ProEcoServ
Project for Ecosystem Services

Trinidad and Tobago

Valuing Nature Today as an Investment in Trinidad and Tobago's Future

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Welcome to the first issue of our quarterly newsletter. Our newsletter will provide information and updates about the Trinidad and Tobago component of the Project for Ecosystem Services (ProEcoServ). It will also be a platform for sharing information on ecosystem assessment and valuation and emerging lessons from Trinidad and Tobago and the global ProEcoServ initiative. We welcome your input and suggestions for improvements. Please feel free to send us any suggestions you may have or requests for coverage on specific topics. Email us on info@thecropperfoundation.org.

Introducing the Project for Ecosystem Services

We often take nature's gifts of clean air and water, timber, pollination, and plants for medicines for granted and don't think about what they are worth. But valuing the goods and services that ecosystems produce means counting nature's contribution to human well-being and assessing how human activities affect the environment. This is more than just putting a theoretical price tag on nature: it provides information to help environmental managers, planners and other policy-makers balance investments in protecting nature and its services against other development choices, based on a true cost-benefit analysis.

The Project for Ecosystem Services (ProEcoServ) is a global, four-year initiative that is researching how to integrate ecosystem assessment, scenario development and economic valuation of ecosystem services into national sustainable development planning, and decision-making. The project was launched in 2010 by the United Nations Environment Programme (UNEP) with funding from the Global Environment Facility (GEF). It is being rolled out in Trinidad and Tobago, Chile, Vietnam, and South Africa and Lesotho. See www.proecoserv.org for more information about the global initiative.

ProEcoServ in Trinidad and Tobago

The Trinidad and Tobago component is using research to influence national policy and practice. It is examining 'bundles' of key services provided by forest, wetland and coral reef ecosystems at three

The Project for Ecosystem Services (ProEcoServ) 2010 - 2014

The Project for Ecosystem Services (ProEcoServ) is a four-year global initiative that aims to better integrate ecosystem assessment and economic valuation of ecosystem services into poverty reduction.

In this issue:

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demonstration sites - Eastern Northern Range, Nariva Swamp, and Buccoo Reef - to better understand how interdependent services contribute to human well-being and the national economy.

Main activities

The data and information that the project generates between now and 2014 will help planners and decision makers to put a monetary value on Trinidad and Tobago's ecosystems and their services, and to include these figures in the country's GDP. One major project activity is a review of the national accounting system to identify opportunities for greater inclusion of ecosystem services. This will help improve national and regional understanding of 'greening' national accounts to factor in the environmental consequences of economic growth and development.

ProEcoServ is also working with the Ministry of Planning and Sustainable Development to factor biodiversity and ecosystem services valuation into the next National Spatial Development Plan. This is being supported by GIS-based ecosystem service maps and other tools to improve planning and decision-making.

Another important project activity is modelling and mapping within each of the pilot sites selected regulating ecosystem services – those that keep the environment stable, such as erosion and flood control, pollination and water purification. The project is also carrying out valuation and assessment of tradeoffs between and among the ecosystem services studied at the three study sites. This will feed into the the Spatial Development Plan and support other decision-making processes. And finally, ProEcoServ is in discussion with the Green Fund of Trinidad and Tobago on collaborating to test market-based approaches to enhancing ecosystem services and human well-being through a pilot payment for ecosystem services (PES) demonstration project in the eastern Northern Range.

The ProEcoServ Trinidad and Tobago component is led by the University of the West Indies (UWI) through the Department of Life Sciences at the St. Augustine Campus with support from The Cropper Foundation. The National Project Coordinator is Professor John Agard.

The ProEcoServ Trinidad and Tobago Steering Committee

A national Project Steering Committee comprising representatives of partner institutions provides technical leadership and guidance to the project. Its role and function include regulatory supervision and overall guidance as well as monitoring progress on meeting project objectives.

The membership comprises representatives of the Ministry of Planning and Sustainable Development, the Ministry of the Environment and Water Resources, the Ministry of Food Production, the Tobago House of Assembly, the Environmental Management Authority, the Institute of Marine Affairs, the United Nations Development Programme/Global Environment Facility Small Grant Programme (Trinidad and Tobago), the Caribbean Agricultural Research and Development Institute, the Sir Arthur Lewis Institute of Social and Economic Studies, the University of the West Indies and the Buccoo Reef Trust.

Economic Value of Ecosystem Services and Environmentally Adjusted National Accounts

Preliminary estimates have put the value to the national economy of the flood prevention, water supply and waste treatment services provided by forest vegetation in Trinidad and Tobago at US$ 700 million or TT$ 4.4 billion per year, or approximately 3.5% of GDP in 2010. These and other services produced by nature – ecosystem services – are vital to human well-being, and help to underpin economies. Yet we see continued declines in the quality of numerous ecosystems both locally and globally.

Despite the existence of a large and growing body of knowledge and data on the functioning of ecosystems and the value of the services they provide (both economic and non-economic), there has been limited uptake and use of this information in the policy-making arena. Very rarely are economic benefits and degradation costs incorporated into cost-benefit analyses for development decision-making. Part of the problem is that environmental statistics and data can be complex, and the use of different methods and metrics makes it difficult to compare datasets across space and time.

ProEcoServ is attempting to address this situation in Trinidad and Tobago. It is working to improve policy making by providing tools for planning and decision-making that mainstream ecosystem services into key sectors by providing policymakers with relevant, reliable and easily understood statistics on the importance of ecosystem services.

Photo: STUDIOWORKS/ProEcoServ Trinidad and Tobago

Although the United Nations System of National Accounts (SNA) is the internationally agreed standard set of recommendations on how to compile measures of a nation´s economic activity (often expressed as GDP), these and other indicators have failed to account for a wide variety of benefits that ecosystem services bring to human well-being, and the damage caused by pollution and other factors associated with human activities. To address these shortcomings, ProEcoServ Trinidad and Tobago is developing Environmentally Adjusted National Accounts to complement the SNA. This measure will incorporate consideration of ecosystem degradation, ecosystem services, and expenditure on environmental protection in order to more accurately reflect the impact of economic activities on long-term sustainability and enhancement of human well-being in Trinidad and Tobago.

The full report, Environmentally Adjusted National Accounts for Trinidad and Tobago's Sustainable Future, is available online from ProEcoServ Trinidad and Tobago http://www.weebly.com/uploads/1/2/2/3/12239290/final_report_proecoserv.pdf

Meetings and Events

6 – 7 November 2012 **Stakeholder Workshop on Tools and Methods for Incorporating Ecosystem Services into Development Decision-Making: Caura Valley**

First in a series of workshops on the three ProEcoServ Trinidad and Tobago project sites that engage government and community stakeholders in a discussion on tools for improving planning and decision making, scenario planning, and drivers of change.

From Research to Policy and Practice: ProEcoServ T&T Research Pilot Sites in Brief

Eastern Northern Range

Focus: Ecosystem services provided by forest ecosystems in the Maracas and Caura Valleys, specifically soil protection and water purification.

Goal: To establish how different stakeholders can benefit most from these services by:

- quantifying how the forest ecosystems help to protect the soils from erosion and provide freshwater for local and national use;
- mapping the flow of benefits from these forest ecosystem services to different stakeholders in the Caura and Maracas Valleys and in other areas of Trinidad; and
- using these maps as the basis for participatory identification of priority areas in the landscape and priority resource management actions.

Photo: Salim October/Shutterstock.com

Key

- coastal protection
- sediment retention
- fresh water
- waste water treatment
- pollination
- genetic diversity
- habitat

Buccoo Reef

Focus: Coastal protection services provided by coral reefs, sea grass beds and mangroves.

Goal: To improve how decisions are made about managing and using the coastal ecosystems responsible for shoreline protection in southwestern Tobago by:

- mapping and valuing the shoreline protection services of Buccoo's coral reefs, sea grass and mangrove environments;
- investigating the linkages between coral reef shoreline protection and socio-economic benefits;
- identifying how management decisions and tradeoffs affect the ability of coastal ecosystems to continue to provide ecosystem services at an optimal level for shoreline protection; and
- developing a policy instrument to enable the integration of the shoreline protection ecosystem service into planning, policy decisions and reporting.

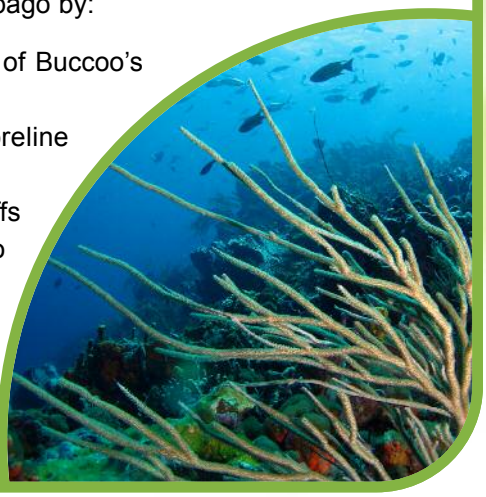

Photo: Jonathan Gomez

Nariva Swamp

Focus: Ecosystem services provided by pollination and pollinator habitat quality.

Goal: To evaluate the effects of potential future scenarios, such as changes in land use and climate, on the interactions between these three services by:

- assessing, mapping and valuing agriculture, pollination and pollinator habitat quality;
- identifying trade-offs and synergies between these services in order to identify win-win-win scenarios;
- identifying and, where possible, quantifying drivers of ecosystem service supply change;
- assessing the relationships between drivers and between drivers and ecosystem service supply response functions;
- producing supply response models for pollination, habitat quality and agricultural production under different scenarios;
- mapping the flow of benefits from these ecosystem services to local and national stakeholders; and
- using these maps as the as the basis for participatory decision-making.

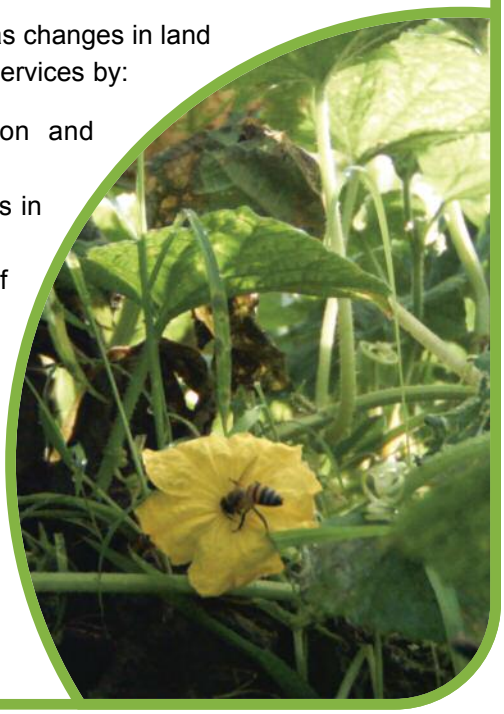

Photo: Lena Dempewolf

Exploring Payment for Ecosystem Services in the Caura Valley

ProEcoServ is working with community members in the Caura Valley and other stakeholders to determine the amount and value of erosion protection and water purification ecosystem services that the forest in this section of Trinidad's eastern Northern Range provides. A pilot case study that will be developed under the project could lead to community members getting compensation for carrying out reforestation and soil stabilisation activities that help boost ecosystem services. The practice of offering incentives to farmers or landowners to manage their land in order to maintain or improve ecosystem services is known as payment for ecosystem services (PES). ProEcoServ's research into the feasibility of innovative financing for conservation through a PES scheme in the Caura Valley will offer interesting lessons for the rest of the country and the Caribbean region.

There are strong links between the PES scheme that ProEcoServ Trinidad and Tobago would like to implement in the area and a new initiative that already has Caura Valley community members taking positive action to sustainably manage the forests around them. Under the Fire Guardianship Project, the community will be compensated for cutting and maintaining fire trails in the Caura Eco-Park, currently an eight-acre area that will eventually be extended to 20 acres. This pilot initiative, which is funded by the GEF Small Grants Programme, was launched in May 2012. Fire trails are cleared primarily to provide access to the forest for fire management purposes and they sometimes act as part of a fire break. However, these trails are also suitable for walking along and sight-seeing in the forest. Community members will take advantage of this opportunity to earn an income through ecotourism by using the fire trails for nature tours of the Eco-Park. The Fire Guardianship Project and ProEcoServ's work in the area are helping to show how protecting ecosystems in the Caura Valley can have concrete, measurable benefits for the community.

The forests of Trinidad's Northern Range provide several goods and services to the communities found there and to the country at large. These include freshwater, timber and non-timber forest products, climate regulation and soil protection. Photo: Robyn Cross

First Global Steering Committee Meeting and International Workshop on Mainstreaming Ecosystem Services into Development Policy: Approaches and Opportunities

Trinidad and Tobago had the honour of hosting the first meeting of the ProEcoServ Global Steering Committee in Port of Spain on 21 and 22 May 2012. Representatives of the thirteen-member committee met to review project progress and make recommendations for the way forward. The committee meets annually in one of the ProEcoServ pilot countries.

The Steering Committee meeting was followed by a meeting of local and international experts on 23 and 24 May 2012 to discuss the challenges of and approaches to mainstreaming ecosystem services into development policy making. The International Workshop on Mainstreaming Ecosystem Services into Development Policy: Approaches and Opportunities was organised by ProEcoServ in collaboration with national implementing partners, the University of the West Indies Department of Life Sciences, St. Augustine Campus and The Cropper Foundation, and in association with the (then) Ministry of Planning and the Economy. Workshop presentations are available for download from http://www.proecoserv.org/information-hub/mainstreaming-workshop-2012.html.

ProEcoServ Trinidad and Tobago Researcher Lena Dempewolf explains the Nariva Swamp pollination and pollinator habitat quality pilot study to participants in the First Global Steering Committee Meeting, Port of Spain, Trinidad, 21 – 22 May 2012. Photo: STUDIOWORKS/ ProEcoServ Trinidad and Tobago

More than 50 local and international experts took part in the International Workshop on Mainstreaming Ecosystem Services into Development Policy: Approaches and Opportunities Port of Spain, Trinidad and Tobago, 23 and 24 May 2012. Photos: STUDIOWORKS/ ProEcoServ Trinidad and Tobago

Participants in ProEcoServ's First Global Steering Committee Meeting with some members of the ProEcoServ Trinidad and Tobago team. Port of Spain Trinidad 21 - 22 May 2012. Photo: STUDIOWORKS/ ProEcoServ Trinidad and Tobago

Helpful Terms and Concepts

An **ecosystem** is all the living and non-living things in a particular area and their interactions. An ecosystem can be large or small – a huge rainforest like the Amazon or your back garden. Often ecosystems are described by class – terrestrial and aquatic (freshwater or ocean) - or by sub-categories such as wetlands, coral reefs, forests or grasslands. Well-known examples of these in Trinidad and Tobago are the Nariva Swamp (wetland), Buccoo Reef (coral reef), the Northern Range (forest) and the Aripo Savannas (grassland).

Ecosystem services are the benefits that people obtain from ecosystems. These include provisioning services such as food and water; regulating services such as regulation of floods, drought, land degradation, and disease; supporting services such as soil formation and nutrient cycling; and cultural services such as recreational, spiritual, religious and other non-material benefits.

Ecosystem resilience is the level of disturbance that an ecosystem can undergo without crossing a threshold to a situation with different structure or outputs. Resilience depends on ecological dynamics as well as the organizational and institutional capacity to understand, manage and respond to these dynamics.

Human well-being is the freedom of choice and action to achieve basic material for a good life, health, good social relations and security. Well-being is at the opposite end of a continuum from poverty, a pronounced deprivation in well-being.

Bundling of ecosystem services: One ecosystem service (e.g., freshwater provisioning) is not delivered in isolation from others. The Millennium Ecosystem Assessment demonstrated the interdependencies among ecosystem services. Overuse of one ecosystem service may lead to a decline in other ecosystem services. An ecosystem management approach ensures that interdependent ecosystem services are identified and that an ecosystem-specific analysis revolves around the bundled set of ecosystem services rather than individual services.

Sources: Convention on Biological Diversity, Millennium Ecosystem Assessment, UNEP

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For more information on ProEcoServ and the Trinidad and Tobago component go to http://www.proecoserv.org/

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