

# INDONESIA COUNTRY ENVIRONMENTAL PROFILE UPDATE

## FINAL REPORT

Julian Caldecott and Mochamad Indrawan  
AGRECO Consortium, 251 Avenue Louise, 1050 Brussels, Belgium

29 November 2009

---

## CONTENTS

1. Summary	3
1.1 Aims and activities of the mission	3
1.2 The climate change context	3
1.3 Responses to the climate change challenge	3
1.4 Forestry, deforestation and forest degradation	4
1.5 Sustainable Consumption and Production	6
1.6 Recommendations of the CEP update mission	7
2. Introduction	8
3. State of the environment	9
3.1 Climate change	9
3.1.1 The nature of the climate change issue	9
3.1.2 Treatment of the issue in the current CEP	10
3.1.3 Drought-proneness	11
3.1.4 Fire-proneness	13
3.1.5 Sea-level rise	13
3.1.6 Climate change adaptation	13
3.2 Forestry	14
3.2.1 The nature of the forestry issue	14
3.2.2 Treatment of the issue in the current CEP	16
3.2.3 Deforestation	16
3.2.4 Illegal logging	17
3.2.5 Peatland management	17
3.2.6 Biodiversity protection and loss	18
3.3 Sustainable Consumption and Production	18
4. Environmental policies, laws and institutions	19
4.1 Climate change	19
4.1.1 The Pittsburgh commitment	19
4.1.2 The UN Framework Convention on Climate Change (UNFCCC)	19
4.1.3 Reduced Emissions from Deforestation and Degradation (REDD)	20
4.1.4 The Climate Change Roadmap	24
4.1.5 Government power generation goals	24
4.1.6 The National Council on Climate Change (DNPI)	26
4.1.7 The Ministry of Forestry	26
4.1.8 The Ministry of Agriculture	26
4.1.9 The Ministry of Finance	27
4.1.10 The State Ministry of Environment (LH)	27
4.1.11 The National Energy Council (DEN)	28
4.1.12 The Indonesian Climate Change Trust Fund (ICCTF)	28
4.2 Forestry	28
4.2.1 Illegal logging	28
4.2.2 Peatlands	29
4.2.3 Forest management units	29
4.2.4 Decentralisation	30
4.2.5 Combating and preventing forest fires	33
5. Cooperation activities from an environmental perspective	33
6. Findings from field visits	34
6.1 Papua	34

6.1.1	Socioeconomy	34
6.1.2	Special autonomy and current leadership	34
6.1.3	The RESPEK programme	35
6.1.4	Decentralisation	35
6.1.5	Forestry	35
6.1.6	Avoided deforestation potential	36
6.1.7	Renewable energy potential	36
6.2	Yogyakarta	37
6.2.1	Distinctiveness of Yogyakarta	37
6.2.2	Land use change	37
6.2.3	Water catchments	37
6.2.4	Renewable energy	38
6.2.5	Transportation	38
6.2.6	Waste management	38
7.	Conclusions and recommendations	38
7.1	Conclusions	38
7.1.1	Strategic challenges	38
7.1.2	Strategic changes	39
7.2	Recommendations	39
7.2.1	Cooperation with central institutions	39
7.2.2	Cooperation with Papua	41
7.2.3	Cooperation with Yogyakarta	42
	Annex 1: Documents consulted	43
	Annex 2: Mission itinerary and persons consulted	46
	Annex 3: Responses to EC Delegation comments on the Draft Report	49
	Annex 4: Recent developments in Indonesian decentralisation	51
	Annex 5: Donor and technical activities sampled by the mission	54
a)	UN-REDD	54
b)	Forest Law Enforcement, Governance and Trade (FLEGT)	54
c)	The Australia-Indonesia Forest Carbon Partnership	55
d)	The Forests and Climate Change Programme	55
e)	The Heart of Borneo (HoB) initiative	55
f)	The Tropical Forest Foundation (TFF)	55
g)	Conservation International	56
h)	The Centre for Climate Risk and Opportunity Management (CCROM)	56
i)	ALREDDI	56
j)	The Tropical Forests and Climate Change Adaptation Project	57
k)	Netherlands cooperation	57
l)	Kemitraan	57
	Annex 6: Papua's Special Bylaw on Sustainable Forest Management	57
	Annex 7: Acronyms and abbreviations used in the text	61
	Annex 8: Terms of Reference of the Mission	63

## 1. Summary

### 1.1 Aims and activities of the mission

**Purpose.** This mission aims to update the Country Environmental Profile (CEP) for Indonesia, which as an annex to the Country Strategy Paper (CSP) is one of the main tools used by the EC to integrate environment in development cooperation planning. In 2009, the EC launched a Mid-Term Review of all CSPs for the period 2007-2013, thus providing an opportunity to adapt them in light of new needs and priorities. The mission is focused on the linked subjects of climate change, forestry, and sustainable consumption and production (SCP), corresponding to key programming areas of the EC.

**Progress.** The diversity and complexity of Indonesia's environmental circumstances made it impossible to do more than obtain an overview of recent and current events and trends, and explore a few key highlights. Nevertheless, the team had substantive discussions with individuals representing Indonesian government institutions, donor agencies, international organisations and academic, charitable and private-sector actors. The team also visited the provinces of Papua and Yogyakarta, to explore opportunities for local implementation partnerships.

### 1.2 The climate change context

**Indonesian vulnerabilities.** Climate change will cause severe adverse impacts on rainfall patterns, agricultural potential, water resources, and terrestrial, wetland, aquatic and coastal ecosystems, besides increasing the range of disease vectors and rendering coastal areas vulnerable to inundation by the sea and the associated intrusion of saltwater. With an extremely long coastline, a large and often densely-populated coastal zone, and landscapes that are becoming more prone to droughts and fires, Indonesia is particularly vulnerable to climate change.

**Climate change in the CEP.** The understanding of Indonesia's vulnerability to climate change and role in causing it, and policy responses to this, arose since the CEP was prepared in 2004-5. The CEP did flag some key issues, including: the increasing rate of GHG emissions, the importance of land use change and forestry as a source of GHGs; the potential for carbon projects in forestry, the detection of early climate change consequences, the potential for harmful impacts, and the interest of a few donors in the subject. Lacking, however, was the sense that climate change was already known to be an emerging global emergency with the potential to undo Indonesia's past development gains and to render much of the country uninhabitable within a few decades.

**Policy commitment.** Indonesia is a key actor in the climate change arena, pertaining to its international record (GOVERNMENT OF INDONESIA ARE NOT ENTIRELY CONVINCED AND WE MUST PROVIDE A DEGREE OF LATITUDE FOR THIS BELIEF) as one of the largest emitters of GHGs after China and USA, as the most biodiverse country in the world where 80% of GHG emissions are reported to come from deforestation and land/forest degradation, and as a developing nation diplomatically close both to northern and southern country groupings. The need for action on climate change has been recognised at the highest levels of the Indonesian government, with policy commitments to mitigation and adaptation through reduced deforestation, economic transformation and disaster risk reduction.

### 1.3 Responses to the climate change challenge

**The National Council on Climate Change.** The DNPI (*Dewan Nasional Perubahan Iklim*) was established by Presidential Decree in 2008 and has mobilised wide-ranging expertise, but it has limited political authority and is not integrated structurally within the government system. Its impact depends on continued presidential support, but an organic law is also needed (to ensure structural integration of DNPI).

**The Pittsburgh commitment.** The immediate driver of government thinking on climate change mitigation is the President's unilateral commitment at the G-20 Leaders' Summit on 25 September 2009 that Indonesia will by 2020 reduce its GHG emissions by 26% of 2005 levels, compared with the 'business as usual' scenario. The announcement also foresaw further reduction of up to 41% in the same terms, if international help is forthcoming. This commitment will need to be confirmed through official policy instruments (and as natural consequence, budgetary allocations), and the sectoral ministries will need to develop specific plans, in dialogue with one another, for managing their own contributions to meeting the target. Ministries such as Finance, Energy, Forestry and Environment are all actively considering how best to contribute, and are wrestling with new policy mandates while trying to coordinate with each other.

**The State Ministry of Environment (LH).** Act 32/2009 on environmental management and protection gives greater powers to LH, while also raising the profile of climate change. Some of LH's new responsibilities will be very demanding (e.g. developing criteria for climate-change impacts, and the instrumentation, guidelines, instructions and protocols needed for GHG inventories), although they should give the Ministry greater leverage over polluting industries and sectors. Key provisions in the Act are: that private companies must obtain environmental permits from province, district or city authorities before beginning operations (the role of LH is to monitor and if necessary correct the permits issued); LH must publish documents on climate change adaptation and mitigation, and develop government regulations on these subjects by 2010; LH must publish documents on criteria for identifying damage due to climate change, and develop government regulations on the subject by 2010; LH must implement or coordinate a GHG inventory process to quantify emissions at the national, provincial, district and city level, and a framework for how to do this is required in 2009; LH must set minimum standards for environmental assessment strategies, which are required by companies and government units and should take into account spatial planning and carrying capacity, and criteria for vulnerability and adaptation issues; and LH can directly mobilise government investigators rather than having to do so through the National Police, and those who act without environmental permits can be jailed.

**Donor interventions.** The Indonesian Climate Change Trust Fund is about to become operational under UNDP management. It aims to fund urgent initiatives from line ministries on renewable energy, forest and peatlands, and resilience or adaptation (a small-grants mechanism to fund actions by other stakeholders is also being discussed). Donors are supporting Indonesian institutions in pilot projects to field-test solutions to deforestation and degradation of forests and peatlands, usually with local participation and often involving the calculation of baseline GHG emission profiles and the measurement of emission changes associated with land and forest use.

#### **1.4 Forestry, deforestation and forest degradation**

**Forests and climate.** The forestry issue has unfolded in various ways since 2004, some of them positive but others less so. Meanwhile, the realisation that the conversion or logging of forests, whether legal or illegal, have implications for GHG emissions means that forestry and land-use issues have become conflated with the climate change issue. This can be approached from several directions, all of which have implications for climate change negotiations, including the perceived role of Indonesia as a major GHG emitter, the possibility of earning carbon storage credits in

some way from avoided deforestation or improved forest management, and the role of forests in helping Indonesians adapt to climate change.

**Deforestation.** After peaking at nearly 2 million ha/year in 2002-3, the deforestation rate is now about half that. Deforestation is largely driven by the conversion of forest land to plantations, particularly of oil palms by large enterprises and smallholders, and of pulpwood trees by large companies. The issue is complex, however, since it involves such factors as: the transfer of 'conversion forest' from control by the Ministry of Forestry to that of other line ministries, in a situation where maps are poor, inaccurate and ecologically unfounded, and where 'institutional' forests are often not the same as real forests; the abandonment of forests that have been allocated to companies for conversion to plantations, but that have simply been heavily logged and left unsupervised to be occupied informally by smallholders who clear the land using fire; the allocation of portions of 'conversion forest' within landscapes otherwise dedicated to 'production forest', which then become vulnerable to fire as a whole; the creation of new districts and provinces, which induces their governments to finance themselves by selling deforestation rights; and corruption, collusion and nepotism that still pervade the forest and land-use sectors despite strenuous efforts in recent years.

**Illegal logging.** This is of concern to government partly because of lost tax revenues which would have been obtained if the same timber had been harvested legally, partly because it can do far more damage to forest ecosystems than well-managed legal harvesting, and partly because it endangers forests that have been set aside for conservation and may lead to the loss of biodiversity and ecosystem services such as water catchment and carbon storage functions. At the local level, intact forests are often all that stand between communities and the impacts of failing water supplies, siltation of waterways, loss of forest products, wild fires and land slides. All agree that illegal logging is pernicious and must be halted, but efforts to do so have often resulted in the criminalisation of small-scale forest users and in criminal conspiracies that evade punishment for large-scale illegal logging activities. Anecdotal evidence suggests a major decline in illegal logging and log smuggling, but isolated problems remain. Illegal logging is a key indicator of forest governance, the high quality of which is critical for anything to do with REDD and avoided deforestation. Efforts to combat illegal logging are being reinforced by new US and EU rules that require chain-of-custody and -legality documentation for wood products imported from Indonesia and other countries. This has prompted negotiations towards a Voluntary Partnership Agreement with the support of the FLEGT Support Project.

**Peatlands.** Indonesia possesses immense areas of peatland, especially in Sumatra, Kalimantan and Papua. Peatland degradation may account for some 65% of Indonesia's GHG emissions, yet is ambiguously treated in national land-use planning and allocation systems. The precise location and depth of peat deposits are uncertain because of poor mapping, but about half the remaining lowland forests in Indonesia are believed to grow on peatlands. Policy development on peatlands has been limited, although their significance for GHG emissions in the context of UNFCCC negotiations is quickly changing this. The discovery that peatlands are good for growing oil palms has dramatically changed their land-use dynamic, and government policy is for smallholders to grow oil palms, with a target of 4 million hectares to be converted in this way.

**REDD.** The IPCC has estimated that tropical forest clearance results in 15-25% of total GHG emissions by people. REDD is based on the idea that funds are provided to developing countries for reducing emissions from forest and land degradation by means such as through strengthened law enforcement, fire management and sustainable forest management. REDD is thus a generic term for a range of options and financing mechanisms that might be used to reduce deforestation and degradation, with the goal of mitigating climate change. Various proposals have been put forward

for REDD but the analysis used here examines at a technical level what a REDD system ought to involve if it is to be effective, and focuses on avoided deforestation.

**REDD design criteria.** The owners of forest and peatland should earn income by setting those ecosystems and lands beyond use, so that their carbon would not be released for many decades, if ever. The income should be related to the amount of carbon stored, shared according to ecosystem ownership and/or control, and at least some of it financed by global society. Single, up-front payments in return for promised ecosystem protection would be ineffective, however. Instead, a series of payments would be needed, each conditional on verified land and ecosystem protection. Moreover, all the stakeholders who could influence the fate of protected forests and peatlands would need to benefit from their protection. This criterion could be met by arranging for 30% of funds to go to central government, 30% to local government, 30% to communities, and 10% being used for monitoring and scientific research to find long-term, non-carbon revenue sources in the forests that have been preserved. These design criteria would ensure that no group need be excluded from access to carbon financing, that conditional funding would be available to reward effective conservation over the 50 years or so when we must uncouple energy from GHG emissions, and would encourage an increase in the sustainable use of ecosystems and the biodiversity they contain.

**Forestry in Papua.** Some 80% of Papua is still under natural forest, but various groups are looking to the province as the next venue for large-scale logging and forest conversion. Many indigenous Papuans are inclined to keep their ancestral domains under forest, and the provincial government is seeking new ways to develop sustainably. But there are fractious and potentially corruptible leaders in multiplying regional governance units, who have considerable power over land use. Papua is the last great forest frontier in Indonesia, where 'business as usual' is becoming established and where irreversible damage to Papuan, Indonesian and global interests could soon occur. This would justify emergency intervention to finance sustainable forms of development and empower those who advocate them.

## 1.5 Sustainable Consumption and Production

**Application of the SCP approach in Indonesia.** The SCP approach looks at economic systems holistically from the point of view of their capacity to 'dematerialise' (use fewer resources, waste less) and 'decarbonise' (release less carbon), as well as their tendency to do so. The current CEP has sections on aspects of this, including air and water pollution, recycling, and energy use and carbon emissions. The main conclusions, for which no evidence to the contrary was found, are: that there is serious air pollution in urban areas, mainly due to increasing numbers of vehicles, poor emission standards, and the absence of urban planning and transport policy (and to forest fires in some areas); that water supply is increasingly a problem with water sources particularly at risk in upper catchment areas and through direct pollution, while in urban areas pollution is the major issue and is linked to the absence of proper sewerage systems; that there are inadequate sites for the proper disposal of solid waste and there is poor waste management, while little is done to encourage waste reduction, reuse, recovery or recycling; and that Indonesia derives the vast majority of its energy consumption from fossil fuels, and its carbon intensity is above the Asian average.

**Energy subsidies.** Indonesia's economy has become steadily more carbon-intensive, due to under-investment in clean technologies, energy conservation and renewable energy sources. This is largely due to a policy and fiscal environment that encourages wasteful use of energy and discourages investment in conservation and renewables, reflected primarily in fuel and electricity subsidies that are designed to ensure price stability for domestic consumers. Another factor is a rapid and continuing increase in the share of energy-based GHG emissions coming from burning coal, again largely

driven by subsidies and a lack of incentives to promote renewable energy supply. A key problem is that the state electricity supplier PLN applies a national subsidised electricity tariff, but faces different supply costs in different parts of the country. The cost of subsidies is a severe one for government, and effectively starves it of resources to invest in new power infrastructure and other measures to decarbonise the economy.

**National energy policy.** This calls for growth in renewable energy production, but is undermined by price distortions and the expansion of emissions-intensive coal-fired power plants. It is clear that dramatic reform is going to be needed to release the kind of creative energy and scale of investment required to shift the economy in a low-carbon direction. Phasing out energy subsidies and diversifying energy supplies and suppliers would be a necessary element of this, and is being partly addressed through Act 30/2009 on Electricity which allows for tariff differences between regions, and for regions to establish their own public or private power utilities. Political costs associated with further transformation would need to be offset by clear messaging on the threat of climate change, and by the stimulation of public and private investment in new energy systems. Institutions such as the Ministry of Finance and the National Energy Council are now thinking along these lines, but the scale and rate of change that will be needed should not be underestimated. Encouraging and enabling such change through the supply of new knowledge and technologies would be a wise and realistic priority for Indonesia's development partners.

## 1.6 Recommendations of the CEP update mission

**Diplomatic initiatives.** There is an urgent need for diplomatic initiatives by the EC and EU Member States to maintain the President's personal focus on climate change, to encourage him to chair at least one meeting of DNPI, and to seek ways to embed DNPI structurally within the Indonesian government system.

**Multi-Ministerial Support Facility.** This is proposed as a vehicle through which to provide technical assistance to support ministries in key tasks related to climate change and environment, at a time when new policies and regulations are being demanded in response to the Pittsburgh commitment and the post-Kyoto UNFCCC process. The most receptive and strategic ministries seem to include: **Finance** (on incentives for REDD and RE), **Energy and Mineral Resources** (on mapping renewable energy potentials and technology transfer for carbon capture and storage), and **Environment** (on regional and sectoral carbon profiling, and emission-reduction options). There is also a need to facilitate inter-departmental dialogue (e.g. on peatlands, REDD and between DNPI and Bappenas), and to respond to other TA needs across government which might be met through the same facility (and/or through cooperation with other donors). The introduction of the **Forest Management Unit** model in Indonesia offers a number of challenges and opportunities. A key weakness lies in a lack of knowledge among FMU managers on potential forest values, their markets and how to access them, and on best practices within Indonesia and elsewhere. A network of Forest Information Systems (each modelled on that developed in Jambi with EC support and proposed for Papua) could ensure that best practices and other insights spread quickly among FMUs. Design criteria for such a network should be explored with **Bappenas**, in dialogue with the **Ministry of Forestry** and relevant donor-supported projects.

**Cooperation with Papua.** It is recommended that dialogue be continued to explore how to establish an impartial **Sustainable Development Helpdesk**, to strengthen the provincial government's capacity to explore ideas on sustainable development, and facilitate access to knowledge and other resources with which they can be tested and applied. Priority subjects for the Helpdesk would include biodiversity as a resource, compliance with chain-of-custody and legality certification for timber products, decisions on the use of Papua's nine million hectares of conversion forest, REDD arrangements, and assessment of resources within Forest Management Units. Also

recommended is a **Forest Information System** like that developed by FLEGT in Jambi, which would respond to the Papuan Provincial Government's plan to base all forest management on FMUs, based on site-specific inventories of forest values and capacities but generating a large need for digital information management.

**Cooperation with Yogyakarta.** It is recommended that dialogue be continued to formulate a comprehensive SCP programme, both to place the city's development on a lower-carbon and more sustainable trajectory, and also to demonstrate new SCP systems that would then be available for replication in other Indonesian cities. Existing capacities to bring progress should effectively be tapped.

## 2. Introduction

The EC's cooperation strategy in a partner country is described in a Country Strategy Paper (CSP). Annexed to the CSP is a Country Environmental Profile (CEP), which outlines the major environmental characteristics and issues in the country, summarises environmental trends that can undermine the sustainability of its development, identifies how it is affected by transboundary and global environmental problems and how it contributes to these, and reviews its capacity to address environmental issues. The CEP is thus one of the main tools used by the EC to integrate environment in development cooperation planning. In 2009, the EC launched a Mid-Term Review (MTR) of all CSPs for the period 2007-2013, thus providing an opportunity to adapt them in light of new needs and priorities. In this context, the present mission aims to update the CEP for Indonesia.

This CEP update focuses on climate change, forestry, and sustainable consumption and production (SCP<sup>1</sup>), corresponding to key programming areas of the EC. All three areas are deeply linked, and in the Indonesian context of late 2009 none can effectively be addressed other than in relation to anthropogenic climate change<sup>2</sup>, which is now a major driver of environmental and development policy. This is a significant change since the current CEP was prepared in 2004-2005. At that time, climate change was widely regarded in Indonesia as only a vague and distant threat, and as an historic responsibility of industrialised countries (the leaders of several of which denied that it was even happening). It was then also a far lower priority for donors than it has since become.

A key priority of the update is to show how the EC can best work with Indonesian institutions and development partners to promote effective climate change adaptation and mitigation, sustainable forest management, and the transformation of the economy towards a lower-carbon, more sustainable model. The team reviewed key documents (Annex 1) and had substantive discussions with knowledge holders in Jakarta and Bogor (Annex 2), representing Indonesian government institutions, donor agencies, international organisations and academic, charitable and private-sector actors. In view of Indonesia's decentralisation process, local dialogue partners and implementation partnerships are now a real possibility, and to explore this the team also visited the provinces of Papua and Yogyakarta.

The team aims to deliver a report that:

---

<sup>1</sup> SCP is broadly similar in concept to that of the 'circular' economy, in which outputs of each economic activity (including wastes) as far as possible become inputs of others, coupled with major increments in the efficiency of resource and energy use, and the rapid decarbonisation of energy production and use.

<sup>2</sup> i.e. climate change caused by human activities that release greenhouse gases (e.g. burning fossil fuels) or cause them to be released (e.g. making forests and peatlands more fire-prone), as opposed to natural climate change due to variations in solar output, volcanic activity, etc.

- reviews the 'state of environment' conclusions of the current CEP and underlines major changes that may have occurred since the current CEP was prepared;
- analyses the environmental policy and legislation framework and its effectiveness, focused on climate change and forestry (including palm oil and sustainable consumption and production issues);
- analyses the environmental institution framework and its capacity, again focused on climate change and forestry;
- reviews cooperation funded by EC and other agencies, including their strategies, recent and planned activities with an environmental focus or impact; and
- makes recommendations on how best to address environmental, and especially climate change and forestry issues, in development cooperation.

The mission proceeded smoothly in general but did experience some difficulty in gaining access to senior government officials in the time available. Some required specific formal letters to request an interview at least a week in advance, while others were unavailable or were called away at the last minute. In addition, the new Indonesian cabinet was announced in the week of the 19th October, leading to major reorganisation of personnel and significant uncertainty over the availability of officials and the policies of their institutions. The team would nevertheless like to record our thanks to the many individuals in and out of government who kindly gave their time and expertise to support our enquiries. An Aide Mémoire dated 1 Nov 2009 was submitted at the de-briefing before the team leader left Indonesia. A Draft Final Report dated 10 Nov 2009 was submitted electronically. Comments were received from the EC Delegation which were responded to as explained in Annex 3 in this Final Report.

### **3. State of the environment**

#### **3.1 Climate change**

##### **3.1.1 The nature of the climate change issue**

Dry air is 21% oxygen and 78% nitrogen with trace amounts of other gases, the most abundant being carbon dioxide (CO<sub>2</sub>) which in 1960 had a concentration of 0.0315%. This compound has been known to be a greenhouse gas (GHG) with potential significance for climate change since the 1890s, although scientific studies of the atmosphere, and modelling of climate in response to changing conditions and gas compositions, began only in the 1950s. By 1960, however, it was already clear that there was a detectable annual rise in CO<sub>2</sub> concentration in the air<sup>3</sup>. The reason turned out to be the burning of carbon-rich fossil fuels, such as coal, oil and gas, which still meet four-fifths of worldwide primary energy demand. As they transiently liberate the energy needed by machines, the carbon within them is oxidised to make CO<sub>2</sub>. To the effect of CO<sub>2</sub> is added the greenhouse effect induced by other industrial compounds (including methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride), and acting together these 'greenhouse gases' (GHGs) are now known to be affecting the heat balance of the atmosphere.

