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Labour
Organization

Labour Conditions in Forestry in Indonesia

Job Opportunities for Youth (JOY) Project
April 2010





LABOUR CONDITION in Forestry in Indonesia

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Foreword

Green Jobs, which are defined as decent jobs with high labour productivity but also with high eco-efficiency and low emissions, are on the rise. According to the United Nations, at least 10 million such jobs could be created in “sustainable forest management” to address the growing problem of unemployment worldwide and to prevent the depletion of forests by managing them properly and ensuring that their use does not interfere with natural benefits or the local environment. Indonesia, with some of the most extensive and biologically diverse tropical forests in the world, could certainly benefit from this employment surge, which could lead to the creation of up to one million jobs directly and significantly more indirectly until 2020.

A fundamental question in this scenario refers to the quality of those jobs. What are the current working conditions of forestry workers in Indonesia, how safe is their environment, how well are their children protected, how fairly are they treated, what could be done to be better prepared for the future? These essential questions have been raised by the consultant, Steven Schmidt, in this report – *Labour Conditions in Forestry* - which he has compiled based on a series of 15 case studies undertaken in two provinces of strategic importance for forestry in Indonesia: Kalimantan and East Java.

This report was commissioned by the Sectoral Activities Department of the ILO and the Job Opportunities of Youth (JOY) project, a technical cooperation project funded by the Netherlands. It draws on the project’s realization of the importance of Green Jobs and their impact of youth employment policies. At the same time, it is a follow-up at the national level to the *Guidelines on Labour Inspection in Forestry*, produced by the ILO following an international meeting held in 2005.

This report raises the necessity of directing policies toward improving current working conditions in the forestry sector on such fundamental issues as income levels, access to training, job status and combat to forced labour. Its conclusions and recommendations highlight the need to establish an institutional mechanism responsible for inspection and of labour conditions in the forestry sector-be taken forward in the context of future projects and technical cooperation programmes.

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Abbreviations used in the report

BFI	Balikpapan Forest Industries
GANIS	<i>Tenaga Teknis</i> , Technical Specialist
ILO	International Labour Organisation
ITCI	International Timber Corporation Indonesia
IUPHHK	<i>Izin Usaha Pengelolaan Hasil Hutan Kayu</i> , Forest Timber Product Exploitation Permit
JOY	Job Opportunities for Youth
KLUI	<i>Klasifikasi Baku Lapangan Usaha Indonesia</i> , Indonesian Standard Industrial Classification
MoF	Ministry of Forestry
PP	<i>Perum Perhutani</i> (state-owned forestry company)
SERBUK	Labour union for plantation workers
WASGANIS	<i>Pengawas Tenaga Teknis</i> , Technical Specialist Supervisor

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1. Introduction and Background

The objective of the Job Opportunities for Youth (JOY) programme is to “Create income earning opportunities for young women and men in Indonesia, through complementing national policies and local initiatives that lead to more employment-intensive growth”.

Each year in Indonesia, close to two million young women and men enter the labour market, but the economy creates nowhere near the number of jobs needed to absorb these new workforce entrants. At the same time, existing and new jobs may have a negative impact on the environment and may not be sustainable over the longer term. In the context of Asia, the situation is becoming more severe and the current economic model is failing to take into account the negative environmental and social costs associated with the high growth rates. The ensuing crisis is beginning to be felt in many parts of Asia, and common characteristics include the recent escalation of commodity prices, growing food insecurity, widespread drought, a dramatic decline in fisheries and the extensive degradation of coastal ecosystems.

Understandably, economic and political decision makers in the Asia region have come to realise that the paradigm of grow now, clean up later is very problematic even in the short term due to the high social and environmental costs. Therefore, attention has shifted towards how production and consumption patterns could change, with a particular emphasis on green growth and clean development. This could change production and consumption patterns and where people carry out their jobs and, correspondingly, the way in which the labour market operates, particularly in what is commonly being termed “green jobs.”

“Green Jobs for Asia and the Pacific” is a programme that is being rolled out by the ILO as its contribution to the regional priority on “green growth” spearheaded by UN/ESCAP. A regional research conference on green jobs held in Niigata on 21-23 April 2008 brought together about 40 experts drawn from national and local governments, employers’ and workers’ organizations, labour research institutes, academia, and environmental and social NGOs. The conference helped to define an agenda for policy-relevant research by ILO and partners in the region and identified approaches for promoting green jobs that can be built into ILO Decent Work Country Programmes in the region.

The ILO Decent Work Country Programme (DWCP) in Indonesia has highlighted the importance of Green Jobs in its agenda. Since 2008, one outcome of the DWCP Indonesia has been identified as “Sustainable enterprise through green technologies and more social protection in the formal economy”. The “Employment-intensive growth for Indonesia: Job Opportunities for Young Men and Women” (JOY) programme has been increasingly at the forefront of launching green jobs initiatives for the office, under its objective to “Create income earning opportunities for young women and men in Indonesia, through complementing national policies and local initiatives that lead to more employment-intensive growth.”

To date there has been minimal focus on green jobs in Indonesia. Prior to developing any policies, therefore, it is necessary to understand the factors driving the demand for green jobs in Indonesia, especially those concerned with the environment, climate change and food security. It will be equally important to anticipate how the factors driving the demand for green jobs translate into labour market outcomes. For instance,

how does climate change impact on different sectors, particularly with regard to the quality of green jobs being created, and what skills are required to make companies greener. The green jobs initiative is of particular relevance to the forestry sector, where environmental degradation and decent work deficits go hand-in-hand.

At the ILO Tripartite International Meeting of Experts to Develop International Guidelines for Labour Inspection in Forestry, held in January 2005, a set of “Guidelines for Labour Inspection in Forestry” (“the Guidelines”) was developed and adopted. The Guidelines raise some of the main issues and general principles of labour standards and their inspection in the forestry sector. They are aimed at three main users: (a) labour inspectors/certifiers; (b) forest managers; and (c) organizations responsible for training both forest management staff and inspectors.

The recommendations identified for ILO follow-up were, among others: the dissemination of the Guidelines; providing training for labour inspectors on assessing working conditions and labour practices; and the collection of information on effective labour inspection practices, including strategies and “inspection tools”.

