



Tackling Illegal Logging in Ulu Masen, Aceh

Strategy, Action and Future Direction

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Executive Summary

Climate change is recognised as a global threat to both people and biodiversity and as one that has to be collectively addressed by the international community if its causes are to be managed and its impacts mitigated. Despite several high profile summits that have set out to determine how best to achieve this, a consensus has still not been reached. Nevertheless, the Government of Indonesia, which presides over 10% of the **world's tropical forests and suffers from high** deforestation rates, has begun engaging in policy dialogue to support the development of a Reducing Emissions from Deforestation and forest Degradation (REDD+) strategy that aims to help meet its greenhouse gas emission reduction targets. In preparation for implementing this strategy, Indonesia must first demonstrate to investors and the international community that it has avoided a threshold level of deforestation. This will involve greatly reducing illegal land clearing and illegal removal of high quality timber trees. Unfortunately, strategies that have accomplished this are a rarity and past failures tend to be blamed on weak governance and insufficient incentives to not cut down the forests.

In this report, we provide a case study which describes how government law enforcement agencies, local community organisations and Fauna & Flora International (FFI) collaborated effectively to tackle components of illegal logging in and around the 738,000 ha Ulu Masen ecosystem located in Aceh, Indonesia. This forest area acts as a vital watershed for approximately 300,000 people and is currently being developed as a REDD project because of its critical role in carbon sequestration. Between 2008 and 2009, a community-based intel-information system was established around Ulu Masen. From the 190 forest offences reported to the police and the Aceh Forestry and Plantations Agency, 86 law enforcement operations were conducted. In total, 251 m³ of illegal timber, 26 vehicles, 17 chainsaws and two industrial saws were seized, and three sawmills closed, all of which were used for illegal logging. Furthermore, 138 people suspected for their involvement in illegal logging were arrested. From 45 cases monitored until a known outcome, most (29 cases) proceeded to court and, of these, approximately half (48.3%) of the defendants received a prison sentence (ranging from 4 months to 4.5 years), with the remainder receiving a verbal warning (41.4%) for a first offence or awaiting a final verdict (10.3%). Cases that did not proceed to court (16 cases) were typically constrained by a lack of evidence.



The contributing factors to the Ulu Masen project's achievements include: **strong political will** (e.g. government agencies regularly responded to community reports and most cases proceeded to court and were successfully prosecuted); **strong stakeholder support** (e.g. active participation of local organisations along the entire Ulu Masen border sent out a clear signal that many communities were opposed to illegal logging and supportive of government action); and, funding that could be promptly accessed (e.g. the majority of the work in tackling illegal logging, from law enforcement agency capacity building to monitoring and reporting forest crimes, but not law enforcement, was mainly supported by FFI). Whilst the results are promising, they need to be considered within a wider context. Firstly, after the project had ended, illegal logging still persisted in each of the five focal Ulu Masen districts. Secondly, no attempt was made to tackle the illegal conversion of forest to farmland, another principal forest threat, or the wider illegal logging network of **traders and buyers**. Finally, once FFI's main financial support (provided by the Multi Donor

Fund) ended, there was a corresponding and significant reduction in field activities, showing that the strategy had not yet achieved sustainability. Key technical and policy recommendations for enhancing the multi-stakeholder anti-illegal logging strategy are made within the report and should assist the Government of Indonesia in developing an essential component for its billion dollar REDD+ strategy.

Table of Contents

EXECUTIVE SUMMARY	ii
Introduction.....	1
Aceh's Recent History	1
The Threat of Illegal Logging	1
Government of Aceh's Commitment to Sustainable Forest Management	3
Ulu Masen	5
Aceh Forest and Environment Project (AFEP)	5
Aims of the Report	6
Developing a Multi-stakeholder Network to Tackle Illegal Logging	7
Engaging Communities.....	7
Creating Alternative Livelihoods for Illegal Loggers	9
Law Enforcement Agency Capacity Building.....	12
Innovative Forest Management.....	13
Establishing a Multi-stakeholder Intel-network	14
Tackling Illegal Logging Through a Multi-stakeholder Network.....	16
Monitoring and Reporting	16
Law Enforcement: Operations, Confiscations, and Arrests	17
Identifying the Factors Contributing to Project Success.....	21
Political Will	21
Local Stakeholder Support.....	22
Funding	23
Improving and Continuing the Efforts to Tackle Illegal Logging	24
Recommendations.....	25
Technical Recommendations.....	25
Policy Recommendations.....	26
Conclusion	28
TABLES	
Table 1. Summary statistics of the 6 districts	6
Table 2. Illegal logging monitoring cases (n = 369) reported by three of FFI's local NGO partners (August 2008 – August 2009) in and around Ulu Masen	17
Tabel 3. Confiscations resulting from law enforcement operations conducted by the police and the Aceh Forestry and Plantation Agency (August 2008 – August 2009) in and around Ulu Masen	19
Table 4. Summary of law enforcement operation results in relation to the number of forest crime reports submitted (August 2008 – August 2009) in and around Ulu Masen	19
Table 5. Arrests and prosecutions resulting from law enforcement operations conducted (August 2008 – August 2009) in and around Ulu Masen	20
MAPS	
Map 1. Aceh Districts with the Ulu Masen boundary.....	4
Map 2. Illegal Logging Hotspots in Ulu Masen	18

Introduction

Aceh's Recent History

Within Indonesia, Aceh represents one of the provinces most richly endowed with natural resources, including a diverse array of forest ecosystems that at 3.3million ha covers over **60 percent of the province's land area**. However, in the aftermath of the devastating **December 2004 earthquake and tsunami**, Aceh's rich and abundant natural resources came under intense pressure due to an unprecedented timber demand created by the massive reconstruction effort (which resulted in over US\$7 billion being invested in the province¹). At the same time, the cessation of **Aceh's conflict in 2005 left thousands of unemployed ex-combatants**. Many of these responded to the high timber demands and their own livelihood needs by illegally logging. Furthermore, many communities that were largely absent from forest areas during the conflict, due to their safety concerns, began returning to reclaim old farmland or open up new farmland in forest areas.

The Threat of Illegal Logging

The underlying causes of illegal logging are multifaceted but are linked to corruption at various levels within society, with these illicit activities typically being controlled by criminal networks. Organised crime is linked to poverty in that it often exploits low income communities, usually those living closest to the forest. A large proportion of the significant revenues generated through illegal logging are not received by the local communities, but by the criminal organisations. These funds enter into criminal networks which have links to human, drug and weapon trafficking.²

Aceh's socio-economic and political conditions are highly conducive to illegal logging. It has a low Gross Regional Product (<US\$1900 per capita³), high poverty rate (21.8%; with 30% of rural households existing below the poverty line⁴) and high levels of unemployment (9.5%)⁵, especially amongst the thousands of former combatants.⁶ Furthermore, there are high expectations of the Government of Aceh to deliver tangible livelihood benefits, especially as Law No 11/2006 on Governing Aceh (the autonomy law, LoGA) has allocated increased

¹World Bank. 2008. Aceh tsunami reconstruction expenditure tracking update. Unpublished document, the World Bank, Jakarta, Indonesia.

²Zimmerman, M.E. 2003. The black market for wildlife: Combating transnational organized crime in the illegal wildlife trade. *Van derbilt Journal of Transnational Law* 36:1657-1689.

³The Indonesian Statistics Bureau, 2009. Trends of the Selected Socio-economic Indicators of Indonesia. BPS report, Jakarta.

⁴World Bank. 2008. Aceh Poverty Assessment 2008, Jakarta.

⁵Government of Indonesia, Community Empowerment Bureau (BPM). 2009.

⁶World Bank 2006. GAM Reintegration Needs Assessment: Enhancing Peace Through Community-Level Development Program mining, Banda Aceh.

fiscal resources to improve development opportunities in Aceh through Indonesia's Special Autonomy Fund. However, weak capacity remains a major challenge and as reflected in the total annual budget remaining each year due to poor initial planning that leads to delayed disbursement and the government's low expenditure.

