



An economic case for tenure reform in Indonesia's forests

JULY | 2011

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pertumbuhan hijau untuk masa depan berkelanjutan

1. Introduction

Countries with large forest areas, especially tropical forests, have been under increasing pressure to reform the way they govern the management, exploitation and conservation of their estate. The role of forests in regulating climate (as well as their contribution to many ecosystem services) has been identified as a pressing reason for rapidly improving governance, often in countries where the process of institutional change would usually have been expected to take some time. Programs such as REDD³ and FLEGT² may have had some influence in bringing changes to forest policy and governance in key countries such as Indonesia, but in most cases the fundamental challenges to reform remain daunting. Some countries, such as Mexico, China, Nepal and Viet Nam have been quite successful in reforming forest tenure and in various ways handing the rights to manage forests back to the people, along with accompanying obligations to ensure forests remain healthy and viable. The outcome of these changes, in the main, has been a more robust forest sector, both economically and environmentally. However, Indonesia has made only tentative steps on the path towards tenure reform, and the future direction is uncertain.

This brief sets out some facts and analysis about the state of forest management in Indonesia.³ It does not aim to recapitulate the many existing studies of the extent of deforestation. The hard facts of the diminishing

state of the forest are widely known, and the key drivers of deforestation (such as weak governance, corruption, illegal logging, economic development) have been discussed at length. Instead, this paper will attempt to explore the deeper issues that may explain the current state of the land use sector by viewing it in the context of the country's economic trajectory. The poor state of the country's forest, the relative decline of the forest industry and the inefficiency of the agriculture sector are consequences of a political and economic system that is informed by certain attitudes towards land, people and communities. This attitude prevents real change in the sector, and even though some progress has been made in policy terms in the recent past (most notably the recent moratorium on primary forest conversion), the likely effect of these changes on the overall system is likely to be limited because the underlying issues are not being addressed. This brief will attempt to introduce some of these issues, by explaining how the forestry sector got into the current parlous state, how this trajectory spells bad news for Indonesia, and how an alternative scenario could be envisioned and achieved.

2. The current situation

Indonesia still has a significant forest estate, but it has been transformed radically over the past thirty years or so. Large areas have been cleared, some converted to other uses - such as agriculture or urban development - but there are also large areas of land in various states of degradation that

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in many cases are not contributing to either the local or national economy. The problems in the land use sector seem to comprise of deforestation, degradation and poor agricultural performance; all of which have economic consequences:

Deforestation

Past deforestation has removed lowland forests from much of Sumatra and large areas of Kalimantan. Based on current trends, taking into account predicted population growth and planned expansion of the oil palm estate, a further 28 million hectares of forest will be cleared by 2030.⁴ If this ‘business as usual’ scenario were to come to pass, then Indonesia will have very little natural primary forest remaining outside the conservation and protected areas.

In some respects the effect of oil palm plantation expansion has been exaggerated, and in any case past rapid growth trends may not continue. Whilst much deforestation has occurred in the name of oil palm, not all of the cleared land actually developed into plantations, thus the impact of oil palm on the forest estate has been disproportionate. For instance, location permits covering 5.3 million hectares of land for oil palm developments have been issued in West Kalimantan, while less than 1 million hectares of land have actually been planted with oil palm.⁵ Thus the problem seems to be the allocation of permits rather than the palm oil industry’s relentless hunger for land.

It could be pointed out that Europe and the United States cleared their forests long ago, and thus deforestation is unavoidable price of progress. But in Indonesia it does not seem to be working out that way. For instance, the deforestation and drainage of peatland, which releases large amounts of carbon dioxide and thus contributes to Indonesia’s disproportionately high emissions, has

not yielded economic gains. Between 2000-2006 the amount of forest in peatland declined by 2.2 million hectares, of which less than 10% became cropland.⁶ It appears that peat forests are converted with the stated intention of developing a palm oil plantation, but once the timber is extracted the plantation never materializes, as it does not make economic sense to develop it at that location.

A further cause of deforestation is the continued exploitation of natural forest for industrial processing (such as pulp and plywood). For instance, in 2005 up to 65% of the timber feeding the largest pulp mills in Sumatra came from clear-cutting of natural forest.⁷ This converts high value mixed tropical hardwood into low value feedstock for processing mills, which is not economically rational. Various attempts have been made by the forest ministry in the past decade to impose a moratorium on the clear-cutting of natural forest for industry, but in each case the proposed moratorium has been delayed, in the face of industry warnings that any reduction in supply will cause job losses and economic shrinkage.

Degradation

A more widespread (and poorly recorded) problem in the forest estate is the gradual degradation of the forest through mechanised logging, and worse over-logging, fires, or other forms of disturbance. It is reckoned that 40 million hectares are fully or partially degraded.⁸ Much of this is in protected areas, but also within the production forest there are 16.4 million hectares of ‘open access’ land. Degradation is part of the process of administrative transition, whereby production forest is poorly managed (usually by a concession holder) and when no longer viable it is re-zoned for conversion to an industrial timber or oil palm plantation.

Poor agriculture sector performance

In the period 1995-2005, all countries in the Asia region experienced significant increases in agricultural productivity - by 42% on average - except for Indonesia where productivity grew by only 3%.⁹ As a result of these meager productivity gains, more arable land has been needed each year in order to feed the growing population, putting more pressure on forests. This correlation between population growth and need for more cropland is less marked in other Asian countries, where in most cases the growth rate in population is not met by a corresponding growth in cropland, but instead seems to lead to higher yields.

Even in the relatively advanced palm oil industry, where vertically-integrated companies exert a high degree of control over land and smallholders through the 'inti-plasma' system,¹⁰ productivity is low compared to other countries, for instance average yields are 25% lower than in Malaysia.¹¹

Low agricultural productivity is connected to deforestation in two ways - it illustrates how weak tenure and limited access to capital and technology is inhibiting rural development, and also increases pressure on forest for clearance for often low value activities.