Forestry is clearly an important sector for Indonesia. Significant investments are likely to go into avoiding deforestation and/or into reforestation, and into the rehabilitation of mangroves. This kind of expenditure on environmental services could become an interesting source of green jobs for youth, and the aforementioned Guidelines could play a role in the definition and monitoring of conditions for workers in such schemes. Within this framework, ILO Jakarta organized a preliminary study of the forestry sector in Indonesia, which was carried out from 11 September 2009 until 16 October 2009.

1.1 Objectives

The study’s objective is to evaluate the current condition of labour in the forestry sector, particularly in relation to the managing of labour standards and inspections as identified in the Guidelines in the context of Indonesia, and to identify the opportunities for green jobs, particularly for youth.

In relation to this overriding objective a consultant was contracted to undertake the following:

- ◆ Evaluate the current condition of labour in the Indonesian forestry sector.
- ◆ Assess the extent to which the Guidelines address, or not, the current labour issues in the forestry sector in Indonesia.
- ◆ Assess the extent to which the Guidelines are useful for the specific realities/conditions that exist in Indonesia.
- ◆ Provide recommendations for further activities to support better labour conditions in the forestry sector, and enhance labour inspections (such as better skills, etc.).
- ◆ Provide recommendations on opportunities to implement the Green Jobs initiative with the support of the Guidelines.

1.2 Methodology

The study approach was through initial research by way of desk reviews of current data, information and documents that relate to labour conditions in the forestry sector in Indonesia. A summary desk review was also undertaken on forestry labour standards and inspection guidelines prepared by the ILO for application internationally. Related publications were reviewed for this purpose. The desk review was followed by interviews of key informants within the Indonesian Ministry of Forestry in order to elicit information on the current status of labour standards and, more importantly, labour inspection practises in forestry in Indonesia.

Based on the information that emerged from the desk reviews and key informant interviews at the central government level, an interview guide was developed to ensure uniform coverage of relevant topics, and a consistent scope of questions was adopted for the interviews with all respondents in the field survey and case study compilation process.

Once the interview guidelines were completed, field work began and a number of regional forestry stakeholders were interviewed in two high profile forestry locations: East Kalimantan for natural forest-based logging and East Java for commercial non-wood forestry. The exact locations were identified through the desk study and confirmed as appropriate locations in a purposive selection process in consultation with staff from the Ministry of Forestry. The small sample size and lack of access to demographic data precludes a statistical random sampling process, which is considered inappropriate in this type of investigation.

After discussions with officials, the following stakeholder/worker categories were identified for the respondents in each location. Wherever possible, the study was to include respondents from at least these five categories (individual cases that were successfully interviewed are recorded under each category):

- ◆ Relevant local NGO staff (advocates for sustainable forestry)
 - Verbal summary verification of main findings (Tropenbos International Indonesia Programme)
- ◆ A wage or contract worker in the non-wood forestry sector
 - Field Foreman (nursery)
 - Eucalyptus Leaf Stripper
 - Social Forestry Operator (coffee intercropping)
 - Pine Sap Tapper
 - Rubber Tappers
 - Honey Trader
- ◆ A wage or contract worker in the “sustainable”¹ wood forestry sector
 - Social Forestry Participant (coffee intercropping)
 - Maintenance Supervisor
 - Field Assistant – maintenance
 - Outsourced Contractors – ground preparation
 - Outsourced Nursery Worker
 - Outsourced Cook
- ◆ A wage or contract worker in the “non sustainable”² wood forestry sector
 - Tree Feller

1 In this case sustainable refers to the types of forestry that would be considered sustainable under a green economy framework, such as plantation forestry or some types of sustainable selective logging. However, for the purposes of this report sustainable refers mainly to plantation forestry.

- Log Skidder
- Security Guard
- ◆ A confidential interview of illegal loggers to see what drives their need to steal timber
 - Tree Thief (Wood - Jember)

The information is then presented as a case study of the experiences of each of the workers, with information from other stakeholders incorporated in the text. The main relevant points that come out of the case studies are then linked to the findings from the key informant interviews and the desk review. The worker interviews focus on economic conditions and decent work indicators.

1.3 Outputs

The output document presents an analysis of the results of the desk reviews in the main document, along with with supporting data and references. Case studies for each of the field respondents (forestry workers) are included in the appendix and referred to in the main text as required.

2 In this case non-sustainable refers to logging based forestry that is generally not considered sustainable because from a qualitative and quantitative perspective trees are being removed at a rate far faster than that at which they can be replaced. The non-sustainable sector is basically exploitative in nature, and represents a finite resource which provides decent work in terms of remuneration but is likely to provide incrementally diminishing returns to Indonesia in terms of future decent work opportunities.

2. Background: The Forestry Sector in Indonesia

There are three officially recognized modes of forestry production implemented in Indonesia. They are as follows:

1. **Logging** in natural forest, HPH (forest concession) or IUPHHK (Izin Usaha Pengelolaan Hasil Hutan Kayu, or Forest Timber Product Exploitation Permit) areas. The IUPHHK is a permit for the utilization of timber in a production forest in a particular location, issued by a district head to legal entities (cooperatives, state-owned or district enterprises, and private companies), with a maximum area per permit holder of 50,000 hectares and for a period of 20 years. This enables the IUPHHK holder to harvest various timber products from the forest in accordance with the quotas for certain species. This form of forestry is often criticised for threatening world biodiversity stocks and, although it has been shown to be sustainable when selective logging is practiced, is often also criticised for opening natural forests to exploitation by those who do not follow the rules and provide little benefit to the traditional owners, i.e. the local communities. The exploitation of such communities occurs when they do not fully understand the longer term impacts of agreements, or the distribution of benefits. Entrepreneurs often take advantage of the low levels of education and awareness among village communities, who traditionally depend on the forest for their livelihoods.³ Forests logged in this way can be viewed as a finite resource, the exploitation of which is open to the same criticisms as fossil fuel and peak oil. Commercial logging is generally not seen as sustainable.
2. **Commercial Plantation Forestry**, which means the forests are cultivated initially by the entity that wants to eventually harvest the products in a sustainable manner. This can be achieved by planting trees and harvesting in rotation, whereby a plot of trees of a commercially viable scale is planted each year for the number of years it takes the tree to reach a harvestable maturity. Eventually the rotation is such that every year one plot is harvested while another is being planted so that a constant level of growth and harvest is maintained perpetually. Commercial Plantation Forestry has been practiced in some areas of Indonesia for hundreds of years. Industrial plantations can be set up to produce a high volume of wood in a short period of time. In Indonesia, for a number of reasons related to sustainability, Commercial Plantation Forestry is expanding, especially for wood production. Commercial Plantation Forestry is seen as one way to contribute to a sustainable economy, recover carbon absorption capacity, stabilize the land to prevent soil loss and recover water cycle benefits that have been lost through clear cutting and other forms of logging. However, Commercial Plantation Forestry is not considered beneficial to a green economy if natural forests are destroyed purposively to be replaced by it.⁴ In terms of the low carbon economy, it is basically expending energy to replace

