate impacts.

The benefits of such actions greatly outweigh the costs, as nature-based solutions are one of the most cost-effective climate strategies with multiple co-benefits. In fact, according to the Global Commission on Adaptation, every $1 invested in ecosystem-based adaptation could yield up to $10 in net economic benefits. This is critical since nature is such an important climate strategy; recent research shows that nature-based climate solutions, which can provide as much as 37% of global greenhouse gas emissions required through 2030 to hold warming to 2 degrees Celsius or lower, and Project Drawdown, an organization dedicated to quantifying pathways toward reducing carbon in the atmosphere, estimates that nature-based solutions could reduce or sequester more than 500 gigatons of carbon equivalent from 2020 to 2050.

Simply put, there is no chance of achieving a 1.5°C Celsius future without fully implementing such strategies. A stable climate and a resilient world cannot be achieved without healthy and intact ecosystems.

Despite the importance of nature in achieving both mitigation and adaptation goals, the latest round of Nationally Determined Contributions (national action plans on climate), generally do not reflect the critical role of nature. The majority of countries lack clear targets on nature-related actions, and do not include the breadth of potential nature-based solutions for climate. Therefore, a major opportunity over the next two years is to encourage countries to include clear and specific targets on nature-based solutions within their Nationally Determined Contributions.

Estimating, measuring, monitoring and reporting on carbon stock changes and greenhouse gas emissions from nature-based solutions is an essential component in the UN Framework Convention on Climate Change (UNFCCC). The UNFCCC has developed guidance through their publication “Good Practice Guidance for Land Use, Land-Use Change and Forestry,” providing countries with essential tools on estimation methods, quality assurance, data to be documented and quantification approaches regarding the impacts of these sectors on carbon stocks.

THE VALUE OF CLIMATE ACTION FOR SUSTAINABLE DEVELOPMENT

Nature-based solutions are essential for helping humans adapt to the impacts of climate change. Healthy ecosystems can support water security and food security in times of drought and famine; reduce the impact of floods and other climate-exacerbated natural disasters; create and sustain nature-dependent jobs and livelihoods; minimize the impact of heat waves on cities and communities; and improve human health, nutrition and wellbeing. As such, the impact of nature on the Sustainable Development Goals is significant.

More than 5.8 billion people depend on nature for their livelihoods, including 1.6 billion people who depend on forests. Investing in nature-based solutions could lift a billion people out of poverty.

Nature is inexorably linked to health through medicines, nutrition, mental health, air quality and other dimensions, and loss of nature, especially deforestation, contributes to a range of health problems, such as expansion of zoonotic diseases.

Forests ensure water security – a third of the world’s largest cities depend on healthy forests for their water supplies, and nature-based solutions are essential to ensuring clean water to communities around the world.

Nature-based solutions can provide 37% of our climate mitigation needs to reduce global greenhouse gas emissions. We can only achieve the Paris Agreement with a healthy planet.

Nature-based solutions can create 395 million jobs, and add $10 trillion of additional growth to the global economy.

Nature-based solutions can prevent $3.7 trillion in climate change damages, including damages from floods, storm surges and other climate-exacerbated natural disasters.

Photo credits: Row one: UNDP/Andrea Egan, UN Women/Oscar Saade, UNDP Madagascar; Row two: CIFOR/Axel Fassio, UN Women/Ryan Brown, UNDP South Africa
TRENDS IN NATURE, CLIMATE, FINANCE AND POLICY

This section summarizes various trends at the intersection of nature, climate, finance and policy

### NEGATIVE TRENDS

- While deforestation appears to have slowed in some areas – for example, there was a 50% drop in the Amazon – the world is not on track to achieve deforestation targets.
- Finance for nature-based solutions represents only about 3% of all climate finance, even though it represents 37% of our climate mitigation solution.
- Driven by ecosystem loss and degradation, over 370 million hectares burn in wildfires each year, resulting in 1.8 billion tons of greenhouse gases.
- Climate and weather-related disasters have increased five-fold since the 1970s, nature loss contributes to this effect, while decreasing resilience.
- Private finance flows that harm nature are as much as US$5 trillion, 140 times more than current private investments on nature-based solutions.
- Up to 40% of the planet is degraded, limiting the ability of ecosystems to sequester carbon and buffer humanity from the impacts of climate change.

