

# **CLIM-FO** Climate Change & Forestry





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### I. IN THE PRESS

10 August 2012 - CIFOR

#### REDD+ within reach in rural Brazil

Agricultural reform settlements in the Brazilian Amazon have often been associated with high deforestation rates, thus they seem as a natural target for initiatives to reduce emissions from deforestation and degradation (REDD+). However, differences in the deforestation history and levels of economic development among settlements may have important implications for the design of such initiatives, say scientists.

07 August 2012 - The Huffington Post

### Amazon Deforestation: NASA Images Show The Great Rainforest Disappearing

As the 2012 Summer Olympics draw worldwide attention on London, a newly released pair of satellite photos highlights a nagging environmental for the host of the Olympics: deforestation of the Amazon rain forest in Brazil. Taken by NASA's Landsat 1 satellite in 1975 and 2012, the two images reveal dramatic effects of clear-cutting for roads and agriculture in Rondônia, a rural state in western Brazil. This process began with the construction of a major north-south highway in the 1970s, according to NASA's Earth Observatory, followed by secondary roads through dense forest at right angles to the first road. As settlers continued expanding over the decades - first by cutting down trees, then burning ground cover — their merging agricultural tracts took on a "fishbone pattern," as NASA describes it.

06 August 2012 - CIFOR

## Soybeans and forests in Brazil's Arc of Deforestation: A temporary truce?

With global demand for commodities like palm oil, soy and beef rapidly increasing, and the supply of usable lands dwindling, can forests survive? Can the planet's growing billions be better fed, clothed and housed without destroying tropical forests?

01 August 2012 - BBC

#### Mangrove conservation is 'economic'CO2 fix

Protecting mangroves to lock carbon away in trees may be an economic way to curb climate change, research suggests. Carbon credit schemes already exist for rainforests; the new work suggests mangroves could be included too. But other researchers say the economics depend on the global carbon price.

27 July 2012 - IISD

#### Adaptation Strategies Should Factor in Migration

Today there are more people on the move than ever before: one in every seven persons is an international or internal migrant, and almost every country is simultaneously a country of origin, transit or destination. The UN Conference on Sustainable Development (UNCSD, or Rio+20) acknowledged migrants' contributions to sustainable development and made reference to migrants' rights. However, Rio+20 failed to further connect the dots between migration, development and adaptation to climate change.

26 July 2012 - FAO

### Ten Central African countries agree to improve forest monitoring

A new regional initiative will help ten Central African countries to set up advanced national forest monitoring systems, FAO announced today. The ten countries are part of the Congo Basin and include Burundi, Cameroon, Central African Republic, Chad, the Democratic Republic of the Congo, the Republic of the Congo, Equatorial Guinea, Gabon, Rwanda and São Tomé and Principe.

24 July 2012 - Energy and Climate Partnership of the Americas

#### Forest Carbon Monitoring Breakthrough in Columbia

Using new, highly efficient techniques, Carnegie and Colombian scientists have developed accurate high-resolution maps of the carbon stocks locked in tropical vegetation for 40% of the Colombian Amazon (165,000 square kilometers/64,000 square miles), an area about four times the size of Switzerland. Until now, the inability to accurately quantify carbon stocks at high spatial resolution over large areas has hindered the United Nations' Reducing Emissions from Deforestation and Forest Degradation (REDD+) program, which is aimed at creating financial value for storing carbon in the forests of tropical countries. In addition to providing a key boost for implementing REDD+, the results from the Carnegie/Colombian partnership is a boon to tropical forest management and conservation.

12 July 2012 - The Guardian

Senegal begins planting the Great Green Wall against climate change

Africa's proposed 4,000-mile wall of trees stretching from Senegal to Djibouti is designed to stop encroaching desertification.

### II. UNFCCC MULTILATERAL PROCESSES

#### United Nations Framework Convention on Climate Change

No negotiations have taken place since the negotiations in Bonn, Germany, 14 to 25 May 2012. Click here to find a summary of the negotiations in Bonn.

The next negotiations, as an informal additional session of the ad hoc working groups, will be held in Bangkok, Thailand from 30<sup>th</sup> of August to 5 September 2012 with the. The following bodies and working groups will meet: The Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol, The Ad Hoc Working Group on Long-term Cooperative Action under the Convention, the Ad Hoc Working Group on the Durban Platform for Enhanced Action. More

The 18<sup>th</sup> session of the Conference of the Parties to the UNFCCC and the 8<sup>th</sup> meeting of the Parties to the Kyoto Protocol will take place from Monday 26<sup>th</sup> November till Friday the 7<sup>th</sup> of December in Doha, Qatar. More

Parties and accredited observers are invited to submit their views to UNFCCC on various issues (incl. CDM and LULUCF), as decided by UNFCCC. Click here for the UNFCCC document. See also the first document noted under section V, for views submitted on financing options.

### III. EVENTS & MEETINGS

#### **Upcoming events**

# International conference - Forest-water interactions with respect to air pollution and climate change

3-6 September 2012, Kahramanmaras, Turkey.

Forest and water is one of the high priority areas of IUFRO. The forest-water interaction becomes a major concern in both local and global scales due to anthropogenic stressors like climate change and air pollution. Therefore, the management of forests towards water and carbon management and air pollution mitigation becomes a challenging issue and concern to be addressed. The aim of the conference is to provide a harmonization of forests, water cycle, climate change and air pollution issues. Presentations are welcome from various geographies on ecological, economical and social aspects of listed conference topics. More

#### **IUCN World Conservation Congress**

6-15 September 2012, Jeju, Korea

The 2012 World Conservation Congress will be held from 6 to 15 September 2012 in Jeju, Republic of Korea. Leaders from government, the public sector, non-governmental organizations, business, UN agencies and social organizations will discuss debate and decide solutions for the world's most pressing environment and development issues. More

### COFO 21, Committee on Forestry - 21st Sessions/3rd World Forest Week

24-28 September 2012

World leaders at Rio+20 agreed that forests have a significant role to play in addressing many sustainable development challenges. To help fulfill this role, the Committee on Forestry (COFO) 2012 will focus on translating the results of Rio+20 into action and strengthening forestry's many cross-sectoral linkages under the following key topics: i) integrating forests with environmental and land use policies at all levels, ii) Forests, trees and people together in a living landscape: A key to rural development, iii) Broadening the financial basis for sustainable forest management: wood and non-wood products, services, innovations, markets, investments and international instruments and iv) Sound information and knowledge base for better policies and good governance. More

#### International Conference on sustainable forest management adapting to climate change

01013-16 October 2012, Beijing, PR. China

In order to promote knowledge exchanges of the latest scientific findings in sustainable forest management and to strengthen international collaborations in implementing forest management adapting to climate change, Chinese Society of Forestry(CSF), International Union for Forest Research Organizations(IUFRO) and International Union for Conservation of Nature(IUCN) will co-sponsor the Second Forest Science Forum—International Conference on Sustainable Forest Management Adapting to Climate Change. The conference will be organized by the Chinese Society of Forestry and Beijing Forestry University in Beijing, during October 13-16, 2012. The conference calls for session proposals related to conference topics. More

#### Illegal logging and legality verification - the FLEGT / VPA as new modes of governance

6-7 December, 2012, Copenhagen, Denmark

In 2003 the EU adopted its Action Plan on Forest Law Enforcement, Governance and Trade (FLEGT). In order to promote the import to Europe of legal timber, the EU proceeded in 2005 to introduce Voluntary Partnership Agreements (VPAs) with countries that export tropical timber. As of March 2013, timber placed on the European market must be documented legal, and traders will be required to exercise due diligence to ensure that the timber they deal with is from legal sources. At this backdrop, this international academic conference will discuss a number of theoretical and empirical issues related to the practice of illegal logging and trade in illegal tropical timber as well as measures to counteract such practices. Although main focus will be on the EU modalities, presentations on other related initiatives are welcome as well. More

### IV. RESEARCH ARTICLES

# Design challenges for achieving reduced emissions from deforestation and forest degradation through conservation: Leveraging multiple paradigms at the tropical forest margins Minang, P.A. & van Noordwijk, M.