Climate change has the potential to cause severe adverse impacts on rainfall patterns, agricultural potential, water resources, and terrestrial, wetland, aquatic and coastal ecosystems, besides increasing the range of disease vectors and rendering coastal areas vulnerable to inundation by the sea. Recent events are consistent with the early

---

<sup>3</sup> Weart, S.R. (2003) *The Discovery of Global Warming* (Harvard University Press, Cambridge & London).

stages of climate change. Following the publication in 2006-7 of such analyses as the *Fourth Assessment Report* of the IPCC and the *Stern Review on the Economics of Climate Change*, and scientific work (e.g. by the UK's Hadley Centre in 2009) suggesting that climate change is happening far faster than had been thought, the threat "appears to have become a new priority for the entire international community" (as noted in the EC's 2009 analysis of the aid effectiveness agenda in Indonesia). Thus the climate change issue has expanded from the realms of science and environment to those of economics, public policy and international politics.

The resonance of this matter was reflected in the UK Government's calls in June 2009 for developed and developing countries to agree a new financing system to help developing countries to cut their emissions, use greener technology, reduce deforestation, and adapt to the climate change already being experienced, specifying further that a global deal on climate change must be *ambitious* (to limit average global warming to 2°C), *effective* (with strong monitoring, reporting and verification), and *fair* (to support the poorest countries to cut their emissions and adapt to climate change). This approach was again reflected in the EC's COM (2009) 475/3 on *Stepping up international climate finance: A European blueprint for the Copenhagen deal*. This refers to the December 2009 Conference of the Parties to the UNFCCC in Copenhagen, at which it is hoped to agree an effective successor to the Kyoto Protocol.

Indonesia is a key actor in this arena, the country being perceived as one of the largest emitters of greenhouse gases (GHGs), as the most biodiverse country in the world where 80% of GHG emissions are reported to come from deforestation and land/forest degradation, and as a developing nation diplomatically close both to northern and southern country groupings. The need for action on climate change has been recognised at the highest levels of the Indonesian government, with policy commitments to mitigation and adaptation through reduced deforestation, economic transformation and disaster risk reduction. Such measures to cut GHG emissions and adapt to climate change would need to include:

- an urgent reduction in deforestation, forest damage, land clearance, peat drainage, forest fires and peat fires, to zero or close to it in the very near future;
- a steady and rapid transformation of economic activity towards a low-carbon model, beginning now or in the very near future; and
- early implementation of a strategy to maintain and restore ecosystems that contribute to environmental and livelihood security, including catchment forests, wetlands, and coastal and marine systems that buffer against environmental shocks and act as net carbon sinks.

Such an agenda is extremely challenging, especially in view of perceived levels of corruption, institutional weakness, poor coordination among institutions, and the overall momentum of the current development model. However, major improvement may well be possible as a result of enlightened leadership at national and to some extent regional levels, as well as strategic and well-targeted donor interventions and a supportive international climate change regime.

### **3.1.2 Treatment of the issue in the current CEP**

The current CEP's treatment of climate change is cursory, amounting to about 300 words in a report of 28,000. The following points are made:

- That Indonesia is a party to the United Nations Framework Convention on Climate Change (UNFCCC) and passed Law 6/1994 to implement it (but the CEP is contradictory on whether or not Indonesia had ratified its Kyoto Protocol - in fact Indonesia ratified this by means of Law 17/2004, on 28 July 2004).

- That in Indonesia the emissions of greenhouse gases (GHGs) are predicted to almost double between 2000 and 2010.
- That the three sectors which emit most GHGs are energy production, transportation and forestry (including peat and land fires, land clearance burning and logging - a grouping now known in international dialogue as 'land use, land-use change and forestry' or LULUCF).
- That in the medium to long term Indonesia has huge potential for carbon forestry projects, particularly on degraded and former concession land that has been abandoned.
- That "the impact of *alleged* climate change on Indonesia" (our italics) is manifesting itself as an observed temperature increase of 0.3°C since 1990 and a sea level increase of up to 8mm/year.
- That climate change has the potential to gravely effect the socio-economic situation of Indonesians, for example through a shift in the timing of the dry and rainy seasons, and by increasing the numbers of disease vectors such as mosquitoes.
- That a small rise in seawater temperature can lead to the bleaching and eventual death of coral reefs.
- That donors which giving priority to climate change included the USA, Netherlands, Japan, Sweden and UNDP.

Thus the CEP at least flagged some key issues: the increasing rate of GHG emissions, the importance of LULUCF as a source of GHGs; the potential for carbon projects in forestry, the detection of early climate change consequences, the potential for harmful impacts, and the interest of a few donors in the subject. Lacking, however, was the sense that climate change was in 2004 already known to be an emerging global emergency with the potential to undo Indonesia's past development gains and to render much of the country uninhabitable within a few decades.

### 3.1.3 Drought-proneness

Although Indonesia is not expected to become truly arid, droughts are becoming more frequent and severe and this trend is expected to worsen. There appears to be an acceleration of the El Niño-Southern Oscillation (ENSO), in which droughts and flood-causing rains affect parts of the Asia-Pacific region, including Indonesia, with increasing frequency (Table 1). Comparing the 1980s (and earlier decades) with the 1990s and 2000s, it is clear that the interludes of 'normal' weather between El Niño and La Niña events have shortened. It is to these interludes that livelihood systems are adapted, since they allow savings and other reserves to be built up to allow survival during more adverse periods. Their shortening is now reaching a point that exceeds the survival capacity of many traditional societies and coping mechanisms.

<b>Table 1: ENSO phenomena in the Asia-Pacific region, 1980-2010</b>			
<b>Year</b>	<b>'El Niño' weather</b>	<b>'La Niña' weather</b>	<b>'Normal' weather</b>
1980			
1981			
1982			
1983			
1984			
1985			
1986			
1987			
1988			
1989			
1990			
1991			
1992			
1993			
1994			
1995			
1996			
1997			
1998			
1999			
2000			
2001			
2002			
2003			
2004			
2005			
2006			
2007			
2008			
2009			
2010 (expected)			

### 3.1.4 Fire-proneness

The fire-proneness of Indonesian forest land is a function of the extent to which the closed canopy has been opened up to allow the entry of hot, dry, moving air, the amount of dry fuel on or near the ground, the interval since the last heavy rain, and the presence of ignition sources. Extensive logging and road building to open the canopy and create piles of branches from felled trees, coupled with more frequent and more intense droughts and the advance of plantations and smallholders into forest areas, all help to create a recipe for forest fires in a country where fire has been used for millennia to clear land. Even though this was prohibited by Government Regulation (*Peraturan Pemerintah*) 4/2001 it is still widely practiced, especially by smallholders who cannot afford to use mechanical clearance techniques, and those whose livelihood opportunities are ultimately limited by the drive of capitalised entrepreneurs, frequently supported by government actors. These factors also work in peat swamp forests, which are widely drained by loggers (who dig canals to float out timber) and plantation developers (e.g. for planting oil palms after harvesting the timber). In this case, once the peat has dried out sufficiently it can also catch fire. It seems clear overall that Indonesia is experiencing fundamental change in its prevailing fire regime. In a worst-case scenario, ecological change driven by drought, habitat disturbance and fire may eventually make it impossible to guarantee the survival of forest and peat ecosystems, and therefore carbon stores, no matter how much money is available and how cooperative are local stakeholders. It is assumed here, though, that at least the larger blocs of remaining forest in the Heart of Borneo (Kalimantan), Sumatra and Tanah Papua<sup>4</sup> have the potential to survive as moist ecosystems.

### 3.1.5 Sea-level rise

Monitoring stations across Indonesia report an increase in mean sea level of between one and seven millimetres annually in the period 1984-2006. Sea-level rise has a number of consequences for people living in coastal and lowland areas. It congests river drainage, increasing the risk of floods inland at times of intense rainfall on the catchments. It drives the intrusion of salt water into groundwater, especially if freshwater aquifers are depleted by drought or abstraction. It results in coastal erosion and/or inundation by sea water during high tides and storms. And it may ultimately cause the irreversible loss of land area. All these phenomena are known in Indonesia, which lost 24 islands in 2005-7 alone, and all trends are upwards.

### 3.1.6 Climate change adaptation

Little can be accomplished without strong participation by local people at the community level, working in intimate partnership with the most local levels of government. Most adaptation activities are to do with the hands-on management of ecosystems such as forests and farmlands, and aim to strengthen their ability to shield people from the effects of climate change while maintaining their productivity in terms of food, water and other livelihood resources. Equally, adaptation must enable people to manage increasing intensity, scale, frequency and unpredictability of natural disasters. Thus, an adaptation programme will typically involve grass-roots and local government capacity building for enhanced environmental management, agriculture systems and disaster risk reduction. In Indonesia, the National Action Plan Addressing Climate Change proposes a four-pronged adaptation strategy, focused on coasts, lowlands, small islands and agriculture, although it is not clear how these tasks will be approached. An emphasis on public resilience, disaster risk, agricultural production, food security or early warning each carries a different set of implications and options.

---

<sup>4</sup> The preferred name, meaning 'the Land of Papua', for Indonesian New Guinea, which currently comprises the provinces of Papua and West Papua.

Key issues include: food security and resilience to environmental change through crop and cultivar diversification; giving farmers information on climate variability; better tools and systems for monitoring and early warning; and finding better ways to measure progress, sustainability and diversity.

## 3.2 Forestry

### 3.2.1 The nature of the forestry issue

Indonesia is the most species-rich country on Earth, its diverse ecosystems supporting at least 20,000 species of flowering plants, 515 mammals, 900 amphibians and reptiles, 1,520 birds and 4,200 fish, an overall total of 15% or more of all the species in the world. These biodiversity resources are inextricably linked to Indonesia's forests, either because the species concerned are parts of forest ecosystems, or because they live within ecosystems (such as wetlands, rivers and coral reefs) that depend on the ecological services offered by forests. People of course also depend on such services, which sustain and protect agriculture, settlements and all forms of livelihood activities.

The Indonesian macro-economy has long been dominated by the extractive industries, with oil, gas and hard-rock minerals providing much of the nation's foreign exchange. These sources of cash were for decades invaluable as a way to plaster over shortfalls in development expenditure, to subsidise government transmigration plans, to finance grand development initiatives, and to mask under-employment. But Indonesia is a largely forested land, and the forests contain huge amounts of particularly valuable timber - especially in the form of dipterocarp trees. The use and abuse of these forests, and the land beneath them, is central to the sustainability or otherwise of the whole Indonesian development process.

in 1970-1985, the Indonesian forest estate and the development of the timber industry was based on a 'consensus classification of forest function' (*Tata Guna Hutan Kesepakatan*, TGHK, based on GR 33/1970). This was based on discussions among government agencies to produce maps showing agreed allocations of forest land to various categories of permanent use. The aim was to address the needs of forest conservation (parks and reserves), use (logging) and conversion (to plantations and/or transmigration schemes). The five main categories and their forestry uses were

- nature reserve<sup>5</sup> (no timber extraction);
- protection forest (no timber extraction);
- limited production forest (for non-industrial selection felling);
- regular production forest (for industrial selection or clear felling, according to forest type); and
- conversion forest (for clear felling and conversion to other uses).

The TGHK programme was based on insufficient information to support spatial and forestry planning, but other mapping operations were undertaken to correct this. The most comprehensive of these was by the Ministry of Transmigration in the late 1980s. This mapped land use and land capability for the whole country outside Java and Bali, with a view to finding suitable places to receive officially sponsored settlers. The Ministry of Public Works later integrated these Regional Physical Planning Program for Transmigration (RePPPProT) maps with those from the TGHK as well as district and provincial planning maps.

---

<sup>5</sup> Some of Indonesia's most important National Parks were actually first set aside, wholly or in part, as conservation areas by the Dutch colonial authorities, including Taman Nasional Gunung Palung and TN Tanjung Puting in Kalimantan, and TN Bukit Barisan Selatan in south Sumatra.

Planning for a national system of protected areas was done in parallel with TGHK, and later with RePPPProT. By 1990 Indonesia had gazetted 303 terrestrial protected areas of various kinds totalling 160,000 sq km or 8.2% of land area, and another 20,000 sq km at 175 sites had been proposed for protection. These areas were selected to include viable and representative samples of most ecosystems, and populations of most native species. More than 300,000 sq km had meanwhile been designated as protection forest, mainly to safeguard water catchments and steep slopes. None of these forest planning systems took much notice of traditional land claims by local communities, who were not consulted and whose traditional and subsistence uses of forests were often criminalised.

In any case, having identified and mapped, however crudely, the forests available for logging, by 1988 selective logging (*Hak Penguasaan Hutan*, HPH) concessions had been awarded covering about 434,000 sq km or three-quarters of the total forest estate. From the mid-1970s, the government aimed to phase out the export of logs in favour of plywood, which had largely been accomplished by the early 1990s although by then pulp and paper had become the top export priority. The total log harvest to feed these processing industries rose from about 16 million m<sup>3</sup> in 1981 to about 26 million m<sup>3</sup> in 1987, and the annual official target harvest for 1995-2000 was over 37 million m<sup>3</sup>. This system was deeply corrupt although relatively orderly, but unravelled after the fall of the Suharto regime in 1998. This greatly reduced the ability of government to regulate the timber industry, and illegal logging then became rampant.

The condition of Indonesia's forests had already recently been brought to the world's attention by catastrophic fires and region-wide haze events in 1997-1998, which had given the impression that land and forest use was fundamentally out of control, but by 1999 matters had deteriorated even further. The distraction of central authority, and a decentralisation law rushed through in 1999, gave provincial and district authorities an opportunity to extend their role in authorising forest exploitation, which they did by issuing logging licences to their constituents. Meanwhile, in some areas a lawlessness arose in which groups with or without authorisation sought to maximise timber harvests from wherever there were forests still standing. These increasingly came to be national parks. In some areas, too, people sought to establish claim to apparently vacant and unguarded lands in the most direct way, by clearing them and establishing farms and plantations. Such lands were also often to be found in national parks.

Pressure for the industrial-scale logging of national parks had largely been avoided in previous years through the allocation of HPH concessions in the permanent production forests, and the liberation of timber from conversion forests. By 1999, however, the supply of legal timber was limited, demand was high not only in Indonesia but in Malaysia and other countries, and opportunity was everywhere. The result was a rapid expansion of illegal logging throughout the lowlands, including the parks, and the challenge to the state by the resulting factions was significant and escalating. In 2000, for example, the headquarters, offices, boats, equipment and records of the Tanjung Puting National Park in Central Kalimantan were destroyed by arson, and there were logging camps and brothels on the main rivers within the park as valuable *ramin* trees (*Gonystylus* spp.) were stripped out for export<sup>6</sup>.

As noted in the sections below, the forestry issue has unfolded in various ways since 2004, some of them positive but others less so. Meanwhile, too, the realisation that the conversion or logging of forests, whether legal or illegal, have implications for greenhouse gas emissions means that forestry and land-use issues have become deeply conflated with the climate change issue. This can be approached from several directions, all of which have implications for climate change negotiations, including the

---

<sup>6</sup> Ramin is the most valuable timber species in Indonesia, reaching US\$1,000 per m<sup>3</sup> on the international market once processed. In 2001 Indonesia placed ramin on Appendix 3 of CITES, with a zero quota.

role of Indonesia as a major GHG emitter, the possibility of earning carbon storage credits in some way from avoided deforestation or improved forest management, and the role of forests in helping Indonesians adapt to climate change.

### 3.2.2 Treatment of the issue in the current CEP

The current CEP addresses forestry matters in summary form under the headings of Forest and Land Fires, Illegal Logging, Loss of Land and Forests, and Biodiversity, Ecology and Nature Conservation, each of 100-150 words. There is also brief mention of ecosystems over limestone (karst), wetlands, mangroves and coastal/marine biodiversity. The main points raised are:

- That forest and land fires are often started deliberately to clear areas for transmigration, agriculture and plantations on either a community or corporate level.
- That the worst fires in recent years were in 1997–8 which resulted in the loss of 9.75 million hectares of forest, peat, swamp, plantation and agricultural land.
- That illegal logging has reach epidemic proportions, causing enormous fiscal losses and environmental damage (it is seen by the CEP not as an environmental problem, but as a symptom of poor governance).
- That demand for land for development has stimulated the conversion of forest and conservation land to other uses (with more than 4 million ha of forest land converted under the transmigration policy during 2002).
- That Indonesia is one of the ten 'megadiversity' countries, with 47 terrestrial, freshwater and marine ecosystem types (and therefore with high potential for development of bio-technology based on wild species, lineages and cultivars).
- That donors giving priority to forestry included the US, UK, Japan, Germany (KfW), New Zealand, Sweden, ASEAN and the World Bank. Those giving priority to biodiversity included the US, Japan, Germany (GTZ), Sweden, ASEAN and the GEF.

### 3.2.3 Deforestation

After peaking at nearly 2 million ha/year in 2002-3, the deforestation rate now hovers around 1 million ha/year. Deforestation is largely driven by the conversion of forest land to plantations, particularly of oil palms by large enterprises and smallholders, and of pulpwood trees by large companies. The issue is complex, however, since it involves such factors as:

- the transfer of 'conversion forest' from control by the Ministry of Forestry to that of other line ministries, in a situation where maps are poor, inaccurate and ecologically unfounded, and where 'institutional' forests are often not the same as real forests (and peat-swamp forests are often not classified as forests at all);
- the abandonment of forests that have been allocated to companies for conversion to plantations, but that have simply been heavily logged and left unsupervised to be occupied informally by smallholders who clear the land using fire;
- the allocation of portions of 'conversion forest' within landscapes otherwise dedicated to 'production forest', which then become vulnerable to fire as a whole;
- the creation of new districts (*kabupaten*) and provinces induces their governments to begin a quest for money with which to build extravagant offices and other facilities, and they have the power (if not necessarily the legal authority) to sell deforestation rights in order to finance them; and
- corruption, collusion and nepotism ('KKN') that still pervade the forest and land-use sectors despite strenuous efforts under presidential leadership.

### 3.2.4 Illegal logging

By 2002, it was estimated that the demand for timber from Indonesia's wood-processing industries was 63 million m<sup>3</sup>, while the annual allowable cut, set by the government, was 12 million m<sup>3</sup>. The shortfall was being made up by illegal logging, which produced 50.7 million m<sup>3</sup> of logs annually, resulting in state financial losses of at least Rupiah<sup>7</sup> 30.42 trillion (US\$3.37 billion) in lost taxes<sup>8</sup>, and putting overwhelming pressure on Indonesia's remaining protected forest estate<sup>9</sup>. This is of concern to government partly because of lost tax revenues which would have been obtained if the same timber had been harvested legally, and partly because it represents a failure of control by government of events on the ground, an affront to a culture of governance based on technobureaucratic planning. It is of concern to others because it can do far more damage to forest ecosystems than well-managed legal harvesting (which is still, of course, very damaging), and it endangers forests that have been set aside (on paper) for conservation and may lead to their complete loss through fire or informal clearance, with the resulting loss of biodiversity and ecosystem services such as water catchment and carbon storage functions.

At the local level, intact forests are often all that stand between communities and the impacts of failing water supplies, siltation of waterways, loss of forest products, wild fires and land slides. All agree that illegal logging is pernicious and must be halted, but efforts to do so have too often resulted in the criminalisation of small-scale forest users (e.g. those who may fell one tree for local use) and criminal conspiracies that successfully evade punishment for large-scale illegal logging activities. Anecdotal evidence suggests a major decline in illegal logging and log smuggling (e.g. an absence of squared logs in Tawau port in Sabah, and an absence of illegal logging in Gunung Palung National Park in Central Kalimantan). Isolated problems remain, however, particularly on the border with Sarawak, in Aceh<sup>10</sup>, and elsewhere. Illegal logging is a key indicator of forest governance, the high quality of which is critical for anything to do with REDD and avoided deforestation. Knowledge holders emphasised that technical work and REDD financing is all very well, but that the system would be completely compromised by corruption and poor forest governance.

### 3.2.5 Peatland management

Indonesia possesses immense areas of peatland, especially in Sumatra (where deposits are typically deepest), Kalimantan, and Papua (where deposits are typically shallowest). The precise location and depth of peat deposits are uncertain because of poor mapping, but about half the remaining lowland forests in Indonesia are believed to grow on peatlands. For various reasons, including limited study and low agricultural potential, peatlands have historically tended to fall between the interests of sectoral institutions such as the ministries of Forestry, Agriculture and Transmigration. Policy development on peatlands has therefore been limited, although their significance for GHG emissions in an atmosphere of UNFCCC negotiations is quickly changing this. Meanwhile, the discovery that peatlands are good for growing oil palms, if nothing else,

<sup>7</sup> On 13 August 2008, US\$1.00 = Rp 9,191.

<sup>8</sup> Anon. (2003) "TNI [Tenaga Nasional Indonesia, Indonesian Armed Forces] confesses involvement in rampant illegal logging" *Jakarta Post* 16th January 2003.

<sup>9</sup> (a) Curran, L.M. *et al.*, (2004) Lowland Forest Loss in Protected Areas of Indonesian Borneo. *Science* **303**. 13 February 2004. (b) The Forest Initiative website ([www.forest-initiative.org](http://www.forest-initiative.org)) reported on 28 March 2006 that nearly 3.8 million hectares of Indonesian forest was lost since August 2002.

<sup>10</sup> (a) Nurdin Hasan (2009) "Human-animal conflicts as Aceh forests cut down". *Jakarta Globe*, 29 Oct 2009: A7. (b) Hotli Simanjuntak and Jon Afrizal (2009) "Illegal logging continues in Aceh despite moratorium. *The Jakarta Post*, 27 Oct 2009: 9.

has dramatically changed their land-use dynamic. Cleared peat oxidises at about 3 cm/year (unless it burns), and it subsides as it drains, but oil palms on peat still yield 80-90% of their yield on mineral soils. Government policy is for smallholders to grow oil palms, with a target of 4 million hectares to be converted in this way.

### 3.2.6 Biodiversity protection and loss

Indonesia possess an elaborate protected area system, many of the components of which have been at direct threat from illegal logging and encroachment. By 2001, conservationists and World Bank analysts had begun to question whether any forest below about 1,000 m elevation would survive beyond 2010 anywhere in either Sumatra or Kalimantan<sup>11</sup>. By 1999 the devastation of the tropical world's largest and most important protected area system had gained considerable international attention, and concern was expressed by the multi-donor Consultative Group on Indonesia (CGI). This prompted the government to commit itself, at the February 2000 CGI meeting in Jakarta, to tackle the main issues and develop a new approach to managing the forestry sector, including reducing illegal logging in National Parks and elsewhere. This led to Presidential Instruction No. 4 of 2005 on eradicating illegal logging throughout the country, which was amplified by the Minister of Home Affairs' Instruction 3/2005 to all provincial governors, regents (district heads or *bupatis*) and municipal mayors.

It gradually became possible to make progress, and efforts particularly since 2003 have had a significant impact in the forestry sector and beyond. As a result, illegal logging pressures on protected areas have declined, and have tended to be replaced by encroachment as a key factor. At least one knowledge holder observed that newly-created districts typically finance their initial development by exploiting protected areas, especially in Papua, although another described recent enforcement efforts in Way Kambas National Park in Sumatra, which involved the use of 30 trained elephants to destroy crops and buildings in a 6,000 ha area of encroachment. Clearly there are continuing structural pressures on the protected area system, which are opposed to a varying extent and effectiveness depending on the motivations of individual leaders in different provinces and districts. There are also several laws which are unhelpful for the safety of protected areas, including for example on coastal resources/fisheries (which allows privatisation of coastal areas, although it also allows for community-based management of them), and mining (which has transferred the authority to permit mining in protected areas to local authorities).

### 3.3 Sustainable Consumption and Production

The SCP approach looks at economic systems holistically from the point of view of their capacity to 'dematerialise' (use fewer resources, waste less) and 'decarbonise' (release less carbon), and their tendency to do so. The current CEP has sections on aspects of this, including air and water pollution, recycling, and energy use and carbon emissions. The main conclusions, for which no evidence on the contrary was found during the present appraisal, are as follows:

- That there is serious air pollution in urban areas, mainly due to increasing numbers of vehicles, poor emission standards, and the absence of urban planning and transport policy (and to forest fires in some areas).
- That water supply is increasingly a problem with water sources particularly at risk in upper catchment areas and through direct pollution, while in urban areas pollution is the major issue and is linked to the absence of proper sewerage systems.