3 See for example: Oding Affandi, Governance Brief Nomor 12e, The Impact of IPPK and IUPHHK on Community Economies in Malinau District, Center for International Forestry Research, May 2006. "The research, conducted in the three villages of Long Pangin, Laban Nyarit, and Langap between April and June 2004, show these policies have not had the desired results. Communities' lack of capital and technical capacity led them to give their permits to people with better access to capital. Communities only received fees. Communities' lack of access to information and support when negotiating with these entrepreneurs resulted in agreements where the entrepreneurs enjoyed the greatest benefits while communities were left with very little.

4 Especially where peat swamps are drained to plant oil palm or other species.

a superior element of biosphere management with an inferior one. Indonesia has a poor record in this regard: “From 1980 to 2000, about 50% of the 1.4 million hectares of pulpwood plantations in Indonesia have been established on what was formerly natural forest land”⁵. The replacement of natural forest with tree plantations has also caused social problems. In some countries, again, notably Indonesia, conversion of natural forest is done with little regard for the rights of the local people.⁶

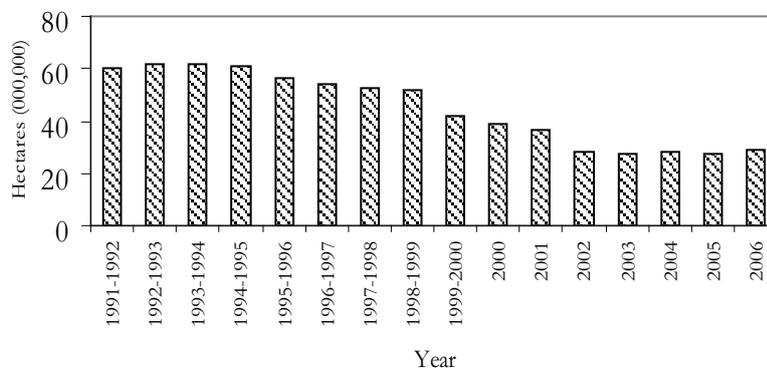
3. **Social Forestry**, which means that the natural forests are managed in a sustainable manner by the local communities. In this way, communities that depend on the forests for their welfare can legally continue to take products from the forests to support their basic needs and conduct some limited commercial production. Members of forest communities practice traditional swidden agriculture to grow crops in the forest, and often certain trees in the forest are owned by certain members of the community. They also harvest other products such as rattan and honey, as well as fishing and hunting and some limited animal husbandry, often practiced in a free range manner. Social forestry is seen as the most effective way to manage forests in such a way that the welfare of local communities is maintained. The widespread poverty in rural areas in Indonesia (usually related to the lack of ownership or access to land or the unfeasible size of farm plots) has also led to another form of Social Forestry in which public/government-owned forest land is allocated to farmers based on a share farming agreement. The farmers use agro-forestry intercropping methods to grow crops between trees in existing forests.

For a number of reasons, the general trend in forestry in Indonesia is moving away from unsustainable logging of natural forests and towards a greater emphasis on commercial plantation forestry and social forestry. This general movement is motivated by the following:

1. The general realization that natural forests are a dwindling finite resource;
2. The demand for wood outstripping supply;
3. Increased awareness of the social and biosphere maintenance benefits of forests (environmental services).

Apart from the obvious short-term financial and industrial benefits gained from exploiting natural forests (which often triggers undesirable positive feedback cycles leading to environmental decline, or a domino

Indonesian Forest Concessions 1991 - 2006



Source: Directorate General of Forest Production Development

⁵ <http://en.wikipedia.org/wiki/Plantation#Forestry>

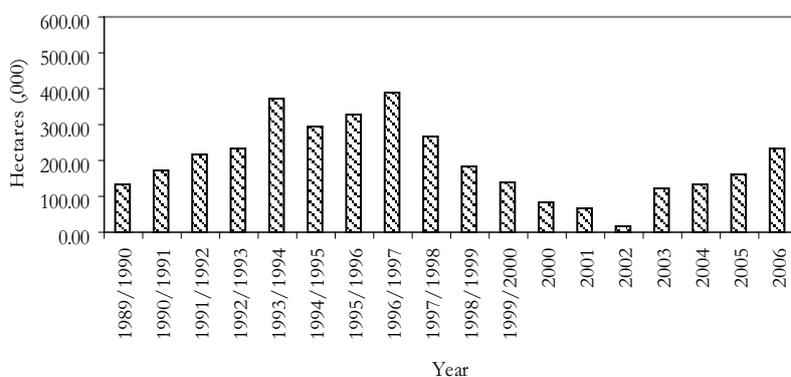
⁶ Ibid

effect that breaks the cycle of sustainability of the resource), forests anchor the landscape and help prevent massive erosion and other soil-related disasters such as landslides. Forests store water, and feed the hydrological cycle with transpiration. Forests provide food and basic livelihood materials to local communities, act as a generator and storehouse of important biodiversity, and consume atmospheric carbon to maintain the quality of the atmosphere. Global awareness of these socio-environmental benefits is on the rise.

The annual issuance of forest concessions and the total amount of natural forest destruction for officially condoned wood production⁷ from natural forests peaked between 1992 and 1994. It then declined steadily until 2002. Since 2002 the issuance of concessions has remained relatively stable. From 1992 to 1993 a total of 580 forest concessions were issued, and in 1993/1994 the total area under production forest concessions was 61,700,000 hectares. Both the total number of concessions issued and hectares under concession then declined steadily until 2002. The decline in annual issuance of concessions continued until 2005, but a sharp spike in the number of concessions issued in 2006 drove the 2006 hectare count back above 2002 levels. This is a worrying trend and may reflect the economic “growth” rather than “development” focus of the newly empowered regional governments since 2002. However, the latest statistics indicate that logging in general is in decline and commercial plantation forestry is on the rise.