Land Use Policy 2012. http://dx.doi.org/10.1016/j.landusepol.2012.04.025

Reduced emissions from deforestation and forest degradation in developing countries (REDD+) is widely accepted as a land use policy objective for mitigating climate change, but the ways through which REDD+ can provide incentives to simultaneously conserve forest and reduce poverty remain uncertain. The experiences of integrated conservation and development projects (ICDPs) have shaped initial pilots of landscape level REDD+ action. Yet, little thought has been given to the design challenges that need to be overcome in multi-scale REDD+ programs, where local shifts of behavior need to be connected to international finance and investment. This paper highlights and discusses emerging design challenges for REDD+ at multiple levels in two distinct circumstances. First, for sub-national REDD+ design where ICDP approaches are employed as a platform for demonstration and project design and implementation. In this case, issues of scale, nesting and leakage are prominent. Secondly, ICDP is used as a strategy for implementation of REDD+ at multiple levels. In the second case, the challenges are about choices or optimal mixes between multiple policies and instruments such as "sparing" and "sharing" for addressing drivers of deforestation and payments, rewards and/or co-investments in the achievement of multiple co-benefits of emission reductions. The paper also explores how combinations of incentive paradigms can be used at the local, sub-national and national scale within a nested approach to REDD+ as derived from distinguishing features of REDD+ such as performance measurements, financial modalities and carbon as a commodity that have not hitherto been part of ICDPs. We posit that a nested landbased Nationally Appropriate Mitigation Actions (NAMAs) approach could overcome design issues with REDD+ frameworks that use additional co-investment for achieving biodiversity goals on a modified ICDP platform.

### Impact of payments for carbon sequestered in wood products and avoided carbon emissions on the profitability of NIPF landowners in the US South

Dwivedi, P.; Bailis, R.; Stainback, A.; Carter, D. R Ecological Economics; 2012. 78: 63-69

This study determines economic impact of payments for carbon sequestered in wood products and avoided carbon emissions due to use of forest biomass for electricity generation instead of fossil fuels on the profitability of non-industrial private forest (NIPF) landowners in the US South. Penalties for carbon emitted at the time of undertaking various silvicultural activities and exponential decay of wood products were also considered. We used life-cycle assessment to evaluate carbon emissions from various silvicultural activities. We modified the traditional Faustmann forest rotation model to incorporate identified carbon payments and penalties. Slash pine (<i>Pinus elliottii</i>) was selected as a representative species. We found that the overall global warming impact (GWI) for managing a hectare of intensively managed slash pine plantation was 6539 kg

carbon dioxide equivalent. The maximum land expectation value (LEV) for the scenario when all carbon payments and penalties along with payments for timber products were considered was \$1299/ha using a 20 year rotation age. This value is about 71% higher than the LEV when only payments for timber products were taken into account (\$760/ha using a 21 year rotation age). Our results clearly indicate that emerging carbon markets could greatly benefit southern NIPF landowners.

# Significance of Reducing Emissions from Degradation and Deforestation (REDD): evidence from study in <i>terai</i>

Koul, D. N.; Pankaj Panwar; Mohammad Moonis; Charan Singh Indian Journal of Forestry; 2012. 35: 1, 35-38

Reduced Emissions from Deforestation and Degradation (REDD) has became a major issue in international climate change negotiations. REDD was first introduced by United Nations Framework Convention on Climate Change (UNFCCC) at its 11th session of Conference of Parties (COP) held in Montreal, Canada in December 2005. However, till date a consensus on making REDD practicable and marketable mechanism has not been reached. There are differences between developing countries having rich tropical forest cover. There are issues associated with methodologies, monitoring, internal forest policy, indigenous rights etc. In the present paper efforts were made to demonstrate the significance of natural and existing forests in sequestering and storing carbon. The carbon sequestration and storage potential is much higher in natural forests compared with two plantations viz of <i>Dalbergia sissoo</i> and <i>Terminalia arjuna</i> But enhancing land area under new forest cover can also be not refuted. Thus conserving natural forest coupled with adding new areas under forest through plantation should be the strategy for reversing and/or reducing global warming and climate change

# Carbon outcomes of major land-cover transitions in SE Asia: great uncertainties and REDD+ policy implications

Ziegler, A.D., Phelps, J., Yuen, J.Q., Webb, E.L., Lawrence, D., Fox, J.M., Bruun, T.B., Leisz, S.J., Ryan, C.M., Dressler, W., Mertz, O., Pascual, U., Padoch, C., Koh, L.P.

Global Change Biology. doi: 10.1111/j.1365-2486.2012.02747.x

Policy makers across the tropics propose that carbon finance could provide incentives for forest frontier communities to transition away from swidden agriculture (slash-and-burn or shifting cultivation) to other systems that potentially reduce emissions and/or increase carbon sequestration. However, there is little certainty regarding the carbon outcomes of many key land-use transitions at the center of current policy debates. Our meta-analysis of over 250 studies reporting above- and below-ground carbon estimates for different land-use types indicates great uncertainty in the net total ecosystem carbon changes that can be expected from many transitions, including the replacement of various types of swidden agriculture with oil palm, rubber, or some other types of agroforestry systems. These transitions are underway throughout Southeast Asia, and are at the heart of REDD+ debates. Exceptions of unambiguous carbon outcomes are the abandonment of any type of agriculture to allow forest regeneration (a certain positive carbon outcome) and expansion of agriculture into mature forest (a certain negative carbon outcome). With respect to swiddening, our meta-analysis supports a reassessment of policies that encourage land-cover conversion away from these [especially long-fallow] systems to other more cash-crop-oriented systems producing ambiguous carbon stock changes - including oil palm and rubber. In some instances, lengthening fallow periods of an existing swidden system may produce substantial carbon benefits, as would conversion from intensely cultivated lands to highbiomass plantations and some other types of agroforestry. More field studies are needed to provide better data of above- and below-ground carbon stocks before informed recommendations or policy decisions can be made regarding which land-use regimes optimize or increase carbon sequestration. As some transitions may negatively impact other ecosystem services, food security, and local livelihoods, the entire carbon and noncarbon benefit stream should also be taken into account before prescribing transitions with ambiguous carbon benefits.