---

<sup>11</sup> (a) Jepson P., Jarvie J., MacKinnon K., Monk K.A. (2001) The end of Indonesia's lowland forests. *Science* **292**:859-861. (b) World Bank (2001) *Indonesia's Richest Forests Lost by 2010?* Biodiversity at the World Bank. The World Bank, Washington DC, USA.

- That there are inadequate sites for the proper disposal of solid waste and there is poor waste management, while little is done to encourage waste reduction, reuse, recovery or recycling.
- That Indonesia derives the vast majority of its energy consumption from fossil fuels, and its carbon intensity is above the Asian average.

On renewable energy, the CEP observes that there are few prospects for its development on the short term, which was true in 2004-5 but has been overtaken by the more recent policy commitments mentioned in other sections. The subject of SCP was discussed with the Ministry of Industry (DG Small and Medium Enterprises), in relation to pollution issues arising from leather tanning, textile and batik dyeing, electroplating, food processing, glazing of ceramics, and the cement industry (a major GHG emitter). Generally, the current national approach to SCP issues is constrained by sectoral interests, treaty obligations, public outcries and political interventions, rather than being strategic, holistic and proactive<sup>12</sup>. The Ministry was however aware of SWITCH Asia and proposed that its staff develop short concept notes for projects where cooperation with SWITCH Asia might be appropriate. Other policy and institutional developments related to SCP are mentioned in the sections on climate change, Papua and Yogyakarta.

#### **4. Environmental policies, laws and institutions**

##### **4.1 Climate change**

###### **4.1.1 The Pittsburgh commitment**

The immediate driver of government thinking on climate change mitigation is the President's unilateral commitment at the G-20 Leaders' Summit on 25 September 2009 that Indonesia will by 2020 reduce its GHG emissions by 26% of 2005 levels, compared with the 'business as usual' scenario. The announcement also foresaw further reduction of up to 41% in the same terms, if international help is forthcoming. Various reactions to this were expressed by knowledge holders during the mission, including disapproval that a unilateral, quantitative commitment had been made at all, helpless amazement at the challenge, and ideas for working out how to meet it through measures in the forest, land use and energy sectors. Meanwhile, some NGOs asked for a road map to enable meeting of the target, and emphasised that rather than Indonesia making the commitment, negotiations should first ascertain that the developed countries lead the way by cutting emissions and providing the necessary support to developing countries to cut their emission rates. All agreed, however, that the commitment would need to be confirmed through official policy instruments (and consequently, budgetary allocation) and that the sectoral ministries would need to develop specific plans, in dialogue with one another, for managing their own contributions to meeting the target. Corollary to the notion that Ministry of Forest, through control of land use changes had the most role to control GHG emission, the Ministry is also in position to receive the proportionally large proportion of the budget. Governance aspect to this, especially accountability mechanisms, is worth considering.

###### **4.1.2 The UN Framework Convention on Climate Change (UNFCCC)**

The international community agreed at CoP13 in Bali to seek agreement on a post-Kyoto arrangement for climate change mitigation and adaptation at CoP15 in Copenhagen, which will occur in December 2009. Intense discussions have occurred at negotiating sessions, for instance in Bangkok in September, and will be continued in

---

<sup>12</sup> For example: Emmy Fitri (2009) "Sustainable Jakarta? Traffic at a standstill, toxic air and dwindling groundwater are just some issues confronting urban planners". *Jakarta Globe*, 31 Oct 2009.

Barcelona in November. Major disagreements between parties and groups of parties (and the tardiness of the USA, which is yet to propose quantitative emission cuts for itself) suggest that negotiations will continue into 2010, perhaps leading to another session of CoP15 in mid-year. Meanwhile, a considerable proportion of the attention of the Ministry of Foreign Affairs (MoFA) is dedicated to negotiating the post-Kyoto agreement. In this it is supported by a team of Indonesian officials, among them the Minister for Environment to whom the invitation to CoP15 was directed and who was appointed in October 2009. Meanwhile, it is understood that the Chair and Executive Secretary of the National Council on Climate Change (DNPI - see below) will continue in place until after CoP15.

#### 4.1.3 Reduced Emissions from Deforestation and Degradation (REDD)

The issue of REDD is complex but essentially it concerns the question of how to reduce rates of deforestation and forest/land degradation, thus supplementing other measures (e.g. promoting renewable energy, capturing and storing carbon) to force down atmospheric GHG concentrations soon enough and fast enough to prevent catastrophe<sup>13</sup>. The carbon content of forest biomass is typically in the range 360-1,450 tonnes per hectare<sup>14</sup>. The approximately four billion hectares of forests worldwide<sup>15</sup> therefore contain in total around four trillion tonnes of CO<sub>2</sub> equivalent (i.e. 4.0 GtCO<sub>2</sub>e<sup>16</sup>). Peatlands cover a tenth of the area occupied by the world's forests but are much denser carbon stores and so are estimated to contain a worldwide total of about 2.2 GtCO<sub>2</sub>e<sup>17</sup>. If growing forests absorb carbon, and peatlands and standing forests store it, then the basic idea of REDD is that these ecosystems should be tended and preserved to help reduce net GHG emissions<sup>18</sup>, especially in view of their other environmental services.

Yet more than 27 million hectares of forests were cleared in 2000-2005, over three-fifths in Latin America and over a third in Asia<sup>19</sup>. The IPCC therefore estimated that tropical forest clearance results in 15-25% of total GHG emissions by people. This is greater than the emissions from the entire global transport sector and is similar to the amount emitted by the USA or China. Thus the international community has become increasingly aware of the extent to which deforestation and forest/land degradation contribute to climate change. REDD is based on the idea that funds are provided to developing countries for reducing emissions from forest and land degradation by means such as through strengthened law enforcement, fire management and sustainable forest management. REDD is thus a generic term for a range of options

<sup>13</sup> Caldecott, J.O. & Kurukulasuriya, L. (2009) *Multilateral Environmental Agreements: a global response to the crisis of sustainability*. United Nations Environment Programme (UNEP, Nairobi).

<sup>14</sup> Fearnside, P.M. (2000) Global warming and tropical land-use change: Greenhouse gas emissions from biomass burning, decomposition and soils in forest conversion, shifting cultivation and secondary vegetation, *Climate Change*, **46**: 115–145.

<sup>15</sup> FAO (2007) *State of the World's Forests*. FAO (Rome).

<sup>16</sup> CO<sub>2</sub>e is a measure of the GHG equivalent of carbon released in various forms (CO<sub>2</sub>, CH<sub>4</sub>, etc.) and also the warming effect of mixtures of greenhouse gases, expressed as a standard concentration of CO<sub>2</sub>. Thus in 1998 for instance, atmospheric CO<sub>2</sub> concentration was 0.0365% of dry air, but other GHGs in the air were in warming terms equivalent to another 0.0047% of CO<sub>2</sub>; the result was a CO<sub>2</sub>e of 0.0412%.

<sup>17</sup> IPCC (2007a) *Fourth Assessment Report*. Intergovernmental Panel on Climate Change (Geneva).

<sup>18</sup> <http://www.independent.co.uk/environment/climate-change/deforestation-the-hidden-cause-of-global-warming-448734.html>, accessed Feb 2009.

<sup>19</sup> Hansen, M.C., Stehman, S.V., Potapov, P.V., Loveland, T.R., Townshend, J.R.G., DeFries, R.S., Pittman, K.W., Arunarwati, B., Stole, F., Steininger, M.K., Carroll, M. & DiMiceli, C. (2008) Humid tropical forest clearing from 2000 to 2005 quantified by using multitemporal and multiresolution remotely sensed data. *Proceedings of the National Academy of Sciences*, **105**(27): 9439–9444.

and financing mechanisms that might be used to reduce deforestation and degradation, with the goal of mitigating climate change<sup>20</sup>.

Various proposals were put forward for REDD at the 13th CoP in Bali<sup>21</sup>, were the subject of further discussion at the 14th CoP in Poznań, and will feed into whatever agreement can be achieved at the 15th CoP in Copenhagen. Official statements emerging from Poznań have been criticised because of their weak attention to biodiversity and the rights of indigenous peoples, undue attention to plantation forests relative to natural ones, and because they exclude peatland and other carbon-rich soils in favour of above-ground biomass<sup>22</sup>. While these debates continue at a political level, it is perhaps worth considering at a technical level what a REDD system *ought* to involve if it is to be effective.

A starting point is that the owners of forest, peatland and other carbon-rich areas should earn income by setting those ecosystems and lands beyond use, so that their carbon would never be released, or at least not for many decades. The form of income could vary, but it would need to be related to the amount of carbon stored, shared according to ecosystem ownership, and at least some of it financed by global society. Such benefits would be earned by extending protected area (PA) systems, either permanently or for fixed and prolonged periods. This would create an incentive to fill in gaps in PA coverage, to extend PAs, to complete the legal establishment of proposed PAs, and to create new PAs, in each case through appropriate benefit-sharing partnership with private land owners, local governments, communities and indigenous peoples with ancestral or traditional claims to the ecosystems concerned. This could be relevant, for example, to forests and peatlands which have been allocated through spatial planning to conversion and the development of plantations (e.g. of oil palm or pulp-wood), but which currently still remain in their natural state. If these areas were re-allocated to conservation or PA status, the act of re-allocation should, in principle, generate carbon storage credits on the grounds of avoided deforestation and/or avoided peat degradation. This exact argument could be applied currently to about nine million hectares of natural forest in the Indonesian province of Papua.

Various proposals exist for sourcing payments linked to carbon credits generated in this manner, including new international donor funds and the global carbon markets, but regardless of the source, permanent or long-term set-aside would be only one way that this funding could be earned. Another would be the absorption and storage of carbon as a result of re-growing ecosystems after disturbance, once they are protected, although two factors would mean that annual revenues from this source would be small relative to the earning power of set-asides. The first is that carbon is absorbed only slowly compared with the amount of carbon already stored in many intact ecosystems. The second is that carbon removed from or not released into the atmosphere is more valuable sooner rather than later. This is partly because GHGs persist in the atmosphere and exert their influence for decades after release, and partly because the atmosphere-climate system is dynamic and the chief risk is catastrophic destabilisation in the immediate future, rather than gradual change in the distant future.

But in any case, single, up-front payments in return for promised ecosystem protection would be a flawed and ineffective approach. Instead, an effective REDD system would need to involve a series of payments conditional on verified land and ecosystem protection and/or verified carbon absorption and storage. Such payments might be

---

<sup>20</sup> Peskett, L., Huberman, D., Bowen-Jones, E., Edwards, G. & Brown, J. (2008) *Making REDD Work for the Poor*. Overseas Development Institute (London).

<sup>21</sup> Caldecott, J.O. & Hardcastle, P. (2008) *Briefing paper on policy issues concerning REDD in Africa*. Dew Point (Blisworth, Northampton).

<sup>22</sup> Butler, R.A. (2008) *Deal on forests falls short* (<http://news.mongabay.com/2008/1211-poznan.html>, accessed Dec 2008).

staged in a number of ways, for example over 50 years. For PAs, these stages might include:

- completion of a benefit-sharing contract among ecosystem owners arrived at through free and informed negotiation;
- completion of a carbon assessment of the area and initiation of other studies needed for effective management planning (and the development of parallel, non-carbon revenue streams, such as payments for catchment services, ecotourism and bioprospecting);
- legal establishment of the area, including bottom up processes and spatial planning;
- completion of an adequate management plan;
- establishment and operation of a management service that is capable of protecting and monitoring the resource; and
- regular confirmation that the carbon resource is intact (e.g. every ensuing decade).

The total amount of carbon to be set aside would be calculated at the beginning, and shares allocated to the various resource claimants. Under the assumptions just specified, this would be paid for in ten tranches over 50 years, at each stage with 10% of the carbon valued at prevailing market rates (or in some other way to be agreed). A result could be the delivery of 60% of the carbon's value in the first ten years, thus financing the establishment of the new PA, and a series of payments thereafter to ensure its continued protection (or, if withheld, to sanction its destruction).

An additional requirement for this arrangement to be effective is that *all* the stakeholders who could influence the fate of protected forests and peatlands would need to benefit from their protection. In the Indonesian context, key stakeholders include central government (which controls the army, the national bureaucracy and international relations including foreign investments and transactions involving carbon credits), local government (which at the provincial and district levels authorise land-use decisions and can help or hinder forest conversion or conservation), and communities (which have a high degree of control over the real situation on the ground). All of these also have legitimate development aspirations and therefore the right to participate in the flow of benefits from REDD-type deals. A starting point for thinking about the allocation of such benefits in Indonesia, therefore, might be a 30:30:30:10 formula. In this model, 30% of funds would go to central government, 30% to local government, 30% to communities, and 10% would be used for monitoring, education/ capacity building and scientific research to find long-term, non-carbon revenue sources in the forests that have been preserved.

On this basis, a fair and effective REDD mechanism for exchanging money for reliable carbon storage in ecosystems would need to incorporate seven design criteria<sup>23</sup>:

- **Quantity.** The amount of payment must be based on the amount of carbon stored in the ecosystem. The densest carbon stores should attract the highest payments.
- **Duration.** The deal must last for at least 50 years, since this is when our GHG efforts will be most urgent.
- **Generosity.** Ten thousand hectares of forest might contain 15 million tonnes of carbon. There will be a big difference in the effectiveness of any deal if the carbon is valued at \$5 or \$50 per tonne - the difference between \$75 million and \$750 million spread over 50 years. Thus a high, stable carbon price is vital for the

<sup>23</sup> Caldecott, J. (2009) *Indonesia and Climate Change: part of the problem or part of the solution?* School of Science and the Environment Research Seminar Series (Bath Spa University, Bath, UK - <http://www.juliancaldecott.com/page/indonesia-and-climate-change>).

success of this and all other mitigation investments, from those in renewable energy to carbon capture and storage.

- **Immediacy.** The system should be front-loaded to reward carbon storage sooner rather than later, since we need the pressure off GHG emissions *now*, not later when other systems are in place to deal with them. Besides which, GHGs persist in the air for decades, so early reduced emissions give benefits far into the future.
- **Innovation.** If we succeed in fixing the carbon crisis, we will remember that there are many other reasons than carbon to keep forests, including biodiversity, water services and wilderness values. Conservation will still need to be paid for then, so we should invest in finding non-carbon revenue sources such as payments for catchment services, ecotourism and bioprospecting.
- **Inclusion.** Most ecosystems are owned, claimed or used by more than one group of people. These will often include central and local government, private land owners, communities and indigenous peoples. All plausible claimants should be rewarded with a share of the carbon revenues, since otherwise they will not help protect the resource and may even try to destroy it.
- **Verification.** Single, up-front payments in return for promised ecosystem protection will not work. Instead, there must be series of conditional payments over the 50 years to reward proven ecosystem protection and/or verified carbon absorption and storage, based on milestones through social agreement, carbon quantification, legal protection, management planning, protective capacity-building, and physical inspection at regular intervals.

Such a system would encourage the extension and completion of protected area systems, and if the carbon price were high enough then every surviving patch of forest and peat would end up protected for at least 50 years. These design criteria would ensure that no group need be excluded from access to carbon financing, that conditional funding would be available to reward effective conservation over the 50 years or so during which humanity will have to uncouple energy from GHG emissions, and would encourage and enable a great increase in the innovative and sustainable use of ecosystems and the biodiversity they contain.

These arrangements would be complex to implement but their complexity derives from the nature of Indonesian society and the need both for equity and effectiveness in a multi-stakeholder environment. They would go some way to satisfying the criticisms of REDD schemes that have been voiced by a number of observers<sup>24</sup>, which focus on:

- The perception of avoided deforestation as a top-down concept, driven mainly by large multilateral and international conservation organisations and potentially excluding local communities without the participation of whom the outcome is unlikely to be sustainable.
- The concern that funds for forest protection will be spent on increasing control by the state and private companies, leading to the exclusion of local communities from access to goods from their own forests
- The possibility that the state might overlook the principle that free and informed prior consent is required among customary communities, or that such communities will be treated as unequal partners in benefit-sharing negotiations.
- The concern that avoided deforestation will give rise to horizontal conflicts among local communities, especially since not all communities are likely to be involved in the distribution of benefits.

---

<sup>24</sup> e.g. Down To Earth (2004) *Keadilan iklim dan penghidupan yang berkelanjutan* (Climate justice and sustainable livelihoods).

- The fear that transactions involving large amounts of money will encourage corrupt practices within state agencies and local governments.

None of these concerns are unreasonable, but they can all be offset by an insistence on a clear benefit-sharing arrangement from the beginning (e.g. based on the 30:30:30:10 model), staged payments in return for verified carbon storage (i.e. forest/peat protection), and transparent accounting throughout.

#### 4.1.4 The Climate Change Roadmap

This is intended to be a guide for the Cabinet of ministers appointed in October 2009. Its strategic aim is to mainstream climate change into national development planning, sector by sector. The core of the roadmap is that each sector must develop policies and costed scenarios for mitigation, abatement and adaptation.

#### 4.1.5 Government power generation goals

From 1980 to 2004, Indonesia's economy became increasingly carbon-intensive, with CO<sub>2</sub> emissions growing faster than energy use and energy use growing faster than GDP<sup>25</sup>. This pattern suggests consistent under-investment in clean energy technologies, energy conservation and renewable energy sources. This is largely due to a policy and fiscal environment that encourages wasteful use of energy and discourages investment in conservation and renewables, reflected primarily in fuel and electricity subsidies that are designed to ensure price stability for domestic consumers. Results include inefficient use of energy resources, over-consumption, fiscal weakness, unpredictable budget outlays, ineffective targeting of subsidies towards poor consumers, under-development of alternative energy sub-sectors, leakages and smuggling, and adverse environmental and health effects.

The prices of gasoline and transport diesel are regulated but the share of fuel subsidies in the budget fluctuates widely, mainly due to variations in international oil prices and the exchange rate. At their peak in 2000 these subsidies accounted for almost 29% of total spending, before decreasing in 2001-2003, increasing again in 2004-2005, and decreasing again after reductions of the fuel subsidy in 2005. Fuel subsidies are again on the rise, however, and were thought to amount to some 13% of government spending in 2008, with further regulated price cuts in January 2009.

In 1984, almost all energy-based GHG emissions came from burning oil, but this fell to less than a third in 2004 as oil reserves depleted and the economy became increasingly coal-fired. Emissions from coal exceeded half of all energy-based GHG emissions in 2004 and continue to increase since coal investments have considerable momentum. For example, in October 2009 the Ministry of Transportation approved a 300 km railway to deliver up to 20 million tonnes of coal annually from a mining concession in South Sumatra to a port in Lampung<sup>26</sup>.

The increasing carbon intensity of electricity production in Indonesia is to a large extent a result of subsidies and a lack of incentives to promote renewable energy supply. Subsidies to the electricity sector accounted for 28% of total subsidies in 2006. They comprise both a direct subsidy to PLN and an indirect subsidy through the distorted pricing of oil derivatives. The key problem is that PLN applies a national subsidised electricity tariff, but faces different supply costs in different parts of the country. The cost of subsidies is a severe one for government, and effectively starves it of resources to invest in new power infrastructure and other measures to decarbonise the economy.

<sup>25</sup> World Bank (2009) *Investing in a More Sustainable Indonesia: Country Environmental Analysis 2009*. Draft report by the World Bank (Jakarta).

<sup>26</sup> *Jakarta Globe*, 22 Oct 2009.

Indonesia's 2003-2020 national energy policy calls for:

- conserving crude oil reserves and natural gas reserves;
- using CNG and LPG in the transport sector;
- promoting the use of coal by small and medium sized industries;
- expanding exploration for coal resources;
- developing coal household use;
- exploring coal gasification, coal bed methane energy sources, small scale hydro-electricity schemes, and solar energy power plants;
- increasing geo-thermal energy sources in small-scale power plants, as well as hydro-electricity; and
- using nuclear energy in a manner that is economical, environmentally friendly, reliable and safe.

Meanwhile, under the government's 2005-2025 energy blueprint, the share of renewable energy production is supposed to rise from 4.3% to 17%. The government currently favours the expansion of emissions-intensive coal-fired power plants under Phase 1 of its 10,000 MW Electricity Fast Track Program, but Phase 2 is supposed to make much greater use of renewables, primarily geothermal and hydropower. Other measures are being explored, for example a revamped energy mix, and the design by March 2010 of a ministerial strategic plan to cover 2015–2035.

In other words, government energy planning calls for an increasing role for renewables, and implementation of these plans would contribute to achieving the Pittsburgh commitment and other obligations arising in the post-Kyoto arrangements under the UNFCCC. However, it is equally clear that dramatic reform is going to be needed to release the kind of creative energy and scale of investment required to shift the economy in a low-carbon direction. Phasing out energy subsidies and diversifying energy supplies and suppliers would be a necessary part of this, but the political costs would need to be offset by clear messaging on the threat of climate change and by the stimulation of public and private investment in new energy systems.

Although the international policy and regulatory environment that might encourage wholesale inward investment in decarbonised energy systems<sup>27</sup> in Indonesia is still developing, there are a host of tried and proven policies and technologies that could be used meanwhile or as well<sup>28</sup>. The fact that institutions such as the Ministry of Finance (Section 4.1.9) and the National Energy Council (Section 4.1.11) are urgently thinking along these lines is a very positive sign, but the scale and rate of change that will be needed should not be underestimated. Encouraging and enabling such change through the supply of new knowledge and technologies would be a wise priority for Indonesia's development partners to adopt.

---

<sup>27</sup> Indonesia has a third of the world's estimated geothermal potential because of its location on the interface of several tectonic plates (it is part of the 'Ring of Fire', marked by chains of active volcanoes and frequent earthquakes). There is much hydropower potential, although it is unclear how this will be affected by changing rainfall patterns, and the creation of large (and therefore heavy) dam lakes is potentially hazardous in a geologically unstable region. There are also strong tidal currents between the islands of Nusa Tenggara that could be harnessed using submarine turbines or barrages. An archipelagic country with diverse and scattered RE sources might consider installing a network of direct-current (DC) cables for efficient long-distance transmission, such as that now being built in Europe.

<sup>28</sup> Including energy efficiency measures throughout industry, manufacturing and the built environment, variations of feed-in tariff regulations, greater use of forestry residues and organic wastes for biochar and biogas, circular production systems for reduced energy inputs and waste outputs.

#### 4.1.6 The National Council on Climate Change (DNPI)

Climate change became very attractive after CoP13, leading to a 'tug of war' among Bappenas, Environment and Forestry. The outcome was the creation of DNPI by Presidential Decree 46/2008, but with no budget for the first year and lesser political authority than would have been the case had it been established through an organic law. The Decree named Mr Rachmad Witoelar (then Minister of Environment) as Chair, rather than making an *ex officio* appointment which would have been more usual. There is some confusion over whether officials assigned from the 18 ministries that are its members will keep their ministerial positions as well. There are also tensions over the limits to its authority, the transfer of resources to it, the extent of its power to coordinate (especially now that the Chair is no longer a minister), and the differentiation of its role (i.e. policy development for mainstreaming climate change in development) from that of Bappenas (i.e. development planning, but with no official portfolio on climate change).

DNPI is supported by an executive secretariat (headed by Mr Agus Purnomo) and has mobilised over 100 high-quality experts on climate change (cf Bappenas with 3-4, Forestry with 5-6). It has mobilised several Working Groups, of which those on finance and post-2012 are said to be particularly effective and those on Adaptation and REDD well advanced. There has been progress in the sense that the Indonesian Climate Change Trust Fund (ICCTF - see below) has been created, and the Ministry of Finance is thinking through some of the issues around low-carbon financing. Overall, however, DNPI has yet to gain compliance and has done little in the regions; but it has convening power, could facilitate consensus building and fills a gap in bringing together the different line ministry agendas. Although its political credibility might be enhanced in the short term were the President to chair at least one of its meetings, to be effective in the long run DNPI must become part of a structural institution. Continued Presidential interest in and leadership on climate change is meanwhile vitally important.