### POSITIVE TRENDS

- There are increased efforts to create policy instruments that decouple commodities from deforestation, such as the new European law regulating deforestation-related products.
- Increasingly, countries are drawing connections between their commitments on nature and on climate, such as high-level commitments recognizing climate benefits of nature.
- The global biodiversity finance gap to reverse biodiversity decline by 2030 is $711 billion or just 6.7% of the total $105 trillion of global GDP, while About half of global GDP is dependent upon nature.

### FUTURE PROJECTIONS

- Land use change and climate change will increase extreme fires by up to 14% by 2030 and 30% by 2040, and climate disasters will likely cause 14.5 million deaths, $12.5 trillion in economic losses by 2050.
- 4 billion people face at least 1 month of water insecurity and by 2030, ½ of all people will live in water-scarce areas.
- Intact ecosystems are essential strategies for ensuring water security in the future.
- Voluntary biodiversity credits may offer a new approach to financing nature-based climate solutions, and a new framework to improve transparency on nature-related financial disclosures is poised to offer new solutions to deforestation.

**Photo credits:** CIFOR/Aulia Erlangga, UNDP Belarus, UN Women/Allison Joyce

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**Photo credits:** CIFOR/Aulia Erlangga, UNDP Belarus, UN Women/Allison Joyce
KEY MESSAGES ON NATURE FOR CLIMATE ACTION

A 1.5 C DEGREE FUTURE DEPENDS ON BOLD ACTION ON NATURE – THERE IS NO STABLE CLIMATE WITHOUT A HEALTHY PLANET

We cannot achieve a climate within 1.5 Celsius rise in temperatures without nature. Efforts toward Net Zero, eliminating fossil fuels and increasing renewable energy are all essential steps, but we need to urgently restore, regenerate and protect nature if we are to have a livable planet. Nature can contribute 37% of our mitigation needs, and is the foundation for climate adaptation strategies. There is no pathway to achieving the Paris Agreement without nature-based solutions.

NATURE-BASED SOLUTIONS ARE COST-EFFECTIVE SOLUTIONS FOR CLIMATE MITIGATION AND ADAPTATION

The cost of nature-based solutions, which fall into the categories of protection, restoration and sustainable management of natural ecosystems (such as forests, wetlands and coastal areas) and modified ecosystems (such as agricultural systems) are generally lower (as operations and maintenance costs decrease over time) and more durable (as protective benefits increase over time) than the costs of ‘gray’ infrastructure associated with mitigation and adaptation (e.g., seawalls, levees, renewable energy infrastructure) with significant development co-benefits, including greater flexibility to manage climate impacts.

INDIGENOUS LAND RIGHTS ARE ESSENTIAL TO ACHIEVE NATURE’S POTENTIAL

About a third of the world’s land, or 43.5 million square kilometers, is owned or governed by Indigenous peoples and local communities. The vast majority – more than 90% - of these lands have a high degree of ecological integrity, and serve as a cornerstone for nature-based climate solutions. But a quarter of these lands are under direct threat, and up to half of all lands owned by Indigenous peoples and local communities do not have legal tenure agreements.

WE MUST RAISE THE AMBITION ON NATURE THROUGH NATIONALLY DETERMINED CONTRIBUTIONS

Although the second generation of Nationally Determined Contributions had more references to nature-based approaches than their predecessors, a global study found that many countries lack specific targets on nature. This 3rd generation of NDCs is the last chance of elevating ambition before 2030, making this period critical to emphasizing approaches to nature-based mitigation and adaptation targets.

LOSS OF NATURE UNDERMINES RESILIENCE AND INCREASES VULNERABILITY

The loss and degradation of ecosystems has profound impacts on the resilience of countries to adapt to climate change, especially those countries already vulnerable to shocks. Loss of nature can result in displaced livelihoods, forced migration, increased regional conflict, and decreased water and food security, among other impacts. All of these exacerbate the effects of climate, resulting in negative societal and economic feedback loops.

NATURE-BASED SOLUTIONS ARE NOT WELL UNDERSTOOD OR DISCUSSED

While there are tens of thousands of articles on climate (more than 50,000 in 2020 alone), just 10% of the global climate discourse focuses on nature-based solutions. It is important to talk about and promote nature as our best ally when it comes to climate. Moreover, action on climate and nature tends to be siloed at all levels, including at global, national and local levels. As a result, the tremendous value of nature for climate action is often overlooked.