#### Assisted migration: adapting forest management to a changing climate

Leech, S. M.; Almuedo, P. L.; O'Neill, G

BC Journal of Ecosystems and Management; 2012. 12: 3, 18-34

Forestry practitioners are increasingly interested in how to adapt practices to accommodate predicted changes in climate. One forest management option involves helping tree species and seed sources (populations) track the movement of their climates through "assisted migration": the purposeful movement of species to facilitate or mimic natural population or range expansion. In this paper, we discuss assisted migration as a climate change adaptation strategy within forest management. Substantial evidence suggests that most tree species will not be able to adapt through natural selection or migrate naturally at rates sufficient to keep pace with climate change, leaving forests susceptible to forest health risks and reduced productivity. We argue that

assisted migration is a prudent, proactive, inexpensive strategy that exploits finely tuned plant-climate adaptations wrought through millennia of natural selection to help maintain forest resilience, health and productivity in a changing climate. Seed migration distances being considered in operational forestry in British Columbia are much shorter than migration distances being contemplated in many conservation biology efforts and are informed by decades of field provenance testing. Further, only migrations between similar biogeoclimatic units are under discussion. These factors reduce considerably the risk of ecological disturbance associated with assisted migration. To facilitate the discussion of assisted migration, we present three forms of assisted migration, and discuss how assisted migration is being considered internationally, nationally, and provincially. Finally, we summarize policy and research needs and provide links to other resources for further reading.

### Impacts of incentives to reduce emissions from deforestation on global species extinctions

Strassburg, B. B. N.; Rodrigues, A. S. L.; Gusti, M.; Balmford, A.; Fritz, S.; Obersteiner, M.; Turner, R. K.; Brooks, T. M.;

Nature Climate Change; 2012. 2: May, 350-355.

Reducing Emissions from Deforestation and forest Degradation (REDD) has been widely discussed as a way of mitigating climate change while concurrently benefitting biodiversity. This study combines a global landuse model and spatial data on species distributions to quantify the potential impacts of REDD in avoiding global species extinctions.

#### Prospects for Sustainable Logging in Tropical Forests

Zimmerman, B.L. & Kormos, C.F.

Bioscience Vol 62(5) p. 479-487.

A convincing body of evidence shows that as it is presently codified, sustainable forest-management (SFM) logging implemented at an industrial scale guarantees commercial and biological depletion of high-value timber species within three harvests in all three major tropical forest regions. The minimum technical standards necessary for approaching ecological sustainability directly contravene the prospects for financial profitability. Therefore, industrial-scale SFM is likely to lead to the degradation and devaluation of primary tropical forests as surely as widespread conventional unmanaged logging does today. Recent studies also show that logging in the tropics, even using SFM techniques, releases significant carbon dioxide and that carbon stocks once stored in logged timber and slash takes decades to rebuild. These results beg for a reevaluation of the United Nations Framework Convention on Climate Change proposals to apply a Reducing Emissions from Deforestation and Forest Degradation subsidy for the widespread implementation of SFM logging in tropical forests. However, encouraging models of the successful sustainable management of tropical forests for timber and nontimber products exist at local-community scales.

## Policy options to reduce deforestation based on a systematic analysis of drivers and agents in lowland Bolivia

Müller, R., Pistorius, T., Rohde, S., Gerold, G., Pacheco, P. Land Use Policy Vol 30(1) p. 895-907

The reduction of tropical deforestation is of crucial importance for mitigating climate change and curbing the loss of biodiversity. In light of the current international efforts to reduce deforestation associated to REDD+, effective and efficient country-specific policy options need to be identified to make progress on the ground. Taking lowland Bolivia as an example, we propose a systematic approach to identify and discuss such policy options; this systematic approach can be applied to other tropical contexts with ongoing conversion of forests to agricultural uses. We begin with the distinction of three land use categories associated with the main proximate causes of deforestation in lowland Bolivia, viz. mechanized agriculture, small-scale agriculture and cattle ranching, each of them linked to typical agents. Based on a systematic analysis of spatial and socioeconomic criteria, we then estimate the potential of land use expansion and the likely costs of deforestation reduction in order to formulate suitable policy options for each of the three proximate causes of deforestation. Although mechanized agriculture caused more than half of deforestation in lowland Bolivia, we argue that cattle ranching activities, which contributed to 27% of deforestation between 1992 and 2004, should be targeted as a priority since its expansion threatens forests in many different locations and improvements could be achieved at relatively low costs. In this light, enforcing land use legislation, accompanied by strengthening institutions on national and local levels, constitute tasks of utmost importance.

### The Scope for Reducing Emissions from Forestry and Agriculture in the Brazilian Amazon

Börner, J. & Wunder, S Forests 2012, 3, 546-572

Reducing emissions from agriculture, forestry, and other land uses is considered an essential ingredient of an effective strategy to mitigate global warming. Required changes in land use and forestry, however, often imply foregoing returns from locally more attractive resource use strategies. We assess and compare the prospects of mitigating climate change through emission reductions from forestry and agriculture in the Brazilian Amazon. We use official statistics, literature, and case study material from both old and new colonization frontiers to identify the scope for emission reductions, in terms of potential additionality, opportunity costs, technological complexity, transaction costs, and risks of economic and environmental spillover effects. Our findings point to a comparative advantage in the Brazilian Amazon of forest conservation-based over land-use modifying mitigation options, especially in terms of higher potential additionality in emission reductions. Low-cost mitigation options do exist also in use-modifying agriculture and forestry, but tend to be technologically complex thus requiring more costly intervention schemes. Our review points to a series of regional development deficits that may come to hamper attempts to tap into the large-scale climate change mitigation potential often associated with the Amazon. Low-hanging fruits for mitigation do exist, but must be carefully identified based on the performance indicators we discuss.

#### The governance of REDD+: an institutional analysis in the Asia Pacific region and beyond

Cadman, T.; Maraseni, T

Journal of Environmental Planning and Management; 2012. 55: 5, 617-635

This paper explores the changing nature of North/South relations in contemporary climate change governance. Focusing on the United Nations Collaborative Programme to Reduce Emissions from Deforestation and Forest Degradation (REDD+), the paper presents a theoretical framework, through which stakeholder perceptions of REDD+ governance quality and institutional legitimacy can be evaluated. This is tested by means of a small-<i>n</i> survey of state and non-state participants from both the developed and developing countries, including the Asia-Pacific region. The survey results reveal generally higher ratings for REDD+ amongst Southern participants than in the North. A number of caveats are placed on the interpretation of data, and some conclusions drawn regarding contemporary climate governance and the emergence of a possible 'South/North Divide', challenging traditional notions of global power politics.

# Forest cover, carbon sequestration, and wildlife habitat: policy review and modeling of tradeoffs among land-use change scenarios

Rittenhouse, C. D.; Rissman, A. R.