Licenses to extract timber from natural forests have been issued in only 20 of Indonesia’s 33 provinces; however, up to 2006, over 75% of the total concession area was found in just five provinces. The five most significant provinces with regard to natural production forest concessions are, in order of importance, East Kalimantan, Central Kalimantan, Papua, West Irian Jaya and West Kalimantan, which together accounted for over 22 million hectares of natural forest production concessions up until 2006.

Commercial Forest Plantings 1989-2006



Source: Directorate General of Forest Production Development

Between 1989 and 2006, commercial forestry development also saw considerable fluctuation, peaking in 1997, and then declining steadily from 1997 to 2002, mostly as a result of the impact of the economic crisis that began in 1997. Since 2002 it has increased steadily. This can be construed as a good sign; however, from a green economy climate change perspective it is unacceptable if natural forest is being destroyed purposively for the cultivation of plantations. Nevertheless, the point here is that in terms of labour utilization and green jobs, forest plantations have much greater capacity to absorb labour than the purely exploitative logging of forests. However, if Indonesia is to meet its GHG emissions targets in the most effective way, the national development policy needs to include a moratorium on forest destruction

7 Due to official issuance of licenses to extract timber.

for conversion to plantations, and a concentrated reforestation effort to regenerate forests on all denuded land in Indonesia. Some forms of sustainable selective logging could ostensibly continue as a source of income, but work would need to be undertaken to ensure that maximum value is obtained from the resource. All forms of tree theft and illegal sales must be eliminated.

2.1 Illegal Logging

Illegal logging is an ongoing problem in Indonesia. It is estimated that in 2003 illegal logging cost Indonesia \$600 million a year.⁸ This amount only accounts for loss of revenues through timber sales and does not include the environmental impacts. By all current accounts, illegal logging is still widespread in Indonesia. An internet search on the key phrase “illegal logging Indonesia 2009” returns many articles in both Indonesian and English that describe the current status of Indonesia in terms of illegal logging. One recent article on the website of the Independent newspaper claims that 10 million hectares of forest have been lost to illegal logging.⁹ Interviews with key informants in Kalimantan also indicate that illegal logging for commercial purposes is still widespread and high volume. The reasons most often given are official corruption, and collusion of the perpetrators with law enforcement agencies. There is also evidence of poverty-driven illegal logging, with frequent reports of poor farmers stealing logs for non-commercial reasons such as to repair their houses. One such case is included in the case studies that accompany this report.

8 Article on the Asia Times Website: “Illegal logging costing Indonesia dearly,” July 11, 2003. http://www.atimes.com/atimes/Southeast_Asia/EG11Ae03.html, accessed 16/12/09.

9 “Illegal logging responsible for loss of 10 million hectares in Indonesia.” By Kathy Marks, Asia-Pacific Correspondent, Monday, 26 October 2009. <http://www.independent.co.uk/news/world/asia/illegal-logging-responsible-for-loss-of-10-million-hectares-in-indonesia-1809417.html>, accessed 16/12/09.

3. Labour in Forestry

Labour statistics in the forestry sector are somewhat difficult to isolate due to the fact that they are included in the published National Labour Force Survey (Sakernas) as an aggregate of respondents who work in the agriculture, horticulture, forestry, fishing and hunting industries. However, a sub-set of this broad category, known as the Indonesian Standard Industrial Classification (Klasifikasi Baku Lapangan Usaha Indonesia - KLUI) can be drawn out of the main Sakernas database and examined by means of using the crosstabs function in SPSS. Any cases in the data that could not be classified clearly are not considered, so that ultimately the database of those engaged in forestry-related activities consists of 241,012 cases. The results of this exercise cannot be used to see absolute numbers, but can shine some light on the broader conditions of labour engaged in the forestry sector in Indonesia. The following sections outline the general characteristics of employment in the forestry sector in Indonesia as reflected in the latest available Bureau of Statistics data.

These data show that the agriculture, horticulture, forestry, fishing and hunting sector provides about 42% of all jobs in Indonesia. Of this, approximately 0.6% is attributable to forestry, and another 0.1% to hunting. Hunting should be combined with forestry employment because it is likely that a great majority of hunting is carried out under the social forestry arrangements, and is closely linked with forests and forest conservation issues. The forestry and hunting sectors combined currently account for approximately 0.7% of employment in the agriculture, horticulture, forestry, fishing and hunting sector and approximately 0.23% of employment opportunities nationally. Although this is a relatively low contribution, the forestry sector, especially sustainable forestry and commercial plantation forestry, are sectors of growing importance in Indonesia. A recent study¹⁰ on the development of forestry in Indonesia estimates that significant amounts of employment will be created in the forestry sector from 2009 to 2020:

Given the future state of Indonesian forest resources in 2020, there would be also direct employment generation in the range of 675-836,000 even though there may be substantially larger numbers of people who are “forest dependent” and people who work in small-scale sawmills and other processed wood industries.

The general decline in issuance of logging licences and the concomitant increase of emphasis on reforestation and commercial plantation forestry, combined with the information above, indicates that the forestry sector is of growing importance in Indonesia. Although it is important as a provider of future green jobs, it is also a high-potential general development resource and an important sector for countering the effects of global warming and other adverse environmental impacts. Forestry provides an important contribution to the economic development of Indonesia by generating foreign exchange and employment, and will continue to do so into the future.

¹⁰ Center for Forestry Planning and Statistics, Ministry of Forestry. Indonesia Forestry Outlook Study. Asia Pacific Forestry Sector Outlook Study II Working Paper Series, Working Paper No. APFSOS II/WP/2009/13 FAO, Bangkok, 2009. p. 5.

