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WORKING PAPER

Integrating Communities into REDD+ in Indonesia

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Acronyms and Abbreviations

AMAN	Indigenous Peoples Alliance of the Archipelago
BAPPENAS	Indonesian Development Planning Agency (<i>Badan Perencanaan Pembangunan Nasional</i>)
CBO	community-based organization
CLUA	Climate and Land Use Alliance
CSO	Civil Society Organization
FONAFIFO	<i>Fondo Nacional de Financiamiento Forestal</i> – Costa Rican PES program
FORDA	Forestry Research and Development Agency
GHG	greenhouse gas
GOI	Government of Indonesia
IPSF	Indigenous Peoples' Support Fund
KEHATI	Indonesian Biodiversity Foundation (<i>Yayasan Keanekaragaman Hayati Indonesia</i>)
MRV	measuring, reporting, and verification
NGO	nongovernmental organization
PES	Payment for Ecosystem Services
PNPM	National Program for Community Empowerment (<i>Program Nasional Pemberdayaan Masyarakat</i>)
REDD	Reducing Emissions from Deforestation and Forest Degradation

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1. Introduction

The Government of Indonesia (GOI) is in the process of designing a national REDD+ mechanism to allow it to access donor funding in the medium term, and funding from a potential performance based mechanism in the long term. There are few precedents for such a mechanism in Indonesia and there are many questions related to its design, including the appropriate institutional framework, funding distribution considerations, and the roles of various REDD+ stakeholders. This policy brief is focused on the broad question of how REDD+ can address underlying community issues such as lack of access to forest land, and does not deal with the more specific questions of legal and institutional frameworks for such a mechanism. More specifically, the brief highlights the need and opportunity for integrating community development approaches into a REDD+ framework

REDD+ can only be successful in Indonesia if its design effectively considers the central role of communities in the forestry sector and if it addresses underlying community issues. Communities are an essential part of REDD+ readiness efforts, and will also need to have a central role in future REDD+ implementation. Many of the factors that underlie deforestation in Indonesia also negatively impact local communities, and addressing these factors can have the dual benefit of enabling reductions in deforestation and improving community welfare. Key issues include lack of clear access rights to forest land, poor spatial planning, and poor governance. However, investments in these areas will not lead to immediate reductions in emissions, raising the question of how to leverage performance based REDD+ funds.

REDD+ payments at the international level are likely to be based purely on measured emission reductions performance or “proxies”; that is, performance measured through other variables. However, the GOI has the mandate to use such funding to maximize long-term benefits. Community-level funding that is based purely on performance in reducing greenhouse gas (GHG) emissions will have limited application at the start as issues such as land rights, community capacity, and livelihood development will need to be addressed first. Importantly, such activities, while often labeled as “readiness” activities, are aligned with Indonesia’s National REDD+ Strategy and will lead to long-term emissions reductions.

An approach that is not exclusively tied to performance-based payments allows policymakers to build on existing community development programs with links to REDD+. Indonesia already has successful mechanisms in place for addressing a number of community-level funding needs. This brief presents existing small grants mechanisms and the National Program for Community Empowerment (PNPM) as two important examples of existing models for channeling funding to communities in an efficient and equitable way.

The next section provides a short background of REDD+ in Indonesia and describes the central role of communities in Indonesia’s forestry sector. Section three argues that the types of investment most needed, while mostly not performance based, can nonetheless be aligned with global REDD+ funding, as they contribute to the underlying finance needs before performance can be measured. Section four describes the critical role of land rights and community access to forest land for meeting REDD+ objectives, and briefly describes the state of land rights in Indonesia’s state forest zone and the potential role of REDD+ funding for supporting ongoing reforms. Sections five and six describe the role of small grants programs and PNPM, which are already playing an important role in addressing issues related to REDD+ in Indonesia and present useful models that could be scaled up. The concluding section summarizes a number of policy options.

The brief is based largely on a review of literature on Payments for Ecosystem Services (PES) programs, on interviews with a number of representatives from Indonesian small grants programs, and on discussions with the team that is involved in the implementation of PNPM programs at the World Bank Office in Jakarta.

2. Background

Growing concern about climate change has put Indonesia's forestry sector under increasing global scrutiny. Indonesia is home to the third largest tropical rainforest as well as vast areas of peatlands, both of which release globally significant levels of GHGs caused by deforestation and degradation. Indonesia has taken a leading role in responding to concerns about climate change by committing to far reaching unilateral reductions in GHG emissions, and by preparing for a potential global scheme to Reduce Emissions from Deforestation and Degradation (REDD+).¹ Most recently, the GOI launched a National REDD+ Strategy, which identifies approaches to create sustainable emissions reductions, largely by addressing underlying drivers of deforestation and forest degradation. Central to the approach is recognizing the critical role of communities in protecting forest areas.

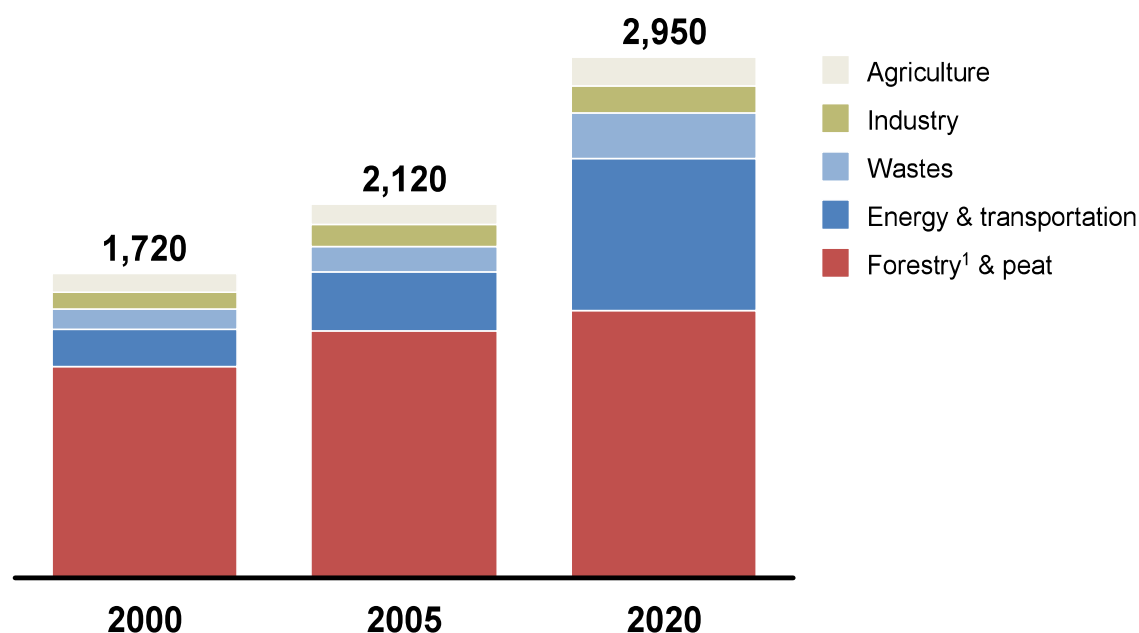
REDD+ in Indonesia

Indonesia is a major GHG emitter (about 2.1 gigatons of carbon dioxide equivalent [Gt CO₂e] in 2005) and most of the emissions come from deforestation and peatland degradation (Figure 1). Indonesia has approximately 94 million hectares of natural and planted forests, representing around 52 percent of its total land area. In 2010, the Food and Agriculture Organization estimated that Indonesia's forest cover was reduced by some 24.1 million hectares between 1990 and 2010 (from 118.5 million hectares in 1990 to 94.4 million hectares in 2010). Indonesia also has large areas of peatlands that release globally significant quantities of CO₂ when they are cleared or burned. The original area of peatlands, both forested and nonforested, has been estimated at about 20 million hectares. However, since the 1980s, clearing for large plantations and other uses has decreased this area to less than 17 million hectares (Ministry of Forestry 2008). The Ministry of Environment estimates that in 2000, as much as 60 percent of Indonesia's total GHG emissions were due to land use changes, including deforestation, forest degradation and peat loss (Ministry of Environment 2010, cited in GOI 2011).

