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‘Power, Governance and Deforestation in the Tropics’, Regional Outlook Paper No. 19, 2009

About the Authors

Stephen McCarthy is a Research Fellow at the Griffith Asia Institute and a Lecturer in the Department of International Business and Asian Studies at Griffith University. His research interests include political theory, comparative politics and international relations in Southeast Asia and more generally the Asia Pacific region. He is the author of The Political Theory of Tyranny in Singapore and Burma: Aristotle and the Rhetoric of Benevolent Despotism (London: Routledge, 2006), and co-editor of Deductive Irrationality: A Commonsense Critique of Economic Rationalism (Lexington Books, Rowman & Littlefield, 2008).

Luca Tacconi is Associate Professor and Director of the Environmental Management and Development program at the Crawford School of Economics and Government, The Australian National University. He is currently the Lead Investigator in three research projects focusing on the governance and economics of forest management, climate change and rural development, with funding from the Australian Agency for International Development, the Australian Centre for International Agricultural Research and the Australian Research Council. He is a member of several commissions of the World Conservation Union (IUCN) and serves on the Board and the Scientific Advisory Panel of WWF Australia. His latest book is Illegal Logging: Law Enforcement, Livelihoods and the Timber Trade (Earthscan, 2007).
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Executive Summary

There is renewed interest in identifying the causes of deforestation because it contributes about 17 per cent of the annual emissions of greenhouse gases. Despite considerable efforts, discovering universal causes of tropical deforestation remains an elusive exercise. This paper assesses the existing models of tropical deforestation and examines the problems involved in approaching the issue through the lens of governance reforms. Studies of deforestation have generally attempted to incorporate measures of wealth, population growth, urbanisation, and economic incentives. In addition, many studies have attempted to include governance in their make-up, developing indicators of good and bad governance to explain deforestation rates – these include measures of political stability and corruption. There have also been attempts to link various political regime-types to deforestation. The aim of this paper is to critically assess, compare and contrast existing models of tropical deforestation, as well as assess the suitability of some of the key policy recommendations.

Various studies have attempted to investigate the relationship between types of political regimes and rates of deforestation, the underlying presumption being that the more democratic a regime the less likelihood that large scale deforestation will take place. There is a general perception that more open and democratic societies should have better environmental quality because of the public-good character of natural resources. Although improvements in democracy may have a significant impact on sustained episodes of economic growth, it would be imprudent to generalise that this is always the case and that positive changes in political regimes (democratisation) also lead to falling rates of deforestation. Studies that link political regime type to deforestation generally promote the inevitable rise of democratic structures, institutions and processes that work toward forest conservation and falling rates of deforestation. There is of course no guarantee that such conservation-minded institutions and processes will emerge in post-authoritarian regimes, or that they would quickly develop the maturity to deny their political elites the short-term attractions of deforestation. The connection between political regimes and deforestation is quite mixed and yields inconclusive results. This may partly be due to the fact that many studies have not provided a sufficient breakdown of regimes, or perhaps because there has been an insufficient analysis made of the quality of democracy and political stability within them.

Studies of governance and deforestation have tended to reflect the doctrine of good governance by making policy prescriptions that are impractical because they involve economy-wide reforms. Reforming governance generally is concerned with reforming how power is distributed. In many cases governance is defined by the political regime and it may therefore be more productive to simply work on improving the situation within the political boundaries that are already in place – identifying links between targets, direct effects, and outcomes for certain policies within the power distribution boundaries of the political regime or types of regimes. In addition, a recommendation for improving governance in order to address deforestation assumes that forest management lies in the hands of the state. Yet there is a growing body of evidence to support the contention that the decision-making power over the future of forests is being taken out of the hands of governments. That the market for forestry products has become increasingly globalised creates a new dimension to addressing the drivers of deforestation. This can be illustrated by how global demand for timber impacts upon deforestation in Southeast Asia. Although China imports timber from Burma, Cambodia and Papua New Guinea, her largest source of timber imports (legal and illegal) from Southeast Asia is Indonesia’s tropical forests – a trade which sustains local power elites as well as local communities. The influence of economic incentives on the processes of deforestation is exemplified by the fact that forest conservation and sustainable forest management often yield lower economic returns and have a lower capacity to support
livelihoods than other land uses. Alongside corruption which continues to thrive, global and local economic incentives remain powerful motivating forces for deforestation.

It is difficult to analyse the causes of deforestation and to offer meaningful policy advice without considering the issue of who holds the decision-making power over the future of forests. Whether power is centralised, localised, or even privatised, universal solutions designed to improve governance may prove meaningless when placed into the context of different types of political regimes. In some regimes, the social costs of deforestation may not even be considered by corruptible political elites, or by leaders who maintain total control over their borders as well as the people and forests inside them. But even in democratic states, political elites at all levels will be confronted with incentives to continue deforestation, it seems, perhaps until the social costs of continuing to do so outweigh their private and social benefits, thus explaining the fact that many democratic developing countries continue to deforest. Governance reforms aimed at reducing deforestation will be unlikely to succeed in developing countries unless a political culture of improved natural resource use emerges – both among the political elites and in the people whose perception of power must change. Yet just as democratic quality takes time to mature, the development of a willingness to improve natural resource use would seem to be incremental in nature and not always possible. It would need to compete with the powerful incentives of corruption and global economic forces, at least until the ‘license to print money’ that has been associated with deforestation becomes less desirable to the political elite and powerful local officials. Until then, the exercise of power by national and local elites will continue to influence the environmental outcomes in developing countries.