Due to limited livelihood opportunities, a lack of portable skills and formal education, many Acehese men are engaging in illegal logging. This has genuine potential to cause social unrest and act as a catalyst for conflict within and between communities across Aceh as watershed and customary forests are illegally logged by often marginalised community members or by people from outside of the affected communities. Engagement of ex-combatants in illegal activities also increases the likelihood of them coming into conflict with government law enforcement agencies, such as the police, with whom they have had violent interactions in the past. This could spur further difficulties.

Illegal logging in Aceh, as elsewhere, impoverishes communities by reducing the quality of

life and benefits received from ecosystem services as forests are continually degraded. These services, in many cases vital for human wellbeing, include the provision of food, medicines and fuel, as well as regulating services such as climate, water, and disease; and more intrinsic services such as religion, culture, recreation, education and tourism. In addition, forest habitat degradation has a detrimental impact on wildlife, particularly those species, such as tigers and elephants, which require large home ranges. Through deforestation, these species are also brought into closer contact with humans, leading to injury and loss of life on both sides, as well as loss of livelihoods (e.g. crops and livestock).



Logs from Illegal Logging Activities (Foto: Asriadi/FFI)

Government of Aceh's Commitment to Sustainable Forest Management

The Government of Aceh is under significant pressure to deliver economic development benefits to its Aceh. The challenge is to do **this in a way that maintains Aceh's extensive forests** and ensure that they continue to provide benefits to millions of people within the province. There have been several important and unprecedented initiatives by the Government of Aceh which clearly illustrate its **commitment to safeguard Aceh's forests and their vital ecosystem services**.

These initiatives include:

- *A logging moratorium* - introduced in June 2007 to halt conventional commercial logging so that alternative options for sustainable forest management could be identified and considered;
- *Aceh Forest Management Strategic Planning Preparation Tim (TIPERESKA)* - a technical team set up and mandated to review and re-design the forestry sector and forest estate for Aceh, in light of the logging moratorium, with key outputs including spatial plans that fully incorporate environmental concerns and an economic **evaluation of the province's forest resources**;
- *Aceh Green Initiative* – a long-term strategy for sustainable economic development in Aceh which focuses on activities ranging from clean energy to sustainable forest and non-renewable resource management. It also aims to provide employment to ex-combatants and smallholders to ensure that natural resources (especially forests) are wisely managed and their benefits equitably shared as part of an all-encompassing land-use management strategy;
- *Leuser Ecosystem Management Body (BPKEK)* - the establishment in 2006 of a new conservation body under the Govern-

ment of Aceh with a mandate to conserve **Aceh's Leuser Ecosystem by maintaining its ecological integrity** and in doing so enhancing the welfare and quality of life of communities in the surrounding region.

- *Avoided deforestation projects* - the introduction and ongoing development of sustainable carbon revenue mechanisms for the Ulu Masen and Leuser Ecosystems through REDD projects. These public-private partnership projects aim to generate long-term revenue flows for Aceh provided that its forests are maintained. The Ulu Masen REDD Project was the first such project to be audited under the Climate, Community & Biodiversity Standards and is one of the most advanced in the world; and,
- *Forest Ranger recruitment* - 2000 ex-combatants were provided with employment by the Government of Aceh as non-civil servant staff within the Aceh Forestry and Plantation Agency's **Forest Ranger programme** (or *Pengamanan Hutan, Pamhut*) with a central task of protecting **Aceh's forest at the field level**.

Map 1. Aceh Districts with the Ulu Masen boundary



Ulu Masen

In 2009, the 738,000ha Ulu Masen was proposed as a Strategic Area (for protection) at the provincial level, in recognition of its environmental and economic importance for Aceh. The area, which covers upland parts of the districts of Aceh Besar, Aceh Jaya, Aceh Barat, Pidie, Pidie Jaya and borders onto Bireuen (Table 1), comprises several unique forest types ranging from lowland karst to montane forest.

Ulu Masen provides a range of invaluable social and economic services to the 300,000 people⁷ who live adjacent to the forest, plus those in the main population centres of Banda Aceh and Aceh Besar (>1million people). For example, the forests stabilize the steep slopes found in much of the area, preventing landslides and helping to control the climate, and ensuring a consistent water supply needed to support the local agricultural economy, for which the overwhelming majority of the forest-edge communities depend upon. The environmental benefits provided to Ulu Masen's rich biodiversity include a habitat for at least 300 species of birds, 87 species of reptiles and amphibians, as well as globally important Sumatran tiger and elephant populations.⁸

The large amount of forest-farmland interface around Ulu Masen makes it accessible and therefore susceptible to the threats posed by illegal logging. This threat was initially quantified through a rapid threat assessment, coordinated by TIPERESKA and conducted by FFI and local NGO field teams, across the five Ulu Masen districts from Octo-

ber to November 2008. For this, the entire Ulu Masen perimeter was surveyed for 2,453km, which documented 179 newly opened roads located in Aceh Barat (n = 12, total road length = 118km), Aceh Besar (n = 45, roads = 241km), Aceh Jaya (n = 38, roads = 263km), Pidie (n = 41, roads = 176km) and Pidie Jaya (n = 43, roads = 250km), illegal tree felling in Aceh Besar (12 locations), Pidie (25), Aceh Jaya (30) and Pidie Jaya (38) and illegal forest conversion to farmland in Aceh Besar (17 locations), Aceh Jaya (14), Pidie (14), Pidie Jaya (56) and Aceh Barat (11). These results were used to guide the subsequent development of an illegal logging mitigation strategy for Ulu Masen.

Aceh Forest and Environment Project (AFEP)

The unprecedented scale of the post-tsunami reconstruction effort and associated pressures **this placed on Aceh's timber resources required the safeguarding of Aceh's two main forest ecosystems, the Leuser and Ulu Masen.** These two ecosystems together cover 2.99 million hectares of contiguous forest (an area equivalent to the Netherlands) and supply water and other environmental services to more than 60 percent of the Aceh population. In response to this need, the Multi Donor Fund (established to coordinate and disburse post-tsunami aid), with the World Bank serving as Partner Agency, supported the AFEP; a \$17.53 million project that was developed and implemented by the Leuser International Foundation (LIF) and FFI from 2006-2011.

⁷ Government of Nanggroe Aceh Darussalam, 2007. Reducing Carbon Emissions from Deforestation in the Ulu Masen Ecosystem, Aceh, Indonesia. A Triple-Benefit Project Design Note for CCBA Audit

⁸ Linkie, M & McKay, J.E. 2008. Conserving forest and biodiversity in the Ulu Masen Ecosystem. Unpublished Technical Report, Fauna & Flora International. Aceh.

Table 1. Summary statistics of the 6 districts

District	District size (ha)	Forest cover in 2009 (ha)	Forest edge (km)	Population size	Density (people/ha)
Aceh Barat	276,058	114,970	279	158,499	0.57
Aceh Jaya	387,251	239,577	1,360	82,904	0.21
Aceh Besar	289,053	112,379	566	312,765	1.08
Pidie	316,959	190,434	643	386,053	1.22
Pidie Jaya	94,868	54,169	134	135,345	1.43
Bireuen	180,030	63,640	163	359,032	1.99
Total	1,544,220	775,169	3,146	1,434,598	6.51

The AFEP was constructed around of three core components which aimed to ensure that:

1. Forest management and protection is **improved to support and sustain Aceh's** reconstruction and recovery process;
2. Conservation and environmental concerns **are integrated into Aceh's** reconstruction and development planning process; and,
2. Management structures are established to ensure effective and transparent project implementation support.