In recent years, REDD+ has become a focus of policy development in Indonesia. The Forestry Research and Development Agency (FORDA) took the lead in 2007 by forming the Indonesia Forest Climate Alliance (IFCA) to articulate a national approach in response to shifting opportunities emerging from international negotiations on climate action and financing. In 2009, at a meeting of the heads of state of G-20 countries, Indonesian President Susilo Bambang Yudhoyono made a public commitment to target a 2020 GHG emissions level that is between 26 percent and 41 percent lower than the estimated business-as-usual level.

¹ The "+" in "REDD+" extends the scope of the concept to include sustainable management of forests, conservation of forest carbon stocks and enhancement of carbon stocks.

Figure 1: Sectoral Emission Profile for 2000, 2005, and 2020 (est.) (in million tCO₂e)

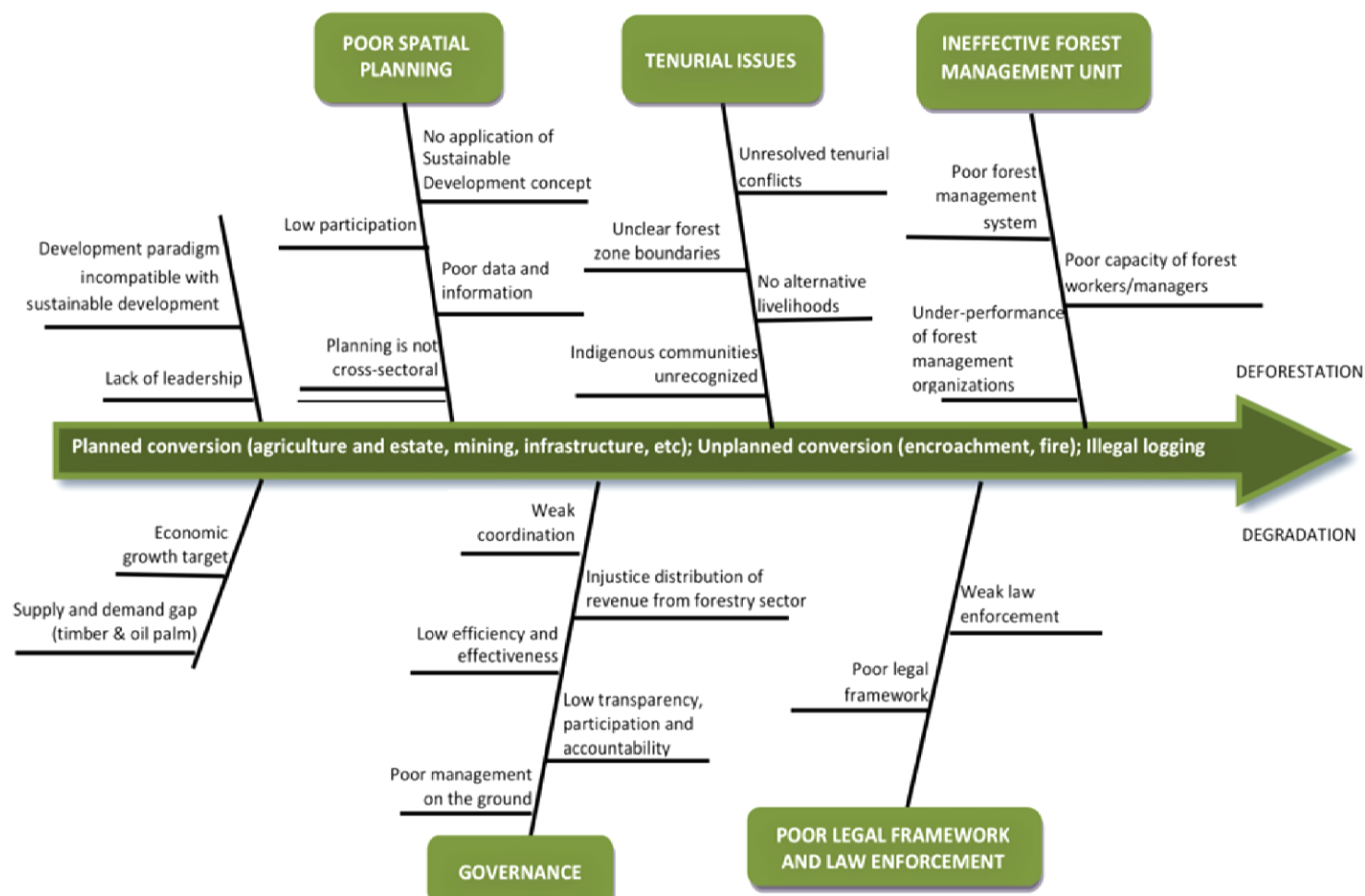


Source: GOI 2011

In 2011, President Yudhoyono issued Presidential Instruction 10/2011, which limits the issuance of licenses for the conversion of forest or the development of peatlands. The suspension of new licensing is a key deliverable of an agreement between the GOI and the Government of Norway on “Cooperation on reducing greenhouse gas emissions from deforestation and forest degradation.” GOI’s key agencies, under the leadership of the President’s Delivery Unit for Development Monitoring and Oversight, continue to oversee implementation of Presidential Instruction 10/2011 and to develop a plan for the establishment of a national REDD+ agency. The plan also includes establishing a national entity to lead the measurement, reporting, and verification (MRV) of REDD+ activities and results.

The GOI issued a National REDD+ Strategy in June 2012. The strategy was developed through a consultative process with multiple stakeholders and places emphasis on addressing underlying drivers of deforestation while improving the livelihoods and security of forest-dependent communities, and enhancing the protection of biodiversity. It emphasizes efforts to reform governance in forestry and spatial planning related to forests and peatlands. It is focused on addressing underlying drivers of deforestation, and mentions the following key issues: (1) ineffective spatial planning, (2) weak land tenure, (3) ineffective forest management, (4) inadequate governance, and (5) poor law enforcement (Figure 2). The trajectory laid out here is reinforced by a judicial system that disallows equitable adjudication of claims and conflicts.

Figure 2: Perceived Underlying Sources of Deforestation and Forest Degradation



Source: GOI 2011

In addition to the National REDD+ Strategy and other REDD+ initiatives at the national level, a number of subnational REDD+ activities are underway. Most of these are small-scale activities at the project level; others are larger in scale and will test REDD+ strategies at the province or district levels. As of January 2012, 45 REDD+ demonstration projects have been recorded; 9 are considered official pilot projects or demonstration activities, supported primarily by bilateral donors and other partners. Other initiatives are classified as “voluntary initiatives.” Most of these are being prepared by international and local nongovernmental organizations (NGOs) and several have been proposed by private companies and international investment banks.