Because of the variation in regional and country causes, it may not be possible to derive a more unified theory and general models of deforestation will continue to lack predictive value. Policies that demand reform in developing countries with high rates of deforestation will be ineffective without addressing the power, incentives, and culture of the local political elite. Addressing the issue of tropical deforestation with reasonable policy advice will continue to be a problem due, to a large degree, to the historical tendency to explain deforestation as being caused by universal factors, leading in turn to the adoption of universal solutions. We argue that current knowledge indicates that the causes of deforestation cannot be generalised at a global level and, similarly, the solutions need to be, to a certain extent, country specific.
1. Introduction

Tropical deforestation is a major issue of concern because it contributes 17 per cent of total greenhouse gas emissions – the third largest contribution after energy supply (26 per cent) and industry (19 per cent) – and it reduces global biodiversity. Although tropical rain forests cover only 6 percent of the world’s land surface, they contain more than half the world’s species of plants and animals. Tropical forest cover decreased by 13 million hectares annually between 2000 and 2005. Although agricultural conversion is globally regarded as the principal cause of tropical deforestation – large scale agriculture accounting for 32 per cent of tropical deforestation and small scale agriculture accounting for 26 per cent – regional differences abound and unmonitored behaviour such as illegal logging opens up inaccessible forested areas for permanent agricultural conversion.

Social scientists have attempted to explain the processes of deforestation – the drivers, the principles, and the policy outcomes – by constructing models of deforestation. By the late 1990s over 150 such models of deforestation had been constructed, outlining the basic (mostly economic) features of societies with high deforestation rates. These quantitative models of deforestation vary in size from smaller-scale studies to meta-studies that attempt to incorporate many explanatory variables and indicators as well as large numbers of case studies. While they may be useful in explaining some of the general trends – such as the relationship between wealth, population growth, and deforestation – they are generally lacking in regional or local detail, often omitting some basic specific causes for deforestation in a particular area or country.

Studies of deforestation have generally attempted to incorporate measures of wealth, population growth, urbanisation, and economic incentives. In addition, many studies have attempted to include governance in their make-up, developing indicators of good and bad governance to explain deforestation rates. These include measures of political stability and corruption, the latter also being used in some models as the major explanatory variable. There have also been attempts to link various political regime-types to deforestation. Incorporating measures of governance and regime type adds complexity to what Guppy called the various layers of the deforestation cake. The aim of this paper is to critically assess, compare and contrast existing models of tropical deforestation, as well as assess the suitability of some of the key policy recommendations. We argue that current knowledge indicates that the causes of deforestations cannot be generalised at a global level and, similarly, the solutions need to be, to a certain extent, country specific.
2. Models of Deforestation

A large body of research exists which attempts to statistically identify the impact of a number of general socio-economic factors on deforestation. These studies focus on macro-level variables and are conducted at global and regional levels. Three major macro-level factors identified in the literature are: economic development, population pressures, and government policies. Studies that attempt to investigate economic development and deforestation often address the Environmental Kuznets Curve (EKC) hypothesis. This assumes that per capita income is related to environmental degradation in an inverted U-shape relationship. Environmental quality worsens as per capita income rises until a critical transition point is reached and then it improves. Applied to deforestation, the EKC hypothesis has produced mixed results, some arguing that the level of economic development (per capita income) at which the critical point is reached is too high and unrealistic for many developing countries to achieve. While others believe that there is strong evidence to support a relationship between income and deforestation across Latin America, Africa and Asia, their reasoning to support possible reductions in deforestation also assumes that this would follow improvements in socio-political institutions. Further studies conclude that there is no significant relationship between deforestation and GDP per capita and that such a relationship could only exist if extreme assumptions were made about the commonality of structures across countries – which would be unreasonable given the great diversity of environmental and social characteristics across them.

Population pressures are said to cause deforestation because population growth and urbanisation increases the demand for food and income, both of which encourage the conversion of forests to agricultural use, grazing, or other income-generating uses. Yet population pressures are also context specific and difficult to generalise across countries. Although China and India’s population growth figures lag behind those of many individual developing countries in Asia, Africa and Latin America, their combined annual population increase for 2005–2010 accounts for 31.7 per cent of the world’s projected population increase and their combined populations account for almost two-fifths of the world’s. While urbanisation continues to progress there, both experienced periods of reforestation from 2000 to 2005 (2.29 per cent of global forest change in China and 0.04 per cent in India).

‘Government policies’ refers to the economic structural changes undertaken by developing countries often at the behest of international financial institutions such as the International Monetary Fund and the World Bank. These may include price and exchange rate liberalisation policies, as well as trade liberalisation designed to improve efficiencies in the domestic industries and alleviate poverty. Yet here as well the findings are mixed and deforestation may continue despite the adoption of structural adjustment policies, even if accompanied by land reform policies that place more forests under the ownership of small farmers. While this does not invalidate cases which may lie along the upside slope of the EKC curve, domestic liberalisation policies generally fail to take into account the effect that world prices in tropical timber or forestry products have on promoting local deforestation for supplying foreign markets.

Recent evidence questions the results of previous regression analysis studies on the causes of tropical deforestation. Conducting repeated statistical tests on regression models which included indicators of economic development, population, government policy and technology for 50 countries over 18 years (representing Latin America, Africa and Asia), Scricciu found that previous regression models tested were flawed as they had failed to address potential autocorrelation problems, leading to a decline in the significance of variables in these models below statistically acceptable levels. The only significant macro-variable was found to be population.
Another approach to assessing the causes of deforestation is that of meta-analysis, which attempts to draw insights from comparing (large scale local and sub-national) case studies derived from the literature. A study of 152 sub-national cases in Latin America, Africa and Asia focuses on policy and institutional factors such as property rights (ownership and land tenure arrangements – which have ambiguous effects) and policy failure (corruption and mismanagement).¹³ That study finds that different combinations of variables cause deforestation in varying geographical and historical contexts – most being region specific. The study suggests that no universal policy for controlling deforestation can be conceived and that a detailed understanding of the complex set of proximate and underlying causes in a given location prior to policy intervention is recommended.