#### 4.1.7 The Ministry of Forestry

The Ministry is yet to overcome perceptions of it as being resistant to decentralisation, deeply sectoral, highly compartmentalised and poorly coordinated, while also increasingly starved of resources. It requires a strong presidential 'push' towards accepting lessons from the past treatment of forest and the current realities of Indonesian governance. More generally, the failure of donor investments against deforestation in Indonesia were attributed to weak or low-level policy dialogue and, consequently, weak enforcement. Steering committees are not regarded as an adequate substitute for serious, high-level policy dialogue to get anything 'game-changing' to happen. The Ministry has produced a *National Strategy for Reducing Emissions from Deforestation and Forest Degradation in Indonesia* (Aug 2009). The Ministry is said to know a lot about land use, land-use change and forestry (LULUCF) issues, but the fact is that REDD needs multiministerial input. For example, a recent Ministerial Decree sought to allocate carbon revenues (i.e. taxes), which prompted an immediate reaction from the Ministry of Finance. Forestry is responsible for only some parts of the emerging REDD system, but then does not actually govern them - e.g. there are no regulations for who actually owns carbon credits, making it hard to invest in or trade in them.

#### 4.1.8 The Ministry of Agriculture

The Ministry has yet to play an exemplary role in climate change, since a Ministerial Decree has rescinded protection of peat deeper than 3 metres in favour of a permit-based system for plantation development. One problem here is that peat often occurs

in domes, with deep interiors and shallow peripheries which can be drained and planted under the new system. This will result in the whole dome drying out, with catastrophic consequences. The Ministry is also yet to communicate a clear position on land use and GHG emissions to the UNFCCC post-Kyoto negotiating team.

#### **4.1.9 The Ministry of Finance**

The role of this ministry is to deal with macroeconomic prudence, the formulation of fiscal policies, and the management of state finances. Its engagement with climate change is therefore focused on streamlining climate change policy into macroeconomic policy. Relevant policies are still being designed but some are in the pipeline for 2010 and the 2009 government workplan (LKP2009) includes climate change. The Ministry is preparing a pool of co-financing to support the development of RE, while formulating the proper instruments (such as taxes and subsidies) in response to changing national policies and international agreements. In this design phase, the Ministry needs a great deal of capacity building, technical assistance, training and modelling support to help them develop implementation and enforcement mechanisms in line with new policies. On feed-in tariffs (FITs), which are within the Ministry's jurisdiction, a challenge is that the state electricity company (PLN) is subsidised, so electricity prices are artificially depressed. The Ministry is in the early stages of building economic models to reform this. The Ministry has also recently agreed tax exemptions for some environmental equipment (e.g. for 'cleaner coal') and the administrative costs of CDM projects. This is an unprecedented development that was triggered by climate change policies.

#### **4.1.10 The State Ministry of Environment (LH)**

This has always been less powerful than the full sectoral ministries (or departments), but the expectations placed on it have steadily increased as Indonesia's ecosystems and urban environments have deteriorated. Since the ecosystems are controlled by sectoral institutions (e.g. the Ministries of Forestry and Agriculture), and increasingly by local government (i.e. provinces, districts), LH has had to focus on the 'brown' environment - especially air and water pollution which are pervasive in Indonesian cities. Since these issues directly affect many Indonesian voters, and awareness of them is increasing, Parliament has strongly supported giving LH greater powers. Act 32/2009 on environmental management and protection does this, while also raising the profile of climate change. Some of LH's new responsibilities will be very demanding (e.g. developing criteria for climate-change impacts, and the instrumentation, guidelines, instructions and protocols needed for GHG inventories), although they should give the Ministry greater leverage over polluting industries and sectors. It remains to be seen whether significant additional resources will be given to LH to match its new responsibilities. Key provisions in the Act are as follows:

- Private companies must obtain environmental permits from province, district or city authorities before beginning operations; the role of LH is to monitor and if necessary correct the permits issued.
- LH must publish documents on climate change adaptation and mitigation, and develop government regulations on these subjects by 2010.
- LH must publish documents on criteria for identifying damage due to climate change, and develop government regulations on the subject by 2010.
- LH must implement or coordinate a GHG inventory process to quantify emissions at the national, provincial, district and city level, and a framework for how to do this is required in 2009.
- LH must set minimum standards for environmental assessment strategies, which are required by companies and government units and should take into account spatial planning and carrying capacity, and criteria for vulnerability and adaptation issues.

- LH can directly mobilise government investigators rather than having to do so through the National Police, and those who act without environmental permits can be jailed.

#### **4.1.11 The National Energy Council (DEN)**

The DEN has 15 members (7 ministerial, the others from civil society, consumers, academe, industry, environment), and as a *Dewan* reports to the President. It was established under a law (Law 30/2007 on Energy), rather than a Presidential Decree like DNPI, so it is part of the government structure. Its focus is on the energy supply side. About 35% of Indonesians have no access to electricity, and many others can barely afford to pay for it - hence government subsidy of the price. Law 30/2009 on Electricity allows for tariff differences between regions, based on differential ability to pay, and for regions to establish their own power utilities (whether public or private). This will allow for a much finer-grained and more responsive system and establishes competition with PLN. Thus the historical monopoly of PLN on electricity generation, distribution and pricing is beginning to unravel, creating new opportunities to emerge from 'business as usual' and to explore new ways to meet the Pittsburgh commitment.

#### **4.1.12 The Indonesian Climate Change Trust Fund (ICCTF)**

In Sep 2009 an agreement was signed between Bappenas and UNDP to establish UNDP as the ICCTF's Interim Manager for 18 months. This is being done through a UNDP project with a budget of about US\$10 million (from the UK, Australia and Norway). The ICCTF has three aims:

- to develop Gol capacity (including legislation and institutional arrangements) to establish and run a nationally-managed Trust Fund;
- to develop the capacity of a National Trustee; and
- to fund urgent initiatives from line ministries on renewable energy, forest and peatlands, and resilience or adaptation (a small grants mechanism to fund actions by NGOs and other stakeholders is also being discussed).

## **4.2 Forestry**

### **4.2.1 Illegal logging**

Presidential Instruction 4/2005 on eradicating illegal logging was amplified by the Minister of Home Affairs' Instruction 3/2005 to all governors, regents and mayors, and made it harder for any level or agency of government not to cooperate with efforts to suppress illegal logging. Indonesia agreed to negotiate a Voluntary Partnership Agreement under FLEGT with the EU in early 2007. Nothing much happened before April 2008 when the Ministry of Forestry spoke against the VPA because Malaysia was likely to sign one, allowing it to launder Indonesian timber into the European market. In May 2008 a coalition of environmental NGOs and US wood products companies succeeded in securing an amendment to the Lacey Act of 1900, making it unlawful to import, transport, acquire, or purchase any plant in violation of any foreign law, effectively banning trade in wood or wood products obtained illegally in Indonesia. In September 2008 the EU announced its intention of banning the import of illegal timber in a similar way. Due diligence and proof of legality would be required for timber products arriving from a suspect country on supply chains back to the site of timber harvesting - meaning chain of custody audits and verified compliance with the laws of the country where the timber was cut.

Indonesia welcomed these changes because the country was losing so many logs and tax revenues to third party countries. Since January 2009, Indonesia has been working hard on the licencing and documentation of legal wood, and legislation was released by

the Ministry of Forestry in June 2009. Serious VPA negotiations are now due to start in November 2009, and a VPA is expected in early 2010, which will be implemented fully from around 2012 at about the same time as the EU's due diligence regulations enter into force. Meanwhile, with Presidential support the National Police have effectively closed the land border between East Malaysia and Kalimantan. The net result according to a Chatham House study for DFID is that 7.8 million ha of forest has been saved from illegal logging and 1.6 billion tonnes of carbon have not been released by illegal logging.

#### 4.2.2 Peatlands

With some reservations pending new data and analysis, knowledge holders appear to accept that Indonesia is among the world's largest GHG emitters, with some 80% coming from the forest and land-use sector and about 80% of that (or 65% of the total) coming from the conversion, drainage, degradation and burning of peatland (although this has also prompted a drive to obtain GHG measurements from within the country rather than from overseas). Thus the treatment of peatland is central to Indonesia's response to the Pittsburgh commitment (regardless of any international treaty obligations that might be forthcoming). Bappenas is developing a Nationally-Appropriate Mitigation Action (NAMA) for peat, but it cannot easily be accounted in REDD since it contains so much carbon that it would reduce the carbon price if it was included, to the detriment of other countries (e.g. Brazil, which resists its inclusion). Besides (or hence), REDD is currently focused on above-ground biomass. Meanwhile, peat should be protected, but there is a sense that it is being held to ransom pending a strong incentive mechanism. A Presidential Decree on Sustainable Peat Management is expected in early 2010. The first national-level meeting on peat was to be convened in the last week of October 2009, chaired by Forestry and including Agriculture, Public Works, Energy, Finance, Bappenas and MoFA. The aim of this is to decide how to move the issue forward and to have something to report at the Barcelona UNFCCC meeting in November. As most ministers are new to their posts, however, this can only be the beginning of a process. Local governments are not yet involved because most decisions affecting peatland are the responsibility of central government (at least according to Forestry). Meanwhile the UK has funded an upfront window on peatland which may become permanent, aiming to help Indonesia table peatland as a dedicated action at the Copenhagen UNFCCC CoP. They are supporting an institutional and legal review to identify what needs to change, targeting planning reform (the process by which local and central government negotiate proper allocation of land uses), hoping to identify longer-term openings for the ICCTF.

#### 4.2.3 Forest management units

Indonesian forestry is being reorganised based on forest management units (FMUs, *Kesatuan Pemangku Hutan* - KPH), while policy, strategy, regulation and reform processes are also being developed. The FMU model is still being discussed, but the driver is the need to assign long-term responsibility for sustainable forest management (SFM) in particular forest landscapes, and to close down open-access forests. FMUs are envisioned to be about 50,000 ha each, with variable duration and 100% responsibility for the holder to manage open-access forest land. The government's next 5-year plan<sup>29</sup> will focus on forest protection, forest rehabilitation and FMUs. Interestingly, the FMU system is said (by both Bappenas and Papuan knowledge holders) to offer a way to engage with and empower indigenous people living in and

<sup>29</sup> Law 25/2004 on System for National Development Planning created a planning framework based on a hierarchy of scope and timeframe. At the national level, planning is done on a 20-year, 5-year and annual basis (the plans being known respectively as the RPJP, RPJM and RKP). Each sectoral ministry has its own 5-year and annual plans (respectively known as the RENSTRA and RKP). A 2006 Government Regulation confirmed that Bappenas coordinates according to the RPJM (5-year plan). Following this, the regions followed suit with their own RPJMs.

around each FMU. FMUs contain both production and protection forest, and each requires detailed assessment of the area's complete potential to support FMU-specific management planning, including timber resources, biodiversity, ecosystem services, cultural priorities, and carbon storage. FMUs have been defined for the whole of Papua, for example, but the resources within them are mostly unknown. The idea of basing the management of forest areas not on maximum timber yield, sustainable or not, but on the design of a stand-specific mix of diverse harvests and outputs based on what that particular stand is good for, with detailed research preceding decision making, has long been advocated by foresters and conservationists<sup>30</sup>. Under Indonesia's framework of decentralization, the devoluted authorities can also be robust to capturing inclusive local governance

#### 4.2.4 Decentralisation

The period 1998-2002 was a time of stress, uncertainty and violence in Indonesia. New governance arrangements were being developed in an atmosphere of intense debate and manoeuvring for power amongst factions and institutions within the central government and in the country's provinces, towns and districts. In particular, there was a huge movement in favour of local autonomy under a mechanism called *pemekaran* ('blossoming') that under Indonesia's 1999 and 2004 decentralisation laws<sup>31</sup> permitted the division of provinces, districts and subdistricts into smaller units. A subsequent implementing regulation set in motion a rush to create ever more and smaller units, with the number of districts alone increasing from 292 in 1998 to 483 in early 2007<sup>32</sup>.

Across Indonesia, the driver for this process is the prospect for local government of receiving block grants (*dana alokasi umum*, DAU) and special allocations (*dana alokasi khusus*, DAK) from central government. These funds transfer to the regions as measure to establish fiscal balance, however risked elite capture in the regions. Policies and regulations have continued to be created that have crucial significance for the governance and management of the Indonesian environment<sup>33</sup>. Those from 2004 onwards are not captured by the current CEP, including those related to decentralisation and cross-regional coordination, development planning, participatory development mechanisms, disaster management, and conflict resolution (Annex 4). One result of all this has been the establishment of participatory processes in development planning (frequently starting from villages and reaching up to the national level, with an entire series of dialogues and consultations). Another, however, has been the fragmentation of authority over natural resources and the distribution of powers to local governments that may be elected but are still remote from communities so cannot be held accountable to them in a day-to-day sense.

In the forestry sector, decentralisation was initiated by two Government Regulations (GR) that were enacted in parallel with Law 22/1999 regarding Regional Autonomy<sup>34</sup>:

- GR 62/1998 on the Delegation of Partial Authority in the Forestry Sector to the Regions, which granted district governments the authority to govern privately-

<sup>30</sup> See, for example: A variable management system for hill forests in Sarawak. *Journal of Tropical Forest Science*, 1:103-113 (Caldecott, J., 1988).

<sup>31</sup> Law 22/1999 regarding Regional Autonomy, and Law 32/2004 regarding Regional Government.

<sup>32</sup> *Indonesia: Decentralisation and Local Power Struggles in Maluku*. International Crisis Group Asia Briefing No. 64 (Jakarta/Brussels, 2007).

<sup>33</sup> Law 32/2002 on Local Government; Government Regulation 38/2007 on Division of Government Affairs Among Central, Provincial, and District-level Governments; GR 41/2007 on Organisation of Regional Agencies; and GR 50/2007 on Protocols for the Implementation of Cross-Regional Cooperation.

<sup>34</sup> Barr, C., Resosudarmo, I.A.P., Dermawan, A., McCarthy, J., Moeliono, M. & Setiono, B. (2006) *Decentralization of Forest Administration in Indonesia: Implications for forest sustainability, economic development and community livelihoods*. Center for International Forestry Research (Bogor).

owned forest (*Hutan Milik*), with areas outside Forest Estates (*Kawasan Hutan*) controlled by the national government.

- GR 6/1999 on Forestry Enterprises and the Extraction of Forest Products in Areas Designated as Production Forest, which authorized district governments to implement small-scale Forest Product Extraction Licenses (*Hak Pemungutan Hasil Hutan*, HPHH) in areas located within Forest Estate.

Guidelines for managing these small-scale forest concessions were contained in a series of decrees from the Ministry of Forestry (at the time, the Ministry of Forestry and Estate Crops, MoFEC). Smaller scale logging concessions became an issue especially between 2000 and 2002. Under Ministerial Decree 05.1/2000 of November 2000, regents had been given the authority to issue timber exploitation permits for areas up to 100 ha located within sites classified as Production Forest (*Hutan Produksi*), Limited Production Forest (*Hutan Produksi Terbatas*), or Conversion Forest (*Hutan Konversi*).

Soon after these regulations were passed, many districts began allocating large numbers of small-scale timber extraction permits. This became especially rampant in 2000-2002. Decision makers at MoFEC therefore moved to reverse the trend, by structuring Law 41/1999 which reinforced the Ministry's overarching role in administering the forest resources from the central level. Thus Law 41/1999 was misaligned with Law 22/1999 which called for sectoral laws to be harmonized with the regional autonomy law.

Further steps to recentralise forest administration included the enactment of GR34/2002, which revoked Regulation 6/1999 and reinforced the Ministry of Forestry's primary authority to administer commercial timber extraction, the sector's principal source of revenues. GR 34/2002 established a national regulatory framework for forestry policies and practices, including the classification of state-controlled forest lands and the harvesting, processing and marketing of forest products. It therefore curbed the authority of district governments to issue small-scale logging permits.

The dynamic tension between centralisation and decentralisation of forest governance later led to a series of other government regulations: GR 44/2004 regarding Forest Planning; GR 45/2004 regarding Forest Protection; GR 79/2005 regarding Support and Monitoring over the Conduct of Regional Government; and GR 6/2007 regarding Forest Management and the Preparation of Forest Management Planning and Utilisation of Forests. The cornerstone regional law itself was also eventually revised by the passing of Law 32/2004 regarding Regional Government. This promoted cooperative relations, and coordination between regional governments. In contrast to Law 22/1999, through Law 32/2004 central government resumed a far-reaching authority over the various levels of regional government. The supervisory status of provincial government was also partly reinstated, with provinces no longer being defined as autonomous regions but rather being granted expanded powers to work as arms of central government.

Implementing regulations for Law 32/2004 include GR 41/ 2007 regarding Regional Apparatus (Organization) and GR 38/2007 regarding Division of Government Matters Among Central, Provincial and District-level Governments. Under the GR 41/ 2007, the environment sector should be coordinated as cross cutting agency (whereas forestry would normally a single portfolio agency), thus placing greater emphasis to environment sector. The GR also encouraged regions to adopt latitudes in assuming the region specific optimum structure, which will need to be established by region specific regulations

According to GR 38/ 2007, the function of 'authorities' was thereby characterised as the delivery of 'public goods' and 'public regulations'. These responsibilities are effectively shared among the various levels of government, and the provinces and

districts/municipalities in particular share responsibilities in a multitude of areas (31 portfolios), including environment, forestry, fisheries, agriculture, development planning, spatial planning, social system, community empowerment, and gender empowerment. Only 5 portfolios are retained under the full jurisdiction of the national government, namely international politics, defense, security, justice, national, fiscal and monetary, and religion.

Under GR 38/ 2007, 'government matters' devoluted to the regions are divided under 'obligatory' and 'optional'/'provisional'. 'Obligatory' portfolios involve basic services which will also constitute part of regional budget. Failure of delivery the said services may be covered by the central government, but will still cost the regional governments their own regional budgets. A total of 26 portfolios are defined within this category (basic services), including environment and spatial planning.

'Optional' or 'provisional' portfolios relate more to specific characters of resources in the regions, thus including: fisheries and marine affairs, agriculture, forestry, energy and mineral resources, tourism, industry, trade, transmigration.

In both categories for sharing of responsibilities, implementation guidelines are provided and the regional organizational structure as well as programmes of work are accordingly established.

Concerning budget allocations in particular in the environment sector, the central government provided environmental deconcentration funds and Special Allocation Fund for the Environment. The environmental deconcentration funds, administered through Regulation of the State Minister of Environment 14/ 2007 regarding Implementation Activities and Deconcentration Funds in Environment Sector, included the following provisions:

1. To improve the capacities of provincial government to plan and extend overall support for environmental management in the regions
2. To coordinate the implementation and monitoring of Special Allocation Fund for the Environment Sector
3. To monitor and report the river quality of at least one river
4. To build capacities in hazardous waste management
5. To develop EIA system
6. To tackle environmental complaints, and dispute management towards effective enforcement of environmental laws
7. Activity administration

The Special Allocation Funds in Environment Sector aimed to enhance the roles of district municipality governments through procurement of infrastructure and physical facilities required for implementation of environmental management activities, especially for improvements of water qualities. Furthermore, the funds aimed to assist certain regions with nationally below average capacities to meet minimum service standards, which formed part of local government affair, and generally providing capacity building support in the regions.

In the forestry sector, allocation of funds was mandated through Government Regulation 35/2002 on the Reforestation Fund (*DR – Dana Reboisasi*). Although DR originally formed part of Special Allocation Funds (*DAK – Dana Alokasi Khusus*)<sup>35</sup>,

---

<sup>35</sup> Intergovernment fiscal relations between central and regional governments are initially regulated by Law 25/ 1999 regarding Fiscal Balancing which accompanied Law 22/ 1999 regarding Regional Autonomy. Under the Law 25/ 1999 regional income are classified as follow: indigenous revenue; fiscal balance (revenue sharing, and *DAU* block grant as well as *DAK* Special Allocation Funds), and regional borrowing. Revisions are made by Law 33/ 2004 regarding Fiscal Balance Between Central Government

through Law 33/2004 regarding Fiscal Balance, DR was reclassified as part of shared revenue. GR 35/2002 states that regional governments can only utilize allocations from the Reforestation Fund to support activities directly related to 'land and forest rehabilitation' (Barr et al. op. cit).

In terms of institutional framework, the decentralized structure of the forestry offices in districts/ municipalities are complemented with deconcentrated offices of the central government, and thus typically provincial government has cross-regional coordinating functions such as Provincial Forestry Service, the Watershed Management Agency (*Badan Pengelola Daerah Aliran Sungai*), the Provincial Monitoring Agency (*Badan Pengawas Propinsi*) and the Provincial Agency for Monitoring Finance and Development (*Badan Pengawas Keuangan dan Pembangunan Propinsi*),

As decentralization is often described as pendulum like in movement (with back and forth motions) Overall, it can be observed that over the period 1999 to 2007, the emphasis has switched from decentralisation of power to the deconcentration of function, thus partly restoring a unitary rather than a federal flavour to Indonesian governance.

#### **4.2.5 Combating and preventing forest fires**

The fire suppression system is divided into the Ministry of Forestry's Fire Units (*Manggala Akni*) for state forests, and local government systems (including Dinas Kehutanan) for local forests and non-forest areas. The Forestry Fire Units have better equipment and more money than the local teams, and coordination is not perfect. There is an opportunity to increase fire prevention, especially using the budget of the National Agency for Disaster Management (*Badan Nasional Penanggulangan Bencana* - BNPB), which can now be spent on disaster prevention, but there is debate over the fact that fire is a human-induced event, yet BNPB is supposed to address only natural disasters. Prevention needs to target underlying issues of poverty and social conflict over land use and tenure (in which fire may be used as a weapon), while increasing awareness among people and bureaucracies, increasing synergy with other fire initiatives, and introducing fire prevention concepts into local development planning. This is especially the case as BNPB has been decentralized as BPBD (*Badan Penanggulangan Bencana Daerah*) at provincial and district/municipality levels.

### **5. Cooperation activities from an environmental perspective**

Since 2007, climate change mitigation has become one of the donor community's highest priorities in Indonesia (Annex 5). Major projects are underway to pilot the processes involved in emission base-lining and carbon accounting at the landscape level, for example in Central Kalimantan (funded by Australia) and East and West Kalimantan (funded by Germany). Others focus on the rehabilitation of globally-significant areas of vulnerable peatland, for example in Central Kalimantan (funded by the Netherlands). All tend to also have a central component designed to support development of policy, strategy, regulation and reform processes in relation to forest management (Germany), monitoring, reporting and verifying arrangements in relation to REDD (Australia), or a national strategy for lowland development (Netherlands), or else are focused entirely on policy, institutions and underlying drivers of deforestation (UK).

There are also multilateral donor and research agencies working at a national level on carbon accounting (e.g. ICRAF through ALREDDI) or on links between national and

---

and Regional Government which follows after Law 32/ 2004 regarding Regional Government, and revoked the Law 25/ 1999

local institutions and capacity building for mitigation action (e.g. UN-REDD), while several donors (UK, Australia, Norway) are funding the Indonesian Climate Change Trust Fund, which is intended to finance line ministries' efforts on renewable energy, forest and peat lands, and adaptation. The ICCTF is managed by UNDP, which for more than a year has been aware that adaptation to climate change has been greatly under-supported relative to mitigation, a viewpoint echoed by other knowledge-holders (e.g. companies such as EcoSecurities, NGOs such as WWF, and CIFOR). Meanwhile, realising that improved forest governance is essential if any initiatives based on REDD or avoided deforestation are to be effective, others are concentrating their efforts on this with the aim of reducing the threat of illegal logging and forest encroachment (e.g. the EC and UK through FLEGT).

On SCP there appears to be relatively little donor activity (and no SWITCH-Asia investment) despite the deteriorating condition of Indonesia's urban and suburban environments. This reflects government's rather ad hoc response to pollution and waste-management themes in particular, though a new law has given the Ministry of Environment sweeping new powers and current policy is to greatly increase the use of renewable energy sources. There would seem to be a need and opportunity here for a major, long-term engagement on SCP between a suitable donor and the Ministry of Environment (which for many years previously developed in partnership with Canada through the EMDI programme), as well as for strategic engagement on RE and demonstration activities in partnership with local governments.