Communities and REDD+ in Indonesia

Communities play an important role in Indonesia’s forestry sector and are key stakeholders in REDD+ policy and implementation. There are strong linkages between forest policies, including REDD+, and the millions of Indonesians who live within or near the boundary of the state forest zone. These linkages encompass both the potential effects that REDD+ legislation might have on local communities, as well as the integral role that communities will need to play to ensure REDD+ success. Achieving successful REDD+ outcomes, including equitable benefit distribution, will depend in large part on how well local communities are engaged.

About 6 million people receive a significant share of their cash income from forests (Sunderlin et al. 2000). Besides providing jobs and cash incomes, forests are essential to the needs of the poorest households in forest areas for fuel, medicines, food, construction materials, and other goods. Beyond foods and materials, forests also contribute to livelihoods in more intangible ways by reducing risks and increasing food security for the poor. Forest dwellers and those living in sensitive areas in close proximity to forest lands may also supplement forest-based livelihoods by working for wages in timber firms (Colchester 2006).

Communities will always play a central role in REDD+ implementation, both at the policy level and on the ground. On the one hand, there is the need to guard against risks to communities from the implementation of REDD+; on the other hand, sustainable emissions reductions can only be achieved if communities are involved both in the design and the implementation of REDD+. Although the direct impacts of communities on deforestation appear to be localized, there is a strong link between the governance factors that underlie deforestation at the national scale (Figure 2) and community rights and participation in the state forest zone. Addressing these factors will require significant engagement with local people on issues such as spatial planning and land use. This will require real commitment from the central and subnational governments to address the issue.

More directly, communities will need to be closely engaged in REDD+ activities for these to succeed. Local people will need to be engaged in efforts to conserve forests (and other carbon-rich ecosystems such as mangroves) and use natural resources sustainably. Attempts to address deforestation locally will need to account for population pressure, as well as livelihood issues and poverty. Furthermore, communities can play an important role as REDD+ project proponents. REDD+ projects will need to address the needs and resource rights of local communities in order to achieve lasting and equitable impacts. Ensuring that local people benefit is also crucial to building national and international legitimacy and to fulfilling principles of equity (Peskett et al. 2008, Mohammed 2011).

Although industrial actors are considered the main agents of deforestation in Indonesia, encroachment by smallholder farmers and population pressures play an important role in some areas, and this provides a window for addressing deforestation directly through investments at the community level, including incentives. In some locations, smallholders are an important contributor to deforestation, with specific crops playing regionally important roles. For

example, the expansion of smallholder coffee has significantly contributed to deforestation in and around Bukit Barisan Selatan Park in southwestern Sumatra (O'Brien and Kinnaird, 2003; Gaveau et al. 2009). Other smallholder crops that may be responsible for regionally significant deforestation include rubber, rice, coconut, and cacao. Also, much of the recent expansion in oil palm areas in Sumatra is believed to have come from smallholder farmers not directly connected to large estates (World Bank 2010). Smallholder encroachment ranges from spontaneous to expansion linked to larger business interests and the connection with larger investors and groups is not always clear.

In some cases, poverty itself is an underlying driver of deforestation, although this need not be true in all instances. Poverty may be an underlying cause of forest conversion by some small-scale farmers, but may limit the deforestation impacts of others. Poor farmers in forested regions may lack alternatives to clearing forest for agricultural activities (Angelsen 1999) and small-scale farmers may expand into forests because they do not have the financial resources to maintain the productivity of their existing cultivated land (Zwane 2007). However, poverty also could prevent farmers from accessing costly equipment necessary for larger-scale forest clearing. A previous empirical analysis found that the rate of small-scale deforestation in Indonesia is lower in poorer regions; it increases at first with wealth, but subsequently decreases after a certain wealth level is reached (Purnamasari 2010).

3. Aligning International REDD+ Funding with Long-Term Community Investment

Global funding for REDD+ needs to be aligned with the National REDD+ Strategy with its focus on addressing underlying drivers of deforestation, including community needs. However, performance-based payments which underlie the REDD+ concept at the global scale have only limited community-level applications. It is critical to note that at the subnational level, funding does not need to be conditional on the immediate delivery of GHG emissions reductions, allowing for flexible approaches to addressing underlying drivers of deforestation.

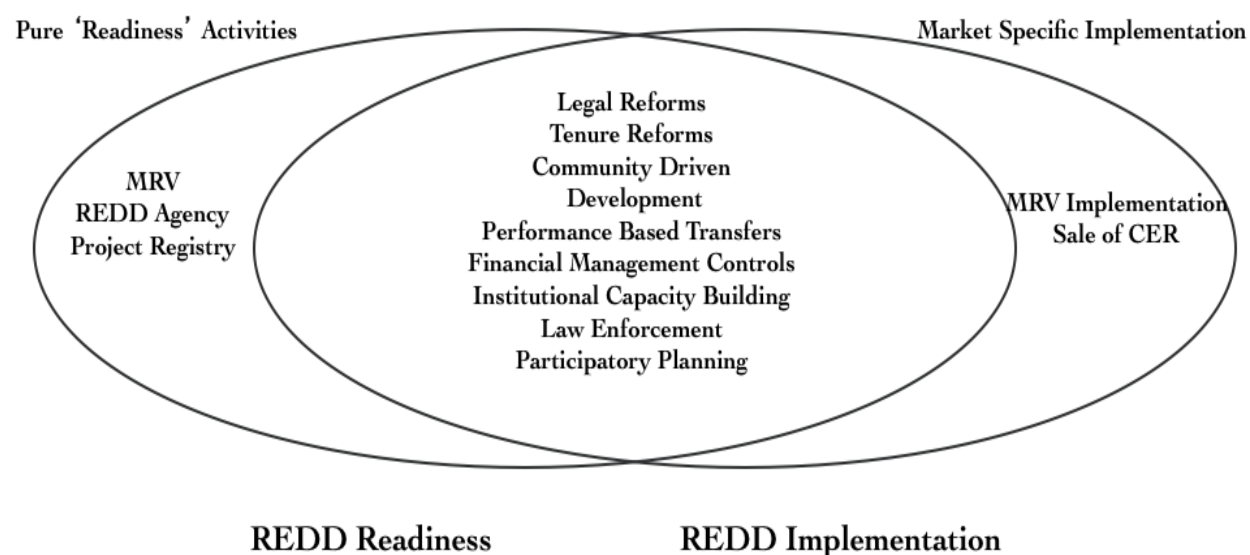
A number of broad objectives can be defined for community-level REDD+ approaches, including the following:

- Ensuring that REDD+ schemes are accessible to communities. Communities are an integral part of Indonesia's forest area, and for REDD+ to succeed on a meaningful scale, their active participation in the REDD+ mechanism will be critical. Ensuring that local people benefit is also crucial to building national and international legitimacy and to fulfilling principles of equity (Peskett et al. 2008, Mohammed 2011). This can be supported through capacity building and through investments that support reforms that lead to improved formal community access to forested areas.
- Addressing underlying drivers of deforestation linked to communities. Many underlying drivers of deforestation in Indonesia—including poverty, poor spatial planning, and lack of access to forest resources—are directly linked to community rights and livelihoods. Any long-term effort to reduce deforestation must address these issues.
- Addressing direct community-level drivers of deforestation. In areas where encroachment by local people leads to deforestation (either by themselves or through the incentive of larger companies or other outside interests), REDD+ funding can provide alternative livelihoods or other incentives to communities in order to reduce pressures on forests.

Payments for environmental services at the community level play only a minor role in addressing deforestation, at least before issues of access and other underlying drivers of deforestation are properly addressed.