Within the Ulu Masen geographical area of the AFEP, FFI designed and implemented several activities to reduce illegal logging and, in the process, support the **government's** Aceh Green Initiative that prioritised the **“creation of jobs that provide livelihood security to the thousands of ex-combatants while at the same time strengthening environmental protection”**.

Aims of the Report

In August 2008, FFI developed and implemented a strategy to tackle illegal logging across Ulu Masen, in partnership with government agencies, civil society organisations and forest-edge communities. This report describes and evaluates the:

- Roles and responsibilities of the different partners;
- Efforts to build the conservation capacity of multiple partners within the first operational anti-illegal logging network for Ulu Masen;
- **Main achievements of the network's partners** (including the number of field reports compiled, number of law enforcement operations, number of confiscations and number of arrests and prosecutions); and,
- Constraints experienced by the project, lessons learnt and recommendations for future work.

The report is intended to inform donors, conservation agencies and policy makers of the strategy implemented, its achievements and constraints for their consideration in guiding and developing future actions to tackle illegal logging in Ulu Masen, Aceh and Indonesia.

Developing a Multi-stakeholder Network to Tackle Illegal Logging

FFI's commitment to forest protection in Aceh is a collaborative effort. We work with all key stakeholders in monitoring, detecting, and analysing illegal forest activities, illegal trade, and other forest crimes. Our aim is to build a strong local constituency for action to protect the forests.

Mr Wahdi Azmi, FFI, Forest Conservation Manager

To explicitly address the challenges facing Aceh's forests, FFI and local partners developed an anti-illegal logging network that, for the first time, brought various stakeholders together to focus on strengthening the forest monitoring and protection systems and institutions to enable sustainable forest management. To achieve this, FFI developed and implemented the following core activities to:

- Support communities in monitoring and reporting forest crimes;
- Build the capacity of local NGOs and law enforcement agencies;
- Provide alternative and sustainable livelihoods for those complicit in forest offences;
- Run forest management and livelihood training centres; and,
- Improve systems of communication and collaboration between law enforcement agencies and community partners within the network.

Engaging Communities

To obtain a local perspective on illegal logging, FFI conducted an Ulu Masen-wide survey of 1457 villagers in six districts (including Bireuen). An overwhelming majority (73.5%) ranked illegal logging as the main threat towards Ulu Masen and most (83.3%) thought that forest destruction increased problems with human-wildlife conflicts and that protecting the forest was important for them to receive ecosystem service benefits (60.6%). The main reason offered for why there were illegal logging activities was a lack of alternative livelihood options (53.7%).⁹

Through informal interviews, underlying tensions between and within communities were revealed, as there were community members who logged the forests with apparent disregard for the customary (*adat*) forest management system, and others who were angered at the damage to forest ecosystem services. The most frequently voiced complaints, or issues of primary importance, for the community centred on a suggested increase in flooding

⁹FFI. 2009. Knowledge, Attitude and Perception survey. Unpublished Technical Report, Fauna & Flora International. Aceh.

and landslides that they attributed to the illegal logging activities. The detrimental impact was the destruction of homes and crops, a lack of potable water and, in general, a degradation of their livelihoods. Nevertheless, some communities were initially hostile to FFI and partners proposed attempts to tackle illegal logging, as there were concerns that this would restrict or prohibit their access to non-timber forest products.

FFI and partners have sought to work with local communities in several ways to foster their strong support for the anti-illegal logging strategy. First, to involve local NGOs in monitoring and reporting forest crimes (the illegal removal of wood for timber) to the government law enforcement agencies (police and Aceh Forestry and Plantation Agency). Second, through strengthening the traditional mechanisms and institutions, i.e. the *Mukim*¹⁰, to take responsibility in sustainably managing their customary forests, including the provision of alternative agroforestry options (e.g. tree nurseries). Third, to offer alternative employment to those committing forest offences that would, at the same time, increase forest monitoring and community outreach efforts (including increased education and awareness of the negative impacts of illegal logging).

At an early stage, the limited capacity of local NGOs to reliably monitor and report forest crimes was identified as a key challenge. So, FFI responded by investing additional resources for building the institutional (e.g. financial management) and technical (e.g. data collection and report writing) capacity of three NGOs. From this, strategic partnerships were formed with Pinto Rimba, Gaseu and Embun

Please don't try to stop us using the forest. We need wood to build houses, for cooking, to fence in our animals and crops. 'City people', don't understand communities like ours.

Villager, Keumala Dalam, Pidie District

Pagi. Funding was provided through the FFI-AFEP small grants programme that, in total, disbursed US\$290,892 to 40 local partners in support of their conservation work, of which 41 percent was allocated to the three local NGO partners. These NGOs managed their grants to conduct forest crime investigations over two phases (six months each) with a month evaluation in between. The primary focus of this work was to accurately identify the locations of illegal logging, either for forest conversion or selective logging, timber piling (temporary placement of wood while awaiting transportation), timber storage (e.g. in house) and timber transportation.

In combination, the three NGOs provided complete geographical coverage for intel-based monitoring of forest offences across Ulu Masen. Pinto Rimba, responsible for Pidie and Bireuen districts, established an informant network in seven areas (with each area closely resembling a sub-district), with an individual contact person responsible for each area. Using the same approach, Gaseu (Aceh Besar, Aceh Barat and Aceh Jaya districts) had 12 informants working across 12 areas and Embun Pagi (Pidie Jaya district) used four informants in four areas.

¹⁰The *Mukim*, a traditional community institution that is unique to Aceh, was recently revived as a formal government body, after having been deconstructed by central government during the civil conflict period. The *Mukim* functions include, amongst other things, management authority over community (*Mukim*) forests and wildlife (through the *Panglima Uteun*) and plantations (through the *Peutua Seuneubok*).

Upon receiving an informant report, the NGOs would verify the source and its content, after which, they would decide whether the information was sufficient to be acted upon, before sending such reports to either a police or Forestry and Plantation Agency district-level contact person.

To increase local awareness of the negative effects of illegal logging on human well-being, FFI developed a series of educational materials covering this issue, e.g. environmental figh (Islamic jurisprudence book for religious leaders), senior high school curriculum books (*muatan lokal*, for teachers and students) and quarterly Ulu Masen bulletins (for wider civil society). These materials were delivered through training programmes and outreach work that covered the main target groups and each of the five Ulu Masen districts, e.g. an ecolub with 885 teenage members, Ramadan campaigns in 45 *Mukim* and 3,417 teachers and students trained in the education curriculum.

To complement the work of the local NGOs monitoring and reporting activities, FFI developed and implemented a community-based natural resource management programme. From the 61 *Mukim* that surround Ulu Masen, 17 contain the majority (57%) of the forest. Thus, FFI decided that it would be most cost-effective to initially work in these 17 *Mukim* to increase their institutional strength and capacity to man-

age their forest. In order to reduce the local **demand and dependency on Ulu Masen's** forest resources, FFI established 11 tree nurseries in partnership with 10 *Mukim* to provide benefits to 13,639 families. Approximately 620,000 seedlings of high-quality were produced by the nurseries to enable structured planting and harvesting cycles that delivered benefits over the short-term (e.g. chilli and tomato crops), medium-term (e.g. cocoa and coffee) and long-term (e.g. rubber and durian). Furthermore, training was provided on intensive farming techniques, so as to reduce the demand for land occupied by forest. Finally, these activities have reforested 3,350 ha of degraded forest.

*"80 percent of us [from the Community Rangers] were **once involved in illegal logging**. We're ashamed of what we did, and feel guilty, but we **didn't understand the consequences of our actions**. Now we understand, we will not log again, and we will persuade others who are still cutting trees to stop."*

Mr Kamarullah, Head of Blang Raweu Community Ranger, Pidie district

Creating Alternative Livelihoods for Illegal Loggers

In February 2009, FFI began a programme to transform forest offenders, especially ex-combatants, illegal loggers and wildlife poachers, into highly-trained and respected community forest rangers capable of delivering essential environmental and forest management services to local communities and Ulu Masen.