## **6. Findings from field visits**

### **6.1 Papua**

#### **6.1.1 Socioeconomy**

Indigenous Melanesian peoples have occupied Papua for up to 60,000 years, speak around 270 different languages, and possess diverse systems of social structure, land tenure, politics, religion and subsistence (e.g. there are 4 traditional systems for reckoning kinship, at least 3 for determining inheritance, 3 or more for identifying property rights, and 4 for distributing political power). Coastal areas were settled by Austronesian peoples from about 3,600 years ago, resulting in much genetic and cultural interchange (and livelihood impact, since the Austronesians introduced pigs). These two kinds of indigenous Papuans constituted 96% of the total population of 923,000 in 1971, but by 2005 waves of settlers from other parts of Indonesia had reduced the proportion to 59% of 2.65 million (a process that continues and is expected to reach 30% by 2020). Papua's GDP is mainly generated by the mining, gas and oil sectors, with mining alone contributing more than half the GDP per person and by this measure making Papua the fourth richest part of Indonesia (after East Kalimantan, Jakarta and Riau in Sumatra). But because a large proportion of these revenues are immediately transferred to the national government and private shareholders, actual income per person in Papua is very much lower. It also varies greatly between highland and lowland areas, rural and urban locations, and indigenous Papuan and recent in-migrant populations. Overall, Papua falls below the national average in terms of health, education, infrastructure and other statistical indicators of well-being and development, and in many places far below.

#### **6.1.2 Special autonomy and current leadership**

Law 21/2001 on Special Autonomy for Papua granted the Government of Papua Province (GoPP) a range of powers and a 2% share of the national budget over 20 years. The GoPP is confidently moving forward on the basis of these powers,

preparing special provincial government regulations (*Perdatus*<sup>36</sup>), hosting international conferences on Papuan sustainable development, and exploring ways to maximise value-added capture within Papua from the use of all natural resources: biodiversity, oil palm, timber, minerals, etc. The Governor of Papua is a dynamic individual who has surrounded himself with like-minded and capable lieutenants. The Governor's authority comes from the fact that he is the representative of central government (under the unitary state concept) as well as being directly elected.

### 6.1.3 The RESPEK programme

Financed by arrangements under the Special Autonomy Law, the Strategic Plan for Village Development (*Rencana Strategis Pembangunan Kampung*, RESPEK) programme targets food, health, education, micro-infrastructure, local economy and governance. It allocates about Rp 100 million (ca €7,000) annually to each of 3,642 villages in Papua, but is only paid to villages that have some kind of development plan. Village planning is facilitated by about 1,000 people paid from a World Bank loan. NGO facilitators are also active: for example RFP3 was hired by Jayapura Kabupaten to facilitate village-level 5 year and 1 year development planning, and the RESPEK grants were made conditional on this process. Bappeda in Jayawijaya is keen to replicate this, and has recognised 27 customary territories (*wilayah adat*) as a basis for development planning. These initiatives are empowering and are designed to leave behind communities that can be effective actors in their own development even after the end of the Governor's current term of office (in 2011) and the Special Autonomy funding (in 2021). They would also have the effect of preparing people for REDD money, should it become available. If so, it is envisioned that the funds would go into a trust fund, while also financing a RESPEK-style programme.

### 6.1.4 Decentralisation

There are continued pressures towards further decentralisation in Papua. This has already resulted, for example, in Jayawijaya Kabupaten (District) being divided into nine new kabupatens<sup>37</sup>, and there are proposals to establish multiple new provinces following the separation of West Papua from Papua in 1999<sup>38</sup>. The proliferation of districts is seen by some knowledge holders as a serious problem, on the grounds that it is happening at the expense of protected areas (since districts need roads, offices, etc.). More than 90% of regents are indigenous Papuans, but they do not necessarily trust one another, and disputes among them mean that authority is in practice leaking back to Jakarta. The regents face technical challenges on subjects like good governance and environment, and are not always keen to listen to the Governor as they have their own electoral mandates (e.g. they allow mining and mineral exploration).

### 6.1.5 Forestry

Papua has around 42 million hectares of forest, including 14 million under protection, 9 million as conversion forest and 2 million in the partly overlapping category of peat-

<sup>36</sup> For example, on customary tenure, SFM, customary courts of justice, people-based economy, and protection of the intellectual property rights of indigenous Papuans.

<sup>37</sup> In Indonesia generally, the hierarchy of regional government is from *propinsi* (province, headed by a governor) to *kabupaten* (district or regency, headed by a bupati or regent), *kecamatan* (sub-district, headed by a camat) and *desa* (village cluster). In Papua, however, it is from *propinsi* to *kabupaten*, *distrik* and *kampung*. Thus in Papua, care is needed to avoid confusing *kabupaten* (i.e. district) with *distrik* (i.e. sub-district) when interviews are conducted in English, since both may be called 'districts'.

<sup>38</sup> This was legalised by Law 45/1999 and confirmed by Presidential Instruction 1/2003, but was contested in the Constitutional Court which ruled in 2004 that although the 1999 law was invalid, the creation of West Papua was still lawful.

swamp forest (mostly in Asmat and Timika in the south, Mamberamo in the north, and Bintuni and Waropen in West Papua). Only a small portion has yet been converted, with *Hutan Tanaman Industri* (HTI) pulpwood plantations as a priority according to the current spatial plan. The province is more advanced than anywhere else in Indonesia in bringing together traditional rights and forestry. Up to 2005 there were massive log exports (especially of *merbau* to China), but a joint decree by the governors of Papua and West Papua in November 2004 has had some effect in reducing this. The Ministry of Forestry in office is said to have been rather unwelcoming to Papuan initiatives and is thought to want to retain its central authority wherever possible. A Provincial Special Bylaw (*Perdasus* 21/2008, Annex 6) on Sustainable Forest Management in Papua returns a degree of ownership of the forest to the people (otherwise described as creating space for customary communities to be actors in forest management), but government retains the right to regulate the people's use of the forest (e.g. if a forest is protected, it cannot be logged). The Special Bylaw built on Law 21/2001 on Special Autonomy but maintains due deference to the national Forestry Law (41/1999). Thus, implementing regulations for the Special Bylaw do not require central authorisation, but it does not devolve authority to change forest status (unless the forest is to be protected), for which Ministry of Forestry permission is still required. Gubernatorial decrees are being prepared as implementing regulations for the Forestry Bylaw, based on consultation with the people and the Ministry of Forestry, and local people are expected to welcome it.

### **6.1.6 Avoided deforestation potential**

Numerous public and private institutions in Indonesia are looking to Papua as the next venue for a resource-liquidation process akin to that in Kalimantan and Sumatra, and may find allies among fractious and potentially corruptible policy makers in multiplying districts. On the other hand, with 80% of Papua still under intact natural forest, an indigenous population inclined to keep their ancestral domains under forest if at all possible, and a government strenuously interested in finding new ways to finance poverty alleviation and prosperity enhancement, there are clear opportunities for building some kind of deal around avoided deforestation. If it were possible in principle to arrange the transfer of millions of hectares of 'conversion' forest in Papua to some form of 'protection' forest, in order to generate REDD credits, then the key would be inclusive stakeholder-based spatial planning at the district level (under a national and provincial mandate), well-informed (with respect to co-benefits, carbon, water, adat), and vertically and horizontally integrated with development planning. Unfortunately, climate-change mitigation activities do not yet include forests and GoPP has been left to protect them on its own (while also trying to alleviate poverty in 80% of all households affected by it). No one has yet made them an offer to reward changing conversion forests to protection forests, although a REDD+ deal in the near future is hoped for.

### **6.1.7 Renewable energy potential**

A run-of-river hydroelectricity plant south of the Wissel lakes has 3 GW potential. Freeport currently buys 300 MW/year from coal and diesel for US\$200 million, and are prepared to finance the hydropower scheme, which will also be used to provide electricity to highland communities. Mamberamo has an estimated 10 GW capacity but is nearly flat so would need a huge lake (replacing one of the world's most important biodiversity assets), and this is still being considered. There is also potential for sago ethanol production.

## 6.2 Yogyakarta

### 6.2.1 Distinctiveness of Yogyakarta

The Special Region of Yogyakarta (*Daerah Istimewa Yogyakarta* - DIY) has enjoyed a special status since Indonesian independence, with considerable autonomy and a *sui generis* system of government headed by the Sultan. It is one of the great intellectual centres of the country, with two state universities and some 200 private ones. Its civil society is progressive, it has abundant mission-driven NGOs, and a dynamic and reputable leadership represented by the Sultan and most of the five regents. It has achieved recognition in governance reform, for example winning national awards in 2007 and 2008 for e-governance, investment, and public service. With only 18,000 hectares of forest (including teak plantations), avoided deforestation is a lesser issue for climate change mitigation than the opportunity to introduce SCP systems in a city that is likely to become one of Java's largest with a few decades. In this sense, and considering the Yogyakarta regarded as a go-ahead place the initiative of which are widely thought to be worth copying, the province is a near-ideal testing ground and seed-bed for SCP activities for replication across Java and beyond.

### 6.2.2 Land use change

Between 2000 and 2006, in Yogyakarta, the area of forest declined by 53%, 'underbrush' (*belukar*, or disturbed scrub-forest) by 65%, swamp by 93% and dry-land cultivation by 60%, while the area of mixed plantation increased by 61% and that of settled areas by 45%. This suggests an evolution of the landscape away from natural ecosystems (forest, *belukar* and wetlands) and traditional farming methods, and towards commercial plantations and urbanisation. This illustrates an important phenomenon relevant to environmental vulnerability in Java, that of rapid in-filling of rural areas. In this process, the final scraps of natural or semi-natural vegetation are removed, at great cost to biodiversity since these are the last refuges of wild animals and plants. Meanwhile, traditional farming systems are replaced, largely by homogenous commercial cultivars, with further loss of biodiversity among traditional varieties of crop plant. The simplified biological environment is more vulnerable to pests and diseases, and also has a reduced capacity to absorb floods and resist soil erosion and land-slides. At the same time, increased urbanisation (and road building, with a 125% increase in the road system in Yogyakarta between 2001 and 2005) means that more of the land is sealed and unable to absorb rain water, increasing the likelihood of flooding, while urban pollution sources expand and are more likely to contaminate ground and surface waters. This is all consistent with Yogyakarta being a rapidly-growing urban and suburban province, where population is soaring at about 4.5% annually and the number of motorcycles at a rate nearly three times higher.

### 6.2.3 Water catchments

In 1999-2004, the province of Yogyakarta used an average of almost 32,000 litres of water per second, two-thirds of it from artesian wells, about 20% from springs and about 13% from rivers. There is considerable dependency on springs (such as Umbul Wadon), rivers and ground waters derived from catchments on Mount Merapi, which largely comprise a small (10 km<sup>2</sup> or less) forested area on the middle slopes of the south side of the mountain. These, along with the cinder cone above them, are included within the 1,728 ha Yogyakarta section of the Mount Merapi National Park. The sustainable management and physical protection of this catchment is essential to water security in Yogyakarta, but the limited scale of the catchment suggests that this dependency represents a significant vulnerability to the people of Yogyakarta. The opportunity exists to finance such protection indefinitely by taxing wealthier and corporate water users in Yogyakarta, and using the revenues to pay local people to manage the forest. Such payment for ecosystem services (PES) arrangements have already been explored tentatively (in relation to bottled water companies) by

stakeholders in Yogyakarta. A more general arrangement cannot be implemented without: (a) a detailed water valuation study to provide a basis for water pricing; (b) a feasibility study to design appropriate institutional and financial mechanisms; (c) leadership by the Governor of Yogyakarta; and (d) consensus amongst the provincial and Sleman district government, the Ministry of Forestry and local people.

#### **6.2.4 Renewable energy**

A consortium of six universities work on various aspects of energy in Yogyakarta, including RE, alternative energy and energy conservation. A recent energy audit of the campus of one member established that 30% savings could be made easily by changing electrical appliances and the university authorities have asked that this be implemented. A priority is energy literacy, since knowledge is the key gap. They are beginning a long process of educating the community on RE, alternative energy (e.g. biogas) and energy conservation. They are beginning talks with Kabupaten Bantul (which has a very supportive regent, as does Yogyakarta municipality itself) on a self-sufficiency village, to be implemented in 2010.

#### **6.2.5 Transportation**

Bappeda has a Bus Rapid Transit programme, but this amounts only to new shelters and new buses since the roads are too narrow for dedicated bus lanes. They are good for tourists nevertheless, and the plan is being copied in Bali. Introducing CNG would require simultaneous development of fuel stations and conversion of cars. There is some official encouragement of bicycles (e.g. *Sego Segawe* - 'bike to work and to school' for all staff of Yogyakarta municipality on Fridays).

#### **6.2.6 Waste management**

There is the Piyungan landfill site, which receives solid domestic wastes from Yogyakarta City and Bantul and Klaten districts. Liquid domestic waste is collected in a communal wastewater treatment plant in Sewon. At least one NGO (Momong Bumi) focuses on waste separation (although the district collection trucks recombine everything), and getting waste on primary school curricula. Government is working with industry to launch an annual 'clean and green village' competition (focussed on composting, sanitation and recycling).

### **7. Conclusions and recommendations**

#### **7.1 Conclusions**

##### **7.1.1 Strategic challenges**

International acceptance of the reality of anthropogenic climate change and its potential to undo the development gains even of Europe, let alone the world's tropical developing countries, means that solutions must be sought beyond the frontiers of established institutions, budget lines, and 'business as usual' in general. This may require a fundamental reappraisal of all aspects of EU development cooperation, so that effective ways to decarbonise economic systems receive maximum priority, closely followed by defensive measures to preserve and restore the integrity of ecosystems needed for mitigation, adaptation and the supply of services required for environmental and livelihood security. We can meanwhile observe that regardless of past arrangements or the progress of international negotiations, and in addition to building the capacity of existing institutions to cooperate with one another, key priorities in Indonesia must include responding to the President's Pittsburgh commitment through measures such as:

- paying districts/municipalities particularly, but other institutions as necessary, to refrain from doing further harm to most remaining forests and peatlands under their jurisdictions, with verification and conditional staged payments on a scale that will make the current unsustainable development model irrelevant to the increasing prosperity of Indonesian society; and
- while being sensitive to cultural diversity in the country's nearly 500 districts and municipalities, massively increasing access by local and national government to concepts, techniques and technologies developed in Europe and relevant to the rapid decarbonisation and dematerialisation of the Indonesian economy at all levels, along with the investment needed to operationalise the required changes.

It is hard to overstate the urgency with which such measures are needed. While the precise rank of Indonesia as a national GHG emitter is debatable, the great scale of emissions from deforestation and especially peat degradation is not at issue. Neither is the trajectory of development in most of the larger Indonesian islands, which has been disastrous from the points of view of biodiversity loss and GHG emissions (among others). Papua in particular is now, in effect, the last great forest frontier in Indonesia, where the 'business as usual' development process is fast becoming established and where irreversible damage to Papuan, Indonesian and global interests could well occur within a few years. In these circumstances, emergency intervention would be highly appropriate, and the EC should urgently consider new ways to finance more sustainable forms of development and empower those who advocate them.

### **7.1.2 Strategic changes**

Indonesian stakeholders are on a very steep learning curve but the governance system remains diverse and fragmented, with different institutions variously defending past interests and trying to create space to advance new ones, often against a resistant bureaucracy and the effects of unhelpful or perverse incentives and power relationships. The following opportunities were identified by the mission as offering ways to 'unstick' key blockages that currently stand in the way of progress, or else to lay the groundwork for rapid advancement of new policies and field programmes towards achieving the common strategic aims of the President and the Commission.

A generous time allocation of 66 working days was given to updating the CEP, but even so the diversity and complexity of Indonesia's environmental circumstances made it impossible to do more than obtain an overview of recent and current events and trends, and explore a few key highlights. There is a need to find ways to increase the ability of the EC Delegation to track and understand the significance of environmentally-relevant events in Indonesia. This is especially so as the international community addresses major crises of climate change and biodiversity loss (in both of which Indonesia is a key player) during 2010. The planned appointment of an additional environmental specialist at the Delegation will be a considerable help, but it would be wise also to programme for extra consultancy resources to be deployed in 2010. Such resources would be needed partly to support the formulation of the actions recommended below, and partly to forage for insights that can help prepare the way for upgrading the CEP, CSP and MIP in response to radically new priorities as they emerge in the near future.

## **7.2 Recommendations**

### **7.2.1 Cooperation with central institutions**

Representatives of several central institutions contacted during the mission expressed the need for, and interest in receiving, technical assistance (TA) to support them in key tasks related to climate change and environment over the next year or two. This is a time when new policies and regulations are needed urgently in response to the

Pittsburgh commitment and to prepare for full participation in the post-Kyoto UNFCCC process, which is likely to emerge through international negotiations during 2010 (if not at the Copenhagen CoP15 in December).

It is therefore recommended that dialogue be continued with selected institutions, in consultation with Bappenas, around the possibility of a **multiministerial support facility (MMSF)** to provide the necessary technical assistance. The most receptive and strategic institutions appear to include:

- the **Ministry of Finance**, which urgently requires TA support in the assessment and mapping of regulations and their effectiveness in relation to climate change governance issues, including effective financial incentives (e.g. ownership of carbon certificates, and measures such as feed-in tariffs to encourage adoption of renewable energy);
- the **Ministry of Energy and Mineral Resources**, which requires support in mapping the renewable energy (RE) potential of Indonesia and long-term planning for its exploitation, assessing RE technologies and promoting technology transfer (in particular access to carbon capture and storage or CCS technologies and skills, so as to offset Indonesia's coal-fired power stations), and capacity building through the introduction of techniques and skills related to RE, CCS and other technologies; and
- the **Ministry of Environment**, which requires TA support and funding with which to help the regions prepare their carbon profiles, and for a sector-by-sector study of emission-reduction options.

There is also a need to facilitate inter-departmental dialogue (e.g. on peatlands, REDD and between DNPI and Bappenas), and to respond to other TA needs across government which might be met through the same MMSF (and/or through cooperation with other donors). These needs include:

- at Bappenas, to help with formulation of enabling policies for climate change mitigation and adaptation, and Forest Management Unit policies including guidelines on REDD, CDM and indigenous peoples;
- at the National Agency for Disaster Management (BNPB), to mainstream climate change in disaster risk reduction;
- at the Ministry of Marine Affairs and Fisheries, to strengthen governance and management of the Coral Triangle, monitoring and evaluation of coastal and marine environments and fishery resources, and for detection and early warning systems as well as climate change adaptation on small islands;
- at the National Council on Climate Change (DNPI), to build links with provincial and district levels and give it additional expertise on decentralisation;
- at the Ministry of Home Affairs, to promote local-level climate change adaptation and regulate the resource demands of new districts and provinces;
- at the Ministry of Public Works, to promote consideration of infrastructure drivers in land use change; and
- at the Ministry of Industry, to develop strategic plans for effective mainstreaming of SCP and relevant guidelines for provincial development planning boards.

The introduction of the Forest Management Unit (FMU) model in Indonesia offers a number of challenges and opportunities. As noted in Section 4.2.3, managing large, permanent forest landscapes over the long term could prevent open-access lands becoming available for conversion. It could also create an incentive to restore damaged forests, harvest forest stands more gently, and invest in research on the particular values associated with different parts of the FMU. As this knowledge

increases, it would become possible to manage each stand in ways appropriate to its unique set of values, whether for carbon storage, biodiversity conservation, bioprospecting, ecotourism, water catchment services, timber or rattan production, plantation development, etc.

On the other hand, there is momentum towards over-logging to meet the needs of an overgrown wood-processing sector, and towards deforestation and land conversion to make way for plantations. The system as a whole is very hard to control, and the risk is that forests will continue to be destroyed before their diverse values are appreciated and used. A key weakness lies in a lack of knowledge among FMU managers (or the people and companies that will become FMU managers), on potential forest values, their markets and how to access them, and on best practices within Indonesia and elsewhere. The FLEGT support project has shown the value of a Forest Information System in Jambi, through which information and knowledge can be managed and which could be replicated to meet the information needs of FMU managers across Indonesia. A network of such individual systems could then ensure that best practices and other insights are spread quickly among all participating FMUs. It is recommended that the possibility of developing such a network and the design criteria for it be explored with Bappenas, in dialogue with the Ministry of Forestry and donor-supported projects that are already exploring relevant knowledge-management systems.

## 7.2.2 Cooperation with Papua

**Sustainable Development Helpdesk.** The scale both of opportunity and environmental threat in Papua suggests that the main need is to strengthen the provincial government's capacity to explore diverse ideas on sustainable development, and facilitate access to knowledge and other resources with which they can be tested and put into effect. Subjects of interest include development of biodiversity as a resource (e.g. for bioprospecting), compliance with chain-of-custody and legality certification for timber and wood products, decisions on the use of Papua's nine million hectares of conversion forest (a prime potential resource for generating credits for avoided deforestation), REDD arrangements, and assessment of diverse resources within Forest Management Units (FMUs). One way to offer assistance in response to Papuan priorities would be to provide a Sustainable Development Helpdesk, to give impartial advice to the provincial government, and capacity building at provincial and district levels (including links with relevant activities in other provinces), as well as access to European knowledge resources, research institutions, databases, grant sources, universities and businesses. It is therefore recommended that dialogue be continued with the Government of Papua Province to explore how this might be achieved.

**Forest Information System.** Another opportunity in Papua would be to respond to the adoption of FMUs as the permanent structure for forest management there. It is the Government of Papua's intention to base the management of FMUs on detailed inventory and analysis work to identify a strategy based on the real capabilities of each forest landscape. The aim is for each FMU to be managed sustainably in a different, locally-specific way, depending on information about such aspects as customary uses and values, ecosystem services such as water catchment values, carbon storage and avoided deforestation potential, forest production and plantation potentials, and biodiversity conservation and non-consumptive uses as well as bioprospecting values. As this approach is carried forward, an immense quantity of FMU-specific information will accumulate rapidly, creating a need for a Forest Information System like that developed under FLEGT in Jambi, which is integrated into the local government structure and has already attracted the attention of the Papuan Forest Agency. At a minimum, such a system would need a database expert (perhaps shared with FLEGT), a GIS expert, and a general facilitator with planning and evaluation expertise to help mainstream the system into the government planning and implementation processes. The data architecture would be based on the FMU structure and the accumulation of

data on the resources within each FMU. This is a big job for 42 million hectares of forest, but an efficient start could be made by adding it as an additionally-funded task within FLEGT's remaining 18 month programme of work, which is accordingly recommended.

### **7.2.3 Cooperation with Yogyakarta**

There is the opportunity for a comprehensive SCP programme on energy, waste management, transport and construction in Yogyakarta, both to place the city's development on a lower-carbon and more sustainable trajectory, and also to demonstrate new SCP systems that would then be available for copying and replication in other Indonesian cities. It is envisioned that such a programme would be driven by Bappeda, which would need access to knowledge resources and a well-established focal point for the NGOs and universities to facilitate capacity-building measures by civil society entities. With the Sultan's support and encouragement to all *SKPDs* (regional government agencies), this might be a way for EU to promote and demonstrate the mainstreaming of climate change with recent knowledge, facilitation and judicious financing. It is therefore recommended that dialogue be continued with the Government of Yogyakarta to determine precise modalities and formulate a plan of action supported by the necessary documentation for cooperation with the EU through SWITCH-Asia.

**Annex 1: Documents consulted**

- ADB (2009) *The Economics of Climate Change in Southeast Asia: A Regional Review*. Asian Development Bank (Manila, April 2009).
- BAPPENAS (2008) *National Development Planning: Indonesia Responses to Climate Change*. Bappenas (Jakarta).
- CIFOR (2008a) *Facing an Uncertain Future: how forests and people can adapt to climate change*. Forest perspectives No. 5, CIFOR (Bogor).
- CIFOR (2008b) *What is the right scale for REDD? The implications of national, subnational and nested approaches*. Forest perspectives No. 15, CIFOR (Bogor).
- CIFOR (2008c) *Financing REDD: linking country needs and financing sources*. CIFOR infobrief No. 17, CIFOR (Bogor).
- CIFOR (2008d) *Moving Ahead with REDD: Issues, Options and Implications* (edited by Arild Angelson). CIFOR (Bogor).
- CIFOR (2008e) *Thinking Beyond the Canopy, annual report 2008*. CIFOR (Bogor).
- CIFOR (2009) *The Impacts and Opportunities of Oil Palm in Southeast Asia: what do we know and what do we need to know?* Occasional paper No. 51, CIFOR (Bogor).
- European Commission (2009) *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Stepping up international climate finance: A European blueprint for the Copenhagen deal*. {SEC(2009) 1172}, COM(2009) 475/3, Brussels.
- EC (2009) Indonesia MTR Document - Part 2
- EC (2009) *European Commission Environment/Forestry Portfolio in Indonesia - Updated May 2009*. EC Delegation (Jakarta).
- EC (200?) MIP 2011/2013 Revised Format
- EC-DNPI (2009) Technical Cooperation Project, Draft Final Report.
- Girardet, H. & Mendonça, M. (2009) *A Renewable World: Energy, Ecology, Equality - a Report for the World Future Council*. Green Books (London).
- Harrison, M.E., Page, S.E. & Suwido H. Limin (2009) The global impact of Indonesian forest fires. *Biologist*, **56**(3):156-163.
- Mendonça, M. (2007) *Feed-in Tariffs: Accelerating the Deployment of Renewable Energy*. Earthscan (London).
- Ministry of Forestry (2009a) *Peraturan Menteri Kehutanan Tentang Penetapan Referensi Emisi Dalam Rangka Kegiatan Pengurangan Emisi Dari Deforestasi Dan Degradasi Hutan (REDD)*, Draft, Ministry of Forestry (Jakarta, 24 June 2009).
- Ministry of Forestry (2009b) *Peraturan Menteri Kehutanan Tentang Tata Cara Pengurangan Emisi Dari Deforestasi Dan Degradasi Hutan (Reducing Emission From Deforestation and Forest Degradation/REDD) Dalam Kerangka Konvensi Perubahan Iklim*, Draft, Ministry of Forestry (Jakarta, 28 March 2009).
- Ministry of Environment (2002). *State of Environment Report in Indonesia, 2002*. Ministry of Environment (Jakarta).
- Ministry of Environment (2003). *State of Environment Report in Indonesia, 2003*. Ministry of Environment (Jakarta).