In spite of the nomenclature used in global REDD+ dialogues, it is important to recognize that the distinction between REDD+ “readiness” and “implementation” is not clear-cut. Some readiness activities, such as the creation of an MRV system or mechanisms to manage REDD+ crediting, have a limited impact on forests by themselves, but most activities aimed at addressing readiness are also important strategies to reduce deforestation. Investments in governance, spatial planning, and communities are all critical for preparing Indonesia for a REDD+ market, but importantly these “readiness” investments will also lead to emissions reductions, albeit in the long term. Figure 3 shows the overlapping relationship between REDD+ readiness activities and implementation.

Figure 3: REDD+ Readiness and Implementation



Although a significant amount of REDD+-related donor funding is available for “readiness” activities, the bulk of funding, including market-based funding, will be tied to performance in reducing emissions. The Government of Norway led the way in 2010 by making most of its USD 1 billion pledge for REDD+ conditional on measurable performance. This raises the question of how to channel performance-based funding to programs where performance is lagged and where attribution of emissions reductions to specific programs will be difficult.

However, there is no requirement for REDD+ funded community activities to be conditional on performance in reducing GHG emissions. Indonesia will have the flexibility to allocate the resources toward activities that reduce emissions, as it sees fit. What matters to the international community (and markets) is that the verified emission reductions are reported on. Neither existing donor funding nor a future REDD+ compliance market, as envisioned in United Nations Framework Convention on Climate Change documents, require that the flow of REDD+ funding at the project or program levels should be tied to emissions reductions. Under the proposed framework, emissions reductions will be accounted at the national level and international REDD+ funds will flow to a national fund. This gives GOI wide latitude in selecting strategies to reduce emissions. To ensure eligibility for REDD+ funding from abroad, subnational programs need only to result in emissions reductions that contribute to reduced emissions at the national scale.

The fact that REDD+ funding at the community level does not need be tied to performance in emissions reductions has important implications for the design of REDD+ financing mechanisms. GOI can, and should, design a program that is effective in reducing deforestation and forest degradation in a way that is pro-poor and that supports its national development objectives. Performance based payments to communities can form part of such a program, but they are only one of many potential strategies for achieving REDD+ investment goals. For community REDD+ programs, GOI can build on existing community development mechanisms, including those with linkages to conservation (see text box).

Pro-poor conservation programs in other countries

In designing a system that makes pro-poor components an integral part of REDD+ efforts, Indonesian policymakers may look to foreign conservation programs for best practices. Examples from other tropical countries show that pro-poor components can be directly integrated into national conservation incentives programs with success. In Costa Rica, Mexico, and Ecuador, national conservation incentives programs work closely with local communities and include pro-poor components or other measures to improve equity. For example, the Program for Hydrological Environmental Services in Mexico makes public payments to landowners to conserve natural forest for the maintenance of hydrological services. Also, the national performance based benefit sharing mechanism in Ecuador—Socio Bosque—aims to preserve native forests and other native ecosystems, and to increase the wellbeing of the forest dependent population. In Costa Rica, the national PES program, FONAFIFO, makes special arrangements for contracting with indigenous peoples. Brazilian grant-based natural resource funding mechanisms under the Pilot Program have had significant impacts to strengthen the national capacity in dealing with regional environmental issues.

4. Land Use Rights and REDD+

Many of the underlying issues identified in the National REDD+ Strategy have direct links to communities, but issues related to land rights are perhaps the most complex and have far-reaching impacts on forest governance, communities, and REDD+ outcomes. The strategy notes that REDD+ requires clear spatial plans and a system of secure land tenure to enable clear attribution of rights and responsibilities over forested areas. Clear rights to land are important from an equity perspective and can also lead to more sustainable forest management, thereby contributing to the goals of REDD+. Conversely, the lack of clear rights is one of the main concerns voiced by critics of REDD+, who point to the risk of further marginalizing forest dwellers. Also, implementation of site-level REDD+ projects would be hindered by uncertainty over land ownership. This section aims to provide a brief overview of the existing framework that guides access to forest land in Indonesia, of ongoing reforms, and the relevance of access to REDD+.

Poor spatial planning and weak recognition of local people's land rights raises the risk that REDD+ may lead to further marginalization of poor, as well as *adat* (customary) communities living in or near state forest land. REDD+ promises to raise the value of forested land, which could lead to land acquisition or other forms of securing land access by speculators and companies looking to benefit from future revenue flows. In addition, there is the expressed fear that the traditionally used concession model will be replicated for REDD+ projects, which would further restrict access to natural resources for communities. This has led a number of observers to recommend that tenure rights need to be clarified before REDD+ proceeds.

Lack of formal recognition of land rights also raises the issue of equity in the distribution of REDD+ payments. In some cases, communities may be rightful stewards of land, but as long as there are contesting claims to that land or when land is acquired without due process, there is a risk that others would misappropriate potential REDD+ payments. Inequitable distribution of benefits has been a feature of Indonesia's forestry sector in the past, when benefits from timber extraction flowed to large companies, with little reaching local people. Also, land use restrictions through REDD+ may have direct impacts on communities, raising the issue of equitable compensation.

Those closest to forest lands, if they can assert their rights, often are more likely to use land more sustainably than big commercial players. Local communities play an important role in managing a significant portion of the state forest zone, including a large area that is under various forms of agroforestry uses. A significant but undetermined portion of the state forest zone consists of planted agroforest, rubber plantations, and home gardens. Although these are not officially recognized as belonging to the forestry sector, extensive local forest uses and agroforestry can preserve important forest functions. In Java, local people are also increasingly engaged in timber production, and have contributed to the recent expansion of forest cover there.

Tenure security is often considered a requirement for investments in carbon forestry and other projects that involve payments for ecosystem services. Experience with Clean Development Mechanism projects as well as voluntary REDD+ projects in Africa and other areas have shown that lack of tenure security is an important risk factor for carbon finance investors (de Aquino et al. 2011). The legality of emissions reductions credits run into problems when no clear owner of forest land can be identified, and it can be difficult to ensure permanence of emissions reductions when land use decisions and resulting emissions outcomes are determined by third parties. In a number of cases, tenure problems have been directly blamed for the collapse of PES projects (Wunder et al. 2008).

Land rights in the state forest zone

Any meaningful efforts in reducing deforestation and forest degradation will need to tackle issues of land rights and land access within the area that is currently classified as state forest zone. This administrative area covers 70 percent of Indonesia's land and encompasses almost all of its existing forests, making it the necessary focus of potential REDD+ interventions. However, an incomplete and partly inaccurate delineation process of this area has resulted in misclassification of some areas, overlapping land claims, conflict, and lack of legal certainty over land rights.

The Ministry of Forestry's map of the state forest zone is based mainly on inventories that took place in the 1970s and early 1980s. These inventories largely ignored social criteria, and communities often were left out of the delineation process (World Bank 2006, Contreras-Hermosilla and Fay 2005). This omission, combined with poor data, resulted in the erroneous inclusion of lands that were managed by communities for agroforestry or agriculture, of lands claimed by customary communities, as well as of villages and other areas without tree cover. Besides compromising existing rights to land, legal uncertainty over these areas has led to conflict between different land claimants, and lack of clear management responsibility. In addition, lack of coordination between institutions providing land use licenses has contributed to overlapping land claims and conflict over the use of forest areas, often with local communities who have been excluded from the licensing process.