3.1 The Future of Forestry

The forestry sector is likely to undergo a transition from an economic activity based on resource exploitation (logging, which operates on a similar dynamic to that of the mining industry) to cultivation (which operates on more of a cyclic agricultural dynamic of cultivation, management and harvest). While being more sustainable in nature than pure exploitation, this will also require much more investment in terms of labour inputs to produce a given output of wood. The boom years of logging now seem to be behind us in Indonesia, and the excesses of this period can be seen in the infrastructure left behind since the International Timber Corporation Indonesia (ITCI) heydays. At present PT ITCI Kartika Utama resembles a ghost town of sorts, with approximately 900 unoccupied houses that were formerly worker accommodation and other infrastructure, such as an onsite hotel and sports facilities. For ITCI, the main cause of this turnaround was a bush fire in 1998 that destroyed most of the remaining timber on their concession. Any salvageable timber that was still standing was harvested soon after the fire, and since then the focus has been on replanting and development of plantation forestry. The production of plywood (the main marketable product) has declined steadily: after starting in 2003 with almost 12 million sheets, it was down to only approximately 600,000 in 2008.¹¹

In a way, the current development pattern of PT ITCI is a microcosm of the future of the Indonesian forestry industry under a green economy. The future of the forestry industry in Indonesia¹² will be characterised by a shift, as described above, from exploitation of existing resources to cultivation followed by harvest, simply because the existing resources are becoming depleted, and international pressure continues to mount to save the remainder of the existing forests. The fact that this shift is likely to occur would also tend to indicate that economic actors in the forestry sector will now have to concern themselves with the true costs of production in a holistic manner. That is, they will now need to absorb and internalize the costs involved in planting and nurturing trees from small seedlings until they reach an economically feasible, harvestable level of maturity. These costs would formerly have been external to the profitability and business calculations.

This scenario holds two important implications for the future of the forestry sector in that (i) much more skilled managers and labour will be required to underwrite the shift, and (ii) the profit margins of the industry (at least initially) are likely to be much lower. In short, the forestry sector in Indonesia will likely bear much more resemblance to the horticulture or plantation sector. This all boils down into a situation where a sector that was formerly known for its capacity to provide relatively decent and well remunerated work will likely experience a decline in conditions.

3.2 Comparative Poverty Levels in Forestry and Other Related Sectors

A comparative view of poverty in forestry and other sectors is provided by processing the data in the National Labour Force Survey database of 2008. The responses to the “income from main employment” question in the survey were examined for the purpose of creating a proxy for poverty. A simple calculation reveals that using \$2 per day as the cut-off for poverty¹³ results in a monthly income of Rp. 570,000 (this is incidentally the provincial minimum wage for East Java), on the assumption that 30 days = 1 month and US\$1 = Rp. 9,500. The cases who reported income for the month prior to the survey were separated into two groups: those who received less than Rp. 570,000 per month (less than \$2 per day) and those who received more than Rp. 570,000 per month (more than \$2 per day). The results are as follows.

11 PT ITCI Company Profile, 2009, p. 7. During the study it was also noted that some employees had not been paid for the last 3 months, and there were concerns voiced by some that the company is in crisis.

12 Assuming that Indonesia embraces the green economy wholeheartedly and begins to develop sustainable forestry.

**Table 3.1
Poverty By Sector**

Sector	Pct. Poverty
Forestry	23,7
Agriculture	66,2
Plantations	82,1
Fisheries	66,3
Hunting g	64,6
Other sectors	40,7
Total	49,8

On average, approximately 50% of all people who reported income from their main job the month before the survey earned less than \$2 per day. All sectors that make up the KLUI agricultural classification in the survey except forestry displayed significantly higher levels of people earning less than \$2 per day from their main job. Most notable are those employed in plantations, where 82% earn less than \$2 per day. While these data are summary and inconclusive in nature, they do highlight some major trends, one of them being that forestry currently has the lowest levels of poverty. However, as explained above, as forestry moves from resource exploitation to a cultivation and harvest cycle, this is likely to change, with the consequence that poverty in forestry is likely to increase. It is important to note also that the lowest income levels recorded in the survey were actually among rubber tappers (case study 5), which is technically a plantation sector activity, not a forestry activity. It is therefore proposed that the subject scope of labour conditions be extended to include tree

plantations, as recorded in the “perkebunan” or horticulture category of the agricultural sector, as well as forestry and hunting.

3.3 Labour Conditions in Forestry

The following section provides an introductory descriptive analysis of labour conditions in forestry according to several variables in the 2008 Indonesian Labour Market Survey. Specifically in relation to labour standards, data on work status, exposure to training, and remuneration and education are examined against the background of the case studies.

3.3.1 Case Studies

Sixteen case studies were carried out in the field. They are listed briefly below.

1. Two field foremen: from Perum Perhutani, the state-owned forestry company; providers of outsourced services including labour.
2. One eucalyptus leaf stripper: casual labourer, Perum Perhutani non-wood.
3. One social forestry operator: well-off; self-employed on Perum Perhutani forest land as a sideline.
4. Two pine sap tappers: casual labourers, Perum Perhutani non-wood.
5. Rubber tappers community: casual labourers at PT Perkebunan Nusantara, Lamongan District.
6. Honey trader: self-employed; buys and sells honey from individuals who collect it from forest reserve-based social forestry.
7. Social forestry operator: poor; self-employed on Perum Perhutani land.
8. Reformed tree thief: self-employed on Perum Perhutani land as a social forestry operator.

13 This estimate is likely to be biased in that it would tend to overestimate the numbers who live on more than two dollars a day because in many cases the recorded levels of income from main occupation will be for households and not individuals. However, it should provide a reasonable comparison between related sectors.

9. Security guard: permanent employee of former logging company PT ITCI Kartika Utama (ITCI), which is now converting to plantation forestry development.
10. Field Maintenance Supervisor: permanent employee of Balikpapan Forest Industries (BFI), a logging company also converting to plantation forestry.
11. Forest maintenance labourer: day labourer working in forest plantation maintenance for BFI.
12. Forest land preparation worker: outsourced worker who could be described as self-employed but is a casual labourer paid by area completed, working as a part of a team cleaning up former forest land to be replanted by BFI.
13. Tree feller: permanent contractor who fells trees and trims the logs; could be described as self-employed; working for BFI logging operations.
14. Log skidder: moves the logs from the forest to the loading bay. Works as part of a team with a tree feller (Case 13). A permanent contractor who could be described as self-employed, working for BFI logging operations.
15. Nursery worker: provided to ITCI by an outsourcing company.
16. Cook: provided to ITCI by an outsourcing company.

All 16 cases are presented in full in Appendix 1.