Economy is over-reliant on natural resources

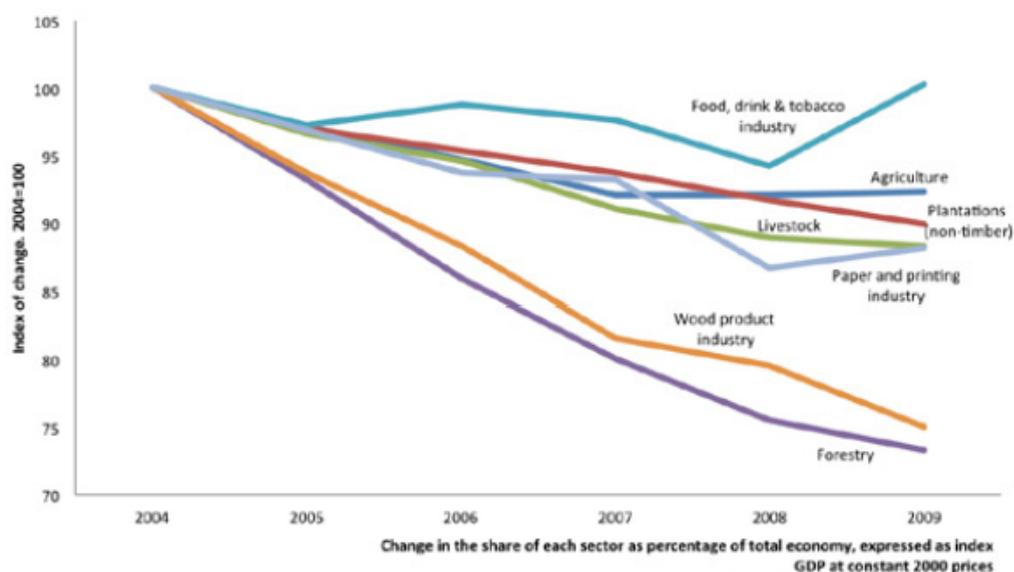
A report from Harvard University¹² noted that for some time Indonesia has been stuck in an economic model that *'relies too heavily on over-exploitation of natural resources, does not invest sufficiently in people and fails to make the most of the opportunities presented by globalisation.'* The flaws and vulnerability inherent in this unsustainable growth pattern have been disguised by high commodity prices and the one-off boost that is provided at the point where the

natural capital of forests is converted into financial capital.

The realization that there is a link between over-reliance on natural resources and under-development has led economists to seek a more accurate measure of the state of a country's capital stock than merely assuming that the annual increase in GDP is automatically added to national wealth. This measure is called 'Adjusted Net Saving' (ANS).¹³ Negative ANS indicates the country is running down assets, and will thus have less assets for future generations and a declining capacity to generate economic growth. Over the past two decades, Indonesia's Adjusted Net Savings rate has dropped from plus 18% to minus 2%.¹⁴ This means that despite headline GDP growth, in real terms the country is getting poorer each year. Eventually, this failure to maintain the real value of the nation's assets will lead to economic shrinkage.

This negative trend is also reflected in other statistics that show that most people are trapped in low-income jobs in the agricultural sectors. There is no significant transfer from these sectors to manufacturing, as Indonesia's economy largely sells raw materials, not products. Hence, other countries capture the jobs and the value-added activities. As globalization has become more widespread, Indonesia's economic options have narrowed. In relative terms it is falling behind, for instance Indonesia's share of global exports was lower in 2007 than in 1977.¹⁵

Of course the day of reckoning may be some way off as Indonesia has a rich endowment of land and natural resources. However, it also has a large population, and thus the per capita resource wealth is lower than Malaysia. It is right that some of these natural resources should be reallocated in the name of future development, and in some cases that will mean an economically efficient level of deforestation. But in Indonesia there is an unhappy

FIGURE 1: CHANGE IN RELATIVE IMPORTANCE OF CERTAIN ECONOMIC SECTORS, 2004 - 2009

Source: based on data from BPS (2011)

combination of indiscriminate deforestation, low genuine savings, lack of investment in people and grassroots enterprises and thus an unsustainable economic trajectory.

Declining importance of the land use sector

The forest and agricultural sector has enormous importance as part of the socio-political system, and the land use sector represents around a fifth of the economy, including downstream industrial processing. However, some sub-sectors have been thriving (e.g. palm oil) whilst others have been in long-term decline (e.g. forestry). The chart below shows how all land use sectors have declined as a share of the economy since 2004, and only the food and drink industry has remained stable.

It is possible that a declining forest industry will demand less of the forest and thus slow the rate of deforestation. On the other hand, the decline of the processing sector may indicate that a lack of competitiveness is leading to more raw timber being exported (for instance to China), so

although economic value falls, the volume of extraction from the forest actually rises. This seems to be the case in Papua province, where the local industry has dwindled yet exports of valuable merbau timber to China for the flooring industry have remained high. Further, logged over forest then attracts smaller players, supplying domestic needs while further converting the forest.

3. How did we get here?

There are a number of reasons why Indonesia's land use sector is not managed as well as it could be. Some of the main issues are as follows:

Unclear tenure

Weak and uncertain tenure, incomplete cadastral systems and legal contradictions regarding customary land rights combine to keep land prices low in Indonesia. Timber concessions and plantation companies are granted leases at values that may fail to reflect the true value of the land. The amounts paid in compensation to local people by companies developing oil palm

plantations has in general been very low - around one or two dollars per hectare in many cases.³⁶ Despite past failures (such as the notorious Kalimantan 'mega rice project') and lack of evidence that large-scale agricultural developments have any long-term economic or social benefit,³⁷ there seems to be a continued preference for mega projects amongst politicians, such as the vast proposed Merauke Integrated Food and Energy Estate (MIFEE). This suggests that policy makers see cheap land and labour as opportunities for the private sector to widen profits rather than a cause for concern. The presence of a large amount of degraded land (estimates vary from 7Mha to over 30Mha) is a sign that the forest frontier is undervalued.³⁸ It means forest land is either very cheap or open-access, so economically it makes more sense to continue to plunder the frontier rather than develop existing open land.

Poor governance

Rapid political decentralization since 1999 has set districts in opposition to provinces, inhibiting sensible planning. It has also created a free-rider problem. District heads (Bupati) are not required to consider the effects of land changes on the wider community. Considerable state power (the assumption of state ownership of all forests and control of any unregistered land) is thus handed to the districts without any corresponding obligations to either local people or the nation at large. Long-term sustainability is thus not likely to be considered, and strategic landscape planning is much more difficult.