A 2011 constitutional court ruling (MK45) on the definition of State Forest Land provides a window for significant acceleration of forest tenure reform. The previous definition of State Forest Land included areas that had been

“designated and/or gazetted” as such, but the new definition includes only areas that have been properly gazetted. Although the court ruling is unlikely to affect previous decisions on land allocation, it does create significant space for the Ministry of Forestry, district governments, and local communities to negotiate land use on areas of State Forest Land that have not yet been gazetted (Wells et al. 2012). Recent analysis indicates that by 2011, only 14.24 million hectares had been fully gazetted (Ministry of Forestry 2011). The Ministry of Forestry has launched a program to accelerate the gazettement of State Forest Land, with an ambitious completion date by 2014. To support the gazettement process, spatial planning, and the resolution of tenure issues, the Ministry of Forestry has also recently decreed the establishment of a Working Group for the Preparation of a Macro Forestry Tenure Plan, which includes civil society organization (CSO) representatives (SK.199/Menhut II/2012 of May 2012).

Although the Basic Forestry Law of 1999 assigns control of state forest land to the government, actual enforcement of regulations in many areas is weak. Within Production Forest areas, management rights and responsibilities are largely passed on to private entities through concession agreements. In the past, this model led to large-scale forest degradation as concession companies extracted timber resources without making the requisite investments in forest maintenance and protection. The GOI is making significant progress in monitoring license holders and in enforcing regulations in forestry concessions, but more than half of the Production Forest area (49 million hectares) is not allocated to license holders. Given that the government’s capacity to enforce forestry and environmental regulations is generally weak, the Ministry of Forestry places a high priority on improving forest governance in these areas.

As part of its approach to improve governance, while creating better access to communities, the Ministry of Forestry is making important efforts to increase formal community participation in the management of Production Forest areas, but progress has been slow. A number of licenses are theoretically accessible to local communities: Traditional Use Forests (*Hutan Adat*), Village Forests (*Hutan Desa*), Community Forests (*Hutan Rakyat*), and Community Timber Plantations (*Hutan Tanaman Rakyat*).

Supporting reform processes through community investment

Community-level investments can play an important role in supporting tenure reforms. Progress in this area will require the involvement of local communities in land use mapping, and mediation of conflict over land rights. Community-level maps and land use plans can be an important input to regency spatial planning processes. Funding can provide technical assistance to support training on the use of mapping techniques, access to mapping technology, and participatory mapping activities.

REDD+ funding can also help communities access Production Forest areas through community forestry licenses. Obstacles include a byzantine licensing process at the licensing end and lack of experience in regulatory processes and formal forest management planning at the application end. Investment in community capacity and in local institutional strengthening would allow communities to play a greater role in shaping licensing processes, and would bridge gaps between potential applicants and the licensing requirements. Specific activities could include training in forest business plan development, development of community forestry institutions or cooperatives, and legal support.

On the ground, REDD+ activities can further support reforms. For example, a PES project focusing on water provision in the Sumberjaya watershed in Lampung, Indonesia, issued communities with 35-year rights over government Protection Forest, allowing them to plant agroforestry plots. In another Indonesian PES scheme, national park buffer zone land around Meru Betiri was granted to local farmers for medicinal plant planting (Suyanto et al.

2005). PES schemes have been shown to be a way of improving tenure claims in other countries (Barbier and Tesfaw 2011). These projects simultaneously address tenure and questions of benefit-sharing mechanism questions, making them a useful model for REDD+.

Awarding Land Tenure in Exchange for Tree Planting in Sumatra

In exploring incentive systems that provide the link between providers and beneficiaries of environmental services, Suyanto, Leimona, Permana, and Chandler (2005) draw attention to the Medicinal Plantation Conservation project at Meru Betiri National Park. Since 1993, this project has focused on the 4,730-ha buffer zone of a park that boasts 331 species of medicinal plants. Encompassing 2,400 households, the park has suffered from illegal logging, encroachment, as well as the intense harvesting of medicinal plants by local community groups, who use this activity to supplement their daily income.

In response, local NGOs and the management staff of Meru Betiri National Park launched a pilot project to preserve the park. Farmer groups are granted land rights in exchange for following a well-defined eight-year plan that involves the growing of recommended agricultural plants and fruit trees with the eventual introduction of shade-resistant medicinal plants. At each stage, the community was provided with continued incentives in the form of additional income. The authors point out, “in the setting where dependency of a community’s livelihood on land or forest is high, using land leases (that require sustainable land management) could be effective rewards that would provide environmental services and enhance livelihoods” (2005 p. 13)

The Indigenous Peoples Alliance of the Archipelago (AMAN) is currently implementing a project that seeks to support tenure reforms at the village level. AMAN is developing a project for Sustainable Indigenous Community Livelihoods in Forested Areas, which includes a small grants portion for the development of community enterprises and aims to improve the registration of areas that are managed by customary communities.² The goals and activities of the project overlap with the types of community-level REDD+ programs suggested in this report, without being labeled as REDD+.

5. Small Grants Programs and REDD+

Investing in communities through capacity building, livelihood development, and sustainable land use are important for REDD+ to succeed and can be compatible with a national financing mechanism. Much of the necessary investment falls under traditional community development activities, which have a long history in Indonesia that precedes debates about REDD+ and climate change. Part of the challenge will be to adapt, where necessary, existing programs, and to scale up in line with increased funding through REDD+. The following sections look specifically at small grants programs and Indonesia’s National Program for Community Empowerment (PNPM). It should be noted that other options exist that are not covered in this report, including fiscal transfers to subnational governments, Integrated Conservation and Community Development schemes, and a number of benefit-sharing mechanisms that are being applied in other countries.

² For more information on the AMAN project, see:

<http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/EXTEAPREGTOPSOCDEV/0,,contentMDK:23174924~menuPK:502946~pagePK:2865114~piPK:2865167~theSitePK:502940,00.html>

Small grants are an important tool for community development in Indonesia that could be adapted to support REDD+ goals. Small grants programs are designed to fund small-scale activities at the field-level and have a number of advantages over other funding approaches. Through their activities in local capacity building and governance, Indonesian small grants programs already play an important role in improving REDD+ “readiness.” A number of institutions have launched REDD+-specific small grants programs, further demonstrating the usefulness of this approach.

Small grants programs benefit from high levels of local ownership. Grant-giving institutions are often run by multistakeholder steering committees, which evaluate and approve proposals and can influence funding strategies. Even large multinational programs such as the Global Environment Facility Small Grants Program generally have a form of a National Steering Committee, which includes representatives from local NGOs, government, and academia, and may include co-funding donors, indigenous peoples and local community organizations, the private sector and the media (Riley et al. 2010). The project selection process is generally demand-driven, which ensures a high level of commitment and ownership among grantees.

Existing small grants programs in Indonesia

Indonesia has a significant number of active small grants programs with forest-related portfolios. These include large international grant-making institutions such as the Ford Foundation, as well as national organizations such as KEHATI Foundation, TIFA Foundation, Kemitraan, and the Samdhana Institute. These organizations currently fund REDD+ “readiness” activities, encompassing capacity building, research and analysis, technical assistance, public consultations, pilot demonstration activities, monitoring, knowledge sharing, and policy dialogue.

Small grants programs in Indonesia are highly varied with regard to grant duration and size, and the types of grantees they work with. Small grants programs looked at for this report provide a maximum period of funding ranging from one to three years. The maximum size of grants ranges from as low as USD 5,000 to USD 35,000. Grantees include NGOs, universities, local communities, and youth groups.