3.3.2 Job Status

The forestry sector in Indonesia, as expected, has a large number of workers, the great majority of which are assisted by unpaid workers who are likely to be family members. The members of this group are likely to consist of poor farmers who work in social forestry share farming with government entities, such as the examples presented in Case Studies 7 & 8, and many of the casual workers such as the pine sap tappers and rubber tappers (Case Studies 4 & 5). In the field, although they are described as “pekerja bebas” (casual labourers), this description is more commonly applied to people who work seasonal jobs such as in harvest and planting activities in agriculture. For those working in the forestry sector in jobs that are paid according to quantities, such as the amount of goods produced or square meters of land prepared, the term self-employed is probably more appropriate, and that is how they would see themselves, especially where no contract is granted or implied. In Kalimantan, several of the case studies indicated that in outsourcing arrangements, while the provider of outsourced resources has a contract with the contracting company, the workers often do not have a contract with the outsourcer (Case Studies 12 & 15). This description, which accounts for almost 90% of employment in forestry, is a point of some concern, as it appears from the case studies that it may be a convenient way to mask serious discrepancies in both remuneration and working conditions for forestry workers (Table 3.1).

3.3.3 Training

According to the Labour Force data, 99.9% of males and 99.1% of females engaged in the forestry sector had never attended any form of training. Information from key informants suggests that if any training is provided it is usually only in the technical aspects of forestry. There is never any real awareness building about working conditions, worker health and safety, labour standards, first aid or matters such as chemical use and good work practices. This fact was verified to a large extent in several of the study cases, especially for those who are employed at the lower echelons of the system. In general, the only workers who are afforded any type of training are those who work as paid contracted employees, which in this case applies to approximately 1.98% of those engaged in the forestry sector (Table 3.2).

Table 3.2 Employment Status in Forestry

Employment Status	Males	Females	Total	Percent
Self-employed	9,126	2,824	11,950	4.96
Self-employed: Assisted by Temporary/Unpaid Worker	67,846	29,982	97,828	40.59
Self-employed: Assisted by Permanent/Paid Worker	217		217	0.09
Paid Employee	4,109	652	4,761	1.98
Seasonal Worker	6,296	1,425	7,721	3.20
Unpaid Worker	39,620	78,915	118,535	49.18
Total	127,214	113,798	241,012	100.00

3.3.4 Income

It was noted that the incomes earned by pine and rubber tappers in plantation forestry were well below the provincial minimum wage, which was Rp. 570,000 per month in 2009¹⁴. It is also interesting to point out that East Java, the site of the case studies, has the lowest provincial minimum wage in Indonesia. If the pay of the rubber tappers (Rp. 360,000 per month) and pine sap tappers (Rp. 400-500,000 per month) in 2009 is compared with the national average for workers in the agriculture, forestry, hunting and fisheries sector from 2007 (Rp. 626,000 for women and 790,000 and for men¹⁵), it is clear that their pay is significantly below average for the sector. The national average figures also indicate the discrepancy in wages between women and men; however, during the study, this discrepancy did not appear.

It is likely that the great majority of forestry workers do not get paid wages per se, but rather are piece workers in that they are paid according to the quantity of work they do. In Indonesia this is known as “borong”. The Labour Force data indicate that in 2008 there were significant numbers of people in the forestry sector working for rates below the provincial and sector average rates.

The lowest provincial minimum wage in Indonesia for 2009 was Rp. 570,000 per month. If this is used as cut-off value, at least 67.6% of forestry workers earn significantly less than the lowest level (Table 3.3). From the perspective of development and distribution of wealth, these levels of income are a cause for concern. The very

Table 3.3 Income from Main Job in Forestry

Income Group (Rupiah)	Frequency	Percent
1 - 125,000	2926	18
125,001 - 250,000	3454	21.2
250,001 - 375,000	2876	17.7
375,001 - 500,000	1733	10.7
500,001 - 1,000,000	2229	13.7
1,000,001 - 1,500,000	2778	17.1
2,000,000 +	275	1.7
Total	16271	100

14 Gajimu.com website: [http://www.gajimu.com/main/Gaji%20Minimum 01/11/09](http://www.gajimu.com/main/Gaji%20Minimum%2001/11/09):

15 Gajimu.com website: [http://www.gajimu.com/main/Gaji%20Minimum/average-wages 01/11/09](http://www.gajimu.com/main/Gaji%20Minimum/average-wages%2001/11/09)

low incomes can probably be attributed to self-employed persons who live in isolated areas in the forest and find most of their sustenance in the forest in the traditional manner, outside the mainstream economy. Occasionally they would find some forestry product to harvest for cash incomes. It is important to note that only the survey respondents who reported income are included in the table (16,271 cases).

3.3.5 Education

The average educational level in the forestry sector is quite low; 87.5% of forestry workers have an elementary school education or less. Less than 0.4% have completed post-secondary education, and this small number is likely to be made up of the senior management of the larger forestry companies and public servants working in the Ministry of Forestry or the large state-owned enterprises. In general, the education levels are also an indication of the levels of poverty in the forestry sector. Families struggle to educate their children to the highest possible level, but due to economic reasons, they usually meet with failure. Having the means to educate children beyond elementary school level is generally the preserve of the lucky few middle-income workers. As shown in the case studies, some of these people work in the riskier but more lucrative areas of the forestry sector, such as on logging teams in natural forests (Case Study 13), as permanent employees in supervisory/management positions or positions that demand high levels of loyalty (Case Studies 9 & 10), or as contractors who have a close relationship with the local staff of state-owned enterprises that enables them annually renewed access to outsourcing contracts (Table 3.3).

3.3.6 Forced Labour

There is some evidence of cases of forced labour in Indonesia, “domestic workers in holding centres sign documents before departure indicating their willingness to have salary deductions paid directly by the employer to the recruitment agency. In some case these payments account for as much as 90 per cent of the worker’s salary during the first five months of overseas employment”¹⁶. There are currently no hard data available but “the prevalent institutionalized practices by, in particular, recruitment agencies, employers and complicit officials” referred to in a recent ILO report indicates that forced labour is an economic fact in Indonesia, the report implores the Indonesian Government to redouble its efforts to strengthen the policies, mechanisms and practices for the effective protection of Indonesian migrant workers forced labour and trafficking. It notes with concern “the particularly vulnerable situation of migrant domestic workers”¹⁷. However, the anecdotal evidence of never-ending cycles of debt and repayment indicate that forced labour is likely to be prevalent also in the rural areas of Indonesia. More research is required on this dimension of labour in Indonesia.