NATURE-BASED CLIMATE SOLUTIONS PROVIDE ENORMOUS SUSTAINABLE DEVELOPMENT CO-BENEFITS BEYOND CLIMATE

Investing in nature-based solutions has high economic and social returns. Investments in land restoration, for example, can yield up to 30 times the benefits, including to smallholder farmers and local communities.

FINANCE FOR NATURE-BASED SOLUTIONS IS NOT COMMENSURATE WITH THEIR VALUE IN CLIMATE MITIGATION OR ADAPTATION

Climate finance is an essential component of global climate negotiations, with climate finance flows reaching nearly $1.3 trillion in 2021 and 2022. However, despite being 37% of our global climate mitigation solution, nature-based solutions receive less than 3% of all climate finance, and only 37% of what is needed.
This section highlights recent publications, tools, videos, blogs, photo essays and data on the linkages between nature and climate action, including from both UNDP and partners.

TECHNICAL PUBLICATIONS AND REPORTS – ESSENTIAL READING

**Harnessing Nature to Build Climate Resilience**

This 142-page report highlights the opportunities for scaling up ecosystem-based adaptation organized around 5 categories of action.

**NDCs: A Force for Nature**

This 66-page document by WWF analyzed the extent to which nature features in the latest round of NDCs, and provides a country-by-country snapshot for more than 100 countries.

**Nature-based solutions in Nationally Determined Contributions**

This 66-page meta-analysis synthesized the results of a variety of analyses of nature-based solutions within NDCs, and includes a comprehensive set of recommendations for increasing nature within NDCs.

**Assessing the Benefits and Costs of Nature-Based Solutions for Climate Resilience**

This 99-page document by the World Bank provides different approaches to calculating the costs and benefits of nature-based solutions.

**Nature in Nationally Determined Contributions**

This 27-page guide includes a checklist for including nature-based solutions in NDCs, through the Nature 4 Climate Coalition.

**Guidelines for Blue Carbon and Nationally Determined Contribution**

The 58-page document provides a set of guidelines on approaches to include blue carbon in Nationally Determined Contributions.

**Enhancing Forest Targets and Measures in Nationally Determined Contributions**

This 72-page document identifies opportunities for enhancing forest-related targets and measures, offering recommendations to improve their ambition and effectiveness.

**Blue Carbon and Nationally Determined Contributions**

This 58-page set of guidelines elaborates on approaches to include blue carbon ecosystems, such as mangroves, seagrasses and salt marshes into NDCs.

**NDC Enhancement: Opportunities in Agriculture**

The 36-page working paper emphasizes the critical role of the agriculture sector in achieving the Paris Agreement goals through NDCs, and provides guidance on strategies for climate action.

**A DEEPER DIVE**

**Breaking Silos: Enhancing Synergies across NDCs and NBSAPs**

This 27-page report explore potential synergies in formulating and implementing policies across different conventions, especially the Convention on Biological Diversity and the UN Framework Convention on Climate Change.

**Aligning Short-Term Land Sector Actions with Long-Term Climate Goals**

This 34-page guidance document helps governments identify and implement short-term actions in the land sector that simultaneously contribute to short-term and long-term climate mitigation goals.

**Coastal and Marine Ecosystems as Nature-Based Solutions in NDCs**

This 26-page policy brief examines the most recent NDCs to assess the extent to which they include coastal and marine nature-based solutions. Provides summary information on climate mitigation and adaptation as well as co-benefits.

**LULUCF Good Practice Guidance**

Enhanced Transparency Framework countries use the IPCC good practice guidance for LULUCF, as the methodological guidance for the GHG, National communications and BURs for the sector.

**Nature-based Solutions Finance for NDCs**

This 120-page report offers reference material to support the design and implementation of nature-based solutions in NDCs by enabling countries to access various finance streams and resilience.

**Pathways for Increasing Nature-based Solutions in NDCs**

This 20-page UNDP guide describes a 7-step process for increasing nature-based solutions within NDCs.

**TOOLS AND TOOL KITS**

This section highlights recent publications, tools, videos, blogs, photo essays and data on the linkages between nature and water security, including from both UNDP and partners.

