WORLD GROWTH

REDD AND CONSERVATION:
Avoiding The New Road To Serfdom

A World Growth Report

December 2010

EXECUTIVE SUMMARY

As negotiations for a new global approach to climate change remain stalled and there is no expectation of progress at the negotiations in Cancun in December 2010, donors have instead made the cessation of deforestation an interim target. A staggering USD 4 billion has been pledged to support this goal.

This supposes two things about deforestation, or as we prefer to describe it, conversion of forest land to other uses.

First, this will reduce emissions significantly. And, second, the conversion of vast areas of forest to conservation parks will benefit the people of those countries and the environment.

Other World Growth reports demonstrate the fallacy that ending conversion of forest land is the most effective way to use forests as carbon sinks to reduce emissions. They also show that previous estimates of the contribution of emissions from forestry has been overstated in the debate by least 25 per cent.

This report demonstrates that turning remaining forest estate in developing countries into protected areas is likely both to harm the livelihoods of citizens and not produce effective environmental management.

The funding pledges are to support so-called REDD (Reduced Emissions from Deforestation and Forest Degradation) programs. Remarkably there is not yet international agreement on how REDD will factor into any global strategy to reduce emissions.

Developing countries have insisted the program should be more than REDD, it should be 'REDD+' -- the plus denoting continuing use of forest land to support economic development.

The donor strategy is to offer billions of dollars as an incentive to agree to cease forest conversion. That this will work is highly questionable. Developing countries have been adamant they will not restrict economic development. And how long will major donors, most with vast national debts to work down, continue to offer these large quantities of aid money as incentive?

There is another very good reason why they should not. The global community has no organized strategy, philosophy or principles to ensure that when they fund protected areas that there is no deleterious impact on poor people or that they will be effectively managed.

The World Bank pays lip service to the idea, but internal reviews show it has no effective standard. It is the same with other donors.

Environmental groups have an even worse record. They generally provide no formal recognition of the adverse impacts on the poor of sequestering land to create large protected parks. Some groups, such as the World Wide Fund for Nature (WWF) are on the record for dispossessing thousands of people and failing to manage national parks in their care to either halt illegal logging stop environmental degradation.

The International Union for Conservation of Nature (IUCN) and the Convention on Biodiversity has consistently pointed out that protected parks are only effective if proper management systems are established to deliver the environmental goals.

Yet the lack of attention to devising proper systems of management has been a long-standing criticism of environmental agencies and NGOs. They devote more attention to campaigning for protected areas and the right to run them than their effective management -- which will actually produce the environmental improvements in they claim the areas will deliver.

Nor do these groups or donors have any established means of assessing the economic cost to local people of the creation of the parks.

Unfortunately this is not surprising. For the past 15 years, the share of aid devoted to improving economic growth in developing countries has fallen steadily, and now accounts for only 12 per cent compared to 28 per cent in the mid-1990s.

Instead, the share of aid to support improvement of the environment in developing countries has increased. Once again donors are listening to their domestic environmental lobbyists, not the recipients of their aid. In the process they are ignoring a golden rule about development and the environment.

The environment can't be protected unless governments can afford to pay for it. This is why leading development economists propose that developing countries not be expected to cut emissions deeply and quickly, but rather very gradually to enable them to build up over time the economic capacity to pay for the cost of mitigation.

Unless the REDD+ program is based on that presumption, it will not be a vehicle for improving the global environment, but a tool likely to despoil it further on current policy settings and pave a new road to serfdom for the poor in developing countries.

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ACRONYMS AND ABBREVIATIONS

Acronyms and Abbreviations

CBD	CONVENTION ON BIOLOGICAL DIVERSITY
DFID	DEPARTMENT FOR INTERNATIONAL DEVELOPMENT
ENGO	ENVIRONMENTAL NON-GOVERNMENT ORGANIZATION
EU	EUROPEAN UNION
FAO	FOOD AND AGRICULTURE ORGANISATION FOR THE UNITED NATIONS
FCPF	FOREST CARBON PARTNERSHIP FACILITY
IUCN	INTERNATIONAL UNION FOR THE CONSERVATION OF NATURE
MDG	MILLENNIUM DEVELEOPMENT GOALS
NGO	NON-GOVERNMENT ORGANIZATION
OECD	ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT
PNG	PAPAU NEW GUINEA
REDD	REDUCED EMISSIONS FROM DEFORESTATION AND FOREST DEGRADATION
SFM	SUSTAINABLE FOREST MANAGEMENT
UN	UNITED NATIONS
UNEP	UNITED NATIONS ENVIRONMENT PROGRAMME
UNFCCC	UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE
US	UNITED STATES
USAID	UNITED STATE AGENCY FOR INTERNATIONAL DEVELOPMENT
USD	UNITED STATES DOLLARS
VPA	VOLUNTARY PARTNERSHIP AGREEMENT
WDPA	WORLD DATABASE ON PROTECTED AREAS
WSSD	WORLD SUMMIT ON SUSTAINABLE DEVELOPMENT
WTO	WORLD TRADE ORGANIZATION
WWF	WORLD WIDE FUND FOR NATURE

REDD (reduced emissions from deforestation and forest degradation) has been posited as a 'silver bullet solution' for climate change. In the broader policy debate over climate change in the West, it has become conventional wisdom that the conservation of forests in developing countries such as Indonesia, Brazil and the Congo Basin – is an affordable way to reduce greenhouse gas emissions. It reflects the conventional wisdom in wealthy countries that conservation of all forests is a good thing.

This perception has been based on three assumptions.

The first is that the deforestation generates one-fifth of the world's greenhouse emissions. This figure has been popularised by Green non-governmental organizations (NGOs) and high-profile, government-commissioned reports. However, the numbers have been revised downwards significantly with new data. Higher estimates are now at 12.9 per cent with a 50 per cent margin of error. Other estimates put it closer to 6 per cent.

The second is that 'zero deforestation' – a goal promoted by a number of Western governments – is a realistic and affordable goal for developing countries, particularly tropical developing countries. Many donor countries have diverted development assistance to programs that discourage commercial forestry operations and the expansion of agriculture in favour of programs that restrict access to large areas of forest.

The third is that forest conservation on a large scale will have little adverse impact on development prospects in poor countries. This is simply not true. The costs associated with placing access restrictions on large tracts of land throughout the developing world are potentially enormous. Approximately 40 per cent of the world's population lives in tropical countries. With minor exceptions, all are developing countries. One projection estimates that by 2060 more than 60 per cent of the world's population will live in tropical regions. This population already requires access to natural resources and land; this will increase in the future.

The first of these assumptions has been challenged in previous World Growth reports and is not explored here in detail. The other two assumptions are challenged in detail in this report, using well-sourced data from academic publications, governments and intergovernmental organisations.

This paper has focused on current policy developments in Indonesia. Indonesia is currently the only forested nation that is close to contemplating a 'zero deforestation' policy. There is close to USD 2 billion of forest-related development assistance pledged to Indonesia. It has historically high levels of deforestation but also has large areas of forest protection. It is also a country with high levels of economic growth. Development indicators – such as infant mortality and life expectancy have improved remarkably. The population living below the poverty line has also decreased significantly. A major contributor has been the capacity to convert forest land to more productive uses.

Historically, economic development has rested on deforestation. Countries such as Indonesia are undergoing this transition. Many developing countries already have high levels of forest protection, and that this imposes a cost on these countries. They should not be expected to pay even more.

2. BUYING PROTECTION

REDD (reduced emissions from deforestation and forest degradation) – and its current iteration REDD-+) – is rooted in the assumption that it is possible to make standing forests and land more economically valuable than as harvested forest or agricultural land. This would be achieved by the imposition of a price on the carbon stored in the forests and the creation of a market to pay for this carbon.

Environmental campaign groups and Western aid donors now promote 'zero deforestation' in developing countries. It is effectively a call to turn all remaining forest areas into protected areas.

This differs from the negotiating mandate agreed in Bali in 2007 for further negotiation within the United Nations Framework Convention on Climate Change (UNFCCC). Developing countries insisted the capacity to use forests for economic development should be unimpaired. Accordingly, they expanded REDD to REDD+ – the 'plus' being the sustainable economic use of forests. It should be noted that there is still no formal agreement among UNFCCC parties on what constitutes REDD+.

REDD: A Primer

REDD is premised upon the carbon content of forests – primarily terrestrial carbon and biomass – being a net carbon sink. Changes in land use (for instance converting forest land to farm land or grazing land) reduces the capacity of the sink. Deforestation and forest degradation also release terrestrial carbon through soil disturbance; and carbon from biomass is released throughout the life cycle of harvested wood products as they decay. These changes to carbon sinks are therefore treated as emissions. Activities that change land-use and alter carbon stores are often referred to as land-use, land-use change and forestry (LULUCF) in climate change negotiations.