*"We the Mukim are very proud to be involved in saving our great forests. Our first task is to **focus on monitoring our forests so they aren't destroyed further and raise awareness among our community**."*

Mr Anwar Ibrahim, Mukim Head, Aceh Jaya

"This was really a test for us, we trained from 6 in the morning until 10 at night, but we learned so many new things. Although very physically tired, we were never too tired to continue."

Mr Nurman Bin Cut, Community Ranger, Pidie

To foster strong community support for the anti-illegal logging strategy, the Community Ranger Programme, from the outset, aimed to create a strong sense of local ownership over the ranger teams who are from the community and there to benefit them. The community was responsible for selecting the ranger candidates through a competitive selection process that involved nominees being interviewed by village and religious leaders, as well as representatives from the *Mukim* and the sub-district, to **assess the candidates' commitment to serve the community and conserve the forest.**

From the candidates short-listed, the community requested that FFI make the final selection, so as to remove any possibilities for or accusations of corruption or nepotism. The final candidates, many of whom lacked formal education, then underwent ten days of intensive training at the Jantho training centre in Aceh Besar (three days in the classroom and seven days in the field).

Community ranger training was conducted by a multidisciplinary technical team (FFI, Provincial Search and Rescue Agency, Mapala-STIK, Indonesian Red Cross, Cicem Nanggroe (local NGO), Panglima Uteun-Jantho and the local community). The training topics were intentionally broad (ranging from survival skills to human-wildlife conflict mitigation) so as to **increase the rangers' portable skills, test their physical and mental abilities, boost their confidence through achievement and develop a strong sense of trust and teamwork.** For those successfully completing the training, a graduation ceremony was held in a river, at midnight, on the final night. Lit by flaming torches, the trainees stood in the river and were plunged beneath the water by the Master Trainer who symbolically absolved them of their past and heralded their new life and responsibilities towards their community and the forest.

Four community ranger teams have been established around Ulu Masen:

- The Blang Raweu team (Pidie district) was established in February 2009 and consists of 10 members (3 ex-illegal loggers, 5 ex-wildlife poachers and 2 ex-combatants). The team name was chosen by the ex-poachers within the group after the Blang Raweu savannah that is renowned for its high abundance of tigers, elephants and sambar deer. In their former life, some of the rangers poached these species from Blang Raweu, but now they view it as a priority protection area;
- The Purba team (Aceh Jaya district) was formed in May 2009 and consists of 16 members (6 ex-illegal loggers/ex-wildlife poachers);
- The Krueng Bajikan team (Aceh Barat) was established in May 2009 and consists of 19 members (13 ex-illegal loggers/ex-wildlife poachers and 6 ex-combatants); and,
- The Jantho team (Aceh Besar) was established in March 2010 and consists of 12 rangers (including 5 ex-illegal loggers). The composition of this team differs from the others because it focuses on younger rangers (17-26yrs old), considered to be a vulnerable group that has been largely overlooked during post-conflict and post-tsunami support.

"Becoming a ranger is a great achievement for me. I was so proud when I graduated. It's the first time in my life that I received such acknowledgement from the community."

Mr Kamarullah, Community Ranger,
Pidie



Community ranger closing training ceremony at the CRU Mane, which was attended by M. Yakob Ishadamy, Head of the Aceh Green Secretariat, Government of Aceh.

The community rangers are truly part of the local community; the organisational structure and legal framework has been formed and agreed upon by local stakeholders. Importantly, each community ranger team has been officially recognised by their respective sub-district government. The community ranger field activities are supervised by FFI and the rangers, given that they live in their communities, are able to promptly report illegal logging incidents and other emerging issues that threaten local livelihoods (e.g. natural disasters) and, more widely, social cohesion. Strategically, this creates an important distinction between the responsibilities of those monitoring forest offences at the field level and the government agencies tasked with enforcing the law, which in turn creates a degree of independence, thereby reducing the likelihood of corruption. It also reduces the potential pressures placed on community rangers by those responsible for forest offences, as any resentment by illegal loggers is likely to be directed towards those arresting them.

Each community ranger receives a daily stipend, equipment and technical support from FFI. The rangers have generated a sense of

local pride within their community, and the rangers themselves have enjoyed an unexpected elevated social status that extends beyond their own villages. The rangers act as ambassadors for their community and have received notable appreciation from, for example, Governor Irwandi and the district government heads. This is a true testament to their complete transformation into regular members of society, as evidenced by their continued rejection of their former activities, as not a single ranger has returned to their former ways. Another benefit has been the reintegration of the rangers into civil society, remembering that some of these were previously ostracised from their community.

"In Aceh Jaya, we work closely with FFI to secure the forest. Perhaps the most positive and helpful result for us at Dinas has been the capacity building aspect."

Mr Muhktar, Head of the Forestry and Plantation Agency,
Aceh Jaya

Law Enforcement Agency Capacity Building

Generating strong community support is critical to success in tackling illegal logging. However, any illegal logging prevention strategy will require a strong law enforcement component, which focuses on increasing the likelihood of a forest offender being caught, and strong political will to enable this.

In response to local requests, FFI provided technical capacity building support for personnel from the Forestry and Plantation Agency and the police (at the district and provincial level). Training was conducted on collecting and analysing illegal logging data in the field, producing comprehensive reports and using this information to initiate swift and appropriate responses. To achieve this, an intensive 7-day Forestry and Plantation Agency training course was developed and delivered to 60 *Pamhut*, while a 5-day specialised course was developed and delivered to 16 police personnel.

The value of these training courses and the **seriousness of FFI's government partners** are illustrated by two examples:

- Three days after completing the course, the Aceh Besar Forestry and Plantation Agency graduates joined a law enforcement operation that seized 30m³ of illegal timber, one chainsaws, three illegal loggers' hand phones (containing valuable intel-information) and two jeeps used for transporting timber, with a third irremovable jeep burnt on site; and,
- Immediately after the police training (district police and Criminal Reserve, pro-



Community ranger on a routine patrol in Ulu Masen

vincial police), the graduates conducted a two day law enforcement operation in Bener Meriah district (Leuser Ecosystem area), shutting down an illegal sawmill, and confiscating four logging trucks and an industrial saw.

To consolidate the work being conducted by FFI and its partners across Ulu Masen and to give the partners and their work visibility at the forest-edge, i.e. where loggers would enter the forest, FFI established three forest-edge centres, known as Conservation Response Units (CRUs).



Illegal timber being sent down river before being transported by truck. This method is usually conducted to deceive the law enforcement agencies.



An activity of the Conservation Response Units is to secure confiscated illegal timber



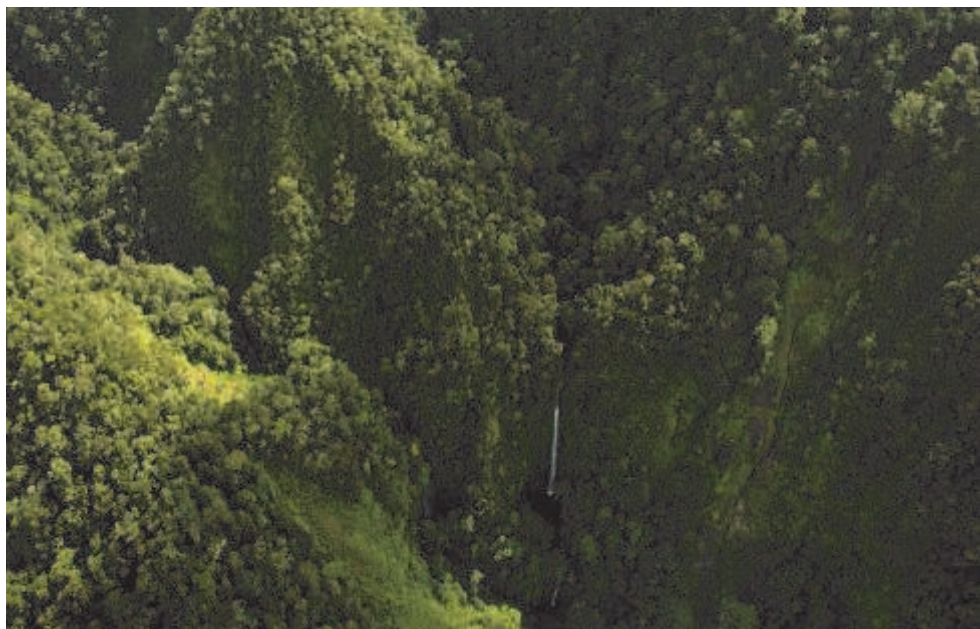
Joint law enforcement operation being conducted by the police and the Aceh Forestry and Plantation Agency in Padang Tiji, Pidie, Ulu Masen, 2009