**Nature-based solutions policy platform**

This portal, sponsored by the, produced by the Nature-Based Solutions Initiative, provides a range of information on nature and NDCs, including NDC status, climate change vulnerability, adaptation planning and more.

**NCS World Atlas**

This portal, supported by the Nature4Climate Coalition, provides country-by-country assessments of the value of nature in climate mitigation, showing different pathways for nature-based solutions.

**NatureBase**

This portal provides detailed analyses at sub-national levels on nature-based solutions for climate, exploring a range of different pathways, and estimating their mitigation benefits.
**UNDP’s PLANT Tool**

UNDP’s Paris Agreement LULUCF and NDC Tool (PLANT) helps countries analyze opportunities to enhance the contribution of the forest sector to NDC mitigation targets, and the systems and processes needed to meet the requirements of the Enhanced Transparency Framework under the Paris Agreement.

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**UN Biodiversity Lab**

This UN-led spatial data portal has more than 400 layers on nature and development, including related to climate mitigation and adaptation, in their "Nature-based Solutions for Climate Collection".

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**Accelerating Climate Ambition and Impact**

This UN page UNDP tool on nature-based solutions highlights 14 different tools for mainstreaming nature into NDCs.

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**SAMPLE DATA ON NATURE AND CLIMATE ACTION, CURATED BY UNDP**

**Sample Layers For Climate Mitigation**

**Grassland restoration contribution to soil organic carbon**

This is a composite layer showing areas of high global significance for restoration of grasslands, along with vulnerable soil carbon density and total biomass carbon in grasslands.

**Forest restoration contribution to reduced forest fragmentation and maintenance of high carbon stocks**

This is a composite layer showing areas of global significance for forest restoration, along with landscape integrity, carbon stocks and other layers.

**Contribution of sustainable management of croplands to conserve high carbon stocks**

This composite layer on UN Biodiversity Lab shows areas of soil organic carbon in croplands after 20 years of sustainable management, overlaid onto ESRI 10-meter land cover for crops.

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**Sample Layers for Climate Adaptation**

**Aqueduct Baseline Water Stress**

This is layers shows annual water withdrawal from municipal, industrial and agricultural uses, expressed as a percent of the total annual available flow.

**Change in Human Impact to Marine Ecosystems**

This is layer shows changes in cumulative impacts to marine ecosystems globally from fishing, climate change and ocean- and land-based stressors.

**Crop Suitability Change**

This composite map shows changes in agriculture suitability between 2010 and 2050 considering rainfall conditions and irrigation, based on climate modeling.

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**STORIES TO INSPIRE AND SHARE**

**Blogs**

- Our nature blogs are written by global experts covering field stories, interviews and insights from around the world examining the ways in which we can meaningfully put nature at the heart of development. For all of our nature blogs, you can find them [here](https://undp-climate.exposure.co/in-pictures-8-signs-progress-climate-action-2023).
- Indonesia’s social forestry program supports livelihoods and climate action: This blog highlights how actions on social forestry have a positive impact on both livelihoods and climate impacts. Available at: [https://www.undp.org/blog/indonesias-social-forestry-programme-supports-livelihoods-and-climate-action](https://www.undp.org/blog/indonesias-social-forestry-programme-supports-livelihoods-and-climate-action).
- UNDP Blog: How forests and young people are solving Honduras’s water crisis: Water shortages in Tegucigalpa are critical and worsening due to climate change, but Honduras is addressing this by focusing on forest restoration and conservation, which are essential for water filtration and storage. Available at: [https://www.undp.org/stories/how-forests-and-young-people-are-solving-hondurass-water-crisis](https://www.undp.org/stories/how-forests-and-young-people-are-solving-hondurass-water-crisis).

**Photo essays**

- In Pictures: 8 Signs of Progress on Climate Action in 2023. This photo essay highlights 8 reasons to celebrate action on climate, several of which include nature-based solutions. Available at: [https://undp-climate.exposure.co/in-pictures-8-signs-progress-climate-action-2023](https://undp-climate.exposure.co/in-pictures-8-signs-progress-climate-action-2023).
- Uncharted territory: This photo essay highlights how the UNDP-supported Blue and Green Island Integrated Programme is supporting climate action and nature-positive development in Small Island Developing States by applying nature-based solutions and valuing natural capital. [https://undp-nature.exposure.co/uncharted-territory](https://undp-nature.exposure.co/uncharted-territory).
- Land of the unexpected: Papua New Guinea launches first national, independent Biodiversity and Climate Fund to support present and future generations restore, protect and enhance the country’s biodiversity. [https://undp-nature.exposure.co/land-of-the-unexpected](https://undp-nature.exposure.co/land-of-the-unexpected).
The Green Giants of Viet Nam’s Coast: A photo essay on mangrove revitalization and Taking Shelter – how Viet Nam is working with coastal communities to build climate resilience with nature as a key partner.