REDD measures are currently being proposed in international climate negotiations under the United Nations Framework Convention on Climate Change (UNFCCC), through the World Bank and other bilateral and multilateral instruments. These measures call for significant funding to be mobilized to address the causes of deforestation and forest degradation in order to reduce related emissions.

The proposed measures generally entail developing countries receiving financial payments for controlling or ceasing deforestation and degradation of forests.

The basis of what is now REDD first emerged in the UNFCCC negotiations over rules accounting for the impact on carbon sinks of changes in land use, in particular afforestation, reforestation, deforestation and forest management as recognized in Articles 3.3 and 3.4 of the Kyoto Protocol.[1] The extent to which activities to increase sinks might be recognized by Annex 1 parties was strictly limited. No activity prior to 1990 could be counted. Stored carbon (in wood products and paper) was not counted.

Credits under the Clean Development Mechanism could only be generated in developing countries for afforestation and reforestation, and under limited terms.[2] The effect of these arrangements restricted proper incorporation of forestry into emission reduction strategies mandated in the Kyoto Protocol.

1. COP 7 (October/November 2001) adopted a decision on LULUCF and related issues as part of the Marrakesh Accords (Decision 11/CP.7).
This decision by COP 7 recommended that the COP/MOP, at its first session, adopt a decision on land use, land-use change and forestry.
This decision has now been adopted by the COP/MOP, at its first session, as decision 16/CMP.1.
Decision 16/CMP.1 consists of three main elements: A set of principles to govern the treatment of LULUCF activities; A common definition for "Forest," plus definitions for activities under Article 3.3 and agreed activities under Article 3.4; and modalities, rules and guidelines relating to the accounting of activities under Articles 3.3 and 3.4.

2. Under the Kyoto Protocol, non-Annex I countries (i.e. developing countries) are able to generate saleable emissions credits through projects that reduce carbon emissions from a 'business as usual' scenario (additionality) as part of the Clean Development Mechanism (CDM). This includes deforestation and afforestation projects (CDM A/R). Including avoided deforestation within the CDM was suggested during the original CDM negotiations. However, a large number of issues generated by avoided deforestation projects remained unaddressed, specifically, non-permanence, social and environmental impacts, leakage, additionality and uncertainty. A compromise arrangement was reached that restricted forestry in the CDM to afforestation and reforestation. However, CDM A/R has proved largely unsuccessful. Responsibility for the effective failure of CDM A/R lies primarily with the CDM rules themselves. First, the rules for additionality under Article 12 of the Kyoto Protocol completely diminish any financial incentive for undertaking CDM projects; this bias can also be found in the CDM additionality guidelines. Second, it is conceivable that the rules for assessment are open to very broad interpretation by the Executive Board, thus preventing the establishment of 'monoculture' plantation projects that may impact on the credibility of the CDM with NGOs.

REDD-plus: The Development Dimension

REDD was introduced at the 11th Conference of the Parties (COP 11) to the UNFCCC in 2005 through submissions by Papua New Guinea (PNG), as head of the Rainforest Coalition. PNG was supported by eight other parties.[3] The concept was initially presented as payment to cease deforestation, receipt of credits for global trading and acceptance by developing countries of formal commitments to reduce emissions.

REDD submissions were taken up at the 13th Conference of the Parties to the UNFCCC in Bali 2007 (COP-13), where the Bali Action Plan (BAP) was adopted. This agreed on "the urgent need to take further meaningful action to reduce emissions from deforestation and forest degradation."[4]

The references to forestry in the BAP,[5] reflected the conventional position on forestry and the environment in United Nations (UN) declarations. However, developing countries called for REDD to be expanded and called for "policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries, and the role of conservation, sustainable management of forests and enhancement of forest carbon stock in developing countries."

This text is known as REDD+ - REDD plus sustainable management of forests, conservation and enhancement of carbon stocks. This expanded definition is a clear rejection of a narrow definition of REDD that prioritises the conservation of forests with no recourse to the economic use of forests.

There is still no consensus on REDD+ within the UNFCCC. The World Bank strongly endorses REDD+, but with qualifications that reflect its long-standing policy of not supporting commercial forestry, but supporting forest conservation. Tropical forest economies in Africa have responded to REDD+ by demanding that it encompass the clear recognition of the role of commercial forestry in development and conservation – as recognized in the Bali Action Plan.[6]

The 15th Conference of the Parties (COP 15) did little to further an agreement on the revised concept. The corresponding Copenhagen Accord was not adopted, is not legally binding and does not commit to agree to a binding successor to the Kyoto Protocol, whose present round ends in 2012. Nor does it address the roles of forestry or sustainable forest management (SFM) in development and conservation.

It does, however, agree to the establishment of a mechanism to ensure the rapid mobilisation of financial resources from developed countries to developing countries which practice forest conservation.[8]

In the REDD: Financial Commitments for REDD

The Copenhagen Accord

The Copenhagen Accord asks developed countries to collectively provide resources "approaching USD 30 billion for the period 2010 - 2012" to support developing countries' climate efforts. This "fast-start" finance is designed to help developing countries "mitigate their greenhouse gas emissions, and adapt and cope with the effects of climate change."[9] As an extension, the Accord agrees on a "goal" for developed countries to collectively raise $100 billion per year by 2020, from "a wide variety of sources", to help developing countries cut carbon emissions.[10]

USD 28 billion has been pledged publicly by developed countries for the 'fast start' period.[11] A significant portion of these funds will flow through bilateral channels, with the remainder channelled through multilateral organisations.

3. Bolivia, Central African Republic, Chile, Congo, Costa Rica, Democratic Republic of Congo, Dominican Republic, Nicaragua
4. UNFCCC, *Decisions of the Conference of the Parties – Thirteenth Session*, (United Nations Framework Convention on Climate Change, 2009), accessed at: http://unfccc.int/documentation/decisions/items/3597.php?such=j&volltext=/CP.13#beg
5. ibid.
6. Third World Network, 'Differences over indigenous peoples' rights and forest conversion in REDD-plus', *Bangkok News Update*, (9 October 2009)
7. UNFCCC, *Copenhagen Accord of 18 December 2009*, (United Nations Framework Convention on Climate Change, 2009), accessed at: http://unfccc.int/files/meetings/cop_15/application/pdf/cop15_cph_auv.pdf
8. ibid.
9. World Resources Institute, 'Summary of Developed country 'fast-start' climate finance pledges', (6 October 2010), accessed at: http://www.wri.org/publication/summary-of-developed-country-fast-start-climate-finance-pledges
10. UNFCCC, *Copenhagen Accord of 18 December* (2009)
11. World Resources Institute (2010)

Interim Financing Commitments to REDD

Close to USD 4 billion or 14 percent of total fast-start pledges have been dedicated to REDD (Fig. 2.1). Norway has pledged USD 1 billion for REDD+ over the fast-start period and the US has stated it intends to do the same. France and Germany have committed 20 and 30 percent of total interim funds respectively to REDD.

In addition to the indicative financing contributions from developed countries, developing countries have committed close to USD 2 billion in funds to REDD+ related activities for the same period (Fig. 2.2). This commitment is being led by the large developing economies of Indonesia and Mexico, who have each committed close to USD 1 billion.

Figure 2.1: Developed Countries; REDD Plus Interim financing Commitments 2010-2012

COUNTRY/ORGANISATION	INDICATIVE INTERIM FINANCING	DETAILS
Australia	120,000,000	Pledged for REDD + over the fast-start period
Denmark	At least 16,500,000	Amount only includes multilateral contributions for 2010. Potential contributions not yet determined.
France	Approximately 330,000,000	Represents 20% of France's fast-start funding commitment
Germany	Approximately 503,000,000	Represents 30% of Germany's fast-start funding commitment
Japan	Approximately 500,000,000	Pledged at COP 15. Includes bilateral & multilateral
Netherlands	Not available	
Norway	1,000,000,000	
Spain	27,100,000	Includes financing pledged to UN-REDD Programme. Still waiting on definitive Ministerial approval
United Kingdom	Approximately 450,000,000	An indicative amount to be confirmed by New Government after May 6 2010
United States	100,000,000	Preliminary figures for 2010 - 2011 include atleast USD 536 million

Source: Intergovernmental Taskforce (2010), "Synthesis Report: REDD+ Financing and Activities Survey," 27 May, Oslo.

Figure 2.2: Developed Countries; REDD Plus Interim financing Commitments 2010-2012

COUNTRY/ORGANISATION	INDICATIVE INTERIM FINANCING (USD)
Chad	4,500,000
Ecuador	6,000,000
Gabon	1,000,000
Indonesia	1,140,000,000
Lao Peoples Democratic Republic	1,200,000
Mexico	920,000,000
Nigeria	2,000,000
Papua New Guinea	4,920,000

Source: Intergovernmental Taskforce (2010), "Synthesis Report: REDD+ Financing and Activities Survey," 27 May, Oslo.