Another meta-analysis of deforestation in 268 sub-national cases in Latin America, Africa and Asia, including measures of new land settlement schemes, road building and topography, yielded mixed results yet includes an historical explanation of the damaging impact the rise of neo-liberalism has had on deforestation.¹⁴ Complimenting this rise of neo-liberalism since the 1980s, which is reflected at the state level by the changes in ‘government policies’ referred to above, has been the growing interest in democratization studies. This trend has been reflected in research that attempts to explain deforestation according to types of political regimes.
3. Political Regimes and Deforestation

Various studies have attempted to investigate the relationship between types of political regimes and rates of deforestation, the underlying presumption being that the more democratic a regime the less likelihood that large scale deforestation will take place. There is a general perception that more open and democratic societies should have better environmental quality because of the public-good character of natural resources. Although improvements in democracy may have a significant impact on sustained (but not unsustained) episodes of economic growth, it would be imprudent to generalise that this is always the case and that positive changes in political regimes (democratisation) also lead to falling rates of deforestation. Two important studies are worth mentioning here.

Deacon links deforestation to insecure property rights which are broadly defined and are caused by political instability (the inability to enforce ownership) and the absence of government accountability (non-representation). Since both political stability and the absence of government accountability are signs of a movement away from democracy, then as both increase, democracy is said to weaken and deforestation rises. Instability is measured by lawlessness, warfare, revolution, and frequent constitutional changes. An absence of accountability (measures of non-representation) included the type of government executive (military, elected, monarch), frequency of political purges, and existence of an elected legislature. Deacon points to case study evidence showing that enforcement of property rights (secure ownership) is lacking in countries experiencing rapid deforestation. He claims that insecure property rights may arise in two sets of circumstances: (1) the government lacks the power, stability, and popular support to enforce laws of property; and (2) rule is by individuals and dominant elites rather than the persistence of a set of political and legal institutions. Determining whether a country is ruled by individuals rather than laws is done by assessing whether its governmental systems exhibits attributes of popular representation (elections of leaders, the existence of a legislature, toleration of the political opposition, etc). Measures of instability also indicate a given regime’s grip on power.

Deacon tests for associations between deforestation and measures of political turmoil and repression in a cross section of 120 countries. He found that there was a correlation between political instability, non-representation and deforestation. Deforestation rates tended to be higher in military regimes and lower in parliamentary democracies. Deforestation rates were also higher in cases of political turmoil and repression, both of which were not conducive to investment, and deforestation is a kind of disinvestment. He found consistent associations between deforestation and political variables that reflected insecure ownership.

Didia explores whether the rate of tropical deforestation has been aggravated by the democratic/non-democratic nature of the governments in tropical countries. He conducts linear regression analysis for a sample of 55 tropical countries, using the average area deforested over the period 1981–1985 (adjusted alternatively for GDP and population) as dependent variable, and a Democracy Index, that measures the levels of political participation and political competitiveness, as the independent variable. Didia finds a negative relationship between democracy and deforestation, i.e. an increase in democracy results in a reduction of deforestation. However, this relationship is statistically significant only when deforestation is adjusted for GDP. The instability of tenure in office of dictators is the critical factor explaining different behaviours observed in democratic and non-democratic governments, and dictators exploit the quantity of
tropical forest needed to secure their tenure at the expense of efficiency
considerations. Didia believes that insecure tenure in office leads to myopic behaviours
that are detrimental to tropical forest conservation, given that in many developing
countries, tropical forests are a major source of foreign exchange. He does not claim
that democratic leaders cannot also behave myopically for short-term goals, but the
difference between the behaviours of leaders in democracies and non-democracies lies
in the structures and institutions that exist or do not exist. Theoretically, as a country
becomes more democratic, the structures, institutions and political processes that work
toward tropical forest conservation should increase. Some of these include:
environmental/interest groups, the market mechanism/secure property rights,
elections/re-elections, and free press. Didia concludes that there are many studies
focusing on the impact of economic variables on rates of tropical deforestation, but
economic variables alone cannot fully explain the unprecedented levels of tropical
deforestation observed today. Therefore, lending support to democratic movements
and democratic institutions in tropical countries would go a long way in conserving the
remaining tropical forests. However, the statistical evidence presented by Didia is not
satisfactory as many potential causal factors are not included in his regression analysis
(i.e., missing variables). Their effect needs to be tested to ascertain whether the
democracy index remained statistically significant.

These studies are attractive because of their theoretical arguments promoting the
inevitable rise of democratic structures, institutions and processes that work toward
forest conservation and falling rates of deforestation. There is of course no guarantee
that such conservation-minded institutions and processes will emerge in post-
authoritarian regimes, or that they would quickly develop the maturity to deny their
political elites the short-term attractions of deforestation. Both Brazil and Indonesia, for
example, are both democracies, Indonesia being a newer democracy and only partly free
during the period 2000–05, yet they remained the leading two deforesting countries in
the world, accounting for 24.1 per cent and 14.5 per cent respectively of total annual
deforestation between 2000 and 2005 (see Table 3.1).

Because political elites may continue to regard primary forests as an endless source of
potential wealth, it may be difficult to explain tropical forest cover trends in the highest
deforesting countries by the theory of forest transitions. Related to the Environmental
Kuznets Curve hypothesis, the ‘economic development path’ of forest transition theory
argues that as economic development and urbanisation occur, farm workers leave the
land for non-farm jobs; labour shortages raise farm wages making agricultural
intensification less profitable and farmers leave the land to revert to forest. This
experience may indeed have occurred in several developed and developing countries.
Alternatively, the ‘forest scarcity path’ to forest transition argues that restrictions on
important forest products and local forest scarcity raises the prices of these products
and induces landowners to plant trees. Tropical forest transitions have occurred in South
Asia (India) via the ‘forest scarcity path’ where local communities have reacted to
depletions of scarce forest resources and reforestation is currently underway. But the
highest rates of tropical deforestation occur in forest-rich Latin America and Southeast
Asia where highly profitable cattle ranching and palm oil plantations have expanded.
These factors seem likely to continue to subvert the ‘economic development path’
strategy of forest transition theory in Brazil and Indonesia.