Land allocation and conversion is a part of the socio-political process. A recent study found that issuance of permits to convert natural forest is correlated with the election cycle, in which illegal logging increases dramatically in the years leading up to local elections, and conversion rates rise immediately after elections.³⁹ This pattern may be

an indication of how politicians pay back sponsors of their campaign with forest clearance permits.

The spatial planning process usually fails to coincide with the land use problems because it is itself a part of the same political process that create the problems. For instance, land type definitions do not reflect physical or social reality, with illogical effects:

- 40 million people are living in areas with no trees yet officially designated as forest. This limits their livelihood options as the land cannot be used for agriculture, yet in most cases they also cannot get a permit for reforestation, and do not have political power to get a clearance permit for estate crops such as oil palm or cocoa.
- Whilst treeless landscapes within the forest estate can be termed 'non-forest forest estate', its mirror image outside the forest zone is 'forest non-forest', where smallholders and communities manage forest areas and agroforestry. Large parts of Java island falls into this category. Yet when farmers attempt to fell their own trees that they themselves have planted, they face complex and demanding regulations that serve to depress net prices at the stump.²⁰ This, ironically, creates a disincentive for farmers to plant trees, yet it is known that incorporating trees into farm systems is the most effective way to manage tropical landscapes for improved yields, resilience and financial returns.²¹
- Forest zones tend to be described in terms of their official designation, such as production or conservation forest. Actual landscape types, such as primary forest, 'virgin forest', peatland etc., are not defined in Indonesian law (though to be fair these definitions are widely contested globally). This creates problems

TABLE 1: EVALUATION OF QUALITY AND SUSTAINABILITY OF NATURAL FOREST CONCESSIONS

Total assessed (mha)	Sustainably managed (mha)	Evaluation (number of concessions)				Total number of concessions
		good	fair	bad	very bad	
13.73	3.16	13	63	65	12	152

Source: ITTO, 2011.

when official pronouncements, such as the recent moratorium, use these terms without defining them, thus leading to confusion over the official position towards secondary forest, which is now Indonesia's largest ecosystem type.

- There is a lack of coordination and policy leadership amongst various government departments. The various plans for conversion to plantations, mining and other purposes seem to indicate a total of 63 million hectares allocated for development, 60% of it involving primary forest conversion. Many of these plans overlap and perhaps will not come to pass, but they reveal contradictions in the way the country formulates land use plans. Confusingly, the same patch of forest can be awarded to multiple companies by multiple layers of the same government.²²
- The combination of poor management of forest areas and weak tenure outside the forest estate leads to a situation where land is treated as a temporary site for activity rather than a long term asset deserving of investment. This is manifested by slash and burn agriculture, where fires are used as a cheap and quick clearance method by impoverished landless farmers.

Poor asset management

Large areas of the country's forest have been parceled out to private companies in the form of

concessions, but the state has been a negligent landlord. The number of active natural forest concessions has declined over the past decade: there are currently around 300 concessions in Indonesia, of which 248 are listed as active, covering 22 million hectares.²³ This has fallen sharply from 2001, when there were over 400 concessions covering 42 million hectares. 'Inactive' concessions may include those that have only recently received permits, as well as those that have had permits withdrawn, or where the business has been liquidated. According to the ITTO, only half of the concessions (13.7 million hectares) have valid management plans,²⁴ indicating that there are many concessions regarded as 'active' that are for all practical purposes dormant. For instance the Ministry of Forestry data recognises 21 concessions in Papua as officially 'active', but local officials regard only 6 as truly operational.²⁵

Companies that do not submit valid management plans or provide evidence of active management are not held to account. Concessions therefore take on the characteristics of private freehold, with owners inviting offers for purchase of the lease but not being obliged to surrender their permits upon breach of contract. This raises the private price of even the most dormant concessions, making it even harder for the state to cancel or reallocate under-performing permits, especially if the holder of the lease is politically well connected. The net effect of this is economic losses for the state (through lower taxes and fees), private capture of the value of public assets and a perverse incentive to convert forest rather than

manage it, as conversion licenses are in the gift of the district head and thus easier to obtain than a new or existing natural forest concession.

Even in concessions that are operating normally, there is often inefficient forest management, wasteful, over-extraction in some areas while other areas are abandoned. Rules exist for selective cutting and enrichment planting, but except in a few notable cases (for instance where the more responsible firms have obtained FSC certification), most of the rules are ignored. Recent assessments of concessions' performance shows that half are rated 'bad' or 'very bad', and less than a quarter are managed sustainably (see Table 1).

Reputable companies face difficulties getting access to land in Indonesia, either for oil palm plantations or timber concessions. Such companies need to meet international standards of transparency and either cannot legally engage in the 'game' of obtaining permits from district governments, or do not know how to navigate the obstacles of bureaucratic hurdles, unofficial payments and brokers. This keeps good companies out of Indonesia, shielding domestic companies from competition for capital, land and labour, and thus perpetuating an inefficient forestry and palm oil industry.

Subsidizing deforestation

The way the forest estate is managed, in particular in respect of concession leases and conversion permits, represents an implicit subsidy of the timber and plantation industry. Public assets in the form of standing forest values, future ecosystem value and long-term land rent are captured by private actors with little or no compensation to the state. Like most subsidies and market distortions, this situation has led to inefficient outcomes.

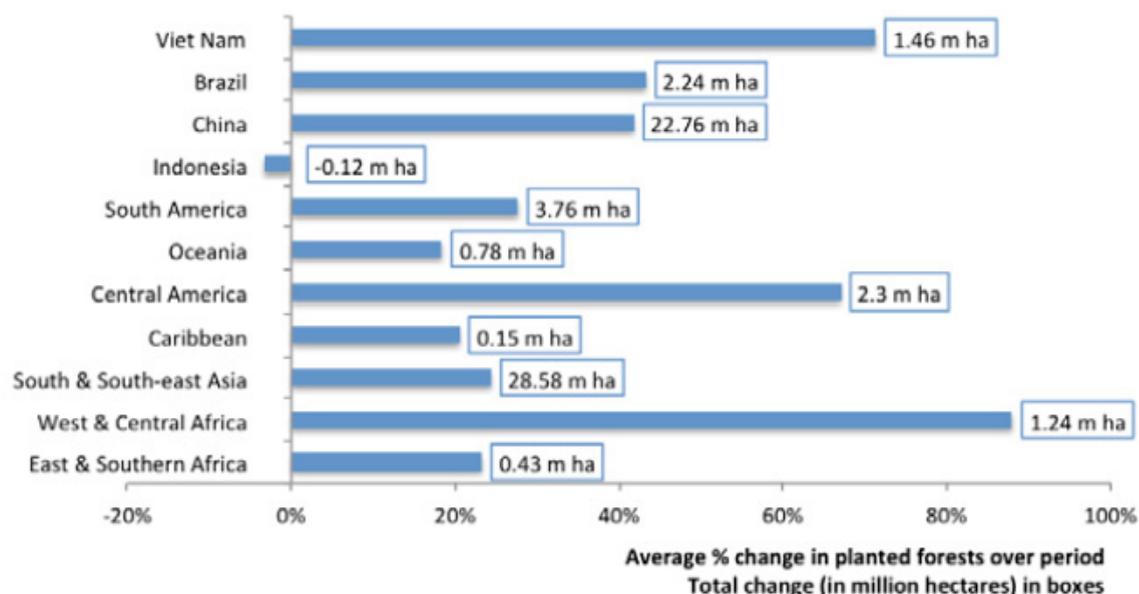
The processing industry grew rapidly, boosted by cheap raw materials, and using vertical integration (control of all aspects of the supply chain, from forest to factory) managed to raise large amounts of capital to build huge mills. This combination of over-capitalization and weak governance created structural over-capacity, inhibiting the price signals that would normally occur in the event of raw material scarcity. It was as if the forest would always yield up its bounty, and no day of reckoning would ever arrive. Until recently, public policy has been adapted to suit private interests by ensuring that natural forest has continually been made available for industry at far below its social or economic value. This may have appeared to be a pragmatic policy that ensured continued economic growth and employment, but it is inherently unsustainable and ultimately counter-productive, as it undermines investment in long-term forest management.

Failure of reforestation schemes

When in 2006 it was eventually acknowledged that a raw material supply gap was looming, an effort was made to revitalize the timber industry and solve the supply problem by encouraging plantation development.²⁶ This set out a road map to increase plantation development and thus relieve the pressure on natural forests, with no further mixed tropical hardwoods going to particleboard or pulp. This was followed by a Ministerial decree that warned pulp companies that clear felling of natural forest in their concessions would be illegal after 2009.²⁷

However, the consequence of an addiction to cheap raw material is low investment in industrial plantations. Plantation development in Indonesia has historically been beset with difficulties. In the period 1989-2006, permits for over 10 million hectares of plantations were issued, but only 3 million hectares were actually realised. In the case

FIGURE 2: CHANGE IN PLANTED FORESTS, 2000-2010



Source: FAO (2010)

of the remaining 70%, natural forests were cleared to make way for the plantations, often fueled by subsidies in the form of soft loans from the Reforestation Fund, but no productive investment took place, or the plantations suffered from various calamities such as forest fires.²⁸

Even where plantations have been established successfully, they are not necessarily performing to best practice standards. The World Bank calculates that ‘less than half of these lands are performing well in producing timber’.²⁹ For instance, in East Kalimantan 800,000 hectares was cleared for industrial plantation (HTI), but only 165,000 hectares was actually planted, and the yields from this estate are very low, at just 0.7 million cubic metres per annum, compared to the potential production of 23 million m³ if the whole area were properly managed.³⁰

Reliable data on plantations are hard to come by.³¹ The ITTO records the planted estate as standing at only 2.5m hectares,³² but the FAO reports that Indonesia expanded the planted forest estate by 404,000 ha per annum from 2003-2007.

However, this data was provided by the Ministry of Forestry and was not verified or was perhaps misconstrued.³³ In FAO’s own report it showed that the planted estate had actually fallen by 2010 to 3.5m ha from 3.7m in 2005, so clearly the previously reported expansion was inaccurate, unless existing plantations were being retired at a faster rate than new ones were established. This performance bucks the trend seen in almost every other country monitored by FAO. Across the world plantations and reforestation schemes have been expanding, most notably in China (see Figure 2). In the period 2000-2010, 65 countries in the world with tropical and sub-tropical forests saw an increase in planted forests, whereas just 11 countries saw a decrease, including Indonesia, Zimbabwe, Bangladesh and the Solomon Islands. The shrinkage in planted forests in Indonesia (123,000 hectares) almost exceeded all the other losses combined. This could have serious consequences for the competitiveness of Indonesia’s forest industry in years to come, as the liveliest local competitors (especially China and Viet Nam) begin to enjoy reliable supplies of raw material from their own plantations. For the first time since the Indonesian archipelago started

trading such products with other nations hundreds of years ago, the country could lose its comparative advantage in processed timber. This would be a direct consequence of poor governance, myopic policies and opportunistic behavior by the private sector.

Experiments in community forestry

After a few false starts in facilitating community forestry, the 2007 road map for revitalizing the forest sector proposed the ‘people’s plantation’ scheme (HTR),³⁴ whereby individuals and cooperatives would be encouraged to invest in planting timber on degraded forest land. This was an important part of the target of establishing an additional 9 million hectares of plantations by 2016, 5.4m ha from HTR and 3.6m from industrial plantations. The financing would come from a revolving fund using capital from the Reforestation Fund.³⁵

To date the project has been far from successful. The target was to have almost 2 million hectares established by the end of 2010, which would then be producing pulpwood for industry

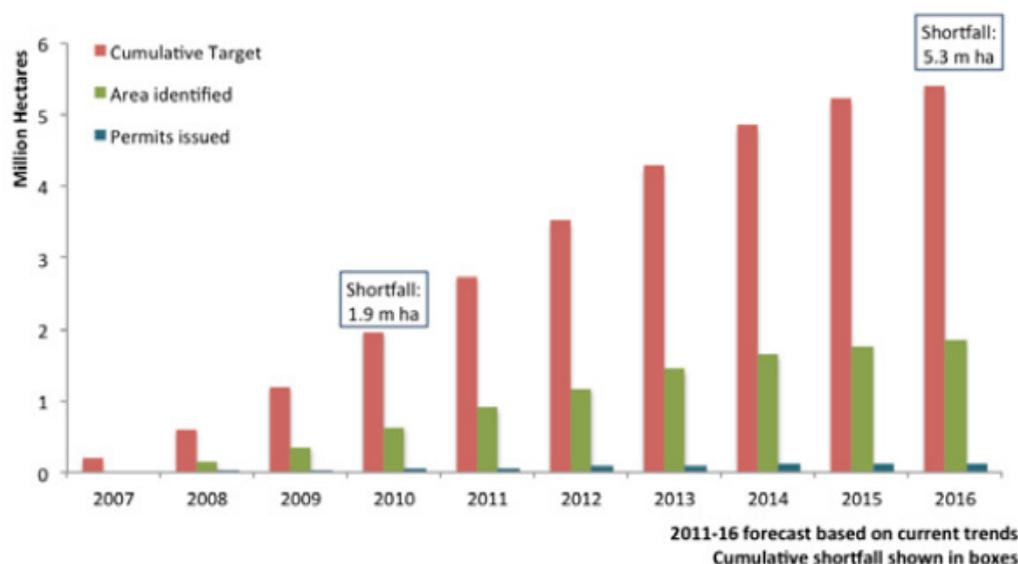
from 2015 onwards. However, by December 2010 less than 45,000 hectares of HTR plantations had actually been approved, although local district governments have identified almost 640,000 hectares of suitable plots of land.³⁶

At this rate of progress the scheme will achieve only 120,000 hectares of community-managed plantation by 2016, a cumulative shortfall of over five million hectares (see Figure 3). This under-performance will have serious implications for future timber supply and thus forest usage and tenure. The Forestry Ministry has been working from projections (in the 2007 Road Map) that assume the HTR plantations will be meeting 30-40% of the total lumber demand from 2016. If such a significant portion of expected supply does not materialize then something has to give: either supply must be found elsewhere or industrial output must decrease. This may lead to more pressure to over-extract or convert natural forest.

The Paradigm problem

There is ample evidence that communities and smallholders are reliable managers of natural

FIGURE 3: PROGRESS OF HTR COMMUNITY PLANTATION SCHEME, 2007 - 2016



Source: Based on data from Ministry of Forestry, 2010

resources and forests, and that they already are in a number of landscapes in Indonesia effective managers of forestry, agriculture and agroforestry. Yet for some reason Indonesia, where the state has such a poor track record in forest management, has yet to embrace the concept of locally controlled forestry with any seriousness. Although forest tenure reform has been slow in Asia (compared to Latin America), about a quarter of the forest is owned, designated or managed by communities and indigenous people.³⁷ Yet in Indonesia less than a tenth of one percent has been formally devolved to local communities, which is markedly out of step with the region and other middle-income countries.

One explanation may be that the economic structure of Indonesia, especially in the forestry sector, is a legacy of the New Order regime. It is characterized by very large companies benefiting from favorable political treatment and exclusive access to natural resources, whilst beneath them a multitude of informal micro enterprises attempt to keep afloat. There are few formal enterprises in between these two extremes, creating the so-called 'missing middle' problem.

Even though the *reformasi* era has brought democracy to the political process, it is yet to liberalize the economy of land use. It appears that the state still privileges large businesses at the expense of smaller enterprises and community organizations, as exemplified by the fact that there is no exemption for community stewardship of forests in the President's moratorium,³⁸ but specific exemptions for large businesses and plantations.

This paradigm problem is in some respects illustrated by the design and implementation of the HTR scheme, which could be seen as a way to recruit communities to invest their own resources into repairing damage done by companies and state-owned enterprises. In its original design this would be ameliorated somewhat by allocating a

mixed area of forest to communities, including some standing stock that could be exploited in the early years to generate cashflow. But in practice the HTR permits have been granted on denuded land. In one case, a community has been given 14 separate small parcels of scrub land spread over an large area (60 km between the furthest blocks), which will make it tough to manage as a viable business. One could be forgiven for speculating that the HTR scheme was actually designed to fail.

For as long as Indonesia is trapped in this paradigm, it will be hard to make more than token progress on the pressing issues facing the land use sector, such as weak tenure, the growing supply gap and misdirected investment. This will not only have poor outcomes for the forests, biodiversity and climate change. It will also have profound implications for the economy and long-term social development.

4. An improved situation

Outside Indonesia, there has long been a recognition that locally controlled forestry brings benefits for the economy, environment and society. In many developed countries with powerful forest industries (such as Germany, Sweden and Finland), it is the predominant form of forest management. From a pro-poor development perspective, community forestry does have clear attractions: it implies local participation, decentralisation and equity.³⁹ It also claims some logical rationale as those closest to the forest are more likely to have cultural and practical knowledge of the local landscape, and have a vested interest in the long-term conservation of its ecological services and income-generating features. In summary, the case for locally controlled forestry (or what is also termed 'community forestry') can be viewed in terms of economic, social and environmental impact:

Economic

In both developing and developed countries, small and medium sized enterprises (SMEs), such as those set up and managed by forest rights-holders, can be the engine of economic development. Unlike the vertically integrated industrial model of forest resource management that has been the dominant paradigm for so many years, small-scale industry has specific micro-economic characteristics that generate a ‘multiplier effect’ in rural economies. This translates into more skilled jobs, higher incomes, higher consumption and improved terms of trade. The Livelihoods and Forestry Program program in Nepal⁴⁰ indicates this effect to be approximately 10:1, but some studies⁴¹ calculate this multiplier effect to be as high as 20:1. The economic benefits are associated with the release of private enterprise that accompanies effective land reform. An analysis of growth in 73 countries in the period 1960–2000 found that countries with relatively equitable initial land distribution achieved growth rates 2–3 times greater than those in which land distribution was less equitable.⁴²

Social

Local economic development, where it involves the active participation of local people, has purported social benefits. Specializing in small enterprises (e.g. timber processing) allows households to make a smooth transition from subsistence living to the market economy. Time gained through buying food in the market instead of hunting or gathering can be spent participating in local institutions. Surplus income is often invested in health and education, improving the welfare of the next generation through better nutrition and broader horizons for fulfillment. Communities with a mosaic of locally-owned businesses tend to have more self-confidence, political influence and autonomy.

Environmental

It is a common generalization that forest dwelling people are naturally disposed to be careful stewards of the environment, and where they do collude in the degradation of forests they do so for understandable economic reasons (the ‘poverty causes deforestation’ argument). This may not be entirely accurate for all people in all places (just as generalizations about large corporations may overlook the better examples), but widespread evidence from around the world demonstrates that private property holders, including those with communally-held property rights, can and do protect public goods if the appropriate incentive structure is in place. In fact, rural communities own, or administrate under license, at least one quarter of forests in developing countries; and they invest \$2.6 billion in specific conservation activities in their managed forest, exceeding state funding and all forms of international conservation expenditure combined.⁴³

Low carbon growth

A key component for balanced, sustainable economic growth is the shift to a low carbon economy, which requires Indonesia to reduce its

Tenure Shapes Everything

‘Tenure shapes a country’s forest industry and economy. There is ample evidence in some developed forested countries—e.g. the United States, Sweden, and Finland—and developing countries—such as Mexico and China—that the recognition of local rights has a profound effect on the structure of industry and increases the potential for forestry to generate jobs and economic growth and contribute to good governance. Small-scale and community initiatives around forests can also provide invaluable ecosystem services, including climate change mitigation—given the necessary tenure reform.’ (RRI 2011)

‘...There is rarely a better way [than community forest management] to balance the interests of poor people and forests. But to do a good job, communities need strong property rights...’

(The Economist 2010)

carbon emissions. The land use sector currently generates 85% of Indonesia's carbon emissions. To enable the country to achieve its ambitious emission reduction target,⁴⁴ the current plans assume forestry will play a major part, for instance through reforestation schemes, improved sustainable forestry management practices and the elimination of manmade fires and peatland decomposition. Recent experience has shown that these targets are simply not achievable without the active economic participation of smallholders, communities and small enterprises. Statistical evidence from 80 CFEs in 10 countries shows that '... greater rule-making autonomy at the local level [is] associated with high carbon storage and livelihood benefits.'⁴⁵ To attract the required investment into these areas, a fundamental reform of tenure, governance and institutions is required.

5. Steps to improved forest management

Tenure reform leading to local control of natural resources will not solve all the problems outlined in this paper, but it will go some way to correcting the current unsustainable trajectory and avoiding the chances of a boom-bust scenario. Shifting the economy away from an over-reliance on natural resource extraction can be achieved by building an SME sector, which in turn is founded upon a reliable asset base. Experience from other countries (e.g. Japan and South Korea) has shown that the necessary condition for a broadly based economy is land reform accompanied by good quality institutions. Simply handing out land certificates is not sufficient; neither is allocating forest permits (such as HTR) without considering how governance, investment and infrastructure will play a part in facilitating economic development. The call for tenure reform therefore needs to be nuanced by placing it in the context of broader institutional reform.

There is no doubt that tackling institutional reform is a challenging proposition in Indonesia. This is partly because the current state of governance is an artifact of the over-reliance on natural resources. The evidence shows that 'institutional quality is positively correlated with economic growth and negatively correlated with countries dependent on natural resource revenue... because it inhibits net positive saving'.⁴⁶

So tenure reform, institutional quality, and the composition of the economy are inter-related. As deforestation worsens, institutions degrade and the economy becomes hollowed out by the absence of a small and medium sized enterprise (SME) sector. Conversely, if tenure reform leads to better forest management, less reliance on extraction and an emergent SME sector, then one may expect institutions to improve. The first step, however, is to change the attitude towards local control of forest assets.

Creating the conditions for sustainable investment

Even with tenure reform and decent institutions, locally controlled forestry will require investment. Attracting appropriate means of funding at this level is a challenge. The G3, a consortium of rights-holders⁴⁷ is working with the Growing Forests Partnerships to tackle this issue, using examples of best practice from around the world. This will create some solid guidance that can be deployed in Indonesia.

However rights are defined and delineated, and connected to specific obligations, the evidence shows that a functioning system of rights protected by rule of law, particularly in the land sector, has been the pre-condition and cornerstone for a functioning finance sector, the development of manufacturing industries, the reduction of poverty and social progress. There may be a

TABLE 2: THE BENEFITS OF RIGHTS

Rights	Benefits
Property rights (e.g. community land)	Assets in hands of people are more valuable to the economy than 'zombie' assets managed by the state
Free, Prior and Informed Consent	Willing consent of people means less conflict and expense, more local investment, local expertise, better land use efficiency, higher productivity, cheaper money (lower risk for banks and investors)
Oversight, arbitration and advocacy	Market transparency leads to more realistic land values, which directs capital to most efficient usage

temptation to circumscribe or alienate rights in order to speed up progress, but this is a mistake. Strengthening rights does not only secure justice for the most vulnerable, it also has immediate social and economic benefits (see Table 2).

It is encouraging that as part of the REDD plan, Indonesia plans to facilitate a process whereby communities reforest 500,000 hectares per annum and take on management (through the community forest (HKm and village forest (HD) schemes) of a further 500,000. But this needs an economic rationale or else it becomes just another subsidy with unpredictable consequences. Tree planting, in most cases, does have a strong business case. Domestic demand for timber is growing, but demand varies across districts depending on a range of factors. It would be hard for central planners to determine the most appropriate form of forestry. The experience of the HTR scheme bears this out - originally conceived as a means to grow fast growing species demanded by the pulp industry, the permits issued are usually to communities far from the mills, and in many cases they are planning to plant higher value hardwoods such as teak and mahogany. The provinces with the largest mills have relatively few permits issued for HTR, which may reflect local government reluctance to issue permits, but anecdotally it seems the price offered for pulpwood is so low that the business case for HTR plantation can not be made.

It is possible that this is a consequence of the central planning of reforestation schemes. A better solution may be to allow investment to find its way to the most promising propositions. In most forest areas (outside conservation areas and unencumbered by active leases), the presumption should be that local people have an inherent right to manage the local forest providing they comply with general aims of forest cover, biodiversity and watershed protection. This would be an outcome-based system rather than a prescriptive micromanaged input-based system. It is possibly the only way in which reforestation plans (either for ecosystem restoration, carbon sequestration or raw material supply) have any chance of being successful. Government or donor projects that claim ambitious reforestation targets, without addressing the evident failings of the current structure and paradigm of land rights, should thus be treated with skepticism.