The REDD Army: Multilateral REDD Programs

With a large percentage of the above REDD financing commitments being channelled through multilateral organisations, the UN, World Bank and other multilateral development banks have emerged as key players in REDD implementation.

The World Bank's Forest Carbon Partnership Facility (FCPF) was launched in 2007 - thirteen days before parties to the UNFCCC met in Bali to adopt the BAP.[12] So far, 12 donor countries and organizations, and 37 recipient nations have signed up.[13] The World Bank has split FCPF funding into a 'Readiness Mechanism' and a 'Carbon Fund'. Funding targets for the two funds total USD300 million.

From their total pledges donor countries have committed over USD 100 million to the FCPF 'Readiness' mechanism and approximately USD 70 million to the 'Carbon Fund.' Key donors include Norway, the Netherlands, Germany, Australia and Japan (Fig. 2.3).

Table 2.3: Multilateral Organisations: Projected Expenditure for interim period (2010 – 2012)

ORGANISATIONS	PROJECTED EXPENDITURE (USD)
UN-REDD Programme	49,501,658
Forest Carbon Partnership Facility Carbon Finance Mechanism	72,000,000
Forest Carbon Partnership Facility Readiness Mechanism	101,800,000
Forest Investment Program	542,000,000

Source: Intergovernmental Taskforce (2010), "Synthesis Report: REDD+ Financing and Activities Survey," 27 May, Oslo.

Other multilateral organisations such as UN-REDD and the Forest Investment Program have been similarly well supported. Norway continues to be UN-REDD's principal donor and committed USD 30 million in 2010. Spain has committed USD 20 million in funds for the fast-start period.[14]

The Forest Investment Program, organised under the Climate Investment Funds and implemented by the multilateral development banks, has received funding of approximately USD 542 million for the 2010 – 2012 period.

Most funding of REDD activities relates to setting up carbon accounting systems, preparing national REDD strategies, measuring carbon sinks, satellite monitoring of sinks and establishment of mechanisms to facilitate creation of credits to emit and trade them. Key developing countries in tropical areas are making clear this should not be done at the expensive of economic development.

The only countries moving towards a firm commitment to increasing protected areas under are Norway and Indonesia, which have outlined a bilateral agreement under Norway's International Climate and Forest Initiative, which explicitly calls for the promotion of forest conservation. The agreement between Norway and Indonesia specifies a two-year commitment to the cessation of providing new permits for the conversion of 'natural forests' for economic purposes, and a 'province wide' pilot project that will implement the broad protection of natural forests. Under the FCPF, no countries have called for the expansion of protected areas. A bilateral agreement between Brazil and Norway places strong caveats on the expansion of protected areas, noting that if local inhabitants are economically impacted, boundaries for protected areas must be re-drawn.

The Indonesian-Norwegian agreement, which is yet to be legislated within Indonesian Government, may find itself at odds with Indonesia's policies on overseas development assistance (see Box).

12. World Bank, *Forest Carbon Partnership Facility: Information Memorandum* (World Bank, Washington, DC, 2008)
13. As of October, 2010, the developing countries accepted into the Facility include fourteen in Africa (Cameroon, the Democratic Republic of Congo, Ethiopia, Gabon, Ghana, Kenya, Liberia, Madagascar, Mozambique, Tanzania, Republic of Congo, Central African Republic, Equatorial Guinea and Uganda); fifteen in Latin America (Argentina, Bolivia, Chile, Suriname, Honduras, El Salvador, Guatemala, Colombia, Costa Rica, Guyana, Mexico, Nicaragua, Panama, Paraguay and Peru); and eight in Asia and the South Pacific (Lao PDR, Nepal, Papua New Guinea, Vanuatu and Vietnam, Indonesia, Cambodia, Thailand).
14. UN-REDD, 2009 - *Year in Review*, (UN-REDD Programme Secretariat, Switzerland, 2010)

Money for Nothing: The NGO REDD Model

NGOs such as Greenpeace have called for 'zero gross deforestation' in the major forested regions in Africa, Asia and Latin America[15] and an "end to tropical deforestation" by 2020. In place of forestry or agricultural activity, environmental campaigners have previously proposed that a fund be created in order to compensate developing countries for lost economic activity.[16]

Greenpeace has expressed wholesale opposition to the original concept of REDD carbon credits, stating that allowing developing countries to generate a large number of credits would prompt a collapse in a global carbon prices and reduce pressure on developed economies to cut emissions.[17]

This version of REDD that is supported by environmental campaigners is effectively the expansion of protected forest areas.

Under an "NGO Treaty", which was released prior to the Copenhagen UNFCCC meeting in 2009, credits to emit carbon equivalent to 10 per cent of the emissions reductions to be made by rich countries should be auctioned. The proceeds, USD 160 billion annually, should be given to a UN committee which would disburse it to developing countries every year for five years.

Of these funds, 25 per cent would go to forested developing countries that agree to stop deforestation and to stop converting forest land to other purposes, such as plantation forests, agricultural production and commercial commodity crops, e.g. rubber, tapioca and palm oil. Developing countries would receive no disbursements unless the UN committee, which would include environmental campaigning organisations, approve their climate change reduction plans.

The treaty does not stipulate compensation for social or economic impacts upon communities that would affect developing counties.

In place of forestry and agricultural development in tropical countries – among them some of the world's leading emerging economies – there would instead be a vast protected area with significant restrictions on access and economic activity. REDD under this guise would be the world's largest protected area.

The Jakarta Commitment

In 2009, the Indonesian Government and 14 donor countries – including Norway -- signed '*The Jakarta Commitment*'. The agreement is designed to improve the effectiveness of development assistance to Indonesia. Donor countries committed to aligning themselves more fully with Government programmes and systems. They also will 'transparently' state their rationale for not using existing government systems and must state how they will align themselves with Indonesian processes and objectives in the future.

The Indonesian Government will also establish a review of donors' contributions to capacity developments. Results from development assistance are to be tied to Indonesia's National Medium Term Development Plan. The current plan projects 3-4 per cent growth in the forestry and agriculture sectors up to 2014. It calls for reductions in the levels of deforestation, and greater resources for forest rehabilitation. It also calls for, inter alia, greater levels of employment through community-based forestry, the improvement of sustainable forest management and the use of forestry in climate adaptation. The Plan does not call for zero deforestation or even a moratorium on permits. Instead, it calls for more effective spatial planning and better implementation of existing laws relating to land use. Yet the Letter of Intent between Norway and Indonesia which aims to reduce deforestation does not call for any examination of spatial planning. More broadly, it makes no mention of Indonesia's national development strategies in the long or medium term. The question needs to be asked of Indonesia and Norway: is the letter of intent aligned with Indonesia's development strategy?

15. A. Densham, et al. *Carbon Scam: Noel Kempff Climate Action Project and the Push for Sub-national Forest Offsets,* (Greenpeace International, Amsterdam, 2009)
16. WWF, A Copenhagen Climate Treaty: Version 1.0 - A proposal for an amended Kyoto Protocol and a new Copenhagen Protocol by members of the NGO community, (World Wide Fund for Nature, Switzerland, 2009)
17. Greenpeace's analysis of how REDD would result in a collapse of the global carbon market is defective. It is unclear how its data and methodology can justify its conclusions - KEA *3, REDD and the effort to limit global warming to 2°C: Implications for including REDD credits in the international carbon market*, (Prepared for Greenpeace International, Wellington, NZ, 2009), accessed at: http://www.greenpeace.org/raw/content/usa/press-center/reports4/redd-and-the-effort-to-limit-g.pdf.

Over the past 40 years Protected Areas have grown to cover roughly a tenth of the world's land surface.[18] Protected Areas are a prominent conservation tool, in both national and international environmental policy.

The growth in protected areas over this time has occurred disproportionately in developing countries. Comparisons of the size of protected areas in developing countries and developed countries show that in some cases protected areas outstrip agricultural and forestry areas – particularly on a per-capita basis. Current policy proposals seek to expand protected areas as a means of reducing greenhouse gas emissions from land-use change.

Defining Protected Areas

The International Union for Conservation Nature (IUCN) – has been a vocal advocate for the establishment of Protected Areas. In 2008 IUCN broadened the definition for Protected Areas that broadened the scope of Protected Areas from protection of "biological diversity" to protection of natural and associated cultural resources.[19]

The Convention on Biological Diversity (CBD) adopted a Programme of Work on Protected Areas in 2004 which outlines goals and targets relating to the establishment and management of Protected Areas.[20]

IUCN has also defined categories for protected areas. They include:

- Strict Nature Reserves (Category Ia)
- Wilderness Areas (Category Ib)
- National Parks (Category II)
- Natural Monuments or Features (Category III)
- Habitat/Species Management Area (Category IV)
- Protected Landscape/Seascape (Category V)
- Protected Area with Sustainable Use of Natural Resources (Category VI)

Both IUCN and CBD have intrinsically connected management effectiveness to the concept of a Protected Area; and both definitions identify two components to any Protected Area: i) a geographically designated area, and ii) effective systems to manage the area, which includes access restrictions.