Environmental Science & Policy; 2012. 21: 94-105

Local and regional governments have developed climate action plans with significant implications for forests and wildlife. The effectiveness of climate mitigation through forest carbon sequestration depends on understanding the spatial and temporal dynamics of land-cover and land-use change (LCLUC). Few studies project future LCLUC effects on forest carbon sequestration, and even fewer examine the resulting consequences for forest connectivity and wildlife habitat. First, we asked what forest-relevant climate mitigation strategies have been identified in US state climate mitigation plans, and do they consider implications for wildlife habitat and forest connectivity? Second, for Wisconsin, a partially forested state, what are the effects of three future LCLUC scenarios on afforestation, forest loss, carbon sequestration and storage, forest connectivity, and wildlife habitat? The 35 US states with climate mitigation plans recommended woody biomass for biofuels or energy production (27 states), forest loss prevention (24 states), and afforestation (17 states). Most plans (24 states) anticipated positive wildlife impacts while 7 plans indicated potential negative wildlife impacts from biomass energy; only 3 plans anticipated tradeoffs among afforestation and energy production. A LCLUC model for Wisconsin revealed substantial local variation in potential afforestation and forest loss, carbon sequestration, and wildlife habitat across LCLUC scenarios that range from no change in current conditions (Static Forest) to maximum afforestation potential (All Forest). Projected increases in forest cover under the Dynamic Forest scenario equated to 0.41 TgC sequestered per year, or 1.3% of Wisconsin's emissions of 33 TgC per year. Potential increases in core forest area and connectivity would increase habitat for 60 forest-associated species of greatest conservation need, but may decrease habitat for 48 grasslandassociated species of greatest conservation need. These results indicate the importance of synergistic evaluation of multiple policy goals and LCLUC scenarios to examine tradeoffs and spatial dynamics of climate change mitigation strategies.

### Operationalizing social safeguards in REDD+: actors, interests and ideas

McDermott, C. L.; Coad, L.; Helfgott, A.; Schroeder, H.

Environmental Science & Policy; 2012. 21: 63-72

"REDD+" is a mechanism created under the United Nations Framework Convention on Climate Change (UNFCCC) for Reducing {carbon} Emissions from Deforestation and Degradation and forest enhancement. In addition, REDD+ "safeguards" are intended to protect non-carbon forest values. While REDD+ countries are formally

requested to provide information on safeguards, there is as yet no agreement on the relative priority of carbon versus non-carbon values, and the appropriate level of safeguard standardization. This, we argue, has allowed REDD+ to function as a "boundary object" spanning d isparate priorities. Meanwhile, the contestation of these priorities has been displaced from intergovernmental processes to the various organizations involved in operationalizing REDD+ activities. This article applies a set of organizational, substantive and conceptual typologies to compare differences in the balance of actors, interests and ideas across these organizations. It finds that multi-lateral funding programs have drawn heavily on existing safeguards for international aid, while private certification schemes have specialized in different niche priorities at the project level. In regards to the substance of safeguard requirements, the involvement of donors and investors appears correlated with a stronger emphasis on carbon and risk mitigation while greater NGO involvement and the decoupling of safeguards design from REDD+ funding appear correlated with greater emphasis on social rights and benefits. These findings have several critical implications for future REDD+ activities. Firstly, the choice of organizations involved in defining, funding and verifying safeguard activities, and the balance of actors in their governing structures, are likely to influence the relative emphasis on non-carbon values. Secondly, a diversity of approaches to disbursing REDD+ incentives may be necessary to maintain widespread support for REDD+. Thirdly, it remains to be seen whether REDD+ will remain a boundary object if it transitions to a national level, performance based system where the design and enforcement of safeguards competes directly with financial compensation for measurable emissions reductions.

### How attractive are short-term CDM forestations in arid regions? The case of irrigated croplands in Uzbekistan

Djanibekov, U.; Khamzina, A.; Djanibekov, N.; Lamers, J. P. A

Forest Policy and Economics; 2012. 21: 108-117.

This study analyzed the financial attractiveness of Clean Development Mechanism Afforestation and Reforestation (CDM A/R) in irrigated agricultural settings. The Net Present Value (NPV) and Internal Rate of Return (IRR) of CDM A/R were estimated by analyzing the case of Khorezm region in Uzbekistan, where a mixed-species tree plantation was established on marginal cropland. The dual purposes of carbon sequestration and production of fruits, leaves as fodder, and fuelwood were studied over a seven-year rotation period. We compared the opportunity costs of land in marginal agricultural areas between this short-rotation plantation forestry and the annual cultivation of the major crops in the region, i.e., cotton, winter wheat, rice, and maize. The analyses were performed considering different levels of irrigation water availability, from 0 to 30,000 m<sup>3</sup>/ha, to reflect the reality of a high variability of water supply in the region. The NPV of CDM A/R ranged between 724 and 5794 USD/ha over seven years, depending on the tree species. Among the latter, <i>Elaeagnus angustifolia</i> L. had the highest profits due to the annually recurring cash flows generated from fruit production. Temporary Certified Emission Reductions (tCER) ranged within 399-702 USD/ha after the assumed 7-year crediting period and would not suffice to cover initial investments and management costs of tree plantations. IRR peaked at 65% with <i>E. angustifolia</i> under the conventional afforestation and measured -10% and 61% when considering only the tCER and the CDM A/R, respectively. In contrast, other species had higher IRRs in case of the CDM A/R. The total profits from tree plantations exceeded those of both cotton and winter wheat, even with the assumption that there was an optimal irrigation supply for these crops. Rice production was overall the most profitable land use option but required water input of 26,500 m<sup>3</sup>/ha/year, which is not consistently available for marginal croplands. We argue that the current global average price of 4.76 USD/tCER is insufficient to initiate forestry-based CDM projects but, in the absence of other incentives, can still motivate forestation of degraded croplands for land rehabilitation and the provisioning of non-timber products. Given the low irrigation needs of trees, 3-30% of the crop water demand, a conversion of degraded cropland to forested areas could save up to 15,300 m<sup>3</sup>/ha/year at the current tCER price. Combining the monetary value of water and carbon would enlarge the scope for CDM A/R in irrigated drylands, thus enhancing the investments in marginal land rehabilitation and strengthening the resilience of rural populations to the repercussions of climate change.

# Forest conservation versus conversion under uncertain market and environmental forest benefits in Ethiopia: the case of Sheka forest

Girma, H. M.; Hassan, R. M.; Hertzler, G.

Forest Policy and Economics; 2012. 21: 101-107

Previous studies of costs and benefits of forest conservation haven't considered the irreversible nature of forest clearing and the uncertainty associated with forest preservation benefits. The present study adapted a dynamic optimization framework to analyze optimal land use decisions. Results show that ignoring negative climate change effects on tea production and forest carbon storage values leads to excessive deforestation and lower optimal forest stock levels. The analyses also suggest that optimal forest stock is inversely related with the discount rate and at discount rates higher than 5%, complete deforestation becomes the optimal land use

choice. This points to the need to critically reassess discount rates currently applied to approval of projects in Ethiopia, which are generally higher than 5% and which do not distinguish projects with long-term environmental costs and benefits from others. It is therefore also necessary to introduce incentive mechanisms such as rewarding reductions in emissions from deforestation and forest degradation to prevent further clearing of forests.

# Reducing emissions from deforestation and forest degradation (REDD) in Apui, southern Amazonas: challenges and caveats related to land tenure and governance in the Brazilian Amazon

Cenamo, M. C.; Carrero, G. C

Journal of Sustainable Forestry; 2012. 31: 4/5, 445-468

Climate change mitigation mechanisms related to reducing emissions from deforestation and forest degradation (REDD) may provide significant opportunities for re-arranging political networks and overcome forest governance problems, of which land tenure is the main constraint for REDD and reforestation projects in the Amazon. We present a case study of a pilot REDD project associated with reforestation and payment for environmental services in Apui, southern Amazonas. The study emphasizes the role of local governance through an agreement aimed at re-orienting land use activities and forest management. We also present the technical, methodological, and cost-benefit studies behind the proposed framework. For instance, we found that cattle raising profitability in Apui offers an opportunity for implementing such a pilot project. The framework proposed by the project engage stakeholders and bind together interests of governmental, non-governmental, and local civilian institutions in an agreement mechanism of mutual commitments. We highlight the related challenges and caveats, and the steps identified to overcome these hurdles. This proposal is based on a "Zero Deforestation Pact Agreement" that substitutes "command and control" mechanisms by using positive incentives. It serves as an innovative model for combating deforestation and promoting forest restoration in the Amazon by rewarding rural producers to keep forests standing.