Innovative Forest Management

The CRUs were borne out of the Ulu Masen community outreach work. FFI understood that, along with illegal logging, a principal threat to the livelihoods of forest-edge farming communities was the crop raiding caused by wild elephants that could wipe out an entire **farmers' harvest in a single night**. It was patently clear that collaborative efforts to tackle illegal logging, with the community as a key partner, would also require parallel efforts to mitigate problems with elephants. To enable a rapid response to incidents of human-wildlife conflicts and forest crimes, FFI, the Natural Resource Conservation Agency and the Forestry and Plantation Agency worked with local

communities to establish three CRUs around Ulu Masen (Aceh Jaya, Aceh Barat and Pidie). The CRU locations were selected in areas with the highest levels of human-elephant conflict and that were also experiencing problems with illegal logging.

A unique aspect of the CRU is that at its heart are elephant patrols. Previously wild caught elephants that have been trained at the **Natural Resource Conservation Agency's elephant camps** are deployed to help mitigate community conflicts with wildlife.



In 2009 and 2010, the CRUs have responded to 560 incidents of human-elephant conflict around Ulu Masen, providing benefits to an estimated 2500 households. In addition to these activities, elephant patrols are conducted to monitor illegal logging and to send out a warning to would-be loggers that enforcement agencies to meet and work together in the field.

Establishing a Multi-Stakeholder Intel-Network

To improve the systems of communication and collaboration between law enforcement agencies and community partners, FFI worked to set up intelligence-based information channels from forest-edge communities and local NGOs to the law enforcement agencies. Thus, FFI facilitated district level meetings between the district police, Forestry and Plantation Agency and local NGOs, which subsequently became routine quarterly meetings. The result was a transparent and rapid reporting system, whereby commu-

nity partners would provide reliable and real-time information for the government partners to then act upon. This involved building trust and then forging strong and meaningful working relationships between all stakeholders, some of which (e.g. ex-combatant community rangers and police) might not have been natural allies in the past. Despite this, the collaborative spirit instilled through the training has prevailed. For example, the Aceh Jaya *Pamhut* now requests that the Purba community ranger team accompanies them into the field when meeting with communities. This confidence and optimism is captured through an earlier statement by Mr Muhktar, Head of the Forestry and Plantation Agency-Aceh Jaya, “**We have watched throughout 2009 as they [the community partners] have become more professional. Such trust building is a pre-requisite to an effective forest protection strategy.**”



A strong relationship amongst the Community rangers is important for their collaborative efforts in tackling illegal logging

While local NGOs and individual community members prefer to remain anonymous in their work to protect the forest, the community rangers are the visible presence that sends a signal to loggers and others that if they commit a forest crime the chances are high that they will be arrested. Despite the fact that some of the local communities with whom the community rangers work were (and continue to be) involved in logging and other forest crimes. It also reinforces the notion that the community rangers must remain distinct from the government law enforcement agencies that will make the arrests.

After three months of planning and training, the anti-illegal logging network was established across all five Ulu Masen districts and Bireuen. The collaborating partners consisted of forest-edge communities, community rangers, local NGOs, Forestry and Plantation Agency, police and FFI.

Tackling Illegal Logging Through a Multi-stakeholder Network

"This is no ordinary morning to early evening job. Definitely not! We often receive calls that logs might be moved late at night, we inform the authorities and stand-by to assist in monitoring."

Mr Muchtar, Community Ranger, Aceh Jaya

Monitoring and Reporting

From the intel-information gathered by the three local NGOs, valuable insights were gained into the patterns of illegal logging, especially in the transportation of timber. Once brought from the forest edge to the main road, the timber was initially stored in a safe house (during the daytime) and was then transported, in the evening, in one of two ways. Firstly, timber was collected during the Islamic prayer time of maghrib (just after sunset), a predictably quiet period when road traffic volume is low, and transported using a small (e.g. five ton) truck. Alternatively, the timber was transported in smaller quantities (<0.4 m³) using a modified motorbike with open sidecar (*becak barang*), where the timber would be highly visible, but moved only late at night (e.g. 12pm-2am). The covert nature of these transportation methods demonstrates that the perpetrators were concerned with being caught by government officials or by opposing communities.

The three NGOs provided information on the average wage of an illegal logger. For example, two chainsaw operators working together would receive a combined sum of Rp. 400,000/ m³ of hardwood cut (with small variations depending on the species) and 1-2 m³ would take about two days to cut, depending on the field conditions. This wage is approximately twice as much as received by those working in the

farmland, e.g. a rice harvester would expect to earn Rp. 50,000/day). In comparison, the Ulu Masen community rangers received a monthly stipend of Rp. 1,500,000 for working 20 days/month.

Based on the local NGO reports and their own intel-information, the community ranger teams continually adapted their monitoring locations and strategies in accordance with the shifting patterns of forest crimes. For example, the Krueng Bajikan team (Aceh Barat) set up a temporary ranger monitoring post in Teunom sub-district in response to intensification in illegal logging in this area. Meanwhile, assessments in Mane (Pidie) resulted in the Blang Raweu team establishing two rotating patrols to maintain a constant presence in the forests in response to this need. As the capacity of the rangers themselves increased, they became more involved, and influential, in raising local awareness of the issues surrounding illegal logging. Since conducting their outreach activities, the community rangers now receive direct community requests, e.g. from village heads or sub-district heads, to monitor specific locations where illegal logging is suspected, so that it will be reported to the law enforcement agencies.

Law Enforcement: Operations, Confiscations and Arrests

The intel-information gathered by FFI’s three local NGO partners, from August 2008 to August 2009, recorded 369 cases of forest offenses from Ulu Masen. The most frequently recorded type of offense involved illegal logging (forest encroachment and selective timber felling, 45.3%), followed by timber storage (37.9%), transportation of illegal timber (7.3%), timber producers (6.0%) and sawmills (3.5%; Table 2). From this, an estimated 895 m³ of illegal timber was recorded as having been removed from Ulu Masen.

From the 369 cases recorded, 190 cases were considered to have sufficient information and were reported by the local NGOs to the government law enforcement agencies. In turn, these agencies responded to 86 reports (45.3%) with law enforcement operations that seized 251 m³ of illegal timber, 17 four-wheel vehicles, nine two-wheel vehicles, 17 chain-saws, two industrial saws and closed three sawmills (Table 3).

Comparing the law enforcement results against the number of cases submitted, revealed that local NGOs reports made on forest crimes in Aceh Besar, Pidie and Bireuen were more likely to yield arrests and confiscations

than in the other districts (Table 4). However, the subsequent prosecution rates of those cases with a known outcome were much higher in Aceh Jaya (100.0%), Pidie (81.5%) and Pidie Jaya (66.7%) than in Aceh Besar (20.0%; Table 4).

The law enforcement operations resulted in the arrests of 145 people (including Bener Meriah) suspected for their involvement in illegal logging (Table 5). The majority (88.9%) of these illegal loggers were found to originate from the district where they were caught logging. From the 145 suspects arrested, the cases of 45 loggers were monitored until a known outcome, with another 34 cases still being considered by the police and with 66 cases (or 45.5%) not being monitored, due to limited human resources. From 45 cases monitored until a known outcome, most (64.4%) proceeded to court and, of these, approximately half (48.3%) of the defendants received a prison sentence (ranging from 4 months to 4.5 years), with the remainder receiving a verbal warning (41.4%) for a first offence or awaiting a final verdict (10.3%). From the 16 people not prosecuted, 12 were released due to insufficient evidence; three escaped from the detention facility and one (15 years old) was released because he was below the minimum age (18 years) for prosecution.

Table 2. **Illegal logging monitoring cases (n = 369) reported by three of FFI’s local NGO partners (August 2008 – August 2009) in and around Ulu Masen, Aceh**

District	Cases				
	Illegal Logging [*]	Timber Pilling	Sawmill	Timber Supplier ⁺	Timber Transportation
Aceh Barat	10	21	1	1	3
Aceh Jaya	38	17	0	5	4
Aceh Besar	53	5	11	1	4
Pidie	40	54	0	9	11
Pidie Jaya	25	43	0	0	5
Bireuen	4	0	1	6	0
Total	167	140	13	22	27

^{*} Forest encroachment and selective timber felling; ⁺ Site selling processed timber

Map 2. Illegal Logging Hotspots in Ulu Masen

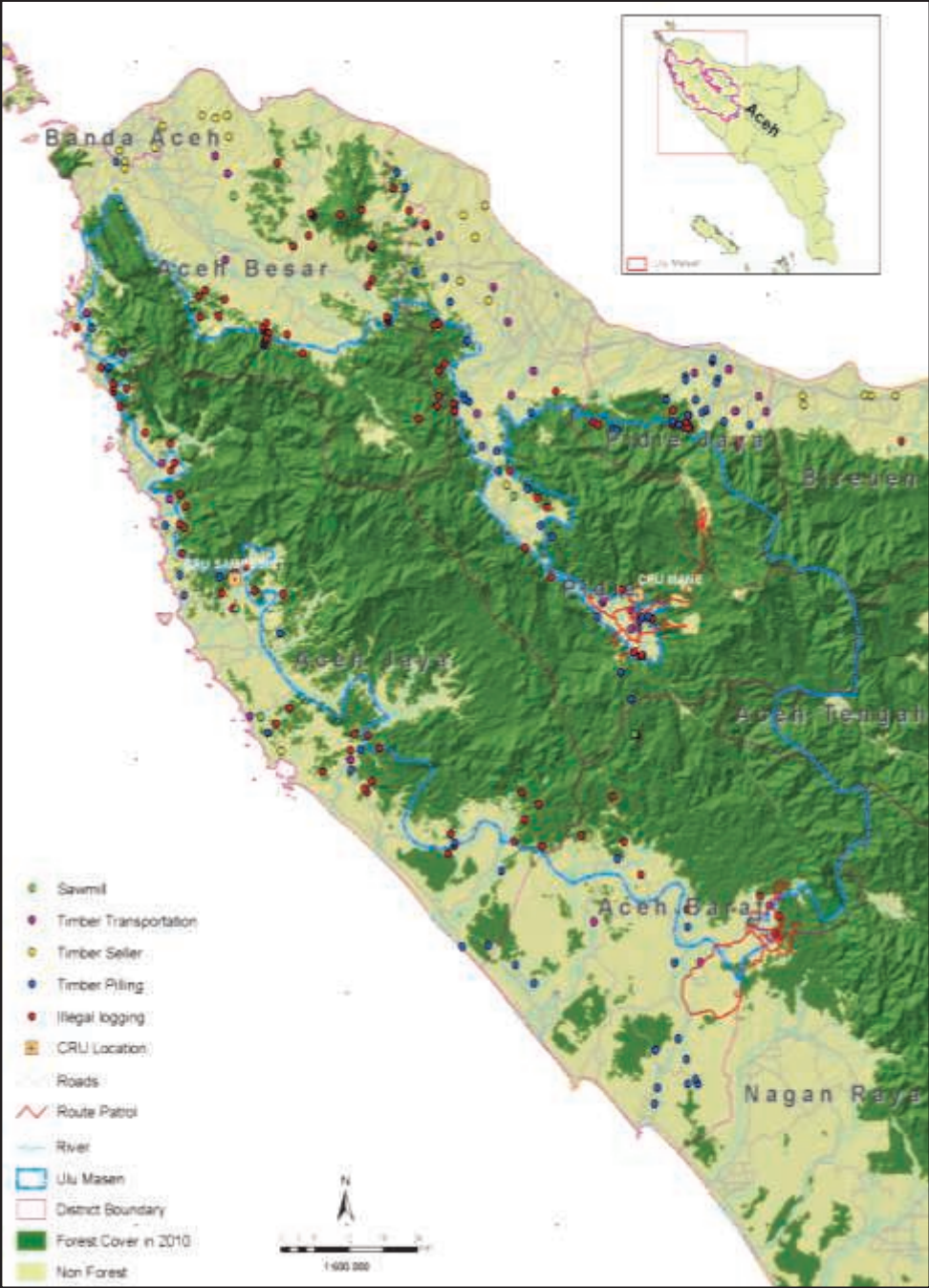




Table 3. Confiscations resulting from law enforcement operations conducted by the police and the Aceh Forestry and Plantation Agency (August 2008 – August 2009) in and around Ulu Masen, Aceh

District	Confiscations and Closures				
	Sawmill	Motorbike	Truck/jeep	Chainsaw/ industrial saw	Timber (m ³)
Aceh Barat	0	0	0	0	0
Aceh Jaya	0	0	2	0	7
Aceh Besar	3	4	2	9	85
Pidie	0	3	7	4	64
Pidie Jaya	0	2	2	4	0
Bireuen	0	0	0	0	55
Total	3	9	17	19	251

* an immediate result after the Police training run by FFI and partners

Table 4. Summary of law enforcement operation results in relation to the number of forest crime reports submitted (August 2008 – August 2009) in and around Ulu Masen, Aceh

District	Number of reports	Illegal logger arrests	Confiscations and closures		Average incidents/report		
			Vehicles and equipment	Timber (m ³)	Arrests	Vehicles and equipment	timber (m ³)
Aceh Barat	36	0	0	0	0.00	0.00	0.00
Aceh Jaya	64	8	2	7	0.13	0.03	0.11
Aceh Besar*	74	31	18	85	0.48	0.28	1.33
Pidie*	114	62	14	64	0.97	0.22	1.00
Pidie Jaya	73	25	8	0	0.39	0.13	0.00
Bireuen	8	12	0	55	0.19	0.00	0.86

* Districts where the Aceh Forestry and Plantation Agency received law enforcement training from FFI.