3.3.7 Summary of Findings

The forestry sector is currently characterised by relatively high incomes, probably some of the highest within the agriculture classification. Related to this fact is the status of workers, the vast majority of whom are classified as either unpaid or self-employed. The number of unpaid workers indicates that while income levels are generally high in forestry, poverty is likely to be prevalent, especially when considering that unpaid workers account for almost 50% of all forestry workers.

16 Forced Labour: Facts and Figures, The Cost of Coercion: Regional Perspectives (ILO factsheet from ILO Website http://www.ilo.org/wcmsp5/groups/public/---ed_norm/---declaration/documents/publication/wcms_106391.pdf 16/12/09.

17 The Cost of Coercion. Global Report under the follow-up to the ILO Declaration on Fundamental Principles and Rights at Work 2009, International Labour Office, Geneva, ISBN 978-92-2-120628-6

Table 3.4 Education Levels in Forestry

Education Level	Cases	Percent
No Schooling	51,752	21.5
Some Elementary	53,015	22.0
Elementary School	105,852	43.9
Junior Secondary (General)	19,459	8.1
Junior Secondary (Vocational)	93	0.0
Senior Secondary (General)	6,720	2.8
Senior Secondary (Vocational)	3,296	1.4
Diploma I/II	294	0.1
Diploma III	108	0.0
Diploma IV/University	423	0.2
Total	241,012	100.0

Their self-employed status may result in workers not being considered as assets, so the commercial operators do not see the point of investing in their training or the improvement of their conditions. Rather, they are more likely to be looked upon as a huge pool of labour that can be exploited selectively as required. When labour is required the procurer can select the fittest and healthiest to be paid piece rates. It makes the management of human resources a cheap and simple process. Education levels are among the lowest per sector, a direct result of the impact of labour conditions.

The case studies highlighted several points that require attention from the point of view of labour conditions and labour inspections. In all cases there was very limited awareness of the actual meaning of labour conditions, worker health and safety, or general labour issues. None of the respondents apart

from the security guard knew anything about first aid. This is despite the fact that some were working in dangerous jobs, and many were expected to voluntarily fight forest fires if and when they occurred. The use of protective clothing is minimal among the case study respondents. Most of the respondents were above the age of 30, and the general consensus was that forestry is not attractive to youths.

Labour conditions in the field, based on an eyeball assessment, indicates that the decency of employment is fairly closely aligned with the type of contract. The results of the study indicate that more than half the jobs appear to not meet the criteria for decent work, mainly due to the low levels of income, lack of safety net, lack of reliable income, and poor working conditions. Those that do fit the criteria of decent work are usually held by workers with permanent contracts, workers with long experience in rather narrow fields that require good motor and perception skills because of the danger involved, such as tree fellers and skidders, or those who have recurring contractor arrangements with the companies.

The main issues encountered were a fairly universal lack of proper attention to health and safety issues, perhaps the most alarming cases being the persistent problem of malaria in the logging camps, the living/food preparation conditions in camps of outsourced labourers, and the lack of awareness of the dangers of chemicals: for example, one respondent stated that he always mixed the chemicals with his hand. He thought that this was acceptable, as long as he washed his hands afterwards. Several workers also stated that they did not wear masks while spraying but pulled their shirts up over their nose and mouth.

One of the most prominent problems, especially in non-wood plantation forestry, is income levels and poverty. Many of these people can be classed as the working poor, and it is this problem that will provide the greatest challenges in terms of decent work. Serious investigations need to be made to arrive at a more equitable distribution of profits or to find alternative means to augment incomes (Table 3.4).

4. Relevance and Usefulness of the Guidelines

The following sections examine the current conditions in relation to the ILO conventions, as articulated in the ILO Guidelines for Labour Inspection in Forestry. Please note that the basic requirements of the related labour conventions were extracted directly from the ILO Guidelines document.¹⁸

4.1 The right to organize and bargain collectively

The majority of case respondents were not members of any union. Only four had union membership, and two of these made it clear that they did not understand the benefit of unions. This stance persisted even after they admitted that the union had helped them get a pay rise recently. It is likely that union membership is discouraged and that in forestry the low levels of income and general incidence of poverty, combined with the high value placed on having a job by the worker, conspire to discourage him or her from taking part in any activities that might be construed as unappreciative or negative toward the company, and thereby threaten the already meagre income that he/she has access to. There is likely a corporate culture that also discourages union membership, whether passively or actively. The key point, however, is that the people who were living and working in very poor conditions were quick to make use of a union's services to organize to acquire more benefits, when they had the opportunity to do so. The union, if active and confident, becomes more attractive. The one case that does stand out in this respect is that of the rubber tappers in Lamongan District in East Java (Case Study 5). Here, the local union for plantation workers, SERBUK, is seen as very beneficial to the rubber tappers because it has helped them negotiate a slight improvement in their conditions. Some casual workers now get promoted to permanent positions. THR (an annual leave bonus) is now paid for the holiday season, and although the rubber tappers have not managed to achieve any pay increases, the payment process is now at least transparent, and the union is working toward bringing income into line with the district minimum wage. The rubber tappers are very happy about this. In general, the right to organize and bargain collectively exists, although it is highly likely that it is discouraged in several cases. However, if a convincing union could demonstrate its power to these workers¹⁹ and show them that benefits will be forthcoming without threatening their current incomes, they would surely want to participate. It is also important that the companies, especially the state-owned enterprises, recognize the need to distribute profits more equitably.

The basic rights articulated in international labour Conventions Nos. 87 and 98 are as follows:

- ◆ the right to establish and join organizations without previous authorization;
- ◆ the right to draw up constitutions and rules and to elect representatives in full freedom, to organize their administration and activities and to formulate their programmes;

18 International Labour Organization. Guidelines for Labour Inspection in Forestry. ILO Geneva, 2006

19 Especially those considered to be living in poverty, like the pine sap tappers and social forestry operators.

- ◆ that membership of such organizations shall not prejudice the employment, or cause the dismissal, of a worker;
- ◆ that the public authorities shall refrain from any interference which would restrict this right;
- ◆ that workers' and employers' organizations enjoy protection from acts of interference by each other; and encourage and promote the development and utilization of voluntary collective bargaining to regulate terms and conditions of employment.