However, international environmental policy developments have focused largely on the demarcation and ignored management. Over the past thirty years the international community has pushed for greater designation of Protected Areas, with little regard for their effective management. Unsurprisingly today's Protected Areas cover a significant proportion of the world's land area, but problematic management and has produced very questionable environmental performance.

Global Scope of Protected Areas

Protected Areas are prominent in both global policy and the physical landscape. The World Database on Protected Areas (WDPA) lists over 100 000 Protected Areas worldwide.[21]

Over the last few decades the scale of Protected Areas has dramatically increased. The last twenty years has seen an increase of almost 5 million km^2 of terrestrial Protected Areas, and a proportion increase from 9.6% of the world's land area to 12.9% (Fig 3.1). The United Nations Environment Program (UNEP) calculates that terrestrial Protected Areas have increased approximately seven-fold since the early 1970s.

18.N. Dudley, *Guidelines for Applying Protected Area Management Categories,* (IUCN, Switzerland, 2008)
19. S. Stolton, & N. Dudley, *Company reserves Integrating biological reserves owned and managed by commercial companies into the global protected areas network – a review of options*, (WWF white paper, 2007)
20. The Convention on Biological Diversity, 'Article 2. Use of Terms', *Convention Text*, (1992), accessed at: http://www.cbd.int/convention/articles.shtml?a=cbd-02
21. UNEP-IUCN, *World Database on Protected Areas*, United Nations Environment Programme and International Union for Conservation of Nature (joint project), accessed at: http://www.wdpa.org/Default.aspx

Table 3.1: Scope of terrestrial protected areas in developed and developing countries

	AREA PROTECTED KM²		P.AS AS A % OF TERRESTRIAL AREA	
YEAR	1990	2009	1990	2009
World	12,860,280	17,251,991	9.6	12.9
Developing Regions	7,308,207	10,854,523	9.4	13.9
CIS	1,520,988	1,683,095	7.0	7.7
Developed Regions	4026582	4707124	11.6	13.6

Source: World Database on Protected Areas, 2009[22]

This growth has been most significant in the developing world. In the last twenty years, Protected Areas grew from 9.4 per cent of total land area in developing regions to 13.9 per cent. The proportion of Protected Areas to total land area in developing countries has overtaken the developed world's percentage of 13.6 per cent.

Similarly, absolute land area designated as Protected Areas in the developing world greatly outstrips that found in developed countries. Because developing countries span a larger combined land area, the land use change in terms of total area is significant. By 2009 well over 60 per cent of the world's protected areas were in developing countries, with an additional 10 per cent in the Commonwealth of Independent States (CIS). Less than 30 per cent of all designated Protected Areas were located in the developed world.

The overall increase in Protected Areas has been attributed to concerted environmental policies which include developments such as the CBD's Program of Work on Protected Areas and the Ramsar Convention.[23] Contemporary policy developments have seen the total global Protected Area almost triple in the past three decades.

Parks for the Poor

Forests, especially tropical rainforests, host large stalls of biodiversity and are therefore perceived as an important conservation target. As with Protected Areas in general, protected forest areas in developing countries significantly outstrip those found in developed countries – in both absolute area and as a percentage of overall forest area.

Protected Areas are equivalent in effect to large scale developments. They drastically alter existing land use patterns. The opportunity cost of creating a Protected Area must be examined by considering the economic consequences of land-use changes. These opportunity costs are significant as developing economies rely on the conversion of forests to agricultural land. Plans to offset these opportunity costs through international aid and development funds ultimately fail to identify the land use processes that characterise economic development.

The areas of forest, protected forest and agricultural land in Indonesia and the Euro area provide a useful comparison. The two have been chosen as they have similar areas of forested land.

22. Utilising development categories (Developed, Developing and CIS) as defined by the UN Millennium Development Goals.
23. An international convention for the protection of wetlands

Table 3.2: Forest area, protected areas and agricultural land in the Euro area and Indonesia

	EURO AREA	INDONESDIA
POPULATION	326,000,000	227,000,000
Land area (km^2)	2,509,800	1,811,000
Arable land (km^2)	622,430.4	219,131
Agricultural land (km^2)	292,542.3	59,165.4
Forest Area (km^2)	946,194.6	944432
Protected forest areas (km^2)	200,773	377,772.8
Arable land (ha per 100 people)	19.4	9.9
Agricultural land (ha per 100 people)	9.0	2.6
Protected forest area (ha per 100 people)	6.2	16.6

Source: World Bank World Development Indicators 2010

The above numbers are revealing. On a per capita basis, the Euro Area has twice the arable land and four times the agricultural land of Indonesia. Yet Indonesia has 2-3 times the protected forest area on a per capita basis. The protected forest area of Indonesia is almost twice that of the Euro area in real and comparative terms.

These figures will continue to shift towards less agricultural land per capita in Indonesia, and, potentially, increases in per capita protected areas. Indonesia's population is projected to increase by 20 million people by 2015; the Euro Area's projected increase in population by 2015 is just 5 million people.

Economic development requires some land use change. Policy makers – and particularly the environmental movement must acknowledge that restricting land use change also restricts development.

4. THE COST OF PROTECTED AREAS

The environmental movement and many donor organizations are currently promoting REDD as a 'win-win' outcome for both emissions reductions and poverty alleviation.

The social and economic cost of the 'zero deforestation' goal is unknown. Opportunity costs have been estimated in order to give indicative costs for REDD financing, but frameworks for measuring on-ground social and economic impacts of these restrictions at the national and local level are poorly developed. Empirical evidence from projects backed by the World Wide Fund for Nature (WWF) that have imposed such access restrictions show that many have resulted in negative impacts – including physical and economic displacements. In Africa, displacements have been estimated in the hundreds of thousands.

Parks versus People

Very little empirical research has been undertaken to determine the social and economic costs associated with the creation of protected areas in developing countries.[24] This is partly due to a lack of social impact assessments/evaluations and ongoing monitoring and evaluation (see next section). It is also due to a lack of transparency associated with the implementation of protected areas.

Critics of protected areas and researchers that have collected field data on social and economic impacts of protected areas have been chastised by environmental non-governmental organizations (ENGOs) who have attempted to discredit the data collection and methodologies of the researchers.[25] This is part of a broader, ongoing debate between the conservation movement and social scientists particularly interested in the welfare of local communities.

The origins of the current debate lie in deep divisions between local or indigenous communities and the conservation movement in the 1990s. WWF-backed conservation projects were reported as being directly responsible for the large-scale eviction of thousands of people, particularly in India.[26] The subsequent negative publicity prompted WWF to draft a set of principles on collaborations with local communities and indigenous people. The new public focus of conservation was to be 'development friendly'.[27]

Despite this, conflicts between conservationists and local communities continue. A 2002 report from an IUCN staffer indicated that WWF had paid only lip service to working with local communities.[28] In 2004, the Ford Foundation – at that point in time WWF's biggest donor – ordered a review of operations involving conservation and local communities.[29] The report was not publicly released.

These examples are indicative of a broader tension between conservation initiatives that are driven by conservation organizations with backing from developed countries and the communities they are imposed upon – and who ultimately must bear the cost. It provides a context for the push for REDD+ projects to extend protected areas – and restrict economic access – on communities in poor countries.

The Undefined Cost

Protected areas (PAs) by definition restrict access to natural resources contained within those areas. The International Union for the Conservation of Nature's (IUCN) protected area management categories define levels of access to PAs (see Chapter 3). Categories I-IV restrict access to natural resources for economic purposes; category V permits traditional use of natural resources; category VI permits use provided two-thirds of the landscape remains intact.[30]

These access restrictions impose an economic and social cost on both the communities directly affected by the protected areas and at a national level.