Ulu Masen forest condition due to illegal logging in the District of Pidie

Table 5. Arrests and prosecutions resulting from law enforcement operations conducted (August 2008 – August 2009) in and around Ulu Masen, Aceh

District	Illegal Logger arrest	Cases					Not monitored
		Still being processed	Released without trial	Proceeded to court	Received prison sentence	Received verbal warning	
Aceh Barat	0	0	0	0	0	0	0
Aceh Jaya	8	4	0	4	2	0	0
Aceh Besar	31	16	[†] 4	1	0	0	10
Pidie	62	0	5	14	8	6	43
Pidie Jaya	25	2	7	10	4	6	6
Bireuen	12	12	0	0	0	0	0
Bener Meriah	7	0	0	0	0	0	7
Total	145	34	16	29	14	12	66

[†] 3 suspects escaped before trial

Result from capacity building training provided by FFI to the police

Identifying the Factors Contributing to Project Success

The results from the Ulu Masen project are noteworthy for several reasons. Firstly, an effective working relationship was established between the government law enforcement agencies and the community stakeholders to jointly tackle illegal logging. This resulted in the government agencies conducting regular law enforcement action in response to local reports, with new arrests and confiscations being made on a monthly basis rather than through the commonly practiced infrequent sweep operations that are considered to be less effective and more expensive.¹¹

The project offered no financial or career incentives but, nevertheless, government staff motivation and commitment to tackling illegal logging remained high. Furthermore, the government partners demonstrated a commitment to conducting law enforcement operations that bucks the trend in Indonesia, where actions in tackling the widespread and often rampant illegal logging are rare.¹² It was encouraging that, of the cases tracked, most (64.4%) proceeded to court and, of these, only ten percent failed to achieve a conviction, which suggests that illegal logging is considered as a serious

offence and that the evidence collected was sufficient. A recent report by the European **Commission's Forest Law Enforcement, Governance and Trade (FLEGT)**¹³ project highlighted the improvements being made by the Government of Indonesia in tackling illegal logging. However, one issue raised by this report was that law enforcement follow-up was still insufficient and only a quarter of cases had resulted in convictions. From Ulu Masen, about half of the reports submitted were followed by such operations. The contributing factors that **have been identified as integral to the project's** achievements in Ulu Masen include strong political will, strong local stakeholder support and funding that could be promptly accessed.

Political Will

One of the most heartening results witnessed during this study was the willingness of the police and Aceh Forestry and Plantation Agency to get involved in tackling illegal logging, especially for the police that are otherwise busy in maintaining peace and stability in a post-conflict Aceh. This commitment is vindicated, and also most likely stimulated, by the unambiguous signals sent out by the Govern-

¹¹AFEP. 2010. Annual Project Report. Unpublished report for the Multi Donor Fund for Aceh and Nias. Aceh, Indonesia.

¹²WWF-Indonesia. 2010. *Sumatra's Forests, their Wildlife and the Climate. Windows in Time: 1985, 1990, 2000 and 2009. A quantitative assessment of some of Sumatra's natural resources submitted as technical report by invitation to the National Forestry Council (DKN) and to the National Development Planning Agency (BAPPENAS) of Indonesia.*

¹³Lawson & MacFaul. 2010. *Illegal Logging and Related Trade: Indicators of the Global Response.* Chatham House Programme Report.

ment of Indonesia that has ranked illegal logging as an issue of national importance and established measures to crack down on illegal logging, e.g. forming a ‘Judicial Mafia Eradication Task Force’ to ensure transparent prosecution of illegal logging cases.

Instrumental to the achievements in Ulu Masen was the role of district governments in creating an enabling environment for tackling illegal logging. Government partnerships were formed more easily in areas where FFI had already established a long-term presence in their district, e.g. Pidie. Consequently, the law enforcement response to the illegal logging reports submitted here was more frequent. In contrast, the complete lack of arrests and confiscations in Aceh Barat district were due to constraints in developing a working partnership with the local government, possibly related to FFI’s lower presence in this district.

Whilst political goodwill may, in general, prevail across Ulu Masen, it is important to recognise that expanding the anti-illegal logging network and strategy into the neighbouring Leuser Ecosystem districts would probably be more challenging. Here, many of the local governments have prioritised road construction and oil palm plantation expansion that would require the conversion and/or fragmentation of the forest estate, such actions often beget illegal logging.¹⁴ In contrast, one district government from the Ulu Masen area, Aceh Jaya, has specifically allocated an additional Rp. 1 billion (approximately US\$100,000) in its 2010 budget to enable the Forestry and Planta-

tion Agency to continue its forest patrols, which directly relates to the activities initiated in this study.

Local Stakeholder Support

Most of the illegal loggers arrested were found to originate from the district that they were operating in. This suggests that the communities have, to a large extent, been unable to fully tackle illegal logging by themselves, that the community ranger outreach activities should be enhanced and that not all communities necessarily oppose illegal logging. Nevertheless, the active participation of community rangers, local NGOs and wider civil society in the Ulu Masen project sends out a signal that many local communities do oppose illegal logging. Such support is considered to have emboldened the government law enforcement agencies to act. Two examples are provided on how community-based initiatives can tackle illegal use of natural resources.

The first example is provided by the Forum Sayeung Krueng Kalok (FORSAKA) from Aceh Besar. With support from the USAID-Environmental Services Programme and then from FFI, the Forum was established by six member villages, in part, to derive direct economic benefits from the clean mountain waters of Ulu Masen. Because of this, the community rapidly mobilised themselves to successfully drive out the illegal loggers from the Krueng Kalok watershed forest when this area and its key ecosystem service came under threat in 2008.¹⁵ The second example relates

¹⁴Linkie et al. 2008. Evaluating biodiversity conservation around a large Sumatran protected area. *Conservation Biology* 22:683-690.

¹⁵USAID-ESP. 2008. Annual Progress Report. Environmental Services Program, DAI Project Technical Report, Jakarta.



to FFI's Marine Programme in Aceh. Here, the customary leaders of the sea (*Panglima Laot*) have been empowered to locally resolve transgressions of customary law related to unsustainable marine resource use in certain areas in Pulau Weh. Consequently these prohibited activities have greatly reduced,¹⁶ including strict local enforcement to prohibit spear fishing.

Funding

The majority of the work in tackling illegal logging in Ulu Masen, e.g. capacity building of government and community partners, monitoring, investigating and reporting forest crimes, ongoing support and supervision and community outreach, was possible because an independent agency (FFI) received a large-sized grant (US\$7.7million) and was able to

allocate a substantial portion of this (US\$646,198 or 8.4%) for the required activities (law enforcement agency training = US\$154,571, community rangers = US\$129,912, CRUs = US\$242,449 and sub-grants to local NGO informants = US\$119,266). This allowed FFI to bring together multiple partners within a single framework, without delays in waiting for annual government budgets to be disbursed or allocated within future budgets. However, the allocation of police and Forestry and Plantation Agency budgets for law enforcement operations was critically important because FFI's mandate prevented it from funding these operations and the community rangers and CRUs did not have the authority to make arrests.

¹⁶FFI-Aceh. 2011. Illegal fishing records, arrests and fines from 2006 to 2010. Unpublished data, FFI-Aceh marine programme, Aceh.

Improving and Continuing the Effort to Tackle Illegal Logging

This report highlights the on-the-ground action and the achievements made over one year. Whilst the results are encouraging, they need to be placed within a wider context. Illegal logging still persists in each of the five Ulu Masen districts and Bireuen, despite being previously targeted by the multi-stakeholder network. The project recorded 895m³ of illegally felled timber, which is considered to greatly under-estimate the true magnitude of the threat. Thus, the project cannot, and does not, conclude that it was a unanimous success. Furthermore, the project did not attempt to directly tackle illegal conversion of forest to farmland, another principal forest threat, or the other key actors involved in illegal logging criminal networks, i.e. traders and buyers. Finally, and probably most importantly, was that when the financial support from FFI was greatly reduced (after August 2009) there was a corresponding reduction in field activities, showing that the strategy is not yet sustainable. This funding limitation also explained why only 45.3% of the 190 cases submitted to the government agencies were acted upon. **One of FFI's local NGO partners in Pidie Jaya summed up the situation, which was also expressed by the other NGO partners, "When they [Forestry and Plantation Agency] have the resources the response will be strong and fast, when they don't [have the resources] nothing happens."**

Whilst it is unrealistic to expect that the multi-stakeholder network could achieve sustainabil-

ity over one year, there are, nevertheless, several positive signs indicating that it might in the future: i) the Aceh Jaya-Forestry and Plantation Agency allocated a specific budget for forest patrol activities (which FFI is now using as a model to persuade other district agencies to replicate); ii) the police continued to conduct law enforcement operations beyond the FFI funded work; iii) two of three local NGOs supported by FFI were able to continue their work, albeit at a lower intensity, when the operational support from FFI finished, as they continued to work with local communities to monitor and report on forest conditions and activities, using funds obtained independently or working on a voluntary basis; and, iv) the multi-stakeholder model developed in this study will be prioritised for longer term funding within an Ulu Masen Management Plan that is being developed as part of the REDD initiative for this forest estate.