The following is a brief overview of a selection of Indonesian small grants programs:

- The TIFA Foundation is a grant-making institution that promotes democratic development based on the rule of law, good governance, and supporting the rights of all citizens—including women, minority groups, and marginalized populations—through the strengthening of civil society. TIFA receives around 300 proposals each year and funds about 100 initiatives, with grantees receiving up to USD 30,000–35,000. During 2007, TIFA pledged a total of USD 200,000.
- KEHATI, the Indonesian Biodiversity Foundation, is an independent, nongovernmental, national grant-making institution focusing on promoting conservation and sustainable use of biodiversity resources. KEHATI supports efforts for biodiversity conservation by providing financial support, technical assistance and facilitation to local communities, NGOs/CSOs, academic institutions, scientists, and professionals in Indonesia. It also administers grants on behalf of the U.K. Department for International Development, manages the Tropical Forest Conservation Act debt swap program and is engaged in the EU Forest Law Enforcement, Governance and Trade initiative (FLEG-T).

- The Partnership for Governance Reform (Kemitraan) is an independent not-for-profit civil law association and a multistakeholder organization that was established in 2000 under a United Nations Development Programme project with the National Development Planning Agency (BAPPENAS) as the executing agency. Working in partnership with government agencies, CSOs, private sector and international development partners, the partnership assists Indonesia in bringing about reform at national and local levels, and in building vital links between government and civil society to sustainably promote governance reform. In 2010, the partnership delivered USD 8 million to program implementation received directly from donors.
- The Samdhana Institute is an NGO supported by a community of more than 50 conservation and development practitioners. Working in partnership with Global Greengrants Funds, the world's largest donor of small-grants for local groups working on rights and environment issues, Samdhana aims to build capacities of marginalized communities that are dependent on the natural resources within their environment. The small grant program provides financial support of up to USD 5,000 to community-based organizations (CBOs) or CSOs to fund programs which focus on equitable access and control over natural resources. In recent years, Samdhana has been focusing its grant-making on supporting more Indigenous Peoples' and farming communities' initiatives through the Indigenous Peoples' Support Fund (IPSF) program. The IPSF program will support indigenous peoples' leaders to find ways to address conflict over land rights and sustainable management of their ancestral lands.

Small grants programs and current climate change financing

Small grants programs in Indonesia are already closely involved in processes directed at improving REDD+ "readiness" through programs that involve capacity building, environmental education, policy dialogue, tenure-related activities, local institutional development, and promotion of indigenous peoples' rights. Other readiness activities at the community level, such as local capacity building for MRV, are more directly tied to REDD+. In addition to capacity building and other readiness activities, small grants programs are ideally suited to finance community-level activities that lead more directly to reduced deforestation and forest degradation. Types of REDD+ implementation activities that could be supported by small grants include promotion of livelihoods that relieve pressure on forests, community forest conservation activities, forest rehabilitation, and community forestry schemes.

Multilateral and bilateral donors are increasingly recognizing the key role of small grants programs in supporting REDD+ in Indonesia. With increased levels of donor funding tied to climate change funding, the small grants programs are playing a prominent role. Although some of this funding may be rebranded as existing development assistance, contribution from new sources is also significant. A number of small grants programs have received funding for REDD-related activities from bilateral donors and private foundations. For example, Samdhana launched a REDD+ readiness program in 2010 with funding from the Norwegian Agency for Development Cooperation, the Packard Foundation, and the Climate and Land Use Alliance (CLUA). The program focuses on advocacy, information dissemination, organizational capacity building, community empowerment, and participatory mapping. Grants between USD 2,000 and USD 20,000 are given to NGOs, CBOs, and community forums for programs lasting up to one year. Furthermore, small grant programs are important for addressing various strategic gaps that may not be covered by other programs, and for being able to respond to local needs.

Small grants are becoming a crucial component of multilateral REDD+ programs. For example, the World Bank's Forest Carbon Partnership Facility supported a capacity-building program for forest-dependent indigenous peoples

and other forest dwellers. This program directs USD 1 million toward building effective links with forest-dependent indigenous peoples and other forest-dweller communities and REDD. Similarly, the Forest Investment Program has launched a dedicated grant mechanism for supporting local communities and indigenous peoples globally, and up to USD 6 million is likely to be available for Indonesia, with small grants as one possible disbursement mechanism.

Forestry governance, poverty and climate change: Local stakeholders' facilitation to support community-based forest management program in Nusa Tenggara

Location: Nine districts in Nusa Tenggara

Proponent: Samanta (Nusa Tenggara Community Foundation)

Period: October 2008 – October 2009

Funding: IDR 2.7 billion (approximately USD 300,000: Kemitraan USD 200,000 and MFP-Kehati USD 100,000).

Samanta, in collaboration with the Partnership for Governance Reform (Kemitraan), has supported around 18 local partners (NGOs, CBOs, and local government) in developing community-based forest management program (Hutan Kemasyarakatan/HKm, Hutan Tanaman Rakyat/HTR, village forest), in the form of financial support (small grant program), capacity building, policy advocacy, community empowerment, local institutional strengthening, information and communication development, and conflict resolution. The objective of the program was to open legal access for the communities to forest resources, to reduce poverty by providing alternative income generation, and to increase their active participation in managing the forest sustainably.

Samanta with its local partners has successfully facilitated the multistakeholder process to formulate local regulation related to the implementation of community-based forest management in a number of districts, facilitated the issuance of the Ministry of Forestry Decree on HTR in Sumbawa (491 ha) and Lombok Barat (1,400 ha), and helped design area development concepts with community-based forest management models in a number of districts. From 2008 to 2009, Samanta disbursed the total amount of IDR 2.5 billion (approximately USD 295,000) to 18 local partners, ranging from USD 7,000 to USD 25,000.

Source: Samanta Foundation

6. PNPM as a Potential Disbursement Mechanism for REDD+

Indonesia's National Program for Community Empowerment (PNPM) has many of the advantages of a small grants mechanism, with the important added benefit of being fully integrated into GOI fiscal systems. However, fund disbursement is channeled directly from the central government to the community level, bypassing the district and subdistrict levels. PNPM is an innovative operational platform for allocating and disbursing funds directly to the village level, and presents a valuable model for a REDD+ benefit-sharing mechanism. In addition to representing a potential model for disbursement, PNPM has subcomponents that already fulfill some of the functions required of a community-oriented REDD+ mechanism. For example, the PNPM Green program is piloting community-driven development with a focus on "green" projects, including projects related to natural resource management and alternative income generation. The PNPM Generasi program is implementing a conditional payment scheme, albeit in the health and education sector. These programs provide important lessons for a REDD+ benefit-sharing mechanism.

The PNPM disbursement mechanism

PNPM is Indonesia's largest community-driven poverty reduction program. It works nationwide to provide funds to poor rural and urban communities so that they can invest in their own development priorities. Working in nonurban areas, PNPM Rural's aim is that villagers in PNPM Rural locations benefit from improved socioeconomic and local governance conditions.³ Importantly, much of PNPM is implemented through the national financial and budgetary system, which has the benefit of being a government-owned and managed program that can work at scale, with PNPM Rural targeting more than 68,000 rural villages and representing more than 32 million beneficiaries. However, working through government systems comes with its own set of limitations, such as the requirement to follow budgetary cycles, which can delay budget implementation.

PNPM Generasi has piloted, at scale, conditional cash transfers to rural communities for meeting performance indicators in health and education. Under Generasi, specific health and education development targets are set, with communities proposing activities that will help them meet these targets. Fund allocations for the coming years are based on the performance of these indicators (or a 20 percent bonus is received for good performance on the year). The program is accompanied by technical assistance to assist in activity planning, implementation, and performance tracking.

PNPM Generasi has had some time to test and refine its implementation approach, systems, and processes. This means that conditional cash transfers (or payment for performance) has been tested under PNPM, allowing PNPM Green to benefit from the lessons, systems, and processes generated from PNPM Generasi. As a result, the transaction costs of adopting know-how (i.e., administrative, technical and facilitator expertise) are significantly reduced.

PNPM Green

PNPM Green is a five-year (2008–2012), USD 51 million environmental pilot program that is implemented within the umbrella of the PNPM Rural program. PNPM Green follows the same community-driven development approach as PNPM Rural, and at its core it contributes to achieving the overall PNPM Rural development objective. This objective includes empowering villagers to exercise their rights over matters of public interest and to be at the forefront of the local, environmentally sustainable development process. This approach has the benefit of encouraging both improvements in environmental governance as well as sustainable livelihoods. PNPM Green continues to support participation and transparency, and the holding of leaders to account for delivering on agreed outcomes.

PNPM Green's stated development objective is "to make the utilization of natural resources by rural communities sustainable." This goal is achieved through (1) mainstreaming natural resource management issues in the community-driven development planning process, (2) increasing environmental awareness and related management capacity of communities and government stakeholders, and (3) disbursing block grants to fund environmentally supportive "green" projects at the subdistrict level.

³ For more information about the PNPM project: <http://www.worldbank.org/projects/P115052/third-national-program-community-empowerment-rural-areas-pnpm-rural?lang=en>

PNPM Green operates in eight provinces: South Sulawesi, Southeast Sulawesi, West Sulawesi, North Sulawesi, Aceh, West Sumatra, North Sumatra, and Bengkulu. The program is managed under the Directorate of Village Technology and Natural Resources within the Directorate General of Village Community Empowerment of the Ministry of Home Affairs. The government of Indonesia manages 87 percent of the program budget, with 11 percent executed through CSOS and the remaining 4 percent managed by the World Bank.

The existing PNPM Green encompasses a suite of activities, including training facilitators to improve village development planning, disbursing block grants for improved natural resource management, and developing renewable energy schemes and sustainable income-generating activities. PNPM Green has disbursed more than 2,300 block grants during the pilot phase (2009 to 2012) that respond to the immediate needs of communities for protection and restoration of essential environmental services (e.g., watershed, trees to prevent erosion and landslides) and the provision of sustainable services (e.g., electricity, small-scale industry). Table 1 presents a more extensive list of activities funded under PNPM Green.

The program has three core elements: it is demand- and input-driven, it uses direct block grant funding to communities, and it uses a symbiotic system to ensure continued capacity building and technical assistance. First, project selection is demand-driven and based on a participative public consultation process. Facilitated meetings at the village and subdistrict levels determine grant prioritization and allocation, taking into consideration the capacity of the community and the local government to manage the flow and use of funds. The money is disbursed directly to communities after proposals are reviewed and evaluated.

Second, although administered nationally via the state budget mechanism, block grants are channeled directly from the relevant Directorate within the Ministry of Home Affairs at the national level to communities. In bypassing the provincial and district budgetary processes, PNPM minimizes the chances of much-needed community development funds being reallocated at other subnational levels. The block grants are disbursed from a special account through a government operational bank to collective community bank accounts via an independent transfer bank. Local contributions of funds, labor, and in-kind contributions are valued at 5–15 percent of the value of block grants. While this is seen as an efficient disbursement mechanism, as it excludes local governments, it creates little local ownership at the Kabupaten level.

Third, a symbiotic structure is in place to ensure continued capacity building and technical assistance to strengthen the sustainability of PNPM Green projects. PNPM Green funds a range of technical assistance services provided by GOI-contracted consultancy firms, as well as through grants with two national CSOs. These are designed to increase the environmental awareness and capacity of participating communities, so they can make informed decisions on how to invest the block grant funding, and how to implement related activities.

The overall design of PNPM Green could be further developed based on experiences from PNPM Generasi, as well as lessons from PES schemes in Indonesia and abroad. Many stakeholders intend to modify PNPM to attempt to provide performance-based incentives at the village level to conserve and rehabilitate ecosystem services (forests and reefs for natural habitat and carbon sequestration, and watersheds for clean water) and to support alternative income generation. The aim is to incentivize rural communities in high-value environmental areas to commit to conserve and rehabilitate measurable areas of ecosystem services, and to use other resources in a more efficient and effective manner to promote improvements in socioeconomic conditions through green growth. This approach will contribute to improved livelihoods in rural villages as well as the achievement of Indonesia's global climate change commitments—in particular, the REDD+ agenda.

Table 1: Current PNPM Green Activities

Category	Subcategory	Illustrative Subproject Activities	Future scenario
Natural Resource Management	Management and utilization of forest resources	Agro-forestry, fruit tree nursery, timber tree planting, fruit tree planting, reforestation	Exit out of block grants for these activities. Provide technical assistance if communities choose to fund these with incentive payments
	Management and utilization of water resources	Forest conservation surrounding the spring water	
	Management of biological resources (flora, fauna)	Fish cultivation, seaweed cultivation	
	Management of environmental services	Eco-tourism, management of local marine conservation area	
	Waste management	Waste management, composting	
Environmental Conservation	Environmental conservation / reforestation	Planting trees in catchment area, mangrove planting, planting trees along the river bank, land rehabilitation	
	Erosion control	Retaining wall, spring water collection basin, biopori	
Renewable Energy	Electrical energy	Micro-hydro power, photovoltaic power (Solar cell installation)	Integrate into PNPM Rural
	Other energy	Bio-gas, fuel from cacao waste	
Capacity Building and Training	Community training	Training on biogas, waste management, composting, beekeeping	Move focus to sustainable natural resource and land use mapping, and development planning
	Local government official training	Training on natural resource management	
Income-Generating Activities		Small-scale production of honey, productive trees, organic fertilizer production, coconut husk briquettes, etc	Improve incomes of local communities

PNPM Green and REDD+

PNPM Green is a promising financing instrument in areas where local communities can play a role in forest and peatland conservation and rehabilitation, as well as other ecosystem services such as mangrove rehabilitation and reef and watershed protection—all of which relate to climate change mitigation. In this regard, PNPM Green works very much like a small public works scheme or a small grant mechanism. Several factors could make PNPM Green an attractive model to REDD+ policymakers, including its possibility to support income generation potential; its participatory and demand-driven nature; its ability to manage conditional or performance-based block grants; its low overhead costs; and its potential compatibility with REDD+ objectives with an existing, tested, and functional architecture. More thoughts need to be given to redesign the mechanism to fit either larger scale operations and/or multiannual engagements.

PNPM Green projects receive high acceptance and approval rates among communities. The bottom-up involvement of communities through village-proposed and -managed processes ensures that the project selection process is genuinely demand-driven. The community-managed activities funded under PNPM Green are generally viewed as effective in terms of minimizing leakages of resources, as funds are allocated directly to communities through block grants. The program involves a great number of beneficiaries, with participation of women consistently high, both in the planning and implementation stages. Evaluation teams found little evidence of elite capture or imposition of

external pressure. Communities show a clear preference for PNPM Green over other local government programs because of the proven track record in delivering resources. PNPM shows good governance indicators, which is critical to successful payment schemes under REDD+ because, in Indonesia, weak governance tends to be correlated with areas where deforestation is greatest.

PNPM Green has targeted many activities, which are already eligible for REDD+ projects. In 2009, the program allocated the bulk of projects to natural resource management, conservation, renewable energy, and sustainable income-generating activities and projects. The activities listed under the program indicate that a wide range of activities have been financed, ranging from agro-forestry and tree planting to reforestation and catchment area protection. These constitute a broad set of activities that should be funded by REDD+, as they strengthen local capacities, empower communities, and facilitate improvements in forest governance.

7. Conclusions

Communities play an important role in Indonesia's forestry sector. For REDD+ to succeed, it will have to acknowledge this role and actively address community issues. These include underlying drivers of deforestation with linkages to communities such as forest governance, spatial planning, and tenure. A key investment need is related to land rights and community access in the area designated as state forest zone. While reforms concerning the designation of state forest land are ongoing, there is a need to support such reforms through a bottom-up approach that includes investment in community capacity building and local spatial planning.

While often referred to as "readiness" activities, investments in governance, land access, alternative livelihoods, and community capacity are likely to lead to greater and more sustainable reductions in deforestation than incentives alone. However, these long-term investments and emissions reductions will often accrue long after individual projects are completed, making it difficult to attribute reductions to individual investments. This raises the question of how to channel performance-based REDD+ funds to community-level projects.

Importantly, neither existing donor funding nor a future potential REDD+ compliance market require that the flow of REDD+ funding at the project or program level should be tied to performance in terms of measurable GHG emissions reductions. This leeway provides policy makers as well as donors with much needed flexibility in designing REDD+ mechanisms. The integration of local communities will require a number of different approaches, including incentive payments, capacity building, governance reforms, and livelihood development. In designing suitable funding mechanisms, donors and the GOI can look beyond performance-based strategies and should build upon successful community development programs.

Relevant programs include small grants programs that focus on rural community development. Indonesia has numerous such programs that are largely run by nonstate institutions, several of which have natural resource management components. A number of multilateral REDD+ programs, such as the World Bank's Forest Carbon Partnership Facility, have recognized the importance of small grants mechanisms for building capacity at the village level. Small grants programs have the benefit of being community-driven, bypassing local bureaucracies, and being able to support a variety of REDD+ related activities. In addition, they have the benefit of directly involving (and thereby empowering) civil society institutions. Also, their numerous players allow for a diversity of approaches that can foster innovation. Indonesia's public community empowerment program (PNPM) shares many of the benefits of a small grants program, but has the additional advantage of being a government program with national funding

mechanisms. One of the key advantages of small grants programs and PNPM within a REDD+ context is their strong local presence, which helps to build national and local ownership and allows for rapid scale-up in REDD+ priority provinces.

In the short run, Indonesia could channel REDD+ funding through PNPM as well as existing small grants programs. Adapting existing programs is likely to be a more cost-efficient approach than designing one from scratch. The PNPM model provides valuable lessons for a potential national REDD+ funding distribution mechanism. Furthermore, the PNPM-Green program is already targeting many activities that support the objectives of REDD+, making it a suitable mechanism for channeling national and donor REDD+ funding.

REFERENCES

Angelsen, A. 1999. "Agricultural Expansion and Deforestation: Modelling the Impact of Population, Market Forces and Property Rights." *Journal of Development Economics* 58 (1): 185–218.

Barbier, E. B., & A. T. Tesfaw. 2011. "Overcoming Tenurial Constraints to Carbon Forestry Projects in Africa." In IFPRI, *Climate Change Mitigation and Livelihoods: Forest-Farm Interface Meeting* (pp. 1-23). Washington, DC.

Colchester, M. et al. 2006. Justice in the forest: Rural livelihoods and forest law enforcement. Center for International Forestry Research (CIFOR). Bogor, Indonesia.

Contreras-Hermosilla A., Fay C. 2005. Strengthening Forest Management in Indonesia through Land Tenure Reform: Issues and Framework for Action. Indonesia Forest Trends and World Agroforestry Center. Washington, DC. and Bogor, Indonesia

de Aquino, A. R., A. Aasrud, and L. Guimarães. 2011. "Can Forest Carbon Finance Influence Land Tenure Security in Project Areas? Preliminary Lessons from Projects in Niger and Kenya," in B.M. Kumar and P.K.R. Nair (eds.), *Carbon Sequestration Potential of Agroforestry Systems: Opportunities and Challenges, Advances in Agroforestry*. Springer Science + Business Media B.V.

Gaveau D., Linkie M., Suyadi, Levang P., Leader-Williams N. 2009. "Three decades of deforestation in southwest Sumatra: Effects of coffee prices, law enforcement and rural poverty." *Biological Conservation* 142: 597–605. Government of Indonesia (GOI). 2011. *National REDD+ Strategy*. Jakarta.

Indonesia, Ministry of Forestry. 2008. *IFCA Consolidation Report: Reducing Emissions from Deforestation and Forest Degradation in Indonesia*. FORDA Indonesia, Jakarta

Indonesia, Ministry of Forestry. 2011. Rencana Kehutanan Tingkat Nasional (RKTN), Jakarta

Mohammed, E. Y. 2011. "Pro-poor Benefit Distribution in REDD: Who Gets What and Why Does it Matter?" REDD Working Papers. International Institute for Environment and Development, London.

O'Brien, T. G., and M.F. Kinnaird. 2003. "Caffeine and Conservation." *Science* 300.5619: 587.

Peskett, L., D. Huberman, E. Bowen-Jones, G. Edwards, and J Brown. 2008. "Making REDD Work for the Poor." IUCN/ODI for the Poverty and Environment Partnership. Gland, Switzerland. Available at: <http://www.odi.org.uk/resources/details.asp?id=2580&title=making-redd-work-poor>.

Purnamasari, R. S. 2010. "Dynamics of Small-scale Deforestation in Indonesia: Examining the Effects of Poverty and Socio-economic Development." *Unasy/ta* 234/235, Vol. 61.

Riley, E., A. Davidson, J. Bright, A. Cappella, and Z. Rahman. 2010. *International Practices in Small Grant Programs for Indigenous Peoples and Local Communities*. School of Public Policy and Governance, University of Toronto Samanta Foundation. <http://www.samantafoundation.org>

Sunderlin, W.D., Resosudarmo I.A., Rianto E., Angelsen A. 2000. The Effect of Indonesia's Economic Crisis on Small Farmers and Natural Forest Cover in the Outer Islands. Occasional Paper 28(E). CIFOR, Bogor, Indonesia.

Suyanto, S., B. Leimona, R. P. Permana, and F. J. C. Chandler. 2005. "Review of the Development Environmental Services Market in Indonesia." World Agroforestry Centre (ICRAF), Southeast Asia Regional Office. Bogor, Indonesia.

Wells, P., N. Franklin, P. Gunarso, G. Paoli, T. Mafira, D. R. Kusumo, and B. Clanchy. 2012. Indonesian Constitutional Court Ruling Number 45/PUU-IX/2011 in Relation to Forest Lands, Implications for Forests, Development and REDD+. Daemeter/TBI Indonesia/Makarim & Taira S.

World Bank. 2006. "Sustaining Economic Growth, Rural Livelihoods, and Environmental Benefits: Strategic Options for Forest Assistance in Indonesia." Jakarta, Indonesia.

World Bank 2010. "Environmental, Economic and Social Impacts of Oil Palm in Indonesia: A Synthesis of Opportunities and Challenges." Unpublished.

Wunder, S., B. Campbell, P. G. H. Frost, J. A. Sayer, and R. Iwan. 2008. "When Donors Get Cold Feet: The Community Conservation Concession in Setulang (Kalimantan, Indonesia) That Never Happened." *Ecology and Society*, 13(1):12. [online] URL: <http://www.ecologyandsociety.org/vol13/iss1/art12/> Zwane, A. P. 2007. "Does Poverty Constrain Deforestation? Econometric Evidence from Peru." *Journal of Development Economics*, 84 (1):330–349.