4.2 Prohibition on forced labour

The study did not find any evidence of forced labour; however, it could certainly be said that certain conditions of poverty and the lack of access to education and the “broader” world of work may conspire to create conditions in which the worker has no choice in the question of how he or she makes his/her living. It is likely that many also suffer from a form of debt bondage, which may not be deliberate but could restrict a worker's ability to pursue other opportunities. Case Studies 14 and 15 mention how health insurance is provided to workers, who are responsible for covering 50% of the cost. Apart from the fact that this would actively discourage low income workers to visit the doctor and thereby maintain good health, in situations where they have no choice (serious illness or accident) and are forced to pay back 50% of medical expenses, a form of debt bondage may ensue.

The basic provisions of the international labour Conventions on forced labour are:

- ◆ to suppress the use of forced labour in the shortest possible time;
- ◆ that forced labour shall not be permitted for the benefit of private individuals, companies or associations;
- ◆ that no concessions to private individuals, companies or associations shall involve forced labour for the purposes of that individual, company or association.

4.3 Child labour

No forms of child labour were encountered directly during the study, although in most cases children did chores around the house for a couple of hours per day as a matter of economic necessity. However, there was anecdotal evidence about a rather serious case of child labour in Jember during the peak harvest season and at certain times of the year, when many children are forced by the economic situation of their families to work nights in rubber and tobacco plantations. This anecdotal evidence could not be verified at the time of the study, but as the old adage goes, “where there is smoke there is fire”. There was no evidence of youths between the age of 16 and 18 working in hazardous conditions, In fact almost all the workers encountered in the study were over 30 years of age, especially in logging operations where hazardous jobs usually require long experience and involve operating expensive machinery which is an important company asset. However, it is possible that children are sometimes also put in hazardous positions in community forestry activities.

The basic provision of the international labour Convention on child labour is:

- ◆ strict adherence to local minimum age provisions or international standards.

4.4 Equality of opportunity and treatment

Many ethnic groups were found to be working in the forestry sector in the two locations of the study. In fact it is obvious that the companies, especially outsourcing companies, probably exploit the poverty of more remote Indonesian locations to find people who are willing to work in certain jobs that the indigenous populations would not. This is not necessarily a bad thing because it gives such people employment opportunities to earn cash, which they do not have in their home towns. Case Study 12, which describes the living and working conditions of inter-island migrants, provides a good example of this. All 15 workers in the forest land preparation team come from Bima in West Nusa Tenggara. It is clear that their living and working conditions are very tough, but likely not much different than the general conditions where they originate. It was also noted in several cases that local indigenous people held reasonably good jobs. Case Studies 11 and 13 provide good examples of this with, respectively, Nopi, a young man from the local Pasir ethnic group, who is a day labourer working in a relatively good position in the company as a general assistant, and Alex Yusdin, a Dayak who has been working in one of the more highly paid jobs (tree feller) for 35 years.

Some concern should be voiced in this regard, however, about the Madurese people, who are working as rubber tappers in Lamongan District (Case Study 5). Conditions are very poor, and it may be that their ethnic background is also playing a part in keeping them in this position. The Madurese are tough and it is likely this characteristic that brought them to the plantation initially. During the Dutch colonial period they were well known for being able to handle the jobs that locals could not. But along with that toughness also comes a reputation of being quick to anger, which could possibly be used passively against them as a minority group among a majority of Javanese.

Table 3.4: Summary Information on Case Study Respondents

Name	No.	Case	Age	Job Description	Type of Work	Employment Contract	Income (Rupiah/ Month)	Issue Encountered	Union	Decent Work Assessment
Bambang	1	1	55	Nursery Contractor (Field Foreman)	Managing nursery operations	None Annually renewable works contract	2,000,000 – 3,000,000	Health and safety (chemical use)	No	Yes
Slamet	2	1	30	Forest Planting & Maintenance Contractor	Managing planting and maintenance operations	None Annually renewable works contract	2,000,000 – 3,000,000	Health and safety (chemical use)	No	Yes
Parno	3	2	43	Eucalyptus Stripper	Cutting eucalyptus leaves, sorting and loading	None Paid per tonne of leaves	1,000,000	No health insurance, sick pay or pension plan	No	Borderline
Sisroyo	4	3	49	Social Forestry Operator	Coffee intercropping in PP Forest	Share farmer 20% to land owner	5,000,000 +	No real issue	No	Yes
Suwaji	5	4	47	Pine Sap Tapper	Tapping pine trees	None Paid according to amount of sap collected	400,000 – 500,000 + sidelines	Health and safety; poverty; no health insurance sick pay or pension plan	No	No
Supardi	6	4	50	Pine Sap Tapper	Tapping pine trees	None Paid according to amount of sap collected	400,000 – 500,000 + sidelines	Health and safety; poverty; no health insurance sick pay or pension plan	No	No
Sukarmo	7	5	50	Rubber Tapper	Tapping rubber	None Paid according to amount of latex collected	360,000	Health and safety; poverty; no health insurance, sick pay or pension plan; poor living conditions	Yes	No
Surai	8	5	42	Rubber Tapper	Tapping rubber	None Paid according to amount of latex collected	360,000	Health and safety; poverty; no health insurance, sick pay or pension plan; poor living conditions	Yes	No

Name	No.	Case	Age	Job Description	Type of Work	Employment Contract	Income (Rupiah/ Month)	Issue Encountered	Union	Decent Work Assessment
Untung	9	6	40	Honey Trader	Buying and selling honey from the forest gatherers	None Self-employed	1,250,000	No health insurance, sick pay or pension plan.	No	Yes
Abdul Bahri	10	7	50+	Social Forestry Operator	Coffee intercropping in PP forest	Share farmer 20% to landowner	400,000	No health insurance, sick pay or pension plan; poor living conditions; poverty	No	No
Sriyono	11	8	43	Reformed Tree Thief	Maize intercropping in PP forest	Share farmer 20% to landowner	300,000 – 400,000	No health insurance, sick pay or pension plan; poverty	No	No
Maslyansyah	12	9	32	Security Guard	Maintaining security at wharf. Fighting forest fires	Permanent employee with contract	1,500,000	None (except timber company crisis)	Yes	Yes
Syamsul Hadi	13	10	42	Forest Maintenance Supervisor	Managing maