

PREEN Newsletter

Pacific Resource & Environmental Economics Network

Edition I
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SOPAC

Welcome to the 1st edition of the Pacific Resource and Environmental Economics Network (PREEN) newsletter!

We hope you enjoy it.
If you find it useful and informative, please pass it on to your colleagues

PREEN was established by IUCN in collaboration with SOPAC and SPC in September 2009 to replace the then loose resource and environmental economics network (REEN).

The primary purpose of PREEN is to build support among practitioners and increase the capacity of stakeholders to conduct economic analysis of natural resources in the Pacific. PREEN aims to advocate for the integration of economic considerations in resource and environmental management decisions and hopes to become the first 'port of call' for policymakers, NGOs and other stakeholders seeking advice regarding the use of economics in resource use and management decisions.

Check out our newly developed website for a history of PREEN and its detailed terms of reference as well as links to documents, relevant work and contacts: http://www.iucn.org/about/union/secretariat/offices/oceania/oro_programmes/oro_initiatives_pceg/oro_pceg_preen/

With the establishment of PREEN, this newsletter has been produced to keep regional practitioners and other stakeholders informed about resource and environmental economics work being conducted in Pacific, provide relevant updates and disseminate findings of work carried out in the region.

The PREEN Newsletter has evolved from PENREN (Pacific Environmental and Natural Resource Economics News), formerly produced by SOPAC over 2008-2009. It is now a joint initiative of IUCN and SOPAC.

In this Edition ...

Abstracts of papers presented at the September '09 Practitioners' Workshop 'Experiences in the Use of Economics in Resource and Environmental Management'

This edition of the PREEN Newsletter focuses exclusively on presentations made at the recent IUCN-hosted workshop 'Experiences in the Use of Economics in Resource and Environmental Management'.

The workshop brought together known resource economists operating in the Pacific, such as from Fiji, American Samoa and Australia. These economists made themselves available to discuss their ongoing works, highlight current issues and share experiences.

In this edition we bring to you abstracts of the papers presented. The detailed peer-reviewed papers will be published in the Workshop Proceedings in 2010.

Future editions of this newsletter will feature current and upcoming research relevant to Pacific island countries, briefs on important events, members' profiles and technical articles.

To keep this publication newsworthy and useful, we invite your contributions and feedback. We are particularly interested in information on resource/environmental economics work being conducted in your organisation or country, impacts of the projects and lessons learnt.

We wish you a happy and safe festive season!

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ABSTRACTS of Papers Presented at 'Experiences in the Use of Economics in Resource and Environmental Management', a Pacific Resource and Environmental Economics Practitioners' Workshop

ALTERNATIVE ENERGY



Is the production of Ethanol a way out for Fiji?

– Peter J. Stauvermann (USP) and Sunil Kumar (USP) [stauvermann_p@usp.ac.fj; kumar_ss@usp.ac.fj]

This paper aimed to show the positive effects of ethanol production on Fijian society, economy and environment as well as its profitability given world market prices. Cost-benefit analysis developed by the Dutch Sustainable Development Group for the Dutch government was used for the analysis. Estimates produced are highly conservative. It was estimated that, in the long-run, the price of ethanol will increase significantly due to demand-side pressure, presenting new opportunities for cane-mill owners to diversify. By substituting fossil fuel with ethanol, it was estimated that the consumption of fossil fuels could be reduced immediately by 10% and by 100% in the long run. It was thus proposed that sugar and ethanol be produced side by side for energy sustainability to be achieved.

SOPAC – CATD Biofuel Project

– Reshika Singh (SOPAC) [singh09@gmail.com]

Fossil-based energy imposes costs on the domestic economy due principally to oil price volatility. Biofuel as an alternative to expensive diesel fuel is an option and area of interest in Pacific island countries that can reduce reliance on imported fuels and thus reduce greenhouse gas emissions. This report investigates the challenges presented by the Fiji Rural Electrification Policy, a project installed and commissioned by the Centre of Appropriate Technology and Development with SOPAC in 2009. The project uses local copra bio-fuel for sustainable rural electrification. An interesting aspect is the micro-business management skills that have been proposed to facilitate community development. The most notable challenges to the above project include transportation difficulties and the lack of income generating opportunities. A cost-benefit analysis was used to determine the feasibility of this project by examining the possible costs that would incur over the life of a bio-fuel generator relative to a diesel generator. The project was estimated to have positive returns on investments and will be monitored over the next five years in order to generate lessons to other Pacific nations attempting similar rural electrification.



Supply side constraints: lessons learned on the implementation of biofuels projects in the Pacific

– Tim Martyn (SPC) [timm@spc.int]

There exists growing pressure to find substitutes for fossil-fuels, notably in the Pacific, where improving energy security is a main concern. This paper explored whether the Pacific is indeed capable of developing a sustainable coconut (copra) biofuel industry, one of the potential alternatives to fossil-fuel in this region. Feasibility studies in Samoa and Fiji were used to identify at which point coconut biofuels might become competitive with fossil fuels. While this is itself a challenge, the high labour costs of the Pacific, complex land tenure arrangements and agricultural production techniques serve to complicate the matter. There are also questions as to whether coconut oil is the most appropriate technology for rural electrification. Although the use of coconut as biofuel is one of the lower value uses for the resource, governments need to strike a balance between achieving the benefits of: reducing national dependence on imported fuel, ensuring rural income generation and achieving rural electrification. The paper concludes that Pacific island nations need to do more to consider the socio-economic impacts of coconut biofuels substituting fossil fuels.



CLIMATE CHANGE

The impact of climate change on Samoan agriculture: a Ricardian approach – Marita Manley (SPC) and Hiroshi Sugano [maritam@spc.int; suganote@gmail.com]

Agricultural sectors are very sensitive to changes in climatic conditions, with agricultural yields directly related to rainfall and temperature. There is a need to understand the magnitude of the climate change adaptation costs facing the Pacific, notably to provide support for financing adaptation measures. The Ricardian approach explained in this paper examined how farmers have adapted to existing climatic conditions and estimates the economic effects of predicted changes in climate, accounting for farmer adaptation. The approach used net revenues or perceptions of land values to give an indicator of the costs of adaptation assuming that farmers adapt fully. Specific issues encountered in Samoa, where field work and interviews were conducted, were discussed to demonstrate some of the problems in applying the approach in the Pacific context. It is crucial to note that this study was a work-in-progress and would be used to raise awareness in Samoa on the need for farmers to adapt to climate change. Such technical economic analysis would be crucial to develop appropriate adaptation techniques across the Pacific.



Can carbon financing provide incentives for avoided or reduced deforestation and forest degradation in Fiji?

– Marita Manley (SPC) [maritam@spc.int]

Deforestation and forest degradation accounts for around 20 per cent of all human-induced greenhouse gas emissions. In recognition of this, discussions are currently underway as part of the United Nations Framework Convention on Climate Change (UNFCCC) negotiations to incorporate a mechanism to encourage reduced emissions from deforestation and degradation (REDD). Papua New Guinea, Vanuatu and Fiji are all in the process of getting themselves REDD-ready. This paper examined whether REDD financing can provide sufficient alternative income to royalties from timber production based on a scenario case study in Fiji. Using crude estimates based on available data, different land use scenarios were compared to provide an indication of likely carbon prices required to discourage deforestation in each scenario. The estimates were broadly consistent with other studies and confirmed that avoiding deforestation is a relatively cost-effective mitigation opportunity in Fiji, as it is elsewhere. Future detailed calculations and challenges of present estimates were discussed. It was noted that there were also important lessons to be learnt from other payment for ecosystem services schemes.

Assessing economics of climate change in the Pacific: key issues and challenges

– Padma Lal (IUCN) [padma.lal@iucn.org]

Robust empirical evidence on the costs of climate change in the Pacific is scarce. There is increasing Pressure on communities and countries to focus on understanding the expected effects of climate change and climate variability to help adapt to it. This paper drew on a recent literature review of economic studies on natural disasters and climate change in the Pacific to discuss the types of challenges faced in the region in assessing economic costs of climate change. Challenges discussed include the appropriateness of various economic cost assessment methods, as well as issues with data sets and other scientific information. It was observed that qualitative commentary has thus far been the most common method of assessing the economic costs of climate change. However, the paper examined what should be the right economic questions to focus on given our limited resources, stressing that there is much room for improvement regarding quantitative analysis in the Pacific. In conclusion, it seemed that the economic cost assessment of climate change in the Pacific is limited at best due, primarily to incomplete socio-economic data sets. It would be important to fill this gap, for both international advocacy and for national adaptation plans. Policy recommendations include developing a standardised and systematic data collection and storage system that can readily be accessed to inform decisions at all levels.



FISHERIES & COASTAL ENVIRONMENT/RESOURCES**Economics of Tuna Management: reflecting on experiences and identifying the challenges for Pacific Islands**
– Vina Ram (USP) [ram_v@usp.ac.fj]

Tuna fisheries in the Western Central Pacific comprise the largest and most productive tuna fish stock in the world and are thus of regional economic importance and of global significance. The management of this migratory fish stock presents a complex scenario with multilateral and multinational underpinnings. The challenge for Pacific island countries is to strategically re-consider their tuna policy-making and to identify solutions that can allow voluntary cooperation in joint management arrangements. In the paper, theoretical fishery economics were examined, as well as the Western and Central Pacific Fisheries Convention. This paper then reflected on the past experiences and current practices of tuna policy making in the Pacific from an economic perspective and raised some questions about its long term sustainability. Data and information management were identified as significant issues for tuna fisheries. The paper identified that an effective judicial and enforcement system is an essential component to a successful fisheries management regime. One of the conclusions was that every country would be better off with a coordinated and cooperative fisheries management strategy. Countries would need to keep in mind that there would be short-run losses in order to secure long-run gains.

**A socio-economic assessment of Coastal Environmental and Resource Management Approaches in the Pacific**
– Nicholas Conner
(WCPA)[nicholas.conner@environment.nsw.gov.au]

This paper described a research project to assess the economic dimensions of threats and pressures on coastal environments in the Pacific, and to review the effectiveness of coastal environment and resource management approaches used in different Pacific island countries and Territories. The project is based on a 'ridge to reef' conceptual framework which can be used to identify upstream and downstream biophysical, economic, social cultural, and institutional influences on, and relationships between, component environments in a catchment. The project aims to develop guidelines to help coastal management and donor agencies identify economic, social, cultural and institutional prerequisites needed for successful coastal management approaches for different situations in the Pacific.

Alternative options for coastal projection: feasibility of aggregate mining in Pacific atoll nations
– Paula Holland (SOPAC) [paulah@sopac.org]

Aggregates (sand, gravel, rubble) used for construction purposes are critically in demand in a number of atoll nations in the Pacific including Kiribati, Tuvalu and the Marshall Islands. Unfortunately, this material has conventionally been accessed by 'mining' the coastlines for aggregate which increases the risks of coastal erosion and the frequency and scale of flooding. This paper considered the true economic cost of coastal mining and the economic pay off of using the alternative sources of aggregates, as well as enabling environment needed to realise the potential benefit of using alternative aggregate sources. Drawing from three economic feasibility case studies conducted in Kiribati, Tuvalu and Marshall Islands, the paper discussed the conceptual framework and methodology adopted and how the outcomes of the studies contributed to national policy decisions. Data limitations and social issues were highlighted as key challenges.



NATURAL DISASTERS

Vulnerability to Natural Disasters: An Economic Analysis of the 2009 Floods on the Fiji Sugar Belt – Padma Lal (IUCN) [padma.lal@iucn.org]

The impacts of climate change and other natural disasters are determined not only by the nature and scale of hazard conditions but also by the society's vulnerability. The purpose of this paper was to demonstrate, using detailed economic cost assessment of the 2009 floods on the Fiji sugar belt, how the short term economic costs of the 2009 floods in Fiji are influenced not only by the nature and scale of a hazard, but also by the sensitivity of sugarcane and other crops to flooding, the health of the sugar industry and sugarcane farming, as well as the government's macroeconomic policy. The paper concluded by drawing out some policy implications for disaster risk reduction, including climate change adaptation.



Economics to promote disaster risk management in the Pacific – Paula Holland (SOPAC) [paulah@sopac.org]

It is a long accepted fact that the Pacific is one of the most natural disaster prone regions in the world. Key natural disasters threatening the region include earthquakes, tsunamis, volcanic activity, landslides, cyclones and flooding. Disaster risk management in the Pacific has conventionally focused on disaster management (response, recovery etc.). However, disasters can have a significant negative impact on a country's productive base, setting back economic development. This paper presented the findings of economic assessments of floods in Samoa and Fiji, noting the scale of losses and the expected economic returns from investing in flood risk reduction and flood mitigation today to head off losses tomorrow. The paper concluded by stating that results from economic assessments must be credible to ensure that outcomes are realised. Key challenges identified include data access, dissemination of results and their inclusion in policy decisions at national level.



SOCIAL CAPITAL

Trust and Social Capital Framework: Implication for Resource Extraction in Small Economies – Mahendra Reddy (FIT) [reddy_m@fit.ac.fj]

In any economy, trust plays an important role in ensuring economic transaction take place. This is more crucial in small economies given the inherent problems and features which makes independent decision making cumbersome and complicated. Is there particular state and non state activity that could undermine the functioning of trust inducing market organizational structures? This article focused on the role of trust and social capital in resource extraction. Some of the past activities of state and non state actors that could undermine market operations were examined. A framework for analyzing trust based projects and resource extraction processes was then presented. This framework could be used for policy interventions by national leaders.

WASTE MANAGEMENT

Mainstreaming economic considerations in waste management decisions: Experiences from Tuvalu and Tonga – Padma Lal (IUCN) [padma.lal@iucn.org]



There is a growing appreciation in the Pacific islands of the need to adopt economic principles, concepts and values to underpin resource and environmental management. The purpose in this paper was to discuss key practical challenges facing Pacific Island countries in mainstreaming economic principles to inform waste management decisions. Lessons were drawn from two cases studies based on GEF funded International Waters Programme (IWP) projects in Tonga and Tuvalu. The paper highlighted the need to have economic considerations embedded in all stages of the project cycle. It also stressed the need for basic capacity development amongst government and non-government agencies to enable them to ask the right economic questions which would lead to the optimal use of economics in key policy and management decisions.

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If you are interested in the use of economics to support resource and management decisions in the Pacific and would like to join PREEN or be added to our mailing list, please contact the PREEN newsletter coordinators at [federica@sopac.org]/[Neehal.khatri@iucn.org]