Although the ‘economic development path’ to forest transition may be more fitting for
some developed countries where transitions did in fact occur (but not in Australia, see
below), the nations who gained forest cover during the 1990s had an average GNP per
capita of $8,453 in 1990 compared with $1,614 among nations that lost forest
cover. If one accepts the hypothesis that the rate of deforestation in a country is
inversely related to level of democracy, this figure may be compared to that at which
Przeworski and Limongi claim transitions toward democracy are more likely to occur, i.e.,
when per capita income reaches a level of about $6,000. In other words, by
combining both measures, when per capita income reaches a certain figure one may
expect a transition towards democracy to occur and thereafter some decline in the rate
of deforestation. The democratic transition may also imply some change in the attitudes towards conservation on the part of elites and civil society.

Above $6,000 per capita income both democracies and dictatorships are said to become more stable. Yet dictatorships also survive, or succeed one another, in the very poor countries with per capita income below $1,000; they are somewhat less stable in countries with incomes between $1,101 and $4,000 and even less so between $4,000 and $6,000. According to the authors, the emergence of democracy is not a by-product of economic development. Democracy is or is not established by political actors pursuing their goals, and it can be initiated at any level of development. Only once it is established do economic constraints play a role: the chances for the survival of democracy are greater when the country is richer. Yet if they succeed in generating development, democracies can survive even in the poorest nations. While the implications for deforestation are ambiguous and the income level figures cited only act as rough guides, one may yet infer that development might produce the spur for democratic change on the part of elites that is reflected in a similar impetus for conservation awareness. This may not be possible at lower levels of income where local or national elites in both democracies and non-democracies are attracted by the profits of deforestation and local communities are dependent on converting forests for their livelihood.

Cambodia, for example, although it is an electoral democracy is classified as not free (see Table 3.1) and continues to display high rates of deforestation. On the other side of (or perhaps further along) the political ledger, Sudan and Burma (Myanmar) rank as 3rd and 4th in the world in terms of area deforested, closely followed by Zimbabwe. In all of these countries, per capita income is substantially low – between $1,000 and $4,000 – and significantly lower than the possible transition figure cited by Przeworski and Limongi, or the EKC turning point figures identified by Cropper and Griffiths for Africa ($4,760) and Latin America ($5,420). No doubt civil wars, political turmoil and the attractiveness of earning foreign exchange all contribute to autocratic regimes and military dictatorships leaning towards rapid deforestation. But there is also no guarantee that liberal democracies with much higher incomes per capita automatically become symbols of environmental conservation. Shafik finds that democratic regimes are also likely to experience a rapid loss of forest area because they are more subject to local pressures and are reluctant to enforce forest protection.

Australia, for example, is ranked 16th in the world in terms of area deforested. In 2007, the Tasmanian parliament passed a bill that would allow the establishment of Australia’s largest pulp mill in the Tamar Valley, 40 km from Launceston, the second largest town of the state. The commercial project was promoted by the Tasmanian government for the past four years as a means to bring economic security and to protect jobs in the state’s forestry industry. The opposition party helped pass the legislation through parliament, leaving only the minority Green Party and related NGOs opposing the mill. The proposed project seriously divided local residents, farmers, as well as the residents of Launceston. Yet it also provides an example of how local politicians in liberal democracies may circumvent the above so-called democratic structures, institutions and processes that work toward forest conservation. In order to properly consider the merits of the proposed mill, an independent body – the Resource, Planning and Development Commission (RPDC) – was created by an act of parliament to assess the mill’s environmental, social, economic and community impacts. Two appointed heads of the RPDC resigned from their posts, claiming that actions undertaken by the government’s Pulp Mill Task Force had compromised their positions, and that the commercial enterprise had unduly exerted influence over the government to speed up the assessment process and remove public hearings. The government in turn passed special legislation for a separate approvals process from the RPDC, one which would be quicker, the terms of reference would be narrower, there would be no public hearings, and consultants would produce assessments of the proposed mill’s emissions as well as its social and economic benefits within a matter of weeks. The consultants’ reports were duly tabled within six weeks, both supportive of the mill, and a precedent was followed.
The connection between political regimes and deforestation is quite mixed and yields inconclusive results. This may partly be due to the fact that many studies have not provided a sufficient breakdown of regimes, or perhaps because there has been an insufficient analysis made of the quality of democracy and political stability within them. Some studies also omit important deforesting countries due to a lack of available or reliable data. Yet despite the mixed connection between political regimes and deforestation, one might expect that the type and quality of the regime could significantly influence governance reforms and that for these reforms to be successful they should at least take into account the character of the regime they attempt to reform.

established for Tasmania whereby commercial developers could – in tandem with the political elite in a democratically elected government – mould their own structures and processes towards deforestation. The case shows not only that some developed (high income per capita) countries continue to deforest, thus challenging the EKC hypothesis; but also that democracies may practise deforestation and circumvent the processes of good governance. By November 2008, the pulp mill project faced a considerable risk of being shelved due to the global financial crisis and the company’s inability to find available funding. The new federal Labour government (which in November 2007 replaced the Liberal government that had provided provisional approval to the mill) was also delaying the issuing of the required permits pending further ecological modelling of the impacts of the mill.

The connection between political regimes and deforestation is quite mixed and yields inconclusive results. This may partly be due to the fact that many studies have not provided a sufficient breakdown of regimes, or perhaps because there has been an insufficient analysis made of the quality of democracy and political stability within them. Some studies also omit important deforesting countries due to a lack of available or reliable data. Yet despite the mixed connection between political regimes and deforestation, one might expect that the type and quality of the regime could significantly influence governance reforms and that for these reforms to be successful they should at least take into account the character of the regime they attempt to reform.
### Table 3.1: Deforestation in the Top 20 Countries and Governance Conditions