- Ministry of Environment (2004). *State of Environment Report in Indonesia, 2004*. Ministry of Environment (Jakarta).
- Ministry of Environment (2005). *State of Environment Report in Indonesia, 2005*. Ministry of Environment (Jakarta).
- Ministry of Environment (2006). *State of Environment Report in Indonesia, 2006*. Ministry of Environment (Jakarta).
- Ministry of Environment (2007a). *State of Environment Report in Indonesia, 2007*. Ministry of Environment (Jakarta).
- Ministry of Environment (2007b). *State of Environment Report in Indonesia, 2007, Supplement - Global Warming and Climate Change: Context and Implication for Indonesia*. Ministry of Environment (Jakarta).
- Ministry of Environment (2007c). *Rencana Aksi Nasional Menghadapi Perubahan Iklim*. Ministry of Environment (Jakarta).
- Ministry of Environment (2007d) *Comprehensive Assessment of Environmental Hazards and Vulnerabilities in Java, Indonesia*. Ministry of Environment (Jakarta) and UNEP Post Conflict and Disaster Management Branch (Geneva).
- Ministry of Finance (2008) *Climate Change & Fiscal Policy Issues: 2008 Initiatives*. Working Group on Fiscal Policy for Climate Change. Fiscal Policy Office, Ministry of Finance (Jakarta, December 2008).
- Ministry of Finance & World Bank (2008) *Low Carbon Development Options for Indonesia - Phase 1 Status Report and Findings*. Ministry of Finance (Jakarta, November 2008).
- Ministry of Agriculture (2009) *Peraturan Menteri Pertanian No. 14/Permentan/FI. 110/2/2009 Tentang Pedoman Pemanfaatan Lahan Gambut Untuk Budidaya Kelapa Sawit Dengan Rahmat Tuhan Yang Maha Esa*. Ministry of Agriculture (Jakarta, 16 February 2009).
- Muller, Kal (2008) *Introducing Papua*. PT Freeport Indonesia and Government of Papua (Jayapura).
- MWH (2005) *Country Environmental Profile Indonesia, Final Report*. Framework Contract AMS/451 Lot N°6, Request for Services N°2005/102581. MWH (August 2005).
- President of the Republic of Indonesia (2009) *Intervention by H.E. Dr Susilo Bambang Yudhoyono, President of the Republic of Indonesia on Climate Change at the G-20 Leaders' Summit*. Pittsburgh, PA (USA), 25 Sept. 2009.
- Suebu, Barnabas (2007) *We Plant, We Water, God Gives the Growth*. Provincial Government of Papua (Jayapura).
- SWITCH-Asia (2008) *Promoting Sustainable Consumption and Production (SCP)*, ASIE/2008/019803. Action Fiche.
- SWITCH-Asia (2009) *Policy Support Component (PSC)* ASIE/2009/020517. Action Fiche.
- SWITCH-Asia (2009?) *A Key Solution to Climate Change: Sustainable Consumption and Production - Making the Link (1) The Challenge: Understanding Climate Change Differently: the Sustainable Consumption and Production Perspective; (2) A Solution: Addressing Climate Change Differently: the Sustainable Consumption and Production Perspective*. SWITCH-Asia Network Facility (Wuppertal, not dated).
- SWITCH-Asia (2009?) *The SWITCH-Asia Network Facility: Promoting Sustainable Consumption and Production*. SWITCH-Asia Network Facility (Wuppertal, not dated).

UNDP (2009) *Progress and challenges on achieving a sustainable environment in Indonesia*. Working paper for the UNDP Country Programme 2011-2015. United Nations Development Programme (Jakarta).

World Bank (2009) *Investing in a More Sustainable Indonesia: Country Environmental Analysis 2009*. Draft report by the World Bank (Jakarta).

**Annex 2: Mission itinerary and persons consulted**

<b>Persons met in chronological order and contact details (Indonesia dial code: + 62)</b>
<b>Dr Budhi Sayoko</b> (Environment Unit Manager, Assistant Country Director) and <b>Dr Alex Heikens</b> (Technical Adviser, Environment Unit), UNDP, Menara Thamrin Building 8-9th Floor, Kav. 3, Jl M.H. Thamrin, PO Box 2338, Jakarta 10250 (021-314 1308 x 423, 081-58652 5023, <a href="mailto:alex.heikens@undp.org">alex.heikens@undp.org</a> ), 12 October 2009, 1400-1600.
<b>Timothy C. Jessup</b> (Forest and Climate Change Specialist) and <b>Neil Scotland</b> (Coordinator, Indonesia-Australia Forest Carbon Partnership), World Trade Centre 8th Floor, Jl Sudirman, Jakarta (081- 1984 5635 TCJ, 081-2107 0244, <a href="mailto:timothy.jessup@iafcp.or.id">timothy.jessup@iafcp.or.id</a> , <a href="mailto:neil.scotland@ausaid.gov.au">neil.scotland@ausaid.gov.au</a> ), 13 Oct 2009, 1100-1300.
<b>Timothy H. Brown</b> (Senior Natural Resource Management Specialist), World Bank Office, Jakarta, Jakarta Stock Exchange Building, Tower 2, 12th Floor, Jl. Jenderal Sudirman, Kav. 52-53, Jakarta 12190 (021-5299 3000; 081-1149 705, <a href="mailto:tbrown2@worldbank.org">tbrown2@worldbank.org</a> ), 13 Oct 2009, 1500-1630.
<b>Andy Roby</b> (FLEGT VPA Facilitator), c/o MFP2 Kehati, Lantai 6, Blok VII, Manggala Wanabakti, Jl Jend Gatot Subroto, Jakarta 10270 (081-2105 31275, <a href="mailto:andyroby2001@yahoo.com">andyroby2001@yahoo.com</a> ), 14 Oct 2009, 1300-1430.
<b>Rolf Krezdorn</b> (Programme Director, Forests and Climate Change Programme in the Ministry of Forestry), Lantai 6, Blok VII, Manggala Wanabakti, Jl Jend Gatot Subroto, Jakarta 10270 (981-1811 7205, <a href="mailto:krezdorn@gtz.de">krezdorn@gtz.de</a> ), 14 Oct 2009, 1430-1500.
<b>Art Klassen</b> (Regional Director, SE Asia Pacific, Tropical Forest Foundation), 3rd Floor, Blok IV, Wing B, Room 317B, Manggala Wanabakti, Jl Gatot Subroto, Jakarta 10270 (081-3106 80154, <a href="mailto:tff@cbn.net.id">tff@cbn.net.id</a> ), 14 Oct 2009, 1500-1600.
<b>Dr Agus Sari</b> (Country Director, PT EcoSecurities Indonesia - a division of JP Morgan), Graha Niaga, 17th Floor, Jl Jend. Sudirman Kav 58, Jakarta 12190 (021-250 5707, <a href="mailto:agus.sari@ecosecurities.com">agus.sari@ecosecurities.com</a> ), 15 Oct 2009, 1330-1430.
<b>Dr Jatna Supriatna</b> (Regional Vice President for Indonesia, Conservation International), Jl Pejaten Barat 16, Kemang, Jakarta 12550 (021-7883 8624, <a href="mailto:jsupriatna@conservation.org">jsupriatna@conservation.org</a> ), 15 Oct 2009, 1500-1630.
<b>Adrian Wells</b> (Adviser - Climate Change and Economy Group), British Embassy, Jl MH Thamrin 75, Jakarta (081-3147 97394, <a href="mailto:adrian.wells@fco.gov.uk">adrian.wells@fco.gov.uk</a> ), 16 Oct 2009, 0800-0900.
<b>Kindy Rinaldy</b> (Head Dept State Revenue from SOEs, OiC Research on Fiscal Instruments for Climate Change Policy), Ministry of Finance, Fiscal Policy Office, Centre for Budget Policy, Jl Dr Wahidin No. 1, 5th Floor, RM Notohamiprodjo Building, Jakarta 10710 (021-344 1448, <a href="mailto:kindy@depkeu.go.id">kindy@depkeu.go.id</a> ), 16 Oct 2009, 1000-1200.
<b>Achmad Sanusi</b> (Deputy Director of Programming & Evaluation), <b>Yovita Suryani</b> (Deputy Director for Business Climate & Cooperation), <b>Eddy Yunus Usman</b> (Deputy Director for Standardization & Technology), <b>Ibu Enggang</b> (Puslitbang Sumber Daya Lingkungan Hidup dan Energi) and 6 staff, Ministry of Industry, DG Small and Medium Industry, Jl Gatot Subroto, Kav 52-53 15th Floor, Jakarta 12950 (021-525 5351, <a href="mailto:asanusi_15213@yahoo.com">asanusi_15213@yahoo.com</a> , <a href="mailto:yovitasya@yahoo.com">yovitasya@yahoo.com</a> , <a href="mailto:eddy-yunus@depperin.go.id">eddy-yunus@depperin.go.id</a> ), 16 Oct 2009, 1330-1500.
<b>Basah Herwono</b> (Director for Forestry and Water Resources Conservation), BAPPENAS 2 A Building 4th Floor, Jl Taman Suropati No 2, Jakarta 10310 (021-392 6254, <a href="mailto:basah@bappenas.go.id">basah@bappenas.go.id</a> ), 16 Oct 2009, 1600-1730.
<b>Haneda Sri Mulyanto</b> , Climate Change Division, State Ministry of Environment, Jl DI Panjaitan, Building A 6th Floor, Kebon Nanas, Jakarta 13410 (021-851 7164, <a href="mailto:haneda@menlh.go.id">haneda@menlh.go.id</a> ), 17 Oct 2009, 1100-1230.
<b>Dr Damayanti Buchori</b> (academic staff IPB and former Executive Director, Indonesian Biodiversity Foundation, Kehati, 081-2110 5362, <a href="mailto:dami@indo.net.id">dami@indo.net.id</a> ), 17 Oct 2009, 1400-1530.
<b>Peter Wood</b> , Samdana Network, Bogor ( <a href="mailto:pete.n.wood@gmail.com">pete.n.wood@gmail.com</a> ), 17 Oct 2009, 1700-1800.
<b>Dr Rizaldi Boer</b> (Director) and <b>Dr Muhammad Ardiansyah</b> (Secretary), Centre for Climate Risk and Opportunity Management (CCROM), Gedung Fisik dan Botani lantai 2, Kampus IPB

<p>Baranangsiang, Jl Pajajaran No 1, Bogor 16143 (0251-831 3709, <a href="mailto:rizaldiboer@gmail.com">rizaldiboer@gmail.com</a>, <a href="mailto:grdysaja@gmail.com">grdysaja@gmail.com</a>), 18 Oct 2009, 1700-1830.</p>
<p><b>Dr Sonya Dewi</b> (Spatial Analyst &amp; Ecologist, 081-2110 2320) and <b>Jusupta Tarigan</b> (ALREDDI Project Officer, 081-2925 0013), ICRAF SE Asia Regional Office, Jl Cifor, Situ Gede, Sindang Barang, Bogor 16115 (<a href="mailto:s.dewi@cgiar.org">s.dewi@cgiar.org</a>, <a href="mailto:j.tarigan@cgiar.org">j.tarigan@cgiar.org</a>), 19 Oct 2009, 0930-1100.</p>
<p><b>Dr Heru Santoso</b> (Coordinator for Asia, Tropical Forests and Climate Change Adaptation Project), CIFOR, Jl Cifor, Situ Gede, Sindang Barang, Bogor 16115 (0251-862 2622, <a href="mailto:h.santoso@cgiar.org">h.santoso@cgiar.org</a>), 19 Oct 2009, 1130-1230.</p>
<p><b>Agus Purnomo</b> (Head of Secretariat), National Council on Climate Change, BUMN Building, 18th floor, Jl Medan Merdeka Selatan, Jakarta 10110 (081-1999 462, 021-351 1400, <a href="mailto:apurnomo@menlh.go.id">apurnomo@menlh.go.id</a>), 20 Oct 2009, 1400-1530.</p>
<p><b>Ben Zech</b> (First Secretary Environment), Netherlands Embassy, Jl HR Rasuna Said Kav S-3, Kuningan, Jakarta 12950 (081-188 6026, <a href="mailto:benjamin.zech@minbuza.nl">benjamin.zech@minbuza.nl</a>), 21 Oct 2009, 10.00-11.00.</p>
<p><b>Fitrian Ardiansyah</b> (Programme Director Climate &amp; Energy), WWF-Indonesia, Kantor Taman A9, Unit A-1, Jl Mega Kuningan Lot 8-9/A9, Kawasan Mega Kuningan, Jakarta 12950 (081-2935 5105, <a href="mailto:fardiansyah@wwf.or.id">fardiansyah@wwf.or.id</a>), 21 Oct 2009, 1200-1300.</p>
<p><b>Maritje Hutapea</b> (Head, Bureau of Energy Policy and Assembly Facilitation), National Energy Council, Badiklat ESDM Building 4th floor, Jl Gatot Subroto Kav 49, Jakarta 12950 (021-5292 1621, 081-2802 1165, <a href="mailto:mhutapea57@yahoo.com">mhutapea57@yahoo.com</a>, <a href="mailto:mhutapea@hotmail.com">mhutapea@hotmail.com</a>), 23 Oct 2009, 0800-0915.</p>
<p><b>Dr Tonny Soehartono</b> (Director of Environmental Services and Ecotourism Development), Directorate General of Forest Protection and Nature Conservation, Ministry of Forestry, Jl Ir H Juanda No 15, Bogor 16122 (0251-831 7011, 832 4013, <a href="mailto:trsoehartono@gmail.com">trsoehartono@gmail.com</a>), 23 Oct 2009, 1500-1615.</p>
<p><b>Dr Agus Sumule</b> (Senior Advisor to Governor of Papua on Sustainable Development and Regional Potentials), Jl Trikora No 25 Dok V Atas, Jayapura 99114, Papua (081-148 0162, <a href="mailto:agussumule@papua.go.id">agussumule@papua.go.id</a>), 25 Oct 2009, 2130-2215, and 26 Oct 2009, 0820-0945.</p>
<p><b>Noak Kapisa MSc</b> (Head, Natural Resources Management and Environment Agency of Papua Province), Kantor Dinas Otonom, Gedung 8 Lantai 1, Jl Raya Abhepura, Jayapura, Papua (081-3440 38508, 081-3837 55558, <a href="mailto:noakkapisa@yahoo.com">noakkapisa@yahoo.com</a>), 26 Oct 2009, 2000-2100 and 27 Oct 2009, 1040-1230. Also, <b>Marten Kayoi</b> (Head, Forest Agency of Papua Province), 27 Oct 2009, 1100-1230.</p>
<p><b>Augustinus Rumansara</b> (Adviser to Governor and Secretary of the International Biodiversity Conference on Sustainable Development in Tanah Papua), BPSDALH Prov Papua, Jl Raya Abhepura, Jayapura, Papua (<a href="mailto:a_rumansara@yahoo.com">a_rumansara@yahoo.com</a>, 081-2488 74004), 27 Oct 2009, 1300-1400.</p>
<p><b>Bishnu P. Ghimire</b> (Programme Coordinator, People-Centred Development, UNDP Papua), BPID Building 2nd Floor, Jl Sam Ratulangi No 32, Jayapura 99112, Papua (081-3440 70918, <a href="mailto:bishnu.ghimire@undp.or.id">bishnu.ghimire@undp.or.id</a>), 27 Oct 2009, 1430-1530.</p>
<p><b>Benja Victor Mambai</b> (Director of Region Sahul, WWF-Indonesia), Jl Pos 7, Sentani, Jayapura 99352, Papua (081-2480 9407, <a href="mailto:BMambai@wwf.or.id">BMambai@wwf.or.id</a>), 27 Oct 2009, 1700-1800.</p>
<p><b>Ms Andi Nuraini</b> (Programme Assistant, Kemitraan/Partnership on Governance Reform in Indonesia), Jl Tentara Zeni Pelajar No 1A, Yogyakarta 55231 (081-6426 5524, <a href="mailto:andi.nuraini@kemitraan.org.id">andi.nuraini@kemitraan.org.id</a>), 28 Oct 2009, 1200-1300.</p>
<p><b>Andi Nuraini</b> (Kemitraan), <b>Sunarja</b> (Institute for Development and Economic Analysis, IDEA, 081-726 9645), <b>Tenti</b> (IDEA, 081-7940 1340), <b>Warih Budiyo</b> (081-3924 29848), <b>Hernawan Nugroho</b>, <b>Sisiyanto</b>, <b>Suroso</b> (all Bappeda DIY), <b>Agus Affionto</b> (JAVLEC, 081-2269 99944, <a href="mailto:picus@infojawa.org">picus@infojawa.org</a>), <b>Dona</b> (Momong Bumi, 081-8043 28688, <a href="mailto:cik.dona@gmail.com">cik.dona@gmail.com</a>), <b>Suparlan</b> (WALHI Yogyakarta, 081-8277 7178), <b>Triusodo</b> (081-2158 0989), 28 Oct 2009, 1300-1600.</p>
<p><b>Dr Pramana Yuda</b> (Head, Pusat Studi Energi, Universitas Atma Jaya Yogyakarta), Jl Babarsati No 44, Yogyakarta 55281 (0274-487711 x 1187, <a href="mailto:pramyd@mail.uajy.ac.id">pramyd@mail.uajy.ac.id</a>), <b>Dr Amiluhur Soeroso</b> (Faculty of Economics, UAJY, Research Fellow, Universitas Gadjah Mada), Jl Melati Kulon No 20, Baciro, Yogyakarta (081-5655 3262, <a href="mailto:amisoeroso@gmail.com">amisoeroso@gmail.com</a>) and <b>Drs Kianto Atmodjo</b> (Fakultas Teknobiologi, UAJY (088-8289 9066, <a href="mailto:kianto@mail.uajy.ac.id">kianto@mail.uajy.ac.id</a>), 30 Oct 2009,</p>

1000-1300.

**Idham Ibtly** (Directur Utama, Daya Prosumen Mandiri PT), Jl Golo No 14, Pandayan, Umbulharjo, Yogyakarta 55161 (085-5288 9977, [iibtly@yahoo.com](mailto:iibtly@yahoo.com)), 30 Oct 2009, 1840-1920.

**Michael Jaeger** (Team Leader, Forest Law Enforcement, Governance and Trade, FLEGT), Lantai 6, Blok VII, Manggala Wanabakti, Jl Gatot Subroto, Jakarta 10270 (081-3107 90901, [mj@eu-flegt.org](mailto:mj@eu-flegt.org)), 2 Nov 2009, 0930-1015.

**Annex 3: Responses to EC Delegation comments on the Draft Report****EC Delegation comments on draft final report of the Indonesia Country  
Environment Profile update**

- Summary: We think that your report deserves a more elaborated summary of 5/7 pages. We would also appreciate if you could clearly identify main findings and recommendations in this summary for easier review by readers who may not go through the entire report.
- Summary, point 14: Please refer to the "negotiations towards a VPA with the support of the FLEGT Support Project", rather than through the FLEGT support project. The role of the project in the VPA negotiation has been source of confusion among stakeholders in the past, hence the need to be very specific on this matter.
- Introduction: Please briefly mention that the CEP update focus on climate change, forestry and Sustainable Production and Consumption corresponds to key programming areas of the EC, as explained in the TOR. This may not be understood otherwise by readers outside the EC.
- Sections 4.1.3: We are of the opinion that REDD deserves a more substantial analysis. The consultants opinion on the feasibility and challenges to promote REDD in Indonesia in particular would be appreciated.
- Section 4.1.5: We are of the opinion that this section also needs to be elaborated. Based on the meeting notes, we assume that your experts are in a position to provide a more substantial analysis on power generation and energy.
- Section 4.2.4: Any additional information or suggestions of sources / materials providing details on the share of roles, including concerning budget allocations / management among central and local governments, in particular in the environment / natural resources sector would be appreciated.
- Section 7.2: There is no reference to the Forest management Unit concept in the recommendations, with the exception of the sub-section 7.2.2. We note that efforts to promote the Forest Management Unit concept are increasingly encouraged by experts in the sector. The views of your experts on this matter would be appreciated.

**Comment 1:**

**Response:** The Summary has been extended to six pages, reorganised and highlighted accordingly.

**Comment 2:**

**Response:** The relevant text has been amended accordingly.

**Comment 3:**

**Response:** The relevant text has been amended accordingly.

**Comment 4:**

**Response:** Additional text is provided in Section 4.1.3 on REDD design criteria.

**Comment 5:**

**Response:** Additional text is provided in Section 4.1.5 on Indonesia's energy policies.

**Comment 6:**

**Response:** Additional text is provided in Section 4.2.4 on decentralisation in the natural resources and other sectors.

**Comment 7:**

**Response:** Additional text has been provided in Section 7.2.1 on the possibility of developing with Bappenas, Forestry and donors design criteria for a network of Forest Information Systems to support FMU implementation modelled on that developed with EC support in Jambi and proposed for Papua.

## Annex 4: Recent developments in Indonesian decentralisation

### a) The decentralisation movement

The period 1998-2002 was a time of stress, uncertainty and violence in Indonesia. New governance arrangements were being developed in an atmosphere of intense debate and manoeuvring for power amongst factions and institutions within the central government and in the country's provinces, towns and districts. In particular, there was a massive movement in favour of local autonomy under a mechanism called *pemekaran* (literally, blossoming) that under Indonesia's 1999 and 2004 decentralisation laws permitted the division of provinces, districts and subdistricts into smaller units. A subsequent implementing regulation set in motion a rush to create ever more and smaller units, with the number of districts alone increasing from 292 in 1998 to 483 in early 2007<sup>39</sup>.

Across Indonesia, the driver for this process is the prospect for local elites of receiving block grants (*dana alokasi umum*, DAU) and special allocations (*dana alokasi khusus*, DAK) from central government. In most cases the process has been peaceful, but *pemekaran* in former conflict areas is problematic, since local power struggles can exacerbate communal and ethnic tensions that outside parties can exploit. During the decentralisation era, sectarian conflicts erupted, particularly affecting West Kalimantan, Central Sulawesi and Maluku (especially in and around Ambon) in 1998-2002. The underlying political dynamics are now very different in Indonesia, but fears, grievances and tensions remain. *Pemekaran* if clumsily handled can bring all those to the surface.

In line with the decentralisation movement<sup>40</sup>, a number of policies and regulations have been passed which have crucial implications for the governance and management of the Indonesian environment. Those from 2004 onwards are not captured by the current CEP, including those related to decentralisation and cross-regional coordination, development planning, participatory development mechanisms, disaster management, and conflict resolution. Each portfolio is summarised below, with an emphasis on governance and social cohesion aspects.

### b) Decentralisation and cross-regional coordination

Government Regulation 50/2007 regarding *Protocols for the Implementation of Cross-Regional Cooperation*<sup>41</sup> aimed to mainstream a number of principles: efficiency, effectiveness, synergy, mutual benefit, common agreements, national orientation, geopolitical integrity, equality, transparency, justice, and rule of law (Article 2). It is therefore reasonable to assume that these aspects are crucial for environmental management at the landscape level.