# Effects of climate change on the distribution of invasive alien species in Canada: a knowledge synthesis of range change projections in a warming world

Smith, A. L.; Hewitt, N.; Klenk, N.; Bazely, D. R.; Yan, N.; Wood, S.; Henriques, I.; MacLellan, J. I.; Lipsig-Mumme, C

Environmental Reviews; 2012. 20: 1, 1-16.

The interactive effects of climate change and invasive alien species (IAS) pose serious threats to biodiversity, ecosystems and human well-being worldwide. In particular, IAS are predicted to experience widespread changes in distribution in response to climate change, with many expanding their ranges into new areas. However, the two drivers of global change are seldom considered together in policy and management. We conducted a knowledge synthesis to assess the state of research on IAS range shifts under climate change in Canada. We found that the study of IAS distribution changes caused by climate change is a relatively new field of inquiry that integrates research in the areas of ecology, conservation biology, and environmental sciences. The multidisciplinary dimensions of the issue are largely overlooked in the scholarly literature, with most studies having a purely natural science perspective. Very little original research has occurred in the field to date; instead literature reviews are common. Research focuses on modeling range changes of current IAS threats, rather than predicting potential future IAS threats. The most commonly studied IAS already occur in Canada as native species that have spread beyond their range (e.g., lyme disease, mountain pine beetle, smallmouth bass) or as established invaders (e.g., gypsy moth). All of these IAS are expected to expand northward with climate change, resulting in widespread negative impacts on forest and freshwater biodiversity, carbon sequestration, and public health. Many barriers to predicting IAS range change under climate change are identified in the literature, including the complexity of the issue, lack of ecological data, and failure to integrate climate change - IAS interactions into research, policy, and management. Recommendations for increased research and monitoring, and the need for policy and management reform predominate in the literature.

### REDD and forest transition: tunneling through the environmental Kuznets curve Culas, R. J.

Ecological Economics; 2012. 79: 44-51

International attention is focused on finding ways to reduce emissions from deforestation because of the emerging concerns over climate change. However the causes of deforestation are rooted in current economic and development paradigms. The causes of deforestation also vary across different geographical regions and have implications for the forest transition. Attempts to reach an international agreement on curbing deforestation have achieved little success despite over 30 years of UN negotiations. New initiatives from REDD (Reducing Emissions from Deforestation and forest Degradation) could provide financial incentives to curb

deforestation. Hence, alternative development paths for forest cover changes and forest transition are analyzed for the REDD policy within the framework of an environmental Kuznets curve (EKC) for deforestation. The EKC models are estimated for geographical regions of Latin America, Africa and Asia. The results based on the panel data analysis of 43 countries, covering the period 1970-1994, provides evidence that an inverted U-shaped EKC fits for Latin America and Africa, while a U-shaped EKC applies to Asia. The results also indicate that strengthening agricultural and forestry sector policies are important for curbing deforestation. The EKC models' estimates could provide guidance for decisions on financing the REDD policy as specific to each region.

### Variation in stem radial growth of the Australian conifer, <i>Callitris columellaris</i>, across the world's driest and least fertile vegetated continent

Prior, L. D.; Grierson, P. F.; McCaw, W. L.; Tng, D. Y. P.; Nichols, S. C.; Bowman, D. M. J. S. Trees: Structure and Function; 2012. 26: 4, 1169-1179

Climate change could alter the biogeography of many tree species. However, there have been few studies of tree growth across climatic gradients at a continental scale. <i>Callitris columellaris</i> is a widespread conifer that spans many climates and landscape positions across Australia. Our aim was to determine how stem radial growth of <i>C. columellaris</i> varies with tree size and with the biogeographic factors of rainfall, temperature, soil fertility and inter-tree competition. We sampled cores from trees at 85 sites in biomes ranging from tropical savanna to arid desert and temperate forest, and measured widths of the 100 outermost growth rings. We analysed ring width in relation to changes in tree age and diameter, and also evaluated the influence of the biogeographic factors on the width of the ten most recently formed rings. The average width of outermost rings varied only slightly with stem diameter, because the decrease in ring width with age and diameter within trees is offset by an increase with diameter among trees. Our analyses thus explain the weak, inconsistent relationships often observed between stem diameter and growth rate amongst trees. The most important biogeographic factors were the climatic ones: across Australia, ring width increased with both mean annual rainfall and mean annual temperature. These relationships were largely driven by continental scale differences between the tropical and the southern (arid plus temperate) sites, while relationships within climate zones were comparatively weak. Ring width decreased with intense inter-tree competition but showed little correlation with available soil nitrogen or phosphorus.

# Using model-data fusion to interpret past trends, and quantify uncertainties in future projections, of terrestrial ecosystem carbon cycling

Keenan, T. F.; Davidson, E.; Moffat, A. M.; Munger, W.; Richardson, A. D Global Change Biology; 2012. 18: 8, 2555-2569

Uncertainties in model projections of carbon cycling in terrestrial ecosystems stem from inaccurate parameterization of incorporated processes (endogenous uncertainties) and processes or drivers that are not accounted for by the model (exogenous uncertainties). Here, we assess endogenous and exogenous uncertainties using a model-data fusion framework benchmarked with an artificial neural network (ANN). We used 18 years of eddy-covariance carbon flux data from the Harvard forest, where ecosystem carbon uptake has doubled over the measurement period, along with 15 ancillary ecological data sets relative to the carbon cycle. We test the ability of combinations of diverse data to constrain projections of a process-based carbon cycle model, both against the measured decadal trend and under future long-term climate change. The use of high-frequency eddy-covariance data alone is shown to be insufficient to constrain model projections at the annual or longer time step. Future projections of carbon cycling under climate change in particular are shown to be highly dependent on the data used to constrain the model. Endogenous uncertainties in long-term model projections of future carbon stocks and fluxes were greatly reduced by the use of aggregated flux budgets in conjunction with ancillary data sets. The data-informed model, however, poorly reproduced interannual variability in net ecosystem carbon exchange and biomass increments and did not reproduce the long-term trend. Furthermore, we use the model-data fusion framework, and the ANN, to show that the long-term doubling of the rate of carbon uptake at Harvard forest cannot be explained by meteorological drivers, and is driven by changes during the growing season. By integrating all available data with the model-data fusion framework, we show that the observed trend can only be reproduced with temporal changes in model parameters. Together, the results show that exogenous uncertainty dominates uncertainty in future projections from a data-informed process-based model.

### Projections of suitable habitat under climate change scenarios: implications for trans-boundary assisted colonization

Ledig, F. T.; Rehfeldt, G. E.; Jaquish, B American Journal of Botany; 2012. 99: 7, 1217-1230

Premise of the study: Climate change may threaten endemic species with extinction, particularly relicts of the Arcto-Tertiary Forest, by elimination of their contemporary habitat. Projections of future habitat are necessary

to plan for conservation of these species. Methods: We used spline climatic models and modified Random Forests statistical procedures to predict suitable habitats for Brewer spruce (<i>Picea breweriana</i>), which is endemic to the Klamath Region of California and Oregon. We used three general circulation models and two sets of carbon emission scenarios (optimistic and pessimistic) for future climates. Key results: Our procedures predicted present occurrence of Brewer spruce perfectly. For the decades 2030, 2060, and 2090, its projected range within the Klamath Region progressively declined, to the point of disappearance in the decade 2090. The climate niche was projected to move north to British Columbia, the Yukon Territory, and southeastern Alaska. Conclusion: The results emphasize the necessity of assisted colonization and trans-boundary movement to prevent extinction of Brewer spruce. The projections provide a framework for formulating conservation plans, but planners must also consider regulations regarding international plant transfers.

### Simulated local and remote biophysical effects of afforestation over the southeast United States in boreal summer

Chen, G. S.; Notaro, M.; Liu, Z. Y.; Liu, Y. Q *Journal of Climate*; 2012. 25: 13, 4511-4522

Afforestation has been proposed as a climate change mitigation strategy by sequestrating atmospheric carbon dioxide. With the goal of increasing carbon sequestration, a Congressional project has been planned to afforest about 18 million acres by 2020 in the Southeast United States (SEUS), the Great Lake states, and the Corn Belt states. However, biophysical feedbacks of afforestation have the potential to counter the beneficial climatic consequences of carbon sequestration. To assess the potential biophysical effects of afforestation over the SEUS, the authors designed a set of initial value ensemble experiments and long-term quasi-equilibrium experiments in a fully coupled Community Climate System Model, version 3.5 (CCSM3.5). Model results show that afforestation over the SEUS not only has a local cooling effect in boreal summer [June-August (JJA)] at short and long time scales but also induces remote warming over adjacent regions of the SEUS at long time scales. Precipitation, in response to afforestation, increases over the SEUS (local effect) and decreases over adjacent regions (remote effect) in JJA. The local surface cooling and increase in precipitation over SEUS in JJA are hydrologically driven by the changes in evapotranspiration and latent heat flux. The remote surface warming and decrease in precipitation over adjacent regions are adiabatically induced by anomalous subsidence. Our results suggest that the planned afforestation efforts should be developed carefully by taking account of short-term (local) and longterm (remote) biophysical effects of afforestation.

### How the Rio climate convention is breathing new life into forest operations Bosquet, B

Environment Matters at the World Bank; 2012. 2012, 42-44

This paper highlights World Bank's forest operations as its response to the Rio conventions, especially the climate convention and its subsequent agreements, though financial incentives at scale have yet to materialize. It is emphasized that the Bank has led the way in implementing the financial mechanisms for forest carbon, starting with afforestation and reforestation and then REDD+.

#### Atmospheric CO<sub>2</sub> forces abrupt vegetation shifts locally, but not globally

Higgins, S.I. & Scheiter, S.

Nature 488, 209-212

It is possible that anthropogenic climate change will drive the Earth system into a qualitatively different state1. Although different types of uncertainty limit our capacity to assess this risk2, Earth system scientists are particularly concerned about tipping elements, large-scale components of the Earth system that can be switched into qualitatively different states by small perturbations. Despite growing evidence that tipping elements exist in the climate system1, 3, whether large-scale vegetation systems can tip into alternative states is poorly understood4. Here we show that tropical grassland, savanna and forest ecosystems, areas large enough to have powerful impacts on the Earth system, are likely to shift to alternative states. Specifically, we show that increasing atmospheric CO2 concentration will force transitions to vegetation states characterized by higher biomass and/or woody-plant dominance. The timing of these critical transitions varies as a result of between-site variance in the rate of temperature increase, as well as a dependence on stochastic variation in fire severity and rainfall. We further show that the locations of bistable vegetation zones (zones where alternative vegetation states can exist) will shift as climate changes. We conclude that even though large-scale directional regime shifts in terrestrial ecosystems are likely, asynchrony in the timing of these shifts may serve to dampen, but not nullify, the shock that these changes may represent to the Earth system.

### V. PUBLICATIONS, REPORTS AND OTHER MEDIA

# Financing options for the full implementation of resultsbased actions relating to the activities referred to in decision 1/CP.16, paragraph 70, including related modalities and procedures

**UNFCCC** 

This technical paper presents a summary of the views submitted by Parties and admitted observer organizations relating to modalities and procedures for financing results based actions and considering activities related to decision 1/CP.16, paragraphs 68-70 and 72. It covers the range of financing options identified by Parties and admitted observer organizations, the key substantive elements that could be relevant for the development of modalities and procedures and lists issues that may require further exploration. This paper is intended to serve as input for the workshop on the same subject matter that will be held during the informal sessions of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, on 30 August-5 September 2012 in Bangkok, Thailand. Its other purpose is to facilitate Parties' consideration of financing options for the full implementation of results-based actions referred to in decision 1/CP.16, paragraph 73, including modalities and procedures for financing results-based actions and considering activities related to decision 1/CP.16, paragraphs 68-70 and 72. The publication

### Institutional innovations in African smallholder carbon projects. CCAFS Report 8 $\,$

**CCAFS** 

This paper synthesizes the insights of six African agricultural carbon project case studies and identifies institutional innovations among these projects that are contributing to long-term project success while maximizing benefits and minimizing risk for participating farmers. We review project organization and management, the structure and role of community groups within the projects, costs and benefits for managers and farmers, strategies to manage risks to farmers, and efforts to support women's participation. Projects have developed organizational systems for financial management, agricultural extension, and carbon monitoring. All of these were managed by project management entities, with farmers implementing practices and supporting monitoring systems. Most projects engaged farmers in small groups and larger clusters of groups, which enabled broad participation, efficient contracting, timely communication, provision of extension services, benefitsharing, and gender-focused activities. Direct carbon payments to farmers were low. Consequently projects needed to manage expectations around benefits carefully, support more efficient systems of aggregation and ensure non-cash benefits for farmers. Managing power dynamics within and among farmer groups was a significant challenge to ensuring equitable decision-making and participation. Mechanisms for settling conflict over land and benefits were also critical. We present action research questions that emerged from the first phase of this work and discuss the future of the initiative. Case studies about each agriculture carbon project from which our analysis is drawn can be downloaded from the CCAFS website. The report

# Adaptation to Climate Change in Semi-Arid Environments. Experience and Lessons from Mozambique

FAO

Southern Africa and Mozambique are highly vulnerable to the impacts of climate change. The region is frequently exposed to droughts, floods, variable rainfall and heat, which are expected to worsen, and sensitivity to such exposure of the natural resource-based livelihood system is very high. The project area is remote and highly underdeveloped and the population is poor, food insecure, and not resilient to the impact of climate shocks. Due to water scarcity, not sufficient for humans and livestock except in a few communities along the Limpopo River, livelihood options are limited. Livelihoods are underpinned almost entirely by the little available water, agricultural lands and rangelands, and natural forests, and current practices and usage are threatening to become unsustainable. Existing coping mechanisms and safety nets are heavily reliant on the natural resources base, and livelihoods are seriously at risk under the projected climate changes. Urgent action is required to strengthen resilience now and into the future, when climate change will present significant additional stress. In response to this need, the Government of Mozambique (six ministries and national institutes) led by MICOA and the United Nations (six agencies) initiated a United Nations Joint Programme (UNJP/JP) for environmental mainstreaming and adaptation to climate change, with the latter component implemented in a remote district of southern Mozambique, Chicualacuala. This publication gives an account of the Government of Mozambique/FAOled interventions on strengthening smallholder agriculture, communitybased natural resources management, and livelihood diversification in the face of current and future climaterelated stresses. It provides the rationale behind each of the activities, innovations and successes, but also barriers and challenges encountered over the three-year project period. The lessons learned are critically analysed, and the opportunities for replication and scaling-up, and for filling in some of the gaps during followup interventions, explored. The key elements which are essential for climate change adaptation in semiarid southern African regions such as Chicualacuala, include improved access to water for human, livestock and

productive purposes, strengthening of dryland crop production by improving soil fertility and water holding capacity, integrated crop-livestock-agroforestry production practices, small-scale crop irrigation where possible, development of the livestock industry (rangeland and nutritional management, health services, processing, and small animals), sustainable community forest management and regulation, and tried and tested options for livelihood diversification (e.g. beekeeping). Supportive technologies which will make a significant contribution include renewable energy, district-level climate information and communications, and a local centre for development of climate-adaptive technologies. To ensure success and sustainability, a project such as this UNJP should be supported by careful and considered project design and formulation, sufficient time in the project design and inception phases, a phased approach to implementation with feedback loops built in to accommodate learning, and full involvement of the communities and intended beneficiaries from the start. With some adjustments, the "Delivering as One UN" approach working closely with the national and local partners is considered to be conceptually sound and should guide future directions in UN climate change adaptation programmes. The report

# Code book for the analysis of media frames in articles on REDD. Global Comparative Study on REDD (GCS-REDD). Component 1 on National REDD+ Policies and Processes

**CIFOR** 

A media frame is "a broad organising theme for selecting, emphasising, and linking the elements of a story such as the scenes, the characters, their actions, and supporting documentation" (Bennet cited in 2002: 42 cited in Boykoff 2008). In practice a frame is a conceptual lens that brings certain aspects of reality into sharper focus (emphasising a particular way to understand an issue) while relegating others to the background. Boykoff uses media analysis to investigate media framing of climate change in the US and the UK (Boykoff 007, 2008: Boykoff and Mansfield 2008). This code book draws on his approach and provides specific adaptation for issues related to reducing emissions from deforestation and forest degradation, and enhancing forest carbon stocks in developing countries (REDD+). The publication

### Guide for country profiles. Global Comparative Study on REDD (GCS-REDD) Component 1 on National REDD+ Policies and Processes.

This document contains an overview of the rationale of the country profiles. It outlines the main sections and the roles of the research team members, and provides guiding questions to facilitate and standardise the elaboration of the profiles across countries. The purpose of the country profile is to provide an overview of the contextual conditions that affect the REDD+ policy environment in a specific country, along with a preliminary 3E (effective, efficient and equitable) assessment of the REDD+ proposals for that country. The profile is compiled based on reviews of existing literature, national and international data and reviews of legislation and policies, as well as selected expert interviews. As such, it provides the background and the preliminary analysis of the context in which national REDD+ strategies are being developed. The publication

### Linking Adaptation and Mitigation through Community Forestry: Case Studies from Asia RECOFTC

These case studies are based on local experiences in Cambodia, Indonesia, Nepal, Thailand, and Vietnam in an attempt to explore how community forestry may contribute to adaptation and mitigation goals. They are exploratory and descriptive in nature and although not purporting to be representative of the region, they provide a foundation for a better understanding of these relationships. The publication

### An Assessment of Gender and Women's Exclusion in REDD+ in Nepal

Women Organizing for Change in Agriculture and Natural Resource Management (WOCAN) has published the first of their new case study series entitled

This assessment was conducted by WOCAN and the Himalayan Grassroots Women's Natural Resource Management Association (HIMAWANTI) Nepal in February 2012 to provide a review of the current REDD+ policy, processes and pilots in Nepal from a gender perspective, and to highlight the extent to which these have included or excluded women at the national and local levels. It also provides recommendations for how REDD+ initiatives can more effectively include women and attend to gender issues. The publication

# REDD+ Biodiversity Safeguards: Options for Developing National Approache. Biodiversity & REDD+ Updates June 2012 BioREDD Brief No.2

Forest Carbon Asia, SNV Netherlands Development Organisation and United Nations Environment Programme - World Conservation Monitoring Centre

Presently, over 20 Asian countries are engaged in REDD+ readiness activities. Each of these countries is committed to promoting and supporting the 'Cancun safeguards' for REDD+ activities under the United Nations Framework Convention on Climate Change (UNFCCC), in addition to delivering on national interpretations of the 'Aichi Targets' for the Strategic Plan (2011-2020) of the Convention on Biological Diversity (CBD). Applying and adapting existing multilateral safeguards frameworks to national REDD+ strategies and action plans is one clear and tangible national response to international biodiversity safeguard commitments. This has been the focus of post-Cancun activity on safeguards for national governments and their development partners. This brief explores how a national safeguard approach can be developed that will meet the International policy commitments yet remain consistent with national policy frameworks. It further discusses how SNV together with UNEP-WCMC is exploring a national safeguard approach for Vietnam. The publication

### Regaining Momentum: Priority Tasks for the Green Climate Fund at its First Board Meeting Hienrich Böll Stiftung North America

The Green Climate Fund (GCF) is to become the primary multilateral channel for large-scale financing for adaptation and mitigation action in developing countries. When the newly selected 24 members - 12 from developing, 12 from developed countries - of the GCF Board will finally come together for their first Board Meeting in Geneva in from August 23-25 after an arduous nomination process created delays of several months, their most important first task will be to regain momentum lost since December. At that time, the 17th Conference of the Parties (COP17) of the UN Framework Convention on Climate Change (UNFCCC) had approved the Fund's governing instrument and in an accompanying decision laid out some important deadlines and clarifications. There are just a few short months left until the 18th session of the Conference of Parties (COP18) in Doha/Oatar, when according to the deadline in the Durban document the UNFCCC Parties are to endorse several GCF Board decisions, namely on the selection of a host country for the Fund as well as on its working arrangements with the COP. The latter decision especially could prove to be contentious and difficult, continuing to polarize developed and developing country members, just as it did during the design process of the Transitional Committee (TC) last year. It could be an early test for the new board's willingness and ability to address politically charged issues constructively and in a spirit of mutual trust. Both will be needed to drive forward an ambitious work mandate - already under extreme time pressure - of more than fifty distinct tasks for the Board detailed in the GCF decision and governing document. That mandate contains many more technical and political pitfalls that the GCF Board will have to navigate successfully if the Fund stands a realistic chance to be fully operational - and receive sufficient funding - by 2014. This briefing note attempts to give an overview over some of the priority issues the new GCF Board will have to address at its first board meeting as well as an outlook on issues it needs to resolve or at least begin addressing by COP18. The actual work plan for the Board for the next 12 to 18 months will of course to be much broader. Its discussion and a decision on how the Board plans to organize and schedule its task for the full operationalization of the Fund will take a good portion of the first three-day meeting of the Board in Geneva, August 23 - 25. The publication

#### Financing options to support REDD+ activities.

CIRAD

The purpose of this report is to review key messages from relevant literature in order to support the European Commission in analysing the impacts of long term financing options for REDD+ on the overall effectiveness, efficiency (in terms of minimising costs and leveraging private-sector involvement) and equity of the mechanism. The CIRAD gathered, summarized and synthesized a significant number of articles

(http://ur-bsef.cirad.fr/en/content/download/4122/32257/version/3/file/Reading\_sheets\_final.pdf) on the most effective and efficient ways to mobilize and deliver funds for maximizing the long term benefits of REDD+ action in view of its multiple objectives (mitigation, adaptation, poverty alleviation and conservation of biodiversity). The publication

# IISD Food Security and Climate Change Initiative. Addressing Financing for Agriculture: Ensuring a triple dividend for smallholders

IISD

This International Institute for Sustainable Development (IISD) policy report provides an overview of the potential options for increasing smallholder agriculturalists' access to financing that will help them achieve the triple dividend of enhanced food security, increased resilience to climate change, and reduced emissions of greenhouse gases (GHGs). To identify and promote financing mechanisms appropriate for achieving a triple dividend by smallholders, this paper explores key questions:

- i) Why is financing required to promote the engagement of smallholder farmers in triple-dividend agricultural practices?
- ii) What are the existing mechanisms through which financing is or could be delivered, and the strengths and limitations of each in providing benefits to smallholders?

iii) How might financing best be directed so as to help smallholders in developing countries achieve the triple dividend moving forward?

In answering these questions, this policy report identifies the challenge before the international community, the financing needs of smallholders, current sources of financing and mechanisms for delivering these funds. It concludes by providing a number of suggestions to mobilize additional investment that will enable further progress towards the realization of a "triple dividend" in agriculture activities. The publication

#### IFAD annual Report

**IFAD** 

The International Fund for Agricultural Development (IFAD) has released its 2012 Annual Report, which describes the achievements of its programme of work through 240 projects in 94 countries, as well as its new strategic framework for 2011-2015. The report

### V.I JOBS

#### Capacity building and GHG inventory officer

Coalition for Rainforest Nations - deadline for application is 20<sup>th</sup> of August 2012

The Coalition for Rainforest Nations is seeking a capacity building and GHG inventory officer for their CD-REDD project which aims at empowering countries to prepare and manage their national GHG inventory by providing training on all aspects and phases of GHG inventory development with the focus on the AFOLU (Agriculture, Forestry and Other Land Use) sector. More

#### **REDD+ Capacity Development Officer**

The Royal Society for the Protection of Birds (RSPB) - deadline for application is 3rd of September 2012

The RSPB is looking for an experienced conservationist to deliver a new programme of work developing technical capacity in REDD+ with our overseas partners. To succeed you will possess a good knowledge of REDD+ and climate change policy, be able to work effectively across teams within NGOs and Government in developing countries, and be a good communicator. You will also have an excellent understanding of tropical forest conservation issues. This position is based in the UK with international travel, and offers an exciting opportunity to join us in stepping up for tropical forests. More

#### **UN-REDD** programme manager

UNDP - deadline for application is 3<sup>rd</sup> of September 2012

UNDP is seeking a programme manager for the UN-REDD programme in Papua New Guinea. The UN-REDD Programme Manager will report to the Director of MRV and National Communication Division and UNDP Country Office Deputy Resident Representative. The overall performance appraisal of the PM will be done as per UNDP guidelines, rules and regulation by the UNDP Deputy Resident Representative (DRR). The incumbent will be working closely with the Office of Climate Change (OCCD) and will provide technical advice and support to the Director of MRV and National Communication Division. The incumbent will work under the direct supervision of the UNDP Deputy Resident Representative (DRR) and will also report to the DRR. The incumbent will report to OCCD on day-today work including sharing of information and will also keep close relations, good coordination and sharing of information with UNDP PNG's Country Office, especially with Assistant Resident Representative (ARR) and the Energy and Environment Team assigned for programme assurance activities. The incumbent will liaise and coordinate programme activities also with FAO and UNEP UN-REDD specialists. The overall objective of the assignment is to contribute to the enhancement and development of UN-REDD PMU management of coordination capacity to ensure efficient and effective implementation of the PNG's National UN-REDD National Programme. More

#### Senior Policy Researcher - Climate Change Mitigation Policy in Forestry, Land Use and Agriculture

Stockholm Environmental Institute (SEI) - open for applications until position is filled SEI seeks a senior-level researcher to build upon and expands SEI's climate change mitigation research in the forestry, land use and agriculture sectors. The position will be based in the SEI U.S. Centre office in Seattle, which focuses on climate change policy with a particular interest in the role of energy, land use, and consumption in mitigating global GHG emissions. More

#### REDD+ Advisor - Net-Zero Deforestation Zones Project

Rainforest Alliance - deadline for application not specified The REDD+ Advisor will contribute to strengthening the institutional and local capacity required to facilitate the implementation of REDD+ demonstration

activities, policies and legal frameworks in Colombia, Ecuador and Peru. S/he will coordinate the execution of climate-related work plan strategies and activities of the Rainforest Alliance and partners' USAID/DOS Net-Zero Deforestation Zones project that will support the development of REDD+, through strategies to address the drivers of deforestation and forest degradation in priority landscapes in Colombia, Ecuador and Peru. This position will require close coordination with staff from multiple Rainforest Alliance divisions, in particular the Climate Program, and amongst various project partners, including AIDER in Peru, Fundacion Natura in Colombia, and Ecolex and Condesan in Ecuador. More

### VII. ANNOUNCEMENTS

#### Forest Day 6 - Discussion Forums

**CIFOR** 

For COP18 in Doha, Forest Day will issue an open call for organisations in addition to members of the Collaborative Partnership of Forests to participate and host Discussion Forums, a popular feature of the event. Like the previous years, each Discussion Forum may have more than one host. Forest Day 6 will ultimately focus on eight key issues affecting the role of forests in mitigating and adapting to climate change emerging from COP17. Below is the first list of proposed subjects for this year's Discussion Forums. The Steering Committee will choose the top eight themes based on the quality of the submitted proposals and will close the first round of applications on 30 July 2012. A second round of applications may be submitted by 30 August 2012 at the latest. More

#### New REDD+ and Agriculture Web Resource by the Prince's Rainforests Project

Prince's Rainforests Project

The resource is intended to be an accessible and informative guide to the wide (and ever-growing) array of resources, publications, initiatives and organisations currently seeking to understand and address the links between deforestation, REDD+ and Agriculture. The resource is searchable by document type, commodity, region and keyword. The website

### CLIM-FO INFORMATION

The **objective** of CLIM-FO-L is to compile and distribute recent information about climate change and forestry. CLIM-FO-L is issued monthly.

Past issues of CLIM-FO-L are available on the website of *FAO Forest and Climate Change*:

http://www.fao.org/forestry/climatechange/en/

For technical help or questions contact CLIM-FO-Owner@fao.org

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We appreciate any comments or feedback.

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#### How to contribute

We welcome subscribers' contributions of news, articles, publications and announcements of events. Once on the list, to make a contribution please contact the following address: CLIM-FO-Owner@fao.org

We thank everyone for their contribution.

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