6. Conclusion

The state of forests in Indonesia is the legacy of a now outmoded development model that in many forested countries led to the capture of national wealth by a privileged few. Indonesia need no longer be trapped by an outdated paradigm mandating that all forests be owned by the state. As a complex, diverse emerging economy Indonesia has many challenges that need to be addressed to ensure that social development keeps up with economic development, whilst also

keeping an eye on environmental sustainability. However, tenure reform need not be seen as an unwelcome distraction from the job in hand, for arguably it is the only means by which Indonesia can ameliorate the rather disordered effects of rapid progress. Tenure reform, as part of wider institutional strengthening, could release the energy and imagination of local people throughout the country. This would attract a new kind of investment to the forestry sector, a combination of national, international and local resources that would revitalize the forest industry, restore landscapes, reduce vulnerability to both economic and natural disasters and set in motion the kind of broad-based democratic economic development that will see Indonesia come closer to achieving its enormous potential.

Endnotes

¹ Reduced Emissions from Deforestation and forest Degradation

² Forest Law Enforcement, Governance and Trade – a European Union Program – www.euflegt.efi.int

³ The paper draws substantially on a report written by the same author for the UK Climate Change Unit in March 2011, referenced below as Elson 2011.

⁴ DNPI, 2010

⁵ Casson et al., 2007

⁶ BAPPENAS, 2009

⁷ Pirard and Irland (2006). The industry claims that this proportion has fallen over the past five years, and some firms have been making plans to improve sustainability, but in general a large proportion of feedstock is still derived from the natural forest. (Greenomics, 2010)

⁸ Jakarta Post, 2010 (Speech by Forestry Minister Zulkifli Hasan).

⁹ FAOSTAT, 2010.

¹⁰ “Inti-plasma” is a plantation arrangement in which a private company acquires a plantation area incorporating the previous farmers as laborers, assigning a nucleus ‘inti’ area to company plantation and ‘plasma’ area as smallholdings to the farmer-laborers.

¹¹ Molenaar et al, 2010

¹² Harvard, 2010, p.4

¹³ Also known as ‘genuine saving’ or ‘net positive saving’

¹⁴ World Bank (2010). It appears that this calculation excludes forest loss, in which case the true ANS figure is even worse than the figure quoted

¹⁵ Harvard, 2010

¹⁶ EIA, 2009

¹⁷ De Schutter, 2010

¹⁸ Mcleish & Hanson, 2011

¹⁹ Burgess et al, 2011

²⁰ IFC, 2007

²¹ Place et al, 2011

²² Purnomo, 2010

²³ Ministry of Forestry 2009 report records 298 units, and the more recent 2010 data shows 303 units, but does not reveal how many are active.

²⁴ ITTO, 2011

²⁵ Field research by author in Jayapura, 2010

²⁶ World Bank, 2007

²⁷ This decree was later revoked, giving pulp companies more time to access natural forests. It is not yet clear how the latest presidential moratorium will effect this position.

²⁸ Barr et al, 2010

²⁹ World Bank, 2007

³⁰ DNPI Kaltim, 2010

³¹ FAO data has been criticized as unreliable because of changes in methodology reflecting the problems of comparing definitions from different countries. Also, Indonesia tends to record the extent of plantation permits rather than the extent of planted forests, leading to further confusion.

³² Blaser et al. 2011

³³ FAO, 2010

³⁴ Hutan Tanaman Rakyat

³⁵ Dana Reboisasi (DR)

³⁶ Ministry of Forestry, 2011

³⁷ RRI, 2010

³⁸ INPRES 10/2011

³⁹ Brown et al 2002

⁴⁰ LFP, 2009

⁴¹ GEF, 2009

⁴² Deininger & Byerlee, 2011

⁴³ Scherr, 2003

⁴⁴ 26% of business as usual projected emissions by 2020, or 41% if international funding is forthcoming

⁴⁵ Chhatre & Agrawal (2009)

⁴⁶ Dietz et al, 2007

⁴⁷ 3G represents the three rights holders’ alliances: The International Alliance of Indigenous and Tribal

Peoples of the Tropical Forests (IAITPTF), The Global Alliance of Community Forestry (GACF) and the International Family Forestry Alliance (IFFA)