### c) Development planning

Law 25/2004 regarding System for National Development Planning (*Sistem Perencanaan Pembangunan Nasional - SPPN*) created protocols to establish key planning documents. By this law, the planning framework is based on a hierarchy of scope and timeframe. At the national level, planning is done on a 20-year, 5-year and

<sup>39</sup> *Indonesia: Decentralisation and Local Power Struggles in Maluku*. International Crisis Group Asia Briefing No. 64 (Jakarta/Brussels, 2007).

<sup>40</sup> UU Nomor 32 Tahun 2002 tentang Pemerintahan Daerah. PP Nomor 38/2007 tentang Pembagian Urusan Pemerintahan antara Pemerintah Pusat, Propinsi, dan Kabupaten/Kota [GR No. 38/ 2007 regarding Division of Government Matters (Affairs) among Central, Province, and District-level Governments]. Peraturan Pemerintah Nomor 41 Tahun 2007 tentang Organisasi Perangkat Daerah

<sup>41</sup> PP Nomor 50 Tahun 2007 tentang Tata Cara Pelaksanaan Kerjasama Daerah.

annual basis, the plans being known respectively as the RPJP, RPJM and RKP. Each sectoral ministry has its own 5-year and annual plans, respectively known as the RENSTRA and RKP. An ensuing Government Regulation, passed in 2 Feb. 2006 confirmed that the National Development Planning Board (BAPPENAS) coordinates according to the RPJM (medium-term or 5-year plan) and the existing rules. Following this, and based on Presidential Decree 7/2005 regarding RPJM, BAPPENAS has developed RPJM, and the regions followed suit with their own RPJMs.

#### **d) Participatory development mechanisms**

Law 25/2004 also paved the way for participatory processes. Under measures to designate the annual development plans (RKP), preparations are undertaken from the regions to the central government. The tool used is a participatory development forum, frequently starting from villages and reaching up to the national level, and the entire series of dialogues and consultations is usually wrapped up by end of April, prior to formal allocation of national and regional development budgets. Law 25/2004 stipulated that the protocols for preparing both planning documents and the nation-wide consultations (*Musrenbang*) are to be regulated through a Government Regulation (article 27 point 1). Four years later this was followed up by GR 8/2008<sup>42</sup> based on Law 32/2004.

#### **e) Disaster management**

Related to natural disasters, Law 24/ 2007 regarding *Disaster Management*<sup>43</sup> regulated the response mainly to natural disasters, although other types were also mentioned, and social disasters. It is stipulated that the organization of disaster management falls within responsibilities and jurisdiction of national in conjunction with sub-national governments, which should be deployed in planned, integrated, coordinated, and comprehensive manner. The organising of disaster management in various stages of emergency response is primarily executed by the national agency for disaster mitigation, in conjunction with regional agencies for disaster mitigation. The establishment, functions, tasks, organization structure, and SOP for the regional disaster agency is to be regulated by Regional Regulations (art. 25).

#### **f) Conflict resolution**

Since Law 24/2004 was using the paradigm of natural disasters, which is its primary focus, social conflicts are not elaborated. And yet environmental problems are the reciprocal of local conflicts. Although the *Draft Bill for Management of Social Conflicts*<sup>44</sup> has entered the national legislative process, the new membership of the national legislature (with more than 60% being newly elected and just having entered office in early October 2009), means that the likelihood of parliament supporting the draft bill is effectively unknown. Conflict prevention policies in Indonesia continue to develop, and there is a Government Regulation to mitigate conflicts between villages<sup>45</sup>.

#### **g) Management of small and medium enterprises**

Finally, aspects related to poverty alleviation have been addressed through Law 20/2008, which stipulates that empowerment should include measures to enhance the

---

<sup>42</sup> Peraturan Pemerintah No 8 Tahun 2008 tentang Tahapan, Tata Cara Penyusunan, Pengendalian, dan Evaluasi Pelaksanaan Rencana Pembangunan Daerah

<sup>43</sup> UU Nomor 24 Tahun 2007 tentang Penanggulangan Bencana.

<sup>44</sup> Rancangan Undang-undang Konflik Sosial = RUU PKS.

<sup>45</sup> Peraturan Pemerintah Nomor 158 Tahun 2005 Tentang Batas - Batas Desa Guna Mencegah Terjadinya Konflik.

capacities of small and medium enterprises (SMEs) in the regions, the creation of jobs, distribution of incomes, and poverty alleviation itself<sup>46</sup>.

---

<sup>46</sup> Undang-undang Nomor 20 Tahun 2008 tentang Usaha Mikro, Kecil dan Menengah.

## Annex 5: Donor and technical activities sampled by the mission

### a) UN-REDD

In March 2009 the UN Policy Board approved US\$5.6 million for FAO, UNDP and UNEP to spend with the Ministry of Forestry. A six-month delay was incurred as the Ministry developed the proposal to Bappenas, and UN-REDD is now expected to begin operating in the first quarter of 2010. It has three components:

- multi-stakeholder participation (managed by UNDP as a nationwide process to promote engagement between local, district, provincial actors and participation by NGOs including indigenous peoples' organisations, with NGO participation to be funded by a small grants mechanism to support pilot, learning and feasibility study activities);
- technical work in the provinces (i.e. monitoring, reporting, verifying, reference emission level determination, managed by FAO, with payments managed by UNDP and co-benefits managed by UNEP); and
- local capacity development (e.g. on land-use planning, empowering communities, managed by UNDP, probably to be piloted in Central Sulawesi).

### b) Forest Law Enforcement, Governance and Trade (FLEGT)

FLEGT has five components:

- **Law Enforcement**, focused on training, legal reform, a Working Group under Governor's decree in Jambi, and use of the case-tracking system developed under an earlier EC-funded project, the Illegal Logging Response Centre.
- **Governance**, focused on conflict resolution forums which have been successful in West Kalimantan, development of environmental curricula, and Forest Information Centres which are particularly well-accepted and useful in Jambi (but less so in West Kalimantan).
- **Industry**, focused on provincial working groups on industrial restructuring (there is a huge gap between timber supply and demand), to promote trade in legal timber, to develop definitions and standards of legality<sup>47</sup>.
- **Silviculture**, focussed on badly degraded former logging concessions (HPHs), developing plans for their rehabilitation and management and helping communities obtain 50-year licences to establish community-based forestry plantations (pulpwood, rubber) on them, with 20,000 ha so far allocated in Jambi.
- **VPA Facilitation**, focused on the agreement of a Voluntary Partnership Agreement, with Indonesian legality standards having been tabled as a major step forward; negotiations on the text and scope of a VPA will begin with EC-RI technical discussions in late November; the issue of independent monitoring still needs work, but otherwise progress has been good.

On Forest Management Units, FLEGT is trying to facilitate the new system but it is a completely new way of managing forests, unfamiliar to Indonesian forestry institutions. A permanent structure (with offices, maps, management staff, etc.), which can prevent open-access use of forest is thought to be a good idea, but conflicts with the Ministry of Forestry's core business of selling permits. GTZ is already working on FMUs and AusAID plans to support the implementation of legality standards and the development of the FMU concept. As Papua has embraced FMUs, FLEGT has sent key people

---

<sup>47</sup> The Ministry of Forestry has just introduced a mandatory log-tracking system based on bar codes stapled to logs, but there is as yet little implementation.

from the Forest Agency to Jambi to inspect progress there. A workshop will then be held in Papua under the FLEGT workplan.

### **c) The Australia-Indonesia Forest Carbon Partnership**

The AIFCP aims: to demonstrate collaboration between a Kyoto Protocol Annex 1 country and a non-Annex 1 country; to make a political statement on collaboration over REDD; and to generate lessons for developing the regulatory framework and practical arrangements for REDD. At the national level, it targets the carbon accounting system and LULUCF emissions quantification in support of the 'monitoring, reporting and verifying' (MRV) agenda. There are also demonstration activities in Central Kalimantan, focused on the former Mega Rice project area, which contains globally-significant amounts of carbon in peat beds that are subject to ghost drainage and decay/fire. The AIFCP has a Steering Committee chaired by Bappenas (because of a Presidential Instruction regarding the rehabilitation of the Mega Rice area), but the Ministry of Forestry is the Implementing Agency.

### **d) The Forests and Climate Change Programme**

This is located within the Ministry of Forestry and is supported by the German government through GTZ, KfW and DED. It is six months into a 12-year (€28 million) commitment, aiming to reduce deforestation, forest degradation and illegal logging, and therefore focused on SFM and good forest governance. The GTZ part has three components:

- at the Ministry of Forestry to support development of policy, strategy, regulation and reform processes and the introduction of the Forest Management Unit (FMU) system (the model for which is still being discussed);
- implementation of demonstration projects in East and West Kalimantan, with the first phase being to establish baseline emission levels and study land use to establish the potential for REDD, while developing a district-level carbon registry to support a carbon accounting system; and
- biodiversity conservation and livelihoods (linked to REDD+ and descended from previous GTZ work in Kayan Mentarang in East Kalimantan, now replicated to West Kalimantan and linked to the Heart of Borneo initiative).

### **e) The Heart of Borneo (HoB) initiative**

This is based on agreement between Indonesia (and its three provinces of East, West and Central Kalimantan), Malaysia (and its two states of Sarawak and Sabah) and Brunei. Under this framework, some 40 local NGOs and several international ones are collaborating in a process that is designed to stabilise the frontiers around 20+ million hectares of natural forest, a third of it lowland. In Indonesia, a Presidential Decree created a national Working Group with WWF providing its secretariat, and established three provincial Working Groups each chaired by the governor and comprising representatives of districts (10 in total), central ministries at the province level, NGOs and academe. Under these auspices the HoB involves field projects in and around protected areas, research on land-use suitability, plantation sustainability, reforestation, etc., and reduced-impact logging as appropriate in partnership with concession holders.

### **f) The Tropical Forest Foundation (TFF)**

This is an international NGO based in Washington DC with a board comprising 30 key people from the timber trade and industry, NGOs (including WWF-US) and academia (e.g. CIFOR, Virginia Tech). Its aim is to promote SFM and has regional programmes in the Amazon, Guyana, Gabon and Indonesia, where its offices are at the Ministry of

Forestry. The TFF specialises in working with private companies, with its entry point being training in Reduced Impact Logging (RIL). It has diversified into helping forest companies to prepare for legality, chain of custody and Forest Stewardship Council (FSC) certification. In Indonesia it works with 24 concessions and 17 major processing industries. The Borneo Initiative is funded by Dutch building companies and others and is designed to stimulate further certification. Contracts are due to be signed Nov 2009, and TFF will represent 5 of the 6 companies involved.

#### **g) Conservation International**

This is a US-based international NGO with a diverse portfolio of activities across the archipelago, including: pilot projects; corridor projects (e.g. in North Sumatra); purchasing concessions (e.g. at Batang Toru); PES arrangements; real-time monitoring of illegal logging and forest fires (in partnership with NASA and American Pulp & Paper); educational programmes; local and national government capacity building (e.g. on OSIRIS software, which analyses how much countries would get paid by various REDD initiatives to leave their forests intact, and by how much carbon emissions would be reduced as a result); corporate partnerships (e.g. Starbucks); and managing funds to make grants to local NGOs (e.g. the Critical Ecosystem Partnership Fund which gave US\$10 million to 70 NGOs, and the CI/Kehati debt for nature swap).

#### **h) The Centre for Climate Risk and Opportunity Management (CCROM)**

CCROM has four divisions, focused on: Climate Risk Management; Climate Modelling; Training and Human Resource Development; and Information Technology (which develops databases and supports other agencies in developing applications - e.g. district crop calendars and weather forecasts; there is also a Climate Field School to empower farmers to use the information thus provided). Its programmes include:

- Climate Insurance Index, proposed to the World Bank, designed to act as an intermediary between farmers and insurance companies in three pilot districts;
- with DFID, a project to develop a GHG emissions baseline for peat in collaboration with Forestry, Agriculture, Finance and Bappenas, aiming to help establish missing methods for defining Business As Usual;
- with the Rockefeller Foundation and Mercy Corps, a project to support the Asian Climate Change City Regional Network, to determine vulnerability and identify actions to improve resilience, with pilot cities including Bandar Lampung and Semarang;
- with the Ministry of Public Works, assessment on peatlands in South Sumatra;
- with the Ministry of Agriculture, a project on CC resilience and food security;
- with the Ministry of Forestry and AusAID funded, a project on reference emission levels under national carbon accounting system;
- with the Ministry of Environment, drawing up the National Communication on Climate Change; and
- with WWF, a project on forest fire emissions reduction in Central Kalimantan and Riau.

#### **i) ALREDDI**

Based at ICRAF, the Accountability and Local Level Initiative to Reduce Emission from Deforestation and Degradation in Indonesia has three objectives:

- to help the Ministry of Forestry (DG Planology) establish a baseline on historical emissions from land-use change using land cover maps and national forest inventory data, aiming to finish in time for CoP15.

- to build technical capacity at the Ministry of Forestry, NGOs, and others in measuring carbon from plots to landscapes;
- starting in 2010, to build capacity and REDD readiness in local institutions, with pilots in South Kalimantan, Jambi, Pasar Ruan, Gorontalo and Papua to establish what drivers of deforestation can actually be addressed.

#### **j) The Tropical Forests and Climate Change Adaptation Project**

Based at CIFOR, the TFCCA project in SE Asia, Central America and West Africa aims to mainstream adaptation within development. It takes a vulnerability approach (rather than the impact approach of the IPCC) at a landscape level, focused on how forest goods and services can help local people adapt/survive in a changing environment, and on how the forests can be managed so that they themselves are resilient to climate change. Three aspects are considered: how will climate change affect biophysical conditions; how can people adapt to these changes; and how adaptive land management can be undertaken effectively.

#### **k) Netherlands cooperation**

The Dutch approach is to promote socioeconomically and environmentally sustainable development in the lowlands, of which about 60% is peatland. The Dutch supported a community-based rehabilitation scheme which resulted in a 2006 report on peat carbon emissions that raised national and international attention in time for CoP13. Lessons are said to have been learned from earlier efforts - e.g. Mega Rice which cleared half a million hectares on deep peat and installed 4,500 km of canals, creating a desert of degrading peat which easily burns. The Governor of Central Kalimantan requested a rehabilitation plan, leading to a 2007 Presidential Instruction (see AIFCP above). The resulting Mega Rice Masterplan is a model, with field work leading to strategic planning and then alignment with Indonesian planning and budgeting systems. A National Lowland Development Strategy was requested by government, and a roadmap for this was completed in June 2008 leading to a current tender for its implementation. The Dutch are otherwise pushing a collaborative framework among donors while continuing their work in Kalimantan.

#### **l) Kemitraan**

The Partnership on Governance Reform in Indonesia (Kemitraan) was founded in 2001 by a group of eminent Indonesians and ambassadors to the country, and still has a governing board comprising the ambassadors of Australia, Canada, Denmark, EU, France, Japan, New Zealand, the Netherlands, Sweden, Norway and the UK, as well as the Country Directors of the World Bank and ADB, and the Resident Representative of UNDP. The Partners are 18 eminent Indonesians, including the President and Vice President of Indonesia. It is funded now largely by the Netherlands and Norway. It has five activity clusters, focused on: public service; security and justice; democracy; environment and economy; and a governance assessment unit. All five support and facilitate local government programmes, by collaborating with government, civil society and the private sector. The environment programme focuses on: the MDGs; SFM for environment, livelihoods and climate change; community-based forest management for environmental recovery and livelihoods; multistakeholder forest partnerships for urban forestry; capacity building for microeconomy stakeholders at the district level; community forestry; and support to the Ministry of Forestry's Working Group on Community Empowerment.

### **Annex 6: Papua's Special Bylaw on Sustainable Forest Management**

*Perda 21/2008 Regarding SFM*

The Perdasus regulates SFM, defined within the following scope (Article 4):

- empowerment of *masyarakat hukum adat* (MHA, i.e. customary communities);
- the establishment of forest management unit (=KPH);
- the definition, principles, criteria and indicators for SFM;
- licensing;
- forest planning;
- forest management institutions;
- trade and processing of forest products;
- distribution/ allocation of benefits of forestry sources;
- monitoring and control;
- dispute resolution;
- sanctions.

Regarding MHA (especially in connection with forest ownership):

- MHA of the province owns the natural forests in accordance to each jurisdiction of the customary tenure (Article 5).
- (Still) the management and uses of the forests are subject to regulatory matters by the regional government (Article 6).
- To be defined as MHA, a given MHA should meet a number of obligatory criteria (Article 7):
  - has definite customary territories with clear demarcations recognized by neighbouring MHA
  - has legal and customary structures
  - has religious and historical relations with its customary territories

Regarding rights and responsibilities of MHA:

- MHA has the rights (Article 8):
  - To manage and use forests within the jurisdiction of the customary ownership (tenure);
  - To apply local wisdom, knowledge, and technology;
  - To receive technical assistance and facilitation from the regional (provincial and district/municipal governments);
  - To participate in the planning, monitoring and control of forest management; and
  - To forge partnerships with other parties.
- Regarding the use of forest areas by other parties, MHA has the rights (Article 9):
  - To know the designation/plan of forest use, extraction of forest resources, and forest information;
  - To provide information, advice, and considerations as pertain to forest utilization;
  - To receive compensation due to diminished access to forests and land (they owned) due to the utilization of the forest area;
  - To gain socio-economic benefits; and
  - To enjoy quality environment of the said forest area.
- MHA also has the obligations (Article 10):
  - To manage the forest sustainably;
  - To use the forest according to the functions of the forest;
  - To undertake rehabilitation and reclamation of forest according to the laws and regulations in effect;
  - To undertake forest protection and nature conservation (*perlindungan hutan dan konservasi alam* - PHKA);
  - To pay due obligations to the state;
  - To distribute benefits in just and proportionate manners within the group of MHA; and
  - To set aside part of the revenues/benefits for future generations.

Regarding protection and empowerment of MHA:

It is also stipulated that the governments at provincial and district/municipality level will provide protection to rights of the customary communities in terms of management and utilization of forests, i.e. issue and enforce regulations which empower MHA (Article 11). The regional governments will empower MHA in terms of: institution; organizational management; better understanding of laws and regulations; capitalization; access to information, technology, and markets (Article 12). Thus in practice (Article 13):

- the regional governments will identify MHA which needs to be prepared as forest manager and beneficiaries of forest resources.
- The identification includes ownership, social structure, and type of dependency to the forest resources.
- The identification will be placed in documentation which serve as a basis for consensus between regional (*kabupaten*) government and MHA.
- Criteria and protocols for identification of MHA will be determined by Gubernatorial Decree (*Peraturan Gubernur*).

Regarding mapping of forests by MHA (Article 14):

- The regional government (district/municipalities) facilitates or support the MHA in in establishing maps of forest area within the territories of the said MHA
- The results of mapping will be determined and legalized by decrees from Regent/ Major of neighbouring areas, in collaboration with the MHA
- Maps of forests crossing the districts/ municipalities will be legalized by decrees from Regent/ Major of neighbouring areas, in collaboration with MHA
- The said forest maps are prepared by considering:
  - Land carrying capacities;
  - Forest functions;
  - Government administration;
  - *RTRW* (regional spatial use plan);
  - Present land use.
- Funds for forest mapping of MHA territories, comes from the regional governments (province and districts/municipalities), MHA, and other legitimate sources.
- The resulting forest maps will be legalized by *Peraturan Gubernur* (Article 15).
- Forest maps of MHA, contain (Article 15):
  - Outer limits agreed by (the local) MHA and the surrounding MHAs; and
  - Land and forests managed and utilized by MHA.
- Forest maps (above) are part of *RTRW Propinsi*, and *RTRW Kabupaten/Kota* - respectively spatial planning at province and district/municipality levels (Article 16).

Regarding KPH (Forest Management Units – FMUs),

- (These are) considered to be the frontline public service and proximate to MHA and other stakeholders. KPH thus provide for the delivery of a number of services including: forest area planning and forest management; forest use; rehabilitation; protection and conservation; internal audit, control (Article 17).
- The establishment of jurisdiction of KPH can come from a number of criteria: watersheds, territories of MHA; territories of villages; characteristics, type and functions of the said forest (Article 18).
- The designation and structure-functional design of a KPH is determined by provinces, districts and municipalities, and in cases involving cross border management, these will be undertaken under coordination of the provincial government. The formal designation of a KPH is thus determined by a gubernatorial decree, and copied to the Minister of Forestry (Article 19).
- (In terms of daily management), KPH will be led by a professional forester, with support of structural and functional staffing, and an advisory board representing

MHA, forest concession holder, and other concerned parties of the forest management unit (Article 20).

- The planning of forest management is predetermined at both short term and longer term, both of which lead toward optimization of the functions and services of forests (Article 28).
- It is also stipulated that the use of forest and forest resources for business initiatives which might give large and significant impacts must be preceded by full scale AMDAL (Article 29).
- The regulation also covered forest area planning and management, rehabilitation and reclamation of forest areas, forest protection and conservation, application of silvicultural principles, HRD, and tools for extraction.
- (in the meantime), the MHAs are allowed to continue undertaking utilization of the forest area and its resources.

Enterprise units concerned with concessions for utilization of forest areas and their resources, are obliged to undertake rehabilitation and reclamation of the forest areas concerned (Article 39).

Log export is now prohibited; the logs must be processed within Papua Province, therefore optimizing forest industry, added value, job creation, business development, and increasing science and technology at the local level (Article 52).

Funds for forestry development are also regulated, including distribution of benefits to MHA, and establishment of regional private enterprise (*Badan Usaha Milik Daerah*) (Article 55).

Provisions are made for the framework of the development of private enterprise by the MHAs, and cooperation with business entities are made possible (Article 57).

Regarding investigations:

The PPNS (government officer for investigation) at regional and provincial offices has (currently extended) powers, including prosecution measures (such as apprehending suspects, and examination of identity of suspects; calling people to be heard as witness; calling relevant experts; taking finger prints, and photographing of suspects), and direct preparation of affidavits (Article 77).

**Annex 7: Acronyms and abbreviations used in the text**

ADB	Asian Development Bank
AIFCP	Australia-Indonesia Forest Carbon Partnership
ASEAN	Association of South East Asian Nations (Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar (Burma), the Philippines, Singapore, Thailand, Vietnam)
ASEAN+3	ASEAN plus China, Japan and South Korea
ASEAN+6	ASEAN+3 plus India, Australia and New Zealand
Bappenas	National Development Planning Agency
BNPB	National Agency for Disaster Management ( <i>Badan Nasional Penanggulangan Bencana</i> )
BPBD	Regional Agency for Disaster Management ( <i>Badan Penanggulangan Bencana Daerah</i> )
CCS	carbon capture and storage
CEP	Country Environmental Profile
CIFOR	Centre for International Forestry Research
CoP	Conference of the Parties
CNG	compressed natural gas
CSP	Country Strategy Paper
DC	Direct current
DED	[German] Federal Ministry for Economic Cooperation and Development ( <i>Deutscher Entwicklungsdienst</i> )
DNPI	National Council on Climate Change
EC	European Commission
ENSO	El Niño-Southern Oscillation
EU	European Union
FAO	Food and Agriculture Organisation (of the UN)
FIT	Feed-in Tariff
FLEGT	Forest Law Enforcement, Governance and Trade
FMU	Forest Management Unit
GEF	Global Environment Facility
GHG	Greenhouse Gas (e.g. CO <sub>2</sub> , CH <sub>4</sub> )
GR (or PP)	Government Regulation ( <i>Peraturan Pemerintah</i> )
GTZ	German Technical Co-operation ( <i>Deutsche Gesellschaft für Technische Zusammenarbeit</i> )
HPH	<i>Hak Penguasaan Hutan</i> (selective logging concession)
HTI	<i>Hutan Tanaman Industri</i> (industrial forest plantation)
ICCTF	Indonesian Climate Change Trust Fund
ICRAF	International Centre for Research on Agroforestry
IPCC	Intergovernmental Panel on Climate Change
IUCN	The World Conservation Union
KfW	[German] Reconstruction Credit Institute ( <i>Kreditanstalt für Wiederaufbau</i> )
KKN	'corruption, collusion and nepotism'
LH	State Ministry of Environment ( <i>Lingkungan Hidup</i> )
LULUCF	land use, land-use change and forestry
MIP	Mulyear Indicative Programme

MMSF	multiministerial support facility
MTR	Mid Term Review
NGO	Non-Governmental Organisation
OSIRIS	Open Source Impacts of REDD Incentives Spreadsheet
PA	Protected Area
PLN	National Electricity Company ( <i>Perusahaan Listrik Negara</i> )
RE	Renewable energy (e.g. solar, wind, geothermal, tidal, hydroelectric)
REDD	Reduced Emissions from Deforestation and (forest) Degradation
RePPPProT	Regional Physical Planning Program for Transmigration
RESPEK	Strategic Plan for Village Development ( <i>Rencana Strategis Pembangunan Kampung</i> )
RIL	Reduced Impact Logging
Rp	Indonesian Rupiah (€1.00 = Rp 13,000-14,000 in the period 09 Oct-03 Nov 2009)
RSPO	Roundtable for Sustainable Oil Palm
SCP	Sustainable Consumption and Production
SFM	Sustainable Forest Management
SWOT	Strengths, Weaknesses, Opportunities and Threats
TA	Technical Assistance
TGHK	Consensus Classification of Forest Function ( <i>Tata Guna Hutan Kesepakatan</i> )
TNC	The Nature Conservancy
ToR	Terms of Reference
UNDP	United Nations Development Programme
UNEP	United Nation Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
VPA	Voluntary Partnership Agreement
WWF	World Wide Fund for Nature

## Annex 8: Terms of Reference of the Mission

### TERMS OF REFERENCE

#### INDONESIA COUNTRY ENVIRONMENTAL PROFILE UPDATE

## 1. BACKGROUND

---

### 1.1 Environment integration in EC cooperation programming

The EU has taken a commitment to take systematic account of the environmental dimension in all areas of cooperation interventions. The integration of environment during programming of cooperation activities serves two objectives:

- To identify and avoid harmful direct and indirect environmental impacts of cooperation programmes in the different sectors which can undermine sustainability and counteract achieving the development co-operation objectives of poverty reduction.
- To recognise and realise opportunities for enhancing environmental conditions, thereby bringing additional benefits to development and economic activities and advancing environmental issues that are a priority for the EC.