24. L. Coad, et al. *The costs and benefits of forest protected areas on local livelihoods: A review of the current literature*, (UNEP-WCMC, Cambridge, UK, 2008)
25. B. Curran, et al. 'Are Central Africa's Protected Areas Displacing Hundreds of Thousands of Rural Poor?', *Conservation and Society* 7(1): 30-45, (2009)
26. M. Dowie, *Conservation Refugees: The Hundred-Year Conflict between Global Conservation and Native Peoples*, (MIT Press, USA, 2009)
27. WWF, *Statement of Principles: Indigenous People and Conservation*, (World Wide Fund for Nature International, Gland, Switzerland, 1996)
28. S. Jeanrenaud, *People-Oriented Approaches in Global Conservation: Is the Leopard Changing its Spots?* (International Institute for Environment and Development (IIED) and Institute for Development Studies (IDS), London/Brighton, 2002)
29. M. Chapin, 'A Challenge to Conservationists', *World Watch Magazine*, (November/December 2004)
30. P. West, J. Igoe, and D. Brockington, 'Parks and peoples: the social impact of protected areas' *Annual Review of Anthropology*, 35, 251-277, (2006)

The major studies into the economic costs of REDD have for the most part attempted to attribute an opportunity cost of either converting forest land to agricultural land, utilizing forest land for selective logging, or the establishment of forest plantations. This is generally achieved using by determining a net present value for productive uses and comparing it with a value for carbon sequestered and/or carbon emissions avoided based on an arbitrary carbon price.[31]

REDD is effectively an attempt to shift this cost back to the global level. Yet the underpinning of this notion – that forests should be worth more alive than dead – has been overoptimistic in assessing the opportunity cost of converting forest land to other uses.

One estimate has found that a carbon price of up to USD46/ton of CO2 are required to be competitive with profitable crops such as palm oil. Yet a recent World Bank REDD project paid just USD4/ton in Guyana. The upper net present value for a palm oil project in Indonesia over 30 years in this model is USD994/ha; for palm oil it is almost ten times this as USD9630/ha.[32]

Projections have thus far been overly optimistic. The World Bank, possibly the strongest supporter of forest carbon credits has recently stated that the projects are not feasible.[33] This is disturbing given the role Bank publications have played in promoting the idea that 'farming' carbon in forests was prospectively viable in tropical forest economies.[34]

The seeming inability to determine the costs and benefits of protected areas under REDD+ reflect a broad reluctance to assess costs and benefits of donor-funded environmental projects, particularly protected areas. Most recently this has been highlighted by the World Bank in 2010, which simultaneously assessed its work on both carbon mitigation projects and lack of cost-benefit analyses across its portfolio.[35]

It stated that "Despite 20 years of effort in creating protected areas, systematic information is lacking on their impact on biodiversity, on carbon storage, and on the welfare of people who live in and around them." It also noted that of the 11 environment-related projects approved in 2008, none had estimated economic rates of return.

This is despite an international push for better social and economic assessments of protected areas at the World Parks Congress in 2003, the World Conservation Congress in 2004 and the Convention on Biologcal Diversity.[36]

This is indicative of a broader lack of consistent or reliable methodologies among non-governmental organisations and donor agencies. Research suggests greater provision for establishing a baseline measure for livelihoods and ongoing monitoring and evaluation of livelihoods for the life of the project is required.[37]

One survey of methodologies which covered those used by WWF, The Nature Conservancy, Conservation International, IUCN and CARE was particularly critical of WWF's 2008 'Benefits Assessment Tool', which measures only benefits – costs are not part of the study.[38]

The World Bank has stated that its own use of WWF's 'Management Effectiveness Tracking Tool' for conservation areas has provided limited information, particularly as it only assess processes, not outcomes.[39]

Despite this clear methodological gap, REDD programs – particularly Norway's – are pushing for increased forest protection areas.

The real cost of protected areas

Very few studies have attempted to quantify the economic cost of protected areas for local communities. Those that have undertaken the analysis have consistently found that benefits from protected areas accrue at a national level or international level. Yet inevitably the cost is borne by local and indigenous communities.

31. M. Grieg-Gran, *The Cost of Avoiding Deforestation: Update of the Report prepared for the Stern Review of the Economics of Climate Change*, (International Institute for Environment and Development [IIED], London, UK, 2008)
32. R. Butler, L. Pin Koh, and J. Ghazoul, 'REDD in the red: palm oil could undermine carbon payment schemes', *Conservation Letters* 2: 67-73, (2009)
33. World Bank, *Independent Evaluation Group Study Series: Phase II: The Challenge of Low-Carbon Development Climate Change and the World Bank Group,* (IEG/IFCA, Washington, 2010)
34. K. Chomitz & World Bank. *At loggerheads? : agricultural expansion, poverty reduction, and environment in the tropical forests* (World Bank, Washington, DC, 2007)
35. World Bank, *Cost Benefit Analysis in World Bank Projects,* (IEG/IFCA, Washington, 2010)
36. UNEP-WCMC *Poverty and Conservation Learning Group, Towards an integrated system for measuring the social impact of Protected Areas - a discussion document*, (UNEP-World Conservation Monitoring Centre: Vision 2020 WCPA/CEESP Taskforce on Protected Areas, Equity and Livelihoods, 2007)
37. K. Schreckenberg, et al. *Social Assessment of Conservation Initiatives: A review of rapid methodologies,* Natural Resource Issues No. 22. (IIED, London, 2010)
38. ibid.
39. World Bank, *Independent Evaluation Group Study Series: Phase II: The Challenge of Low-Carbon Development Climate Change and the World Bank Group*, (IEG/IFCA, Washington, 2010)

The costs cannot easily be compared as methodologies are different. However, assessments of local economic costs range from USD39 per household annually to USD158 per capita annually.[40]

Fully quantifying the global benefits of values such as biodiversity is difficult and relatively new. Inevitably there is a theoretical postulation that the world benefits but is not paying the cost.

A UNEP survey of the cost of protected areas to local communities defined a series of costs – displacement, changes in land tenure, restricted access to resources and degradation of resources.[41]

The World Bank's operational policy includes 'restricted access' to resources as part of its definition of involuntary displacement. This means "loss of income sources or means of livelihood whether or not the affected persons must move to another location". It does not distinguish between indigenous or local communities or even individuals or groups that might be employed within the private sector.[42] For the purposes of this report we will include the abovementioned costs under the broader definition of displacement.

Physical displacement

It is estimated that 900,000 to 14.4 million people have been physically displaced by the establishment of protected areas. The field data that can be considered as reliable has held international NGOs as being particularly responsible for large-scale displacements without compensation. Projects undertaken by WWF in Central Africa have been responsible for the physical displacement of approximately 20,000 people across six conservation projects. Only one of these projects offered full compensation for one of the communities affected.[43]

Land tenure changes

Changes in land tenure without proper enforcement provide greater competition for non-restricted lands and can, therefore, produce economic losses.

Restricted access to resources

There have been few attempts to quantify the costs of restricting access to resources for those affected by protected areas. The barriers to collecting this data are myriad, but a possible framework for formal assessment has been developed by the UNEP Protected Area Equity and Livelihoods (PAEL) Task Force.

One existing study of the revoking of logging permits around the Yangtze River estimated that approximately 1.1 million jobs were lost, as were health and education services provided by the state-owned forestry company.

Wildlife conflicts

A perverse outcome of successful conservation initiative and the establishment of protected areas is greater levels of human-animal conflict. This can result in economic and social losses to local communities. Increased numbers of predatory carnivores can result in livestock losses as well as losses to human life. Similarly, crop-raiding by large animals is also common. Where losses occur – particularly for deaths or injuries to humans – there is little recourse for compensation.

Ignoring the Economic Impacts

There is a lack of accountability among aid donors and non-governmental organizations in their implementation of protected area projects and their impact upon affected populations.

A recent study of 88 biodiversity conservation projects implemented by the Global Environment Facility that restricted access to resources, less than half were successful in attempting to provide local communities with alternative incomes or sustainable use regimes.[44]

Of these 88 projects, just 18 – less than one-quarter – demonstrated that a social impact assessment had taken place. Just 15 projects undertook monitoring and evaluation programs that provided evidence of positive impacts on impoverished communities. Total project financing for these biodiversity projects was in the region of USD990 million.

40. P. Ferraro, 'The local costs of establishing protected areas in low-income nations: Ranomafana National Park, Madagascar', *Ecological Economics*, 43(2):261-275, (2002) and M. Cernea, & K. Schmidt-Soltau, 'Poverty Risks and National Parks: Policy Issues in Conservation and Resettlement', *World Development*, Vol 34, No. 10, pp. 1808-1830, (2006)
41. L. Coad, et. al. (2008)
42. World Bank, Operational Policy on Involuntary Resettlement (OP 4.12) (World Bank, Washington, 2001)
43. M. Cernea, & K. Schmidt-Soltau, (2006).
44. Global Environment Facility Evaluation Office, The Role of Local Benefits in Global Environmental Programs, Evaluation Report No. 30. (GEF, Washington, 2006)

Projects handled by non-government organizations do not fare better. Using WWF as an example, ongoing monitoring and evaluation reports for projects groups such as WWF are generally not publicly available. Publicly available information generally includes the description of frameworks for management effectiveness, but individual management reports are not made public.

A 2007 survey of WWF[45] and its work on poverty found that around 20 per cent of WWF projects explicitly addressed livelihoods and poverty in its assessments. Of these, half had developed indicators for monitoring poverty-related outcomes; and only 60 per cent of this number was actually implementing these indicators. Less than half of the projects that addressed poverty were considered successful by project managers.