Saving Trees, Bees and Women’s Time: In Rwanda’s Nyanza and Kamonyi districts, the planting of more than one million trees and distribution of almost 18,000 eco-friendly stoves are helping local communities adapt to climate change.

At One with Nature: With finance from the Global Environment Facility and the backing of UNDP, Bhutan has been working to advance priority nature-based projects, realizing benefits for tens of thousands of Bhutanese.

For more nature stories, you can find them here.

Videos

Video: How is biodiversity loss and climate change connected? 5 things you need to know: https://www.youtube.com/watch?v=R9MiwD6oyo0

Video: Instituto Zag, Equator Prize 2023, showcases how protecting forests benefits community and the climate: https://youtu.be/Mg8kgiwaW7c

Video: Content from the past four years of the Nature for Life Hub, including content on nature for climate action, is available at www.NatureForLifeHub.org.

Video: A Green Climate Fund project in Egypt showcases ecosystem-based adaptation approaches.

Video: Guardians of the Southern Coast tells the story of Cuban mangrove planting to local communities.

For more UNDP Nature videos, at UNDP’s YouTube Nature, Climate and Energy channel here and a Nature Video Library here.

EXAMPLES OF UNDP’S WORK ON NATURE FOR CLIMATE ACTION

UNDP has a long and deep history of working on nature-related climate projects, including through the REDD+ program, the Climate and Forests Team, the Ecosystems and Biodiversity portfolio of Global Environment Facility and Global Climate Fund, the Small Grants Program, and more.

BIODIVERSITY CONSERVATION IN MULTIPLE-USE FOREST LANDSCAPES IN SABAH, MALAYSIA

Managing forests sustainably - and restoring them when necessary - is crucial for people, biodiversity and climate. In Sabah, the project is reconnecting conservation areas, protecting biodiversity, and improving forest management. Supporting climate action and sustainable livelihoods at the local level, the high carbon storage of Sabah’s forests also helps mitigate the broader impacts of climate change. Learn more at the project website or read our latest story from the project here.

COLLABORATIVE MANAGEMENT FOR WATERSHED AND ECOSYSTEM SERVICE PROTECTION AND REHABILITATION IN CAMBODIA

The Collaborative Management for Watershed and Ecosystem Service Protection and Rehabilitation (CoWES) project in Cambodia addresses land degradation, a threat to food and water security. Focused on the Upper Prek Thnot watershed, it aims to enhance soil conservation, restore community forests, and improve watershed management. Learn more through UNDP Cambodia’s website and a short video.

CLIMATE RESILIENT INTEGRATED WATER MANAGEMENT PROJECT IN SRI LANKA

Sri Lanka, among the top 10 nations affected by climate change, faces increased floods and droughts, impacting crop yields, food security, and water quality. The ‘Climate Resilient Integrated Water Management’ project aims to revive ancient irrigation systems in three river basins, addressing water management and safe drinking water. This pioneering first-of-its kind nationwide initiative, led by the Government of Sri Lanka and supported by UNDP, sets a precedent for integrated water management, fostering collaboration across diverse stakeholders and influencing future river basin planning. Learn more at the project website.

GLOBAL FUND FOR CORAL REEFS (GFCR) JOINT PROGRAM IN FIJI

In Fiji, the Global Fund for Coral Reefs (GFCR) is spearheading a new UNDP-led program that combines environmental stewardship with economic transformation. The ocean is the planet’s greatest carbon sink, and nature-based solutions support climate change adaptation and mitigation. Principal blended finance approach transactions include the establishment of a locally managed Technical Assistance Facility to incubate a pipeline of reef-positive business models and source sugar cane plantations with a non-synthetic fertilizer to reduce agricultural run-off and erosion harmful to nearby coral reefs. For more information: globalfundcoralreefs.org or read our latest story from the Fiji project here.