Documents setting out the EC's cooperation strategy in partner countries are the Country Strategy Papers (CSP). Prior to country programming, environmental conditions in partner countries need to be analysed. This analysis is usually presented in a Country Environmental Profile (CEP) which is annexed to the Country Strategy Papers. The CEP is one of the main tools used by the EC to integrate environment in development cooperation planning.

A CEP outlines the major environmental characteristics and important issues in a country, summarises major environmental trends that can undermine the sustainability of development process and analyses their linkages to poverty, identifies how the country can be affected by transboundary and global environmental problems and how it contributes to these, and reviews the status of environmental legislation and institutional capacity of the partner countries to adequately deal with environmental issues. Further guidelines on CEP and EC environment integration are available on the EC's Quality Support Group website<sup>48</sup> and on the EU Environmental Integration helpdesk website<sup>49</sup>.

### 1.2 Mid Term Review of EC's Country Strategy Papers

In 2009, the EC launched the Mid Term Review exercise (MTR), whose main objective is to confirm or update the relevance of the Country Strategy Papers covering the period 2007-2013. The MTR is an opportunity to take into consideration the evolution in needs and priorities of all actors involved and should be based on four key requirements:

- Keep the strategy up-to-date with developments in the country;

---

<sup>48</sup> <http://www.cc.cec/home/dgserv/dev/newsite/index.cfm?objectId=1FBD16B7-D150-A0AF-14907E5A985BAA77>

<sup>49</sup> <http://www.environment-integration.eu/>

- Take into account and operationalise, as far as possible, new EC/EU policy initiatives and commitments;
- Assess the results and performance and draw lessons;
- Improve where possible the quality of strategy documents.

CEPs are considered part of the CSPs and, as such, must be reviewed, if appropriate, in the context of the MTR exercise. The EC guidelines for the 2009 MTR emphasize the importance of environment in the exercise and state that the "review will give the opportunity to assess the progress notably in terms of ecological sustainability of economic growth (environmental degradation, biodiversity, desertification, etc.). Climate change has emerged as an additional and global threat that may undermine progress towards MDG and previous achievements. Where they exist, the Country Environmental Profile and Strategic Environmental Assessment could serve as a basis for an evaluation". The conclusions and recommendations of the MTR exercise will be used for the formulation of the Multi Annual indicative Program (MIP) which covers the 2<sup>nd</sup> part of the CSP (2011-2013).

### 1.3 Environment in the EC's 2007-2013 CSP in Indonesia

According to the Indonesia CSP<sup>50</sup>, Education, Trade and Investment, and Law Enforcement and Judicial Reform are the three priority sectors of the EC's cooperation in the country for the period 2007-2013. Environment is not a focus sector in the CSP but it is a major cross cutting issue. The CSP underlines the importance of the experience and lessons of the past cooperation in the forestry sector in particular. References to the FLEGT Action Plan<sup>51</sup> and to renewable energy are included under the Trade and Investment and Law Enforcement priority sectors. No new environment project has been funded however under the existing CSP. FLEGT related activities are still on going as a result of commitments decided under the previous CSP (2002-2006).

The CEP annexed to the 2007-13 CSP reviews a wide range of environment related issues in Indonesia, in accordance with the EC's standard guidelines on CEP: 1) The state of the environment in Indonesia; 2) The policy, legislative and institutional framework, 3) The existing cooperation from the EC and other donors. It also provides conclusions and recommendations on the integration of environment in the cooperation response strategy. Below is a brief review of the current CEP:

- State of the environment: The CEP concludes that "environmental degradation is on the rise in Indonesia. The main reasons include the rapid development of the population, rapid industrialisation, the Asian financial crisis, and the poor management of key sectors such as natural resources or urban transport. Issues of poor governance exacerbate these problems". The analysis provided in the CEP is still considered valid. A missing element of the CEP is climate change. While this is a new issue in Indonesia from a policy perspective, its absence from the "state of environment" section is not a fundamental problem, as climate change merely exacerbates all existing environmental issues rather than create new ones.
- Environment policy, legislative and institutional framework: This section of the CEP provides a critical analysis of the existing environment related policies in different sectors such as forestry, transport and energy, agriculture etc. The overall policy framework is each relevant sector has not changed entirely since 2005. A number of new policies have been passed however by the

<sup>50</sup> [http://www.delidn.ec.europa.eu/en/relations/relations\\_1.htm](http://www.delidn.ec.europa.eu/en/relations/relations_1.htm)

<sup>51</sup> <http://ec.europa.eu/environment/forests/flegt.htm>

Government. This applies in particular to climate change and to the forestry sector, where new regulations on FLEGT related issues such as timber administration have been passed.

- EU and other donor cooperation in the country from an environmental perspective: International support to environment in Indonesia has developed significantly since the formulation of the CEP in 2005. The emergence of climate change as a political priority, both for Indonesia and the international community, has contributed to an increased interest in environmental issues in the country. The large number of organizations supporting Indonesia's response to climate change requires strong coordination and dialogue with the Government and relevant stakeholders. A good mapping of resources and gaps is necessary.

In parallel with the CSP, the EC implements a regional strategy which is set out in a Regional Strategy paper (RSP). Under the RSP, the EC finances the SWITCH program, designed to promote sustainable consumption and production strategies. The SWITCH program should be seen in the context of the EC's efforts to combat climate change.

#### **1.4 Justification for a partial Country Environment Profile update**

Based on the above, a review of the CEP in the context of the CSP MTR is considered necessary. It is proposed that the CEP update will focus on specific areas of interest for EC programming and on themes where changes have effectively occurred. Some other elements of the CEP, such as the state of environment in each sub-sector (domestic waste, mining, water quality, etc.) will not be updated as no significant change has occurred in the past years. Specific areas which are not sufficiently covered in the existing CEP and which need to be reviewed in the updated CEP in accordance with new priorities include in particular:

- Climate change: Awareness and understanding of climate change have considerably progressed since the formulation of the CEP in 2005. The extent of forest fires in 2006 -and subsequent studies ranking Indonesia as one of the largest emitter of green house gases- and the organization of the UNFCCC<sup>52</sup> have contributed to improved awareness. In 2007, the Ministry of Environment formulated a National Action Plan which sets out the commitments of Indonesia to combat climate change, specifies the objectives of the GoI and provides action plans per key sectors. In 2008, Bappenas formulated the National Development Planning for climate change which sets out sector policies and provides guidelines for international financing and policy coordination. Policies have been issued and institutional arrangements have improved, with the creation of a National Council on Climate Change to coordinate and harmonize policies. Implementation poses difficulties however and efforts are needed to make the policy framework more coherent. Many regulations remain contradictory and capacities, in particular at local levels, are insufficient.
- Forestry and FLEGT: The EC and the Government of Indonesia are currently cooperating under the FLEGT Action Plan. This includes the negotiation of a Voluntary Partnership Agreement which main objective is to establish a credible licensing scheme to ensure the legality of timber products export to the EU. Development cooperation is funded in support to this initiative, and policy dialogue is maintained to discuss relevant policies such as the new EC legislation proposal on the placing of timber on the EU market. Efforts have

---

<sup>52</sup> United Nations Framework Conference on Climate Change

conducted by the Government to improve forest governance and law enforcement. The recent adoption of a new timber legality standard is an example. The VPA negotiation has been progressing slowly however and, more broadly, the reform of timber administration remains subject to many challenges.

## **2. DESCRIPTION OF THE ASSIGNMENT**

---

### **2.1 Beneficiaries**

The ultimate beneficiary will be the Government of Indonesia through the identification of environmental issues and their prioritisation. Other stakeholders interested in environmental issues in Indonesia will benefit from the increased importance given to environmental issues and the publicity given and will have access to the report. The EC Delegation will use the outputs of the assignment to identify and formulate future development cooperation activities in the context of the 2011-13 Multi-Annual Indicative Program.

### **2.2 Overall objective**

Improved understanding of environmental issues in EC development cooperation in Indonesia.

### **2.4 Specific objective**

The objective of the Country Environmental Profile update exercise is to provide decision-makers in the European Commission and Indonesia with sufficient information to identify cooperation activities with environmental objectives, to mainstream environment concerns in priority development areas, and to establish environment safeguards for other activities.

### **2.3 Requested services**

The consultant will provide an assessment of:

#### **2.3.1 State of the environment**

This assessment must be limited to a brief review of the findings of the existing CEP which was produced in 2005. It should confirm whether the analysis in the existing CEP is relevant or not and underline major changes in the state of the environment which may have occurred in Indonesia since 2005.

#### **2.3.2 Environmental issues policy and legislation**

The consultant will analyze the environment policy and legislation framework in Indonesia in accordance with the following guidelines:

- The consultant will not cover all environment related policies but will focus on 1) Climate change and 2) forestry. The climate change focus should not be limited to specific climate change policies but should cover any policy in relevant sectors (agriculture, energy, fisheries, infrastructure...) and cross cutting environment policies (SEA / EIA requirements etc...) which contribute to shape

Indonesia's response to climate change. It will be up to the consultant to identify these specific areas. In accordance with the EC policy priorities, this assessment should cover, among other themes, palm oil / bio fuel production and Sustainable Consumption and Production strategies (see annex 2 for further guidance on Sustainable Consumption and Production analysis).

- The review should cover national policies, environmental strategies, action plans and implementing measures. Local level policies cannot be reviewed on a systematic basis but identification and analysis on common local level policy issues should be included.
- The review should include analysis of the effectiveness of legislation implementation and enforcement. This can include analysis of budget allocations for relevant policies, review of implementation by local level governments, provisions for public participation in environmental issues, procedures for public participation in development control and environmental planning and public access to environmental information.
- The review should also cover national approaches to key international or regional environmental conventions such as those concerning climate change and forestry

### 2.3.3 Environmental institutional framework

The Ministry of the Environment in Indonesia is responsible for the overall management of environment in the country. Other government departments such as the Ministry of Forestry, the Ministry of Agriculture or BAPPENAS also have a key role to play, in particular since the government recognizes the concept of environment mainstreaming as a strategy to address environmental issues. The involvement of other Ministries is particularly relevant for climate change, as a theme covering multiple sectors. The institutional framework for the management of 1) climate change and 2) Forestry should be based on the following guidelines:

- Analyze the institutional structure and responsibilities of national and local authorities and agencies dealing with climate change / forestry in policy making, the legislature, planning, environmental protection, monitoring and enforcement;
- Analyze the formal structures and procedures for public participation in development control and environmental planning;
- Analyze the capacities and financial resources of authorities responsible for environmental management.
- Assess the integration of climate change / environmental issues (such as Sustainable Consumption and Production) by the state institutions responsible for agriculture, fisheries and forestry, mineral resources, water, energy, industry, transport.

### 2.3.4 Cooperation funded by EC and other agencies from an environmental perspective

This should cover the involvement of other funding agencies and their experience in the country and include a review of their strategy / recent and planned projects/programmes, with an environmental focus or anticipated impact.

### 2.3.5 Conclusions and recommendations

Conclusions and recommendations should take the following into account:

- The key aspects of the environment policy and institutional framework in Indonesia, including constraints and challenges, should be clearly stated.
- Based on a comprehensive assessment of available information and consultation with stakeholders recommendations on how best to address climate change / forestry issues in development cooperation should be elaborated. Individual recommendations should be clearly articulated, justified and grouped according to type.
- Recommendations should include opportunities to use EC horizontal budget lines (such as Environment and Tropical Forests)
- Recommendations should include opportunities for co-ordination on environmental issues with other donors, seeking to achieve complementarities and synergies in order to more effectively deliver development objectives.
- Recommendations should also be made as to how best the Commission can mainstream environmental issues into the next cycle of country strategy paper.
- The constraints to preparing the profile caused by limited information should be described, and an evaluation of the need for additional studies, such as Strategic Environment Assessments or others, should be made.

## **2.4 Methodology and activities**

### 2.4.1 Preparation

- Before the start of the mission in Jakarta, the consultant will review priority documentation and literature, in particular the Country Environment Profile produced in 2005 which requires updating and EC guidelines on environment integration.

### 2.4.2 Mission in Indonesia

The Team shall:

- Hold a briefing meeting with the EC Delegation in Jakarta. Within 3 days of the start of the mission the consultants will submit a brief work plan to the EC Delegation. This will include a schedule for field visits and meetings with other relevant parties.
- Consult with a selection of national and local authorities, key donors operating in the country, key civil society actors operating in the environmental field in Indonesia, and relevant private sector representatives. For meetings with local authorities, field travels to 2 different provinces should be foreseen. It will be up to the consultant to identify these 2 provinces on the basis of their representativeness.
- Review environmental literature, evaluation reports, environmental policy and legislation framework documents, reports on environment legislation and regulations implementation and law enforcement.
- Review studies, country strategy papers and other relevant documents produced either by the EC or other international organisations such as the

World Bank, ADB, UNEP etc; evaluation reports with respect to environmental issues on development and economic co-operation produced by government, EC or other agency sources.

- Hold a final de-briefing meeting with the EC Delegation in Jakarta and submit the final report.

#### 2.4.4 Other methodological matters

- The main language used for the mission will be English. However some meetings may take place in Bahasa Indonesia and a large number of documents to be consulted are in Bahasa Indonesia. The team should therefore have skills Bahasa Indonesia skills. This is reflected in the experts profile requirements (section 3).

## 2.5 Required outputs

The consultant will deliver the following outputs:

- An inception note outlining the mission work plan and methodology, within 3 days from the start of the mission.
- A de-briefing to a group of donors and other interested stakeholders in Jakarta on the main findings of the assignment.
- A draft final report presenting findings and recommendations. The structure of the report should reflect the specific issues raised in section 2.3 (see template in annex 1).
- A final report taking into account the EC Delegation comments to the draft report.

## 3. EXPERTS PROFILE

The review mission will consist of the following experts:

Profile	Max number of Working Days	Nr.	CAT
Team leader / Environment Management expert	33	1	Cat I
Climate change / forestry expert	33	1	Cat II

Team leader / Environment management expert (Category I)	<p><u>Minimum Qualification</u></p> <ul style="list-style-type: none"> <li>• The Team Leader should have a post-graduate qualification in environmental science, natural resource management, agriculture, biology or chemistry and at least 15 years experience in the environment sector.</li> </ul> <p><u>Minimum requirements:</u></p> <ul style="list-style-type: none"> <li>• Team leadership experience;</li> <li>• Knowledge of the EU environment and development policies and programming approach (Country Strategy papers, Project Cycle Management, integration of environment in development cooperation);</li> <li>• Experience in undertaking environmental analysis (Environment assessments, Strategic Environment Assessments, Environment Impact</li> </ul>
--	---

	<p>Assessment...);</p> <ul style="list-style-type: none"> <li>• Good knowledge of the environmental sector in Indonesia, including institutions involved and some knowledge of environmental legislation;</li> <li>• Experience with donor funded development cooperation;</li> <li>• Experience working in Indonesia;</li> <li>• Knowledge of procedures of other donors relating to environment;</li> <li>• Fluency and excellent writing skills in English;</li> <li>• Knowledge of Bahasa Indonesia would be an advantage.</li> </ul>
Climate change / forestry expert (Category II)	<p><u>Minimum Qualification</u></p> <ul style="list-style-type: none"> <li>• This expert should have an appropriate advanced degree (minimum MSc) in an environmental science or related subject and at least 10 years experience working on environmental issues.</li> </ul> <p><u>Minimum requirements:</u></p> <ul style="list-style-type: none"> <li>• Minimum 5 years experience in the field of forestry and/or climate change;</li> <li>• Experience with development cooperation projects;</li> <li>• Knowledge of the EC environment policies</li> <li>• Experience working in Indonesia</li> <li>• Demonstrated knowledge of environment management in Indonesia, including knowledge of forestry / climate change policies</li> <li>• Fluency in English</li> <li>• Knowledge of Bahasa Indonesia would be an advantage</li> </ul>

Note: The working language for the assignment will be English. All reports will be in English. The team will ideally have working knowledge of Bahasa Indonesia as well. If not, translation services should be foreseen as part of the literature to be consulted is only available in Bahasa Indonesia.

#### 4. LOCATION AND DURATION

- Tentative starting date: Week starting on 28 September 2009 (in Jakarta)
- Duration and end date: The assignment will have a maximum overall duration of 33 working days, including a maximum of 27 working days of mission in Indonesia (including 2 international travel days).
- The location of the mission will be Jakarta. Local travels to 2 provinces in Indonesia should also be foreseen for analysis of local level issues. It will be up to the consultant to identify these 2 provinces on the basis of their representativeness, in consultation with the EC Delegation.
- The maximum number of working days allowed for each consultant during the assignment is:

Activities	Team leader / Environment management expert	Climate change / forestry expert
<b>Indonesia</b>		
Mission (including international travel)	27	27
<b>Home</b>		
Preparation and final report	6	6

writing		
<b>TOTAL</b>	<b>33</b>	<b>33</b>

## 5. REPORTING

---

The consultants are required to submit the following reports in English:

- An inception report of maximum 5 pages to be produced within 3 working days from the start of the mission. The main objective of the inception report is to provide a work plan and a methodology. It should also describe the foreseen degree of difficulties in collecting data, other encountered and/or foreseen difficulties and other relevant information considered appropriate by the consultants.
- A comprehensive draft report: The 1<sup>st</sup> draft report should be submitted before the end of the mission in Indonesia for discussion during the de-briefing meeting. The EC Delegation will have 10 working days to comment on the draft report and shall send an electronic copy of comments and/or request for additional information to the Team Leader. A template for the final report is provided in annex 1.
- A final report with the same specifications as the draft final report, incorporating comments from the EC Delegation, to be presented within 10 working days of the receipt of EC comments. The EC Delegation will approve the revised draft report or alternatively raise further questions or seek additional clarifications within 10 working days following receipt of the revised draft report. Attention is drawn to the fact that the EC Delegation reserves the right to have the reports redrafted by the consultant as many times as necessary and that financial penalties will be applied if deadlines indicated for the submission of reports (drafts and final, in hard and electronic copy) are not strictly adhered to.
- Distribution of all the reports should include an electronic version and 1 paper copy. For the final report, 5 paper copies should be submitted
- All outputs shall be in English and contain the following reference: "This report was prepared with the financial support of the European Commission. The opinions expressed are those of the authors and not necessarily those of the European Commission."
- All document, reports, or other material acquired during the mission and relevant to the environment sector in Indonesia, will be submitted to the Delegation at the end of the mission, and will remain available for further missions and/or project use.

## 6. ADMINISTRATIVE INFORMATION

---

- Reimbursable costs: a budget shall be allocated for international travel, local travel (domestic flights), per diems, and services provided by interpreter/ translator if required.
- The selected consulting company will supply the personnel for the team as specified in point 3 of these Terms of Reference for the full duration of the assignment. The consulting company is expected to organise the team's travel

arrangements within Indonesia, transport and support/secretarial services to the team.

- Selected consultants must possess a passport with a validity of at least six months and obtain an appropriate visa to undertake the mission in Indonesia.
- The consulting company must ensure that all the members of the team have laptop computers and other necessary equipment for the collection and drafting of the requested reports. The cost of such equipment cannot be charged to this contract.
- During all contacts with the Indonesian Authorities, or any project or Organisation, the consultants will clearly identify themselves as independent consultants and not as official representatives of the European Commission. All documents and papers produced by the consultant will clearly mention on their first page a disclaimer stating that these are the views of the consultant and do not necessarily reflect those of the European Commission.
- The contract shall be exempt from all duties and taxes, including VAT.

### **Annex 1 - Report Format for a Country Environment Profile update**

Maximum length (excluding appendices): 50 pages.

#### **1. Summary**

This is an executive summary of the key chapters of the Country Environmental Profile update clearly indicating priority challenges and areas for action at the country level. It should be approximately 5 pages long.

#### **2. State of the environment**

This section should be limited to a very short review of the State of the environment provided in the last CEP and analysis on its relevance. Analysis on the relevance of the last CEP and a brief update on major changes should be included.

#### **3. Environmental policy, legislative and institutional framework**

This chapter will provide an assessment of the Country's policy, regulatory and institutional framework in the fields of 1) climate change and 2) forestry.

Sub-sections should be based on specific issues identified in section 2.3.2 of these TOR and other key issues identified by the consultants. The Section on climate change should include specific references to Sustainable Consumption and Production (SCP) strategies (see annex 2 for further guidance on SCP analysis).

#### **4. EU and other donor cooperation with the Country from an environmental perspective**

This section must include EC and other donor assistance within the Country from an environmental perspective covering the issues outlined in the relevant part of Section 2.3 of the TOR.

#### **5. Conclusions and recommendations**

This chapter will present the conclusions on the state of the environment in the Country and make recommendations for priority actions. The key environmental issues identified during the assessment should also be presented in a summary table form. Recommendations will also be made as to how best the Commission can mainstream environmental issues into the new country strategy papers.

## 6. Appendices

- I. Environmental maps of the Country
- II. Reference list of environmental policy documents, statements and action plans, and other relevant technical information.
- III. Methodology / work plan (1–2 pages)
- IV. Consultants' Itinerary (1–2 pages)
- V. List of persons/organisations consulted with their affiliation and contact details (1–2 pages)
- VI. List of documentation consulted (1–2 pages)
- VII. Terms of Reference for the Country Environmental Profile

### **Annex 2 – Guidance on Sustainable Consumption and Production (SCP) analysis**

#### Guiding questions:

- Which are the institutions dealing with SCP-related issues in the country? How are competencies/interests divided amongst them?
- How do they cooperate with each other?
- Does legislation on SCP-related issues exist in the country and how is it being implemented?
- If the implementation is not satisfactory, what are the reasons for that?
- What is the capacity of the Government to implement SCP policies? What are the weakest points?
- Are SCP-related issues included in the national development/poverty reduction strategy?
- How advanced is the Government in adopting a National Action Plan on Sustainable Consumption and Production?
- Do the relevant Government departments wish to receive support from the EC on SCP-related issues? If so, what would be their priorities for action?
- What is the country's role and commitment in regional SCP policy dialogues, such as the Asia Pacific Roundtable on Sustainable Consumption and Production (APRSCP) or the Green Growth Policy Forum?
- Is there interest on the part of the private sector in SCP?
- Are there any financial mechanisms to support SCP initiatives?
- Is the signing of a Partnership and Co-operation Agreements with the Government necessary?

- Is the EC or any other donor currently engaged in policy dialogue/support on SCP in the country? Does the Policy Support Component have synergies with other EC-funded programmes in the country?
- Are there EU Member States' donors active in the SCP area in the country? Is collaboration possible?
- Are scientific/policy research bodies or NGOs working in the SCP area in the country? If any, are the outputs of these bodies having an impact on national policy-making?