Just over 50 per cent of poverty projects undertook socio-economic baseline work at the commencement of the project. In these cases, the baseline work was "late (sometimes three or four years after the projects started), incomplete, or limited in their coverage [or] would offer little in the way of comparative data for the future identification and measurement of project impacts."

The survey also revealed that the drive for incorporating poverty-related measures into WWF work was driven by external donors. Staff noted that the poverty work was 'hard to justify within WWF'.

The lack of a consistent framework for the assessment of negative impacts has continues to impede genuinely assessing the impact of protected area projects. The development of such a framework is critical given that there is a strong push by non-governmental organistations to increase funding for protected areas under both the Convention on Biological Diversity and the UNFCCC.

WWF in particular has called for the doubling of the size of protected forest areas – to 20 per cent of forest area -- for both climate change mitigation and for biodiversity protection.[46] Such proposals have considerable political support under climate finance programs. As stated above, existing protected area programs have generally failed to take account of broad economic impacts. There are, however, a number of mechanisms that can prevent this recurring.

The World Bank's Cost Failures

The World Bank's operational policies nominally cover forest carbon projects under the Forest Carbon Partnership Facilily (FCPF) and Forest Investment Program (FIP).

The operational policies are well understood within the international community, particularly among environmental NGOs. However, changes to its operational policy that includes economic losses to individuals without physical displacement under the involuntary displacement policy (OP 4.12) is not. This is a relatively new change to Bank policy.[47]

Yet the policy's provision for compensation for losses under involuntary resettlement only includes land and structures – it does not include potential losses of incomes for, say, employees of affected businesses. OP 4.12 merely directs Bank staff to review the risk that resettlement plans will not be inadequately implemented – as opposed to monitoring and evaluating that plans have been executed.

The Bank's operational policy on Economic Evaluation of Investment Operations (OP 10.04) requires that the Bank "evaluates investment projects to ensure that they promote the development goals of the borrower country. For every investment project, Bank staff conduct economic analysis to determine whether the project creates more net benefits to the economy than other mutually exclusive options for the use of the resources in question".

This should effectively safeguard from negative impacts in conservation projects. Yet the Bank's own internal review of cost-benefit analyses within the

45. J. Rietbergen-McCracken, et al. *WWF and poverty alleviation: Final report of a cross thematic programme mapping and analysis of WWF project activities related to poverty alleviation and livelihoods,* (Produced with support from the Swedish International Development Cooperation Agency, WWF, Copenhagen, 2007)
46. WWF, 'WWF Main Asks at CBD COP 10 - Position Paper 10th Conference of the Parties to the Convention on Biological Diversity (18 – 29 October 2010, Nagoya, Japan)', (World Wide Fund for Nature, 2010)
47. M. Cernea, and K. Schmidt-Soltau, (2006)

World Bank has demonstrated that its adherence to this policy has been lacking. Further, the FCPF Management Team (FMT) has pushed for the inclusion of other multilateral development banks as part of its service delivery. The operational policies of some, but not all, for involuntary resettlement are consistent with World Bank policies.[48]

WWF: Disregard for Compensation

NGOs – particularly WWF and IUCN – are among the largest advocates for the establishment of protected areas in developing countries.

The joint policies and guidelines by IUCN/WWF regarding economic impact assessments of protected areas, resettlement, displacement and economic losses of local communities are close to non-existent. It applies a policy to 'traditional' and 'indigenous' populations in that it will not support projects that involve the involuntary resettlement of these populations.

Yet the policies do not refer to broader populations, e.g. local communities and immigrant populations. This contention is supported by its implementation guidelines, which mention the application of the CBD *Akwe: Kon Guidelines* for social impact assessments – which, again, only refer to indigenous communities.

Yet the caveat for WWF is its assertion that it may oppose indigenous community practices if it judges them to be 'unsustainable'. There is no guideline for measuring levels of sustainability in indigenous practices.

WWF's 'Poverty and Conservation' policy attempts to address these issues more specifically, however, it makes no explicit and clear mention of compensation for economic losses or providing livelihoods that improve upon existing conditions if protected area intervention has taken place.

That WWF should state that it is "empowering local communities to reduce poverty" and that this seems to be driven by external funding is dangerous at best. It is summarized best by one of its own staffers: "It's much easier to get funding for humanitarian work than for environmental issues."

Donors Neglecting Economic Growth

Bilateral aid arrangements involving protected areas or environmental projects are in principle accountable to the OECD Development Assistance Committee (DAC) guidelines on involuntary resettlement. However, the guidelines do not define displaced persons in the same way as the World Bank.

Of the major REDD+ donors – Japan, Germany, Norway, Australia, the United States – only Japan has a specific development assistance policy that deals with displacement, and in this case it only deals with involuntary resettlement. Norway's policies determine that landholders will be compensated for losses due to aid investments, but there is no specific mention of income losses.

This lack of accountability on economic losses should not be surprising. OECD countries have generally reduced their concern for the economic impacts of development assistance.

The share of development assistance which directly supports economic growth (specifically, spending on economic infrastructure and services) has fallen by more than half over the last decade: from 28 per cent of aid programs in 1997 to 12 per cent in 2007. This stemmed from a decision by donors through the OECD Development Assistance Committee to adopt a "New Development Strategy" in 1996.

The declared intent was for aid programs to concentrate on social, environmental and political problems rather than economic issues. Funding was therefore directed towards strategies to achieve social, governance and environmental goals and away from strategies to support economic growth.

This program and emphasis were expanded into the Millennium Development Goals (MDGs) which were adopted by the UN in 2000. It was always revealing, although little observed, that there was no MDG to increase economic growth.

48. Forest Carbon Partnership Facility Management Team (World Bank), *Operationalizing Multiple Delivery Partners under the Readiness Fund* (Note: FMT 2010-11-Add.1), (2010). While not publicly available, this document was circulated to the FCPF Civil Society Working Group by the Bank Information Center, in their capacity as FCPF Civil Society Observer on June 24, 2010.

5. CASE STUDY: FAILURE OF PROTECTED AREAS

The root causes of deforestation and biodiversity loss are myriad. While there may exists some consensus of the proximate causes of deforestation – such as agricultural expansion, wood extraction, and infrastructure extension – the underlying drivers are complex social, political, economic, technological, and cultural variables. Because drivers are specific to these contexts, importing a 'one size fits all' land use model is ineffective in addressing geographically specific issues.

Effective conservation measures must be identified through science and addressed through policy. At best the designation of Protected Areas temporarily addresses the symptoms, rather than causes of environmental degradation. However case studies of tropical Protected Areas support an alternative prediction – increasing the scope of Protected Areas can create incentives for destructive and illicit practices and inverse development consequences for local communities.

To be effective, conservation measures - such as Protected Areas - should be scientifically justified with empirical achievements. REDD+ and forest conversion moratoria, on the other hand, are blanket solutions that fail to address complicated variables specific to individual contexts.

Effective conservation measures should be targeted to focus on areas of ecological value. Size of the area is one measurement, but should be calibrated with other measurements such as diversity, rarity, naturalness, representativeness, and cultural criteria.[49] Measures to protect endangered species or habitats do not require across the board cessation of forest conversion, but rather the designation of scientifically demarked conservation areas, the establishment of deliberate conservation strategies, and effective management systems. Through a strategic scientific approach, the same conservation results can be achieved through selective measures without impeding on the development needs of the poor.

Protected Areas in Sumatra

The Indonesian island of Sumatra serves as a poignant indicator of many Protected Area failures. A large portion of the island –over 5 million hectares - is protected.[50] Yet deforestation and logging remain rife within the boundaries of these protected areas. More than 35 per cent of Sumatra's 40 Protected Areas have experienced severe rates of forest loss during the years 1990-2000.[51] Some 60 per cent have indications that logging has caused extensive forest degradation *within* their boundaries.

Studies have shown that Sumatran conservation projects often fail due to three systemic issues: i) projects suffer from logistical and institutional flaws ii) projects often fail to achieve conservation targets because they prioritize sources of short term benefit over final goals of halting biodiversity loss and iii) projects do not identify underlying drivers of biodiversity loss and thus address only symptoms and not causes.[52]

For instance several studies examining Kerinci Seblat National Park, the largest of Sumatra's Protected Areas covering 13,791 km^2, have shown poor conservation performances. Between 1997 and 2002 an Integrated Conservation and Development Project (ICDP) ran at the cost of 19 million dollars. The project included funding of development projects in local villages inside the conservation area in return for local commitments not to convert traditional forest areas into farmland. However, remote sensing and GIS database analysis has shown the project had little effect on deforestation rates surrounding ICDP funded villages and other villages outside the National Park.[53]

49. C. Bibby 'Selecting Areas for Conservation', in *Conservation Science and Action* (ed. W. Sutherland), (Blackwell, Oxford, 1998)
50. Indonesian Government, *Indonesia's Forestry Long Term Development Plan 2006-2025*, Ministry of Forestry, Jakarta (2006)
51. D. Gaveau, et al. '*Evaluating whether protected areas reduce tropical deforestation in Sumatra*', Journal of Biogeography, 36, 2165-2175, (2009)
52. M. Linkie, et al. 'Evaluating Biodiversity Conservation around a Large Sumatran Protected Area', *Conservation Biology*, Vol. 22, No. 3, 683-690, (2007)
53. ibid.