References

- BAPPENAS. (2009). *Reducing carbon emissions from Indonesia's peat lands: Interim Report of a Multi-Disciplinary Study*, Jakarta.
- Barr, C., Dermawan, A., Purnomo, H., Komarudin, H., Barr, C., Dermawan, A. et al. (2010). *Financial governance and Indonesia's Reforestation Fund during the Soeharto and post-Soeharto periods, 1989–2009: A political economic analysis of lessons for REDD+*. (Occasional paper 52). Bogor: CIFOR.
- Blaser, J., Sarre, A., Poore, D. & Johnson, S. (2011). Status of Tropical Forest Management 2011. ITTO Technical Series No 38. International Tropical Timber Organization, Yokohama, Japan.
- BPS. (2010). Indonesia Statistics. Retrieved from www.bps.go.id
- Burgess, R., Hansen, M., Olken, B., Potapov, P., and Sieber, S. (2011) *The Political Economy of Deforestation in the Tropics*, London School of Economics.
- Buss, C., Elson, D., Macqueen, D., Saint Laurent, C., 2011, *Opportunities and constraints for investing in forests and trees in landscapes. Background Paper for the Investment Forum on Mobilizing Private Investment in Trees and Landscape Restoration in Africa*. Profor, World Bank, Washington DC.
- Casson, A. Tacconi, L. and Deddy, K. 2007 *Strategies to Reduce Carbon Emissions from the Oil Palm Sector in Indonesia*. Paper prepared for the Indonesian Forest Climate Alliance, Jakarta.
- Chhatre, A and Agrawal, A (2009). *Trade-offs and synergies between carbon storage and livelihood benefits from forest commons*. PNAS 2009 106:17667–17670
- De Schutter, O. 2010. *Large-Scale Land Acquisitions and Leases: A Set of Core Principles and Measures to Address the Human Rights Challenge*. Louvain, Belgium: United Nations Special Rapporteur for the Right to Food.
- Deininger, K. and Byerlee, D., 2011, *Rising Global Interest in Farmland: Can It Yield Sustainable and Equitable Benefits?*, World Bank, Washington DC
- Dietz, S., Neumayer, E., de Soysa, I., (2007), 'Corruption, the resource curse and genuine saving', *Environment and Development Economics* 12: 33-53, doi:10.1017, Cambridge University Press
- DNPI Kaltim, (2010). East Kalimantan Environmentally Sustainable Development Strategy (Draft). Dewan Nasional Perubuhan Iklim and Pemerintah Propinsi Kalimantan Timur
- EIA. (2009). *Up For Grabs: Deforestation and Exploitation in Papua's Plantations Boom*, Environmental Investigation Agency, London
- Elson, D, (2010) 'Investing in Locally Controlled Forestry: Reviewing the Issues from a Financial Investment Perspective' Background Paper for the Forests Dialogue, Yale University, New Haven
- Elson, D., 2011, *Cost-Benefit Analysis of a Shift to a Low Carbon Economy in the Land Use Sector in Indonesia*, UK Climate Change Unit, Jakarta
- FAO (2010). Global forest resources assessment 2010 country report: Indonesia (available at www.fao.org/forestry/fra/67090/en/).
- FAOSTAT. (2010). FAO Agricultural Data. Retrieved 26 Jan 2011, from www.faostat.fao.org
- GEF, *Timberland Investment & Emerging Markets: A Fresh Review & Outlook: September 2009*, Global Environment Fund, www.GlobalEnvironmentFund.com
- Harvard (2010), *From Reformasi to Institutional Transformation: A Strategic Assessment of Indonesia's Prospects for Growth, Equity and Democratic Governance*, Harvard Kennedy School Indonesia Program.
- IFC (2007) *Market Assessment of SME Sustainable Timber Potential in Indonesia*, PT Mitra Lingkungan Dataconsult / International Finance Corporation - Program for Eastern Indonesia Assistance (IFC-PENSA), Jakarta
- INPRES 10/2011, Presidential Decree <http://sipuu.setkab.go.id/PUUdoc/17176/INPRES0102011.pdf>
- Jakarta Post (2010) 'Guest Speaker: Moratorium on natural forests, peat not prompted by Oslo grant: Forestry Minister', June 7, 2010, <http://www.thejakartapost.com/news/2010/06/07/guest-speaker-moratorium-natural-forests-peat-not-prompted-oslo-grant-forestry-minis>
- Jakarta Post (2011) 'Forestry Firms Under Government Scrutiny' www.thejakartapost.com—967-forestry-firms-under-govt-scrutiny.html
- LFP, Livelihoods and Forestry Programme, 2009, *Community forestry for poverty alleviation: How UK aid has increased household incomes in Nepal's middle hills*.
- McLeish, M and Hanson, C., 2011, 'Having Your Food and Forests, Too' in *The Forestry Source*, Association of American Foresters.

- Ministry of Forestry (2009) Data Dan Informasi Pemanfaatan Hutan 2009, Direktorat Wilayah Pengelolaan Dan Penyiapan Areal Pemanfaatan Kawasan Hutan Direktorat Jenderal Planologi Kehutanan, Departemen Kehutanan, Jakarta
- Ministry of Forestry (2010) Data Dan Informasi Pemanfaatan Hutan 2010, Direktorat Wilayah Pengelolaan Dan Penyiapan Areal Pemanfaatan Kawasan Hutan Direktorat Jenderal Planologi Kehutanan, Departemen Kehutanan, Jakarta
- Molenaar, J.W., Orth, M., Lord, S., Meekers, P., Taylor, C., Hanu, M.D.H., Elson, D. and Ginting, L. (2010) Analysis of the Agronomic and Institutional Constraints to Smallholder Yield Improvement in Indonesia. Oxfam Novib and the Prince's Rainforest Project, Amsterdam
- Pirard, R., Cossalter, C., (2006) Revival of Kalimantan Forest Plantations. Will They Contribute to Fill in the Fiber Shortfall of the Pulp Mills in Sumatra? CIFOR, Bogor, Indonesia.
- Pirard, R., Irland, L.C., (2006) Missing links between timber scarcity and industrial overcapacity: Lessons from the Indonesian Pulp and Paper expansion, *Forest Policy and Economics* (2007) 1056–1070, doi:10.1016/j.forpol.2006.10.003, Elsevier
- Place, F., Ajayi, O.C., Masters, E., 2011, Tree based and other land management technologies for landscape restoration in Africa. Background Paper for the Investment Forum on Mobilizing Private Investment in Trees and Landscape Restoration, World Agroforestry Centre, Nairobi
- Purnomo, A., 2010, 'Limits of green alarmism', Opinion piece in Jakarta Post, 30 Nov 2010.
- Putz, F. E., Zuidema, P. A., Pinard, M. A., Boot, R. G. A., Sayer, J. A., Sheil, D. et al. (2008). Improved tropical forest management for carbon retention. *PLoS Biology*, 6(7).
- Scherr, S.J., White, A. and Kaimowitz, D. 2003. A new agenda for forest conservation and poverty reduction: Making markets work for low-income producers. Washington, DC: Forest Trends.
- World Bank (2007) Sustaining economic growth, rural livelihoods, and environmental benefits: Strategic options for forest assistance in Indonesia. Washington, DC.
- World Bank (2010). Adjusted Net Savings. Retrieved October 2010, from go.worldbank.org—3AWKN2ZOY0

The Rights and Resources Initiative (RRI) is a strategic coalition comprised of international, regional, and community organizations engaged in development, research and conservation to advance forest tenure, policy and market reforms globally.

The mission of the Rights and Resources Initiative is to support local communities' and indigenous peoples' struggles against poverty and marginalization by promoting greater global commitment and action towards policy, market and legal reforms that secure their rights to own, control, and benefit from natural resources, especially land and forests. RRI is coordinated by the Rights and Resources Group, a non-profit organization based in Washington, D.C. For more information, please visit www.rightsandresources.org.

This publication was made possible with the support of the Ford Foundation, Ministry of Foreign Affairs of Finland, Norwegian Agency for Development Cooperation, Swedish International Development Cooperation Agency, Swiss Agency for Development and Cooperation, and UK Department for International Development. The views presented here are those of the authors and are not necessarily shared by the agencies that have generously supported this work, nor by all the Partners of the RRI coalition.