<table>
<thead>
<tr>
<th>Country</th>
<th>Deforestation 2000–2005 km² (a)</th>
<th>Annual deforestation 2000–05 (%)</th>
<th>Contribution to global deforestation 2000–05 (%)</th>
<th>Electoral democracy (b)</th>
<th>Freedom index 2000–05 (c)</th>
<th>Corruption 2000 (d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>155,150</td>
<td>0.6</td>
<td>24.1</td>
<td>1989</td>
<td>F</td>
<td>0.04</td>
</tr>
<tr>
<td>Indonesia</td>
<td>93,570</td>
<td>1.9</td>
<td>14.5</td>
<td>1999</td>
<td>PF</td>
<td>−0.97</td>
</tr>
<tr>
<td>Sudan</td>
<td>29,450</td>
<td>0.8</td>
<td>4.6</td>
<td>No</td>
<td>NF</td>
<td>−0.90</td>
</tr>
<tr>
<td>Myanmar</td>
<td>23,320</td>
<td>1.3</td>
<td>3.6</td>
<td>No</td>
<td>NF</td>
<td>−1.37</td>
</tr>
<tr>
<td>Zambia</td>
<td>22,240</td>
<td>1.0</td>
<td>3.4</td>
<td>2006</td>
<td>NF</td>
<td>−0.90</td>
</tr>
<tr>
<td>Tanzania</td>
<td>20,610</td>
<td>1.1</td>
<td>3.2</td>
<td>No</td>
<td>PF</td>
<td>−1.08</td>
</tr>
<tr>
<td>Nigeria</td>
<td>20,480</td>
<td>3.1</td>
<td>3.2</td>
<td>1999–05</td>
<td>PF</td>
<td>−1.17</td>
</tr>
<tr>
<td>Congo Democratic</td>
<td>15,970</td>
<td>0.2</td>
<td>2.5</td>
<td>No</td>
<td>NF</td>
<td>−1.60</td>
</tr>
<tr>
<td>Republic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>15,650</td>
<td>1.6</td>
<td>2.4</td>
<td>No</td>
<td>NF</td>
<td>−0.96</td>
</tr>
<tr>
<td>Venezuela</td>
<td>14,380</td>
<td>0.6</td>
<td>2.2</td>
<td>1989</td>
<td>PF</td>
<td>−0.67</td>
</tr>
<tr>
<td>Bolivia</td>
<td>13,510</td>
<td>0.4</td>
<td>2.1</td>
<td>1989</td>
<td>F/PF</td>
<td>−0.54</td>
</tr>
<tr>
<td>Mexico</td>
<td>13,020</td>
<td>0.4</td>
<td>2.0</td>
<td>2006</td>
<td>F</td>
<td>−0.37</td>
</tr>
<tr>
<td>Cameroon</td>
<td>11,000</td>
<td>1.0</td>
<td>1.7</td>
<td>No</td>
<td>NF</td>
<td>−1.09</td>
</tr>
<tr>
<td>Cambodia</td>
<td>10,940</td>
<td>1.9</td>
<td>1.7</td>
<td>No</td>
<td>NF</td>
<td>−0.91</td>
</tr>
<tr>
<td>Ecuador</td>
<td>9,880</td>
<td>1.7</td>
<td>1.5</td>
<td>1989</td>
<td>PF</td>
<td>−0.86</td>
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<td>Australia</td>
<td>9,670</td>
<td>0.1</td>
<td>1.5</td>
<td>1989</td>
<td>F</td>
<td>1.96</td>
</tr>
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<td>Paraguay</td>
<td>8,930</td>
<td>0.9</td>
<td>1.4</td>
<td>1993</td>
<td>PF</td>
<td>−1.30</td>
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<tr>
<td>Philippines</td>
<td>7,870</td>
<td>2.0</td>
<td>1.2</td>
<td>1989–06</td>
<td>F</td>
<td>−0.53</td>
</tr>
<tr>
<td>Honduras</td>
<td>7,820</td>
<td>2.9</td>
<td>1.2</td>
<td>1989</td>
<td>PF</td>
<td>−0.72</td>
</tr>
<tr>
<td>Argentina</td>
<td>7,490</td>
<td>0.4</td>
<td>1.2</td>
<td>1989</td>
<td>F</td>
<td>−0.29</td>
</tr>
</tbody>
</table>

**Notes:**

(a) Food and Agriculture Organization of the United Nations [faostat.fao.org](http://faostat.fao.org)

(b) Freedom House [www.freedomhouse.org](http://www.freedomhouse.org); indicates year in which country has become (or was, for range) an electoral democracy (database starts in 1989); No means country is not an electoral democracy

(c) Freedom House [www.freedomhouse.org](http://www.freedomhouse.org); NF: not free; PF: partly free; F: free; reported ranking indicates the dominant classification during the period

(d) World Bank Governance Indicators. The lower the score of the index (with range −2.5 to +2.5) the higher the corruption level.
4. Governance and Deforestation

Good governance and the establishment of institutions of governance have become major themes in international economic development policies in recent years and some studies have attempted to examine the relationship between governance and deforestation. While definitions of governance may vary considerably across fields of research, studies of governance are today commonly undertaken in the various subfields of political science, including public administration, comparative politics and international relations. The development of the concept of governance is also related to developments in the classification and analysis of political regimes that have taken place since the end of the Cold War. From the early 1980s, the World Bank and the IMF had promulgated a path to economic development for developing countries that involved structural adjustment policies entailing privatisation, deregulation, trade liberalisation, and macro-stabilisation, a set of policies which came to be known as the Washington Consensus. These structural adjustment policies produced mixed results which were made most obvious during times of economic crises, perhaps best illustrated by the IMF’s handling of the Asian financial crisis in 1997 and 1998. While the Washington Consensus has been modified to reflect what have been called second-generation reforms, the ideas and the implementation of the augmented policy program remain contentious. The additional reforms are institutional in nature, prompting Rodrik to label them as an example of institutions fundamentalism as distinguished from the earlier wave of market fundamentalism. They are an ambitious set of best-practice type programs based upon Western practices that require a large level of administrative, human, and political capital – all of which may be severely lacking in developing countries – and they cannot guarantee success, nor are they falsifiable.

The economic liberalisation reforms pushed by international financial institutions and more generally by Western governments also underpinned the ambitious state-building and governance reform agenda that has been promoted in the international relations, comparative politics and public policy literature in recent years. In part, this literature came in response to the need to address the consequences of the usurping of state power by non-state actors. Following 9/11 and the US invasions of Afghanistan and Iraq, the development of strong and stable state political institutions became somewhat more important in Washington than meeting economic and societal problems in the developing world. The Washington Consensus that economic development promotes democratic institutions and peace throughout the world had not adequately explained the importance of political institutions in fostering economic development. Institutional reforms contained in the Augmented Washington Consensus to promote economic development were thus matched by calls for institutional changes to promote political development.

State-building focuses on improving the institutions of government and, like the second-generation reforms for economic development, they direct a developing country towards what a well-functioning state should look like, i.e. a modern Western state. State-building complements the tendency since the Cold War to label states as weak, fragile, failed, or collapsed. States are said to fail when they are consumed by internal violence, cease delivering positive political goods to their inhabitants, and their governments become illegitimate in the hearts and minds of its citizens. Yet the failed state literature pays little attention to statesmanship, let alone to non-state traditional forms of power and political legitimacy, and state-building proposals generally ignore cultural factors and national character.

Goldsmith believes that social science has always maintained that governance (which he defines as decision-making procedures and behavioural conventions in formal public organisations) has consequences for the developmental performance of states. Yet he
questions the contemporary official tenet that ‘good’ (i.e., transparent, accountable, and inclusive) governance should be established and expanded everywhere because it is a static and ahistorical doctrine that passes over the political and economic costs of governance reforms. The World Bank provides a broad definition of governance as ‘the traditions and institutions by which authority in a country is exercised’. It believes that the dimensions of governance should reflect the processes by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions that govern economic and social interactions among them. The World Bank’s six indicators of governance are:

1. voice and accountability;
2. political instability and violence;
3. government effectiveness;
4. regulatory burden;
5. rule of law; and
6. control of corruption.

Goldsmith uses these indicators and the concept of ‘growth accelerations’ to historically tests four countries (the US, Argentina, Mauritius and Jamaica) to determine whether governance reforms were responsible for transitions from periods of slow to rapid and sustained economic growth. He finds that good institutions of government were not needed to produce economic development and that good governance reforms were more an effect than the cause of development. They may sustain development, although development also encourages corruption. Likewise, although Kishor and Bell argue that poor governance and weak law and order are likely to contribute to accelerated deforestation, they found no statistically significant impact for any of the Bank’s six variables of governance upon deforestation.

Goldsmith notes that the idea of unreformed governance accelerating development would have been in line with the conventional wisdom of the 1950s and 1960s where skimming and kickbacks were considered tolerable and perhaps even desirable, as long as elites did not impede growth and allowed ample benefits to trickle down to ethnic, regional, or family communities that supported the regime. The prevailing modernisation theory of the Cold War era posited that industrialisation and prosperity caused countries to adopt democratic, rational, and legalistic modes of rule, rather than the other way around. It was considered pointless and perhaps counterproductive to try to tackle governance problems prematurely.

Economic prosperity has often emerged in countries lacking the traditions and institutions of a liberal democracy and which do not follow models of market fundamentalism or good governance. China and Vietnam, for example, have achieved economic growth through heterodox policies moulded to domestic circumstances. Likewise, the best performing East Asian economies – including South Korea, Taiwan and Singapore – reached their pre-crisis status by following the developmental state model rather than a neo-liberal economic agenda, and even India began its economic development under a highly protectionist regime. Indeed, forcing free-market based reforms on developing countries ignores the fact that Western states chose to adopt these reforms after they had developed the capacity to do so, not before.

Studies of governance and deforestation have tended to reflect the doctrine of good governance by making policy prescriptions that are impractical because they involve economy-wide reforms. But how does one go about reforming the structure of government, the economy and, inevitably, the status of civil society? These, it would appear, are in fact regime-wide reforms. Are they not to some degree predetermined in many developing countries? Indeed, are not all the measures of governance in some sense predetermined by the distribution of power within the political regime itself? Reforming governance therefore is concerned with reforming how power is distributed. In many cases governance is defined by the political regime and it may therefore be more productive to simply work on improving the situation within the political
boundaries that are already in place. Unless researchers are suggesting a regime change just to address the issue of deforestation, then perhaps it is more prudent to identify links between targets, direct effects, and outcomes for certain policies within the power distribution boundaries of the political regime or types of regimes.

Other studies of governance focus in particular on the effect that corruption has on deforestation in developing countries. These may include detailed accounts sourced from environmental and anti-corruption NGOs operating in high deforesting developing countries in Southeast Asia; accounts of illegal logging, regional autonomy and the role of the military in deforestation, and how property rights in forests should be transferred to local communities (privatisation) in order to combat corruption.

Many studies regard governance reforms as having only an anti-corruption character. Yet if corruption is examined without reference to the type and character of political regime in which it occurs, this kind of study may do no more than re-state the obvious – that corruption hinders conservation efforts and may lead to further deforestation. Proposals for reform are often vague and unrealistic propositions, having little regard to the power distribution inside the political regimes in question. For example, some studies recommend attacking corruption by developing a highly motivated, well-paid workforce, better accounting procedures, and engaging the private sector in management partnerships – all being far from possible in the poorest countries where rapid deforestation occurs, and are certainly beyond question in a military regime. In other words, they assume that the countries in question already have in place the capacity and the will to tackle the problem of corruption as well as to implement the full range of governance reforms that are recommended.

A further issue is that, contrary to the broad and vague indicators of state failure that exists in the current literature of failed states, some dictatorial regimes may in fact be quite stable as they possess complete control over their borders and over what they do with their natural resources inside them. The Burmese regime – where deforestation to feed markets in China, India, and Thailand continues to provide a source of foreign exchange to fund the military’s various endeavours, possibly even to secure their tenure – may be an example of a stable dictatorship rather than a case of state failure. Likewise, many ‘weak’ or ‘failing’ regimes who continue to reap profits from deforestation may in fact prove quite resistant to the governance reforms recommended by international financial institutions, either because powerful local (or national) elites protect their interests or because local communities benefit from the income derived from deforestation.

Further complicating the effectiveness of governance reform recommendations is another liberalising reform which has often led to the creation of local power elites – decentralisation. Many developing countries in Africa, Asia and Latin America have introduced some form of decentralised forest management. An overview paper of a special journal issue on decentralised forest management notes that ‘under the right circumstances, the theory can hold true: democratic decentralisation can improve efficiency, equity, democracy and resource management’. While the authors do not define ‘the right circumstances’ thus leaving their theoretical argument incomplete, the ideal model of democratic decentralisation they support (which includes full transfer of authority to local governments, with continued support from the central government and downward accountability), however, is unlikely to be implemented given the governance constraints present in many tropical forest countries. The author also concludes that even if that model was implemented, forest conservation would not necessarily follow because local people and local governments may benefit from deforestation. As Guppy notes, ‘It would be unrealistic to suppose that governments, corporations and individuals would readily give up the “license to print money” that rain forest destruction has become, unless they could obtain greater immediate short-term financial benefits from preserving than from destroying it’. This leads us to consider the role of economic incentives.

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5. Global Economic Incentives

A recommendation for improving governance in order to address deforestation assumes that forest management lies in the hands of the state. Yet there is a growing body of evidence to support the contention that the decision-making power over the future of forests is being taken out of the hands of governments. Rudel, for example, shows how governments since the end of World War II had promoted land reform, colonization, or new land settlements schemes which allowed colonists, plantation owners, and ranchers to destroy tropical forests. Deforestation had thus taken a ‘state initiated’ form. Over time fiscally pressured governments ended their colonization programs (including their subsidies for cattle ranching) and farmers were forced to log their farms for profit in order to expand (ranching in Brazil) and diversify (palm oil plantations in Indonesia) to enter an increasingly integrated agricultural market. Agricultural enterprises expanded at the expense of forests and in this sense deforestation became more enterprise driven in the 1990s. Rudel suggests that the rise of the neo-liberal state in the 1980s and 1990s thus reshaped the drivers behind tropical deforestation. Neo-liberal politicians could be won over by powerful interest groups and landowners. The growing importance of decision-making over deforestation on the part of heads of farms and agri-businesses suggests not only how in many instances governance reforms may no longer be that relevant, but also that policies should focus on influencing the decisions that these heads of enterprises make.

That the market for forestry products has become increasingly globalised creates a new dimension to addressing the drivers of deforestation. This can be illustrated by how global demand for timber impacts upon deforestation in Southeast Asia. China’s logging ban of 1998 created timber shortages, rising prices, and a need to seek further import markets – which was facilitated by the China’s accession to the WTO and changes on restrictions over importing forest products. China’s imports of timber and pulp aimed to satisfy a growing internal demand as well as an export market in timber products to North America, the EU and Japan, regions that include countries that have restricted or banned logging to protect forests for environmental and aesthetic reasons after extensive deforestations.

Although China also imports timber from Burma, Cambodia and Papua New Guinea, her largest source of timber imports (legal and illegal) from Southeast Asia is Indonesia’s tropical forests – a trade which sustains local power elites as well as local communities. Yet in exporting timber products sourced from tropical forests in Southeast Asia, China is partly acting as a facilitator in what is perhaps the most ironic feature of the global timber trade. As developed countries have halted deforestation within their own borders, the continuing high demand for forest products is displaced ‘offshore’ and international trade to developing countries contributes to the further depletion of forests. The influence of economic incentives on the processes of deforestation is exemplified by the fact that forest conservation and sustainable forest management often yield lower economic returns and have a lower capacity to support livelihoods than other land uses.
6. Towards a Political Culture of Natural Resource Use

Our discussion of political regimes and governance illustrates that it is difficult to analyse the causes of deforestation and to offer meaningful policy advice without considering the issue of who holds the decision-making power over the future of forests. Whether power is centralised, localised, or even privatised, universal solutions designed to improve governance may prove meaningless when placed into the context of different types of political regimes. In some regimes, the social costs of deforestation may not even be considered by corruptible political elites, or by leaders who maintain total control over their borders as well as the people and forests inside them. But even in democratic states, political elites at all levels will be confronted with incentives to continue deforestation, it seems, perhaps until the social costs of continuing to do so outweigh their private and social benefits, thus explaining the fact that many democratic developing countries continue to deforest.

While the new conventional wisdom is that institutions of good governance are the critical variable in development, studies have shown that this may not necessarily be true and even that improved civic institutions may be a by-product or even an effect of economic development. Yet even if it is true for a number of developed countries with well-functioning state institutions, this does not mean that it can be successfully transported to countries that are vastly different historically and culturally. The political means of doing so may be lacking because there is insufficient local demand for reform. In order to succeed, institutional reforms require what Tocqueville labelled certain ‘habits of the heart’, and what Fukuyama calls ‘habits of mind’. In other words, successful institutional reforms require a political culture that is open to the reforms. Unless this occurs, interventions become an attempt at reforming political culture and reforms aimed at expediting rapid change may in the end do more harm than good.

With that in mind, governance reforms aimed at reducing deforestation will be unlikely to succeed in developing countries unless a political culture of improved natural resource use emerges – both among the political elites and in the people whose perception of power must change. Only then will the ideas contained in the current doctrine of governance be allowed to flourish and take on local characteristics. This will involve, among other things, a change in the view of nature in general, and the perception of deforestation in particular. Whereas the modern world once prized the mastery and control of nature, and the cutting of trees had become second nature, the rise in global environmental awareness may have signalled a change in this view and perhaps the beginnings of a new understanding of nature (or a return to the pre-modern). Although there is much evidence of changing attitudes towards natural resource use among developed countries in recent years, the transmission of these attitudes into practical initiatives in developing countries will require more research into the motives and circumstances of tropical deforestation there.

At what point a critical change emerges in environmental awareness may be related to how rising per capita incomes impact upon the environment through Environmental Kuznets Curve and forest transition theories. The appearance of inflection points and the emergence of a conservationist political culture may vary from country to country and whether it is related to any democratic transition is also debatable. Yet just as democratic quality takes time to mature, the development of a willingness to improve natural resource use would seem to be incremental in nature and not always possible. It would need to compete with the powerful incentives of corruption and global economic forces, at least until the ‘license to print money’ that has been associated with
deforestation becomes less desirable to the political elite and powerful local officials – this may inevitably require a comprehensive appraisal of alternative cash sources available at both levels. Until then, the exercise of power by national and local elites will continue to influence the environmental outcomes in developing countries.
7. Conclusion

Tropical deforestation remains a critical issue in an age of heightened awareness over global climate change and the loss of biodiversity. We have argued that while the type of regime may play some role in explaining tropical deforestation, democracies also continue to deforest. More importantly, however, is the fact that many of the ideas aimed at improving the institutions of governance to tackle tropical deforestation remain flawed because they fail to appreciate the importance of various regime-types and how local political power is exercised. Whether or not corruption is one of the most important restraints on economic development, corruption may be an inevitable product of development in many low-income developing countries and its practice may even be culturally reinforced in various forms. It seems that the global economic trade and local economic incentives will continue to produce powerful inducements that help to explain the persistence of high rates of deforestation in many developing countries.

Addressing the issue of tropical deforestation with reasonable policy advice will continue to pose a problem. To a large degree, this is due to the historical tendency to explain deforestation as being caused by universal factors, leading in turn to the adoption of universal solutions to problems that may not in fact be universally present. In addressing deforestation, many policy makers adopt the same reasoning that currently dominates the promotion of economic development in developing countries. Although they may wish to reform governance in highly corrupt deforesting nations or create new institutions of government fashioned in the mould of those present in the developed world, it remains probable that intervention and the projection of Western political institutions and norms upon societies lacking in democratic maturity or bureaucratic capacity – the administrative, human, and political capital required to function like a developed state – will lead to further political instability. Moreover, it is likely that domestic variables such as traditional sources of power, political culture, institutional legitimacy, and the strength of civil society will remain critical to regime outcomes, economic development, and levels of deforestation in developing countries.

Policies developed to tackle deforestation must in the end be case-specific, targeted towards local circumstances, and lie in the national and local interests of the deforesting countries themselves. Because many developing countries differ fundamentally from developed nations in terms of their institutional capacities and legitimacies, developing and exporting policies that do not take this into account, but rather are based on first-best solutions that work well on paper – when all conditions are satisfied – may cause more harm than good. Indeed, if it is true that the causes of deforestation change significantly between regions and countries, and also over time, it may not be possible to derive a more unified theory explaining deforestation.

In attempting to address the problem of tropical deforestation, which is receiving increasing attention in order to reduce greenhouse gas emissions, analysts may draw insight from Rodrik who, building upon Stiglitz’ critique of welfare economics, suggests that economic development policy advisers can learn from the theory of second-best. There may be times when government intervention is required in the interests of achieving Pareto optimal efficiency outcomes due to the existence, or non-existence, of certain markets and imperfections in markets. In which case, analysts should seek to identify the most significant constraint on sustained economic development, or the most significant incentive to deforestation, in each particular case. In this context, as in others, there can be no unique market fundamentalist or institutionalist solution to the problems of economic growth, exporting democracy, state-building, or deforestation. If there are some universal principles about desirable economic, political, or environmental policies, then policy makers should allow these principles to be achieved in a number of different ways and not merely through one particular institutional form.
We have argued that for policy initiatives based on good governance to work in developing countries where deforestation lies increasingly in the hands of local political elites, ultimately a change in the political culture of resource use is required. Yet the emergence of a conservationist political culture will vary from country to country and it may also be related to changes in the levels of democracy although this is uncertain. Just as democratic quality takes time to mature and there is no guarantee that democratic transitions will not reverse, the development of a willingness to improve natural resource use cannot occur overnight and may not always be possible. The reasons for this are that it would have to compete with the most significant incentives for deforestation – local economic inducements and profits from the global trade in forestry products. Until these become less desirable to the local political elite, their exercise of power will continue to direct environmental outcomes in developing countries.
Notes

1 Intergovernmental Panel on Climate Change, Technical summary: contribution of working group III to the fourth assessment report of the intergovernmental panel on climate change (Intergovernmental Panel on Climate Change 2007).
11 Indeed, some may argue that deforestation continues because of structural adjustment policies; in particular the requirements of some policies that timber exports be increased to earn hard currency to repay external debts.
18 Ibid.
2006 coups in Thailand and Fiji, Regional Outlook Paper, No. 13 (Brisbane: Griffith Asia Institute, Griffith University, 2007).


26 Ibid.


31 Although Tasmania is not considered to be tropical, methodologically the analysis of tropical deforestation does not need to rely solely on case studies from the tropics. Unlike Indonesia, Australia has long been considered to be a liberal democracy, and yet abuse of the democratic process was clearly evident in this case.

32 For an account of the political and judicial process surrounding the pulp mill, see ‘Law and Justice Part Company – Tasmanian Pulp Mill’, Tasmanian Times, 16 May 2008.

33 It should be noted that there is no commonly accepted academic definition of governance, even though various organisations produce indicators of governance. For more detail on the historical development of this concept, see Anne Mette Kjaer, Governance (Key Concepts) (Cambridge UK: Polity Press, 2004).


41 Ibid.

42 It should be noted that Goldsmith (2007) tests the historical causal relationship between governance and development and his findings obviously do not exclude the possibility that future improvements in governance could lead to higher and sustained rates of economic growth.


Ibid.


That deforestation has been halted in developed countries is not necessarily due to the willingness or the success of governments to do so; it could be the result of economic factors such as those described by the forest transition theory.


For a discussion of the historical change in the view of nature towards deforestation, see Williams (2003), pp. 100–101.