Formalising the multi-stakeholder strategy developed by FFI and partners would be a sensible next step. However, in 2008, the Government of Aceh established an 'Integrated Team on Eradicating Illegal Logging' (Governor Decree No.522.21/284/2008) mandated to identify illegal logging locations and then intervene, tackle organised forest crime and investigate suspicions of there being insiders (*oknum*) within government departments and law enforcement agencies logging syndicates.

This team is represented by all of the relevant agencies from both provincial and district level government, the former combatant association KPA (*Komite Peralihan Aceh*) and local NGOs. Initially, FFI tried to work with this team, but its complex design meant that there were high administrative costs, for which adequate funds had not been allocated within government budgets and, so, FFI decided that its budget would have the greatest impact by supporting district-level initiatives. It would be important for the Government of Aceh to **re-evaluate this team's functionality, based on the results from this study**, especially in relation to developing more cost-effective district level teams.

Recommendations

Given the complexity of illegal logging, and the diverse array of actors, no single agency can be expected to mitigate this problem on its own. Thus, pivotal to future success in Ulu Masen, and indeed Aceh, is the ongoing support for a fully-funded multi-stakeholder network to implement a coherent anti-illegal logging strategy. This strategy, which is applicable to other Indonesian provinces, should implement the core activities of partner capacity building, monitoring and reporting forest crimes through informant networks, law enforcement operations, community outreach, alternative livelihood creation and policy development. This strategy should also incorporate several technical and policy recommendations, based on the specific findings identified from this study.

Technical Recommendations

- The technical training provided by FFI to the law enforcement agencies resulted in immediate on-the-ground action, e.g. a day after the police (*ResKrim*) training, the participants conducted an operation in Bener Meriah and arrested seven illegal loggers, confiscated four vehicles, two chainsaws and 40m³ of timber. This training should therefore be conducted in the three other Ulu Masen districts, plus Bireuen, and provincial level, and repeated in the previously covered districts to ensure ongoing increase in capacity. However, key to this is that the government agencies are conducting frequent law enforcement operations across Ulu Masen. To remove a commonly cited constraint, the most promising Forestry and Plantation Agency candidates should be trained up as certified criminal investigators (*Penyidik Pegawai Negeri Sipil*) to increase the number of cases proceeding to court. This would be assisted further by providing specialised training on timber species identification and evidence handling.
- Law enforcement operations aimed at confiscating timber in transportation are predicted to yield greatest results if conducted during maghrib and late at night. There are only three main supply roads around Ulu Masen and these should be targeted through a series of strategically placed mobile posts that are based on the latest intel-information. Where possible, timber should be confiscated at its storage source, i.e. prior to its division into smaller quantities for transportation.
- Targeting the chainsaw operators and their crew remains important, but for every person arrested there are no doubt hundreds of others ready to fill this vacancy. Thus, targeting the more powerful actors (i.e. traders and buyers) complicit in the illegal logging is important but more challenging, given that these people will have access to

money and political connections, making their prosecution more difficult. Nevertheless, the work of *Konsortium of Anti-Illegal Logging (KAIL)*, a collaboration between non-governmental organisations and the Government of West Kalimantan, has led to the arrest of these actors (known as *cukong*) and lessons can be learned from this strategy.

- The effectiveness of law enforcement intervention should be regularly assessed through quantitative analyses that control for the effect of confounding variable and that are based on the spatio-temporal patterns of illegal logging patterns and of district timber prices.
- Revising the intel-reporting system with a view to greater selectivity would increase efficiency through reducing the resources expended by the local NGOs in verifying reports in the field (as 190 out of 461 intel reports were submitted to the law enforcement agencies). Reports not submitted in this study tended to be those that identified the locations of illegal sawmills, which were already known to the government partners.
- An independent watchdog, e.g. civil society organisations working with the provincial media, should be tasked with tracking all illegal logging cases until a final outcome, as the outcome of 45.5 percent of such cases from this report remain unknown. It would also be important to document the reasons for unsuccessful outcomes (there were 12 in this report) for improving the system, especially as the investment in monitoring, reporting, capturing and bringing a case to court is high, and for ensuring greater transparency.

- **The community rangers' outreach work** should place a stronger emphasis on the detrimental and direct impact of the degradation of ecosystem services from illegal logging on human well-being and the local agrarian economy. Within Aceh, the only Indonesian province under Sharia law, religious institutions and leaders could be involved in such outreach, e.g. through their Friday sermons.

Policy Recommendations

- Additional government funds should be allocated within provincial and district level budgets. In 2008, 67.1% of the Aceh provincial budget was spent,¹⁷ so additional funds could be made available, if requested. Also, money recuperated by the Forestry and Plantation Agency from the legalised sale of confiscated timber should be invested into law enforcement operations rather than reforestation activities, as currently done.
- The revision of funding restrictions placed on the law enforcement agencies for certain types of activities should improve law enforcement operation effectiveness. For example, the maximum police budget allocation, per case, for transporting timber evidence from location to the police station is approximately US\$500. In several instances during this study, this sum was insufficient and meant that large quantities of confiscated timber could not be collected, which partly explains the small volume of timber confiscated during this study. This constraint is predicted to have wider impacts because prosecution based on smaller volumes may result in lower penalties being issued.

¹⁷Dinas Pengelolaan Keuangan dan Kekayaan Aceh. 2009. Laporan realisasi anggaran, tahun anggarn 2008. Pemerintah Aceh.

- For the Forestry and Plantation Agency, a critical review of the 2000 non-civil service forest police (*Pamhut*) is required, because at present a disproportionately large (78%) amount of the annual forest police budget is spent on *Pamhut* salaries, leaving insufficient funds for field operations. Downsizing the number of *Pamhut* may have undesirable consequences for forest protection because it will make a significant number of unskilled people redundant, who in turn may log the forests. Regardless, the present *Pamhut* structure is unsustainable and ineffective.
- A long-term solution, such as timber plantations, is needed to address the domestic timber demands in Aceh. The logging moratorium has halted commercial felling of timber across the province, but in the process it has stopped the local timber supply, except for nominal amounts legally obtained from smallholder gardens. In the absence of readily available and alternative sources of legal timber, opportunists will continue respond to meet the demand using illegal timber. Plantations are unlikely to immediately resolve this problem as illegally sourced wood will remain a more profitable option over the short-term, but nevertheless remains important.

Conclusion



Part of the Ulu Masen forest in Peut Sagoe, Geumpang-Mane, Pidie district, which must be safeguarded from the threat of deforestation.

The Government of Indonesia is currently preparing to implement a nationwide REDD+ strategy that has the potential to generate billions of dollars.¹⁸ Besides needing to demonstrate the tangible livelihoods benefits that are anticipated to be delivered to rural communities, the government also needs to demonstrate its ability to avoid pre-agreed levels of deforestation and forest degradation. In turn, this requires the establishment of an enhanced strategy that tackles both illegal timber felling and land encroachment, which so far has been lacking.

The Ulu Masen report outlines a multi-stakeholder approach that, on a smaller-scale, demonstrated such an approach for illegal timber felling. Scaling-up this up to include the **Government of Indonesia's REDD+ provinces** is feasible but will greatly depend on creating the enabling conditions (strong political will, strong stakeholder support and sustainable funding) that were identified as being fundamentally important in this study.

¹⁸Government of the Kingdom of Norway and Government of the Republic of Indonesia. 2010. Cooperation on reducing greenhouse gas emissions from deforestation and forest degradation. Letter of Intent, Oslo, Norway.

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