Studies document that Protected Areas displace rather than reduce deforestation. Lands adjacent to the conservation areas have attracted migrants, whilst indigenous communities have been relocated, further exacerbating the environmental effects of transmigration. Studies have identified trends of "neighborhood leakage" whereby deforestation increases around the boundaries of Protected Area as a result of its very establishment. Current conservation practice runs counter to empirical evidence - the creation of Protected Areas can increase the incentive for deforestation and has had detrimental environmental consequences in locations such as Sumatra.[54]

Issues of 'leakage' demonstrate some of the complexities that render basic inside-outside assessments inadequate evaluative tools. Comparing rates of deforestation between Protected Areas and non-protected forests overestimates the protection effect and gives the impression of reduced deforestation. However, studies show that Protected Areas often fail to stop deforestation - they simply displace it. Furthermore, many Protected Areas are established in remote locales that are less likely to be cleared in the first place. Their very establishment and funding can increase the risk of deforestation.

These findings are echoed throughout Indonesia and much of the world. Nearly 3 million ha of Kalimantan forest was lost between 1996 and 2002, 2.37 million ha within the boundary of designated or proposed Protected Areas.[55] In Kalimantan - as in Sumatra - it is clear that illegal loggers have disregarded land-use status. In the 11 Indonesia Protected Areas surveyed by Bickford et al., logging was witnessed throughout, and land clearing and burning was evident in over half the areas.[56]

In Borneo, there is strong evidence that productive forests are better protected than the island's Protected Areas. Half of Borneo's 200 000 km2 of forests host forestry concessions that maintain conservation value. Studies have noted that these operations and conservation programs are better staffed and controlled than the island's Protected Areas.[57] Similar studies in North America "reinforce the idea that the establishment of protected areas is not a sufficient condition for the protection of biological diversity and ecosystems services"[58] This reinforces the notion that divorcing economic outcomes (e.g. forestry, agriculture) from forest areas – while counterintuitive – may be the least effective way of actually protecting forests.

The Failure of Tesso Nilo

Current proposals to increase the size of Protected Areas in tropical forested countries have been supported by a number of international donors. Contributions and pledges towards REDD projects in Indonesia exceed USD 2 billion (see Annex). These pledges are in addition to the considerable investment of the national governments and past funding initiatives.

But hitherto funding in Protected Areas has achieved few positive identifiable conservation outcomes. Given the poor environmental performance of Protected Areas, and their negative effects on the poor, international donors must ask whether continued funding is warranted.

A case study of Tesso Nilo National Park on the Island of Sumatra serves to demonstrate the systemic failures of NGO-backed Protected Areas. In the late 1990s, WWF set out a lobbying effort to have the Tesso Nilo area in Sumatra declared as a National Park. In 2004 it achieved this aim, establishing a Protected Area covering 38,000 hectares with almost 1 million USD of initial funding provided by Critical Ecosystems Partnership Fund (CEPF) grants. In 2009, the park's area was extended, almost doubling in size.

The effectiveness of WWF's lobbying was not matched by park management. Since its establishment in 2004, the park has been subjected to high levels of deforestation, encroachment and illegal logging.

WWF acknowledged that National Park staff in Sumatra were themselves engaged in illegal logging.[59] Within an area that includes Tesso Nilo, the CEPF found 20 per cent of park staff were involved in illegal logging activities and encroachment. The report further found that management had taken "no firm action" in dealing with this issue.[60]

54. D. Gaveau et al., (2009)
55. D. Fuller, T. Jessup, A. Salim, 'Loss of Forest Cover in Kalimantan, Indonesia Since the 1997-1998 El Nino', *Conservation Biology*, Vol. 18, No 1, (2004)
56. D. Bickford, et al. 'Indonesia's protected areas need more protection: suggestions from island examples', in *Biodiversity and Human Livelihoods in Protected Areas: Case Studies from the Malay Archipelago*, (eds.) Sodhi, N., Acciaioli, G., Erb, M., Khee-Jin Tan, A., Cambridge University Press, (2008)
57. T. Brooks, J. Wright, D. Sheil, 'Evaluating the success of Conservation Actions in Safeguarding Tropical Forest Biodiversity', *Conservation Biology*, Vol. 23, No. 6, 1448-1457, (2009)
58. D. Kramer, P. Doran, 'Land Conversion at the Protected Area's Edge', *Conservation Letters*, Vol. 3, Issue 5, 349-358, (2010)
59. CEPF, 'Expansion of Bukit Tigapuluh National Park and Protection of Its Wider Ecosystem', *Final Project Completion Form*, (Critical Ecosystem Partnership Fund, 2008)
60. CEPF, *Assessing Five Years of CEPF Investment in the Sumatra Forests Ecosystem of the Sunderland Biodiversity Hotspot*, (Critical Ecosystem Partnership Fund, 2007)

Encroachment within and adjacent to the park boundary is significant. Inside the territory most recently added to the Protected Area, encroachment was estimated to have doubled between 2005 and 2006 (from 18,000 ha to 35,600 ha).[61]

WWF have clearly struggled to effectively administer the area. Yet despite WWF's management failures, the ENGO launched a long-term campaign against the Indonesian forest industry. WWF accused the industry of engaging in illegal logging on an almost weekly basis, generally with flimsy or unverifiable evidence. The campaign focussed on the operations of Asia Pacific Resources International Limited (APRIL), which sourced wood fibre from the local area. APRIL agreed to work with WWF and set about both preventing access to local communities and expanding the conservation area. However, when the security personal restricted access to local illegal loggers, staff were attacked and murdered.[62]

This attack was a consequence of the placing of access restrictions on forests. A more careful approach to examining the social and economic impacts of the access restrictions may have avoided this outcome.

In 2002 WWF was given clear advice from a local, respected research institution that it should concentrate on influencing government processes to achieve its forest conservation goals in Tesso Nilo.[63] The reasoning behind this was simple. Local communities valued their forest resources economically, not ecologically. They would be reluctant to give up forest areas for conservation purposes as the loss of income would be too great.

A study undertaken by WWF in 2002 to investigating legal and illegal employment also indicated that the establishment of the Tesso Nilo Protected Area would impinge heavily on the development of local communities. The study found that the establishment of the Protected Area would be unable to create as many jobs as logging and wood processing were contributing to the provincial economy in Riau.[64]

Environmental paternalism clearly outmaneuvered the local development considerations. Seven years later, impoverished communities have encroached on the national park; local populations have turned to illegal land clearing in order to establish settlements and in some cases small crop plantations; Illegal logging remains a significant problem.

Despite this clear failure – and others like it in the 4.5 million ha of conservation national parks in Indonesia – donors and environmental campaigners are calling for an *expansion* of conservation areas.

Agricultural expansion, commercial forestry, fuel needs and sub-standard forest management practices are the major proximate causes of forest loss.

Multidisciplinary studies indicate that the underlying drivers are highly variable and context-specific. A meta-analysis of available case studies indicates that the drivers of deforestation cannot be reduced to one or two variables, but are instead influenced by combinations of regional, economic, political and institutional factors. Researchers acknowledge that uncovering the underlying driving forces of land-use/cover change is "a formidable task."

61. CEPF, 'Creation and Management of the Tesso Nilo Protected Area as a Centrepiece of Sumatra's Tesso Nilo Bukit/Tigapuluh Conservation Corridor', *Final Project Completion Form*, (Critical Ecosystem Partnership Fund, 2007)
62. S. Stecklow, 'Environmentalists, Loggers Near Deal On Asian Rainforest', *Wall Street Journal*, (February 23, 2006)
63. CEPF, 'Economic Analysis of Tesso Nilo Forest Concessions', *Final Project Completion Form*, (Critical Ecosystem Partnership Fund, 2003)
64. CEPF, 'Use of Forest Resources in Riau: A Look at Legal & Illegal Employment', *Final Project Completion Form*, (Critical Ecosystem Partnership Fund, 2004)

6.POVERTY REDUCTION IS FOREST PROTECTION

NGOs regularly assert that commercial forestry is the key driver of deforestation. In reality however, the drivers of deforestation are many and varied.

Agricultural expansion, commercial forestry, fuel needs and sub-standard forest management practices are the major proximate causes of forest loss.

Multidisciplinary studies indicate that the underlying drivers are highly variable and context-specific. A meta-analysis of available case studies indicates that the drivers of deforestation cannot be reduced to one or two variables, but are instead influenced by combinations of regional, economic, political and institutional factors.[65] Researchers acknowledge that uncovering the underlying driving forces of land-use/cover change is "a formidable task."[66]

The Drivers of deforestation

Basic social and economic factors, such as population growth and the need for food and fuel are most often the major underlying drivers of deforestation.

A study of 28 developing countries from Africa, Asia, and Latin America found that countries with high population growth and rapid expansion of agriculture had higher-than-average rates of deforestation between 1968 and 1978.[67]

The FAO has reported in its annual survey of the global state of forestry that the primary driver of deforestation is the clearance of land for agricultural purposes.[67] This is also demonstrated in a report commissioned in the same year by the Secretariat of the UNFCCC.

According to the UNFCCC, commercial forestry accounts for just 14 percent of the area deforested/degraded annually. Eighty per cent of deforestation is driven by both subsistence and commercial agriculture; and 53 percent of deforestation supports subsistence livelihoods (see Table 5.1).

Table 5.1: Drivers of deforestation and degradation in developing countries

MAIN DIRECT DRIVERS	RATE OF DEFORESTATION/ DEGRADATION (PERCENTAGE)	AREA OF DEFORESTATION/ DEGRADATION (MILLION HA/YEAR)
COMMERCIAL AGRICULTURE		
Commercial crops	20	2.6
Cattle ranching (large-scale)	12	1.6
SUBSISTENCE FARMING		
Small scale agriculture/ shiftingcultivation	42	5.5
Fuel-wood and NTFP	6	0.75
WOOD EXTRACTION		
Commercial (legal and illegal)	14	1.8
Fuel-wood/charcoal (traded)	5	0.7
Total	**100**	**12.9**

Source: UNFCC, 2007. Investment and financial flows to address climate change, United Nations Framework, Convention on Climate Change.

65. H. Geist, & E. Lambin, *What Drives Tropical Deforestation?*, LUCC Report Series 4, (Louvain-la-Neuve, 2, 2001)
66. ibid.
67. J. Allen, D. Barnes, 'The Causes of Deforestation in Developing countries,' *Annals of the Association of American Geographers*, 75 (2) pp. 163 – 184, (1985)
68. FAO, *Long-Term Historical Changes in the Forest Resource*, Forest Study Paper No. ECE/TIM/SP/10, (Geneva, Switzerland, 1996)

The forest industry, particularly the consumer pulp and paper sector, and more recently the palm oil industry, has borne the brunt of the pressure in the public debate on deforestation in developing countries.

Wealth and deforestation in Indonesia

An empirical analysis of small scale deforestation in Indonesia provides a useful case study of the effects of poverty and socio-economic development on land-use change in forested areas.

The FAO study led by Ririn Purnamasari of the Center for International Forestry Research (CIFOR) and published in the FAO Journal *Unasylva* combined the use of satellite imagery of forest cover with socio-economic data from several national surveys to analyse the deforestation – poverty link.[68] Specifically, the study investigated drivers of small-scale deforestation – cleared areas of between 0.05 and 10 ha – in the primary forest areas of Kalimantan, Sumatra and Sulawesi, which together constitute about 60 percent of Indonesia's total forest cover.[69]

The empirical results of the study indicate that isolated areas with limited transport facilities and poor market access experience higher deforestation.

It proposed an 'inverted U' relationship between poverty and deforestation which implies that with rising prosperity, deforestation increases until a certain level of wealth is reached, after which it declines.[70]

The thesis is that in initial stages of development, as people become wealthier they put more of their newfound wealth into the expansion of agricultural land and production, at the expense of forest areas. However, as greater levels of funds become available these are spent on alternative measures such as agricultural intensification or better access to other income generating options – the study found that greater off-farm opportunities were associated with less forest clearing.

67. R. Purnamasari, 'Dynamics of small-scale deforestation in Indonesia: examining the effects of poverty and socio-economic development,' *Unasylva*, 234/235, 61, 14-20, (2010)
68. ibid.
69. ibid.

7. CONCLUSIONS AND RECOMMENDATIONS

The logic of REDD is that increased environmental management in combination with a large policy intervention will lead to sustained economic growth. There is no evidence to support this logic.

In this regard, protected area projects must be seen for what they are: large-scale developments that dictate land use. The past level of scrutiny for these developments must be revised. If multibillion dollar developments were to be undertaken by the forestry, agricultural or mining sector, their impacts would be continually monitored and assessed. There is no rationale for not having the same level of scrutiny for REDD projects.

History has indicated that economic growth provides the wealth required to improve environmental management, not the other way around. REDD will only work if this reality is accepted.

World Growth makes the following recommendations:

For donor countries and NGO project managers:

- Adopt a 'do no harm' approach to REDD project implementation using economic safeguards;
- Develop and adopt robust methodological frameworks for the economic impacts of REDD projects;
- Continually monitor and evaluate REDD economic outcomes using established and robust baselines;

For recipient countries:

- Ensure REDD projects are consistent with national development objectives and promote sustainable forest management;
- Reject REDD financing proposals under which economic impacts assessments and monitoring and evaluations are not robust and transparent;
- Prioritize economic development as a means to long-term improved environmental management.

For environmental NGOS:

- Ensure robust and transparent reporting of costs alongside extreme policy recommendations such as 'zero deforestation';
- Publicly release the outcomes of all protected area programs in developing countries;
- Make a broad commitment to economic development and a public rejection of programs that do not prioritize economic growth.

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ANNEX: REDD PROGRAMS IN INDONESIA

Multilateral and bilateral donor REDD and associated climate change programs in Indonesia (May 2010)

COUNTRY/INSTITUTION	PROGRAM	VALUE	NOTES
United Nations (UNDP, UNEP, FAO)	UNREDD	5.644 million USD	Policy support and demonstration activity
World Bank	Forest Carbon Partnership Fund (FCPF) – Rediness Fund	3.6 million USD	Technical support
World Bank	Forest Investment Program (FIP)	80 million USD	Funding allocation not yet decided
International Tropical Timber Organization	REDD –environmental services program (REDDES)	814 590 USD	Demonstration activity
Australia	Indonesia-Australian Forest Carbon Partnership	61 million USD	2007-2012, demonstration activity and technical support
France	Climate Change Program Loan	80 million USD	Budget support loan (co funding Japan)
Germany	FORCLIME, Merang REDD pilot, policy development, etc	48.19 million USD	2009-2016, demonstration activities and technical support
Japan	Forest Preservation Program (grant) and Climate Change Program Loan (support loan)	751 million USD loan, 11 million USD grant	Forest monitoring and reforestation support, climate change mitigation loan
Norway	Norway-Indonesia REDD+ program	1 billion USD	3 phase grant – policy reform, strategy development and emissions reduction
United Kingdom	Multi-stakeholder forestry program (part REDD) and Fast Start Facility	84 million USD	5 years technical assistance to national government and selected regions
South Korea	Korea-Indonesia Joint Program on Adaptation and Mitigation of Climate Change in Forestry	5 million USD	2008 -2013, afforestation, reforestation and REDD
USA	Indonesian Forest and Climate Support Project (IFACS)	Approximately 30 million USD	Demonstration activity and forest management activity.

Source: : HuMA (2010)
Note: Table does not include private sector initiatives or NGO programs.

About World Growth

World Growth is a non-profit, non-governmental organization established with an educational and charitable mission to expand the education, information and other resources available to disadvantaged populations to improve their health and economic welfare. At World Growth, we embrace and celebrate the new age of globalization and the power of free trade to eradicate poverty and improve living conditions for people in the developing world.

Our Philosophy

World Growth believes that helping the developing world realize its full potential is one of the great moral aims for those of us fortunate to live in the wealthy developed world. We also believe that a misdiagnosis of what ails the underdeveloped world has yielded policy prescriptions that have been useless or even harmful to the world's 'bottom billion.'

World Growth believes that there is enormous untapped human and economic potential around the world. In order to unlock that potential, and allow the poorest of the world's poor a better life, it is necessary to realize hanges in institutions and policies that permit growth and human flourishing.

Instead of aid and handouts, what the populations of developing countries need are social and political situtions and infrastructure that foster productive economic activity and generate robust economic growth. These include, but are not limited to, property rights and protections, the rule of law, free markets, open trade, government accountability and transparency.

For too long, well-meaning governments, aid agencies and others have promoted policies that fail to address the true roblems that afflict poor societies. As a result, too many people around the globe remained locked in pre-modern conditions where their talents and inherent capacities are shackled.

The people of the developing world are fully capable of helping themselves to ensure a more prosperous existence. The path to prosperity does not begin with handouts from the West. Instead it requires identifying the genuine obstacles to growth and highlighting paths to reform that will yield sustainable and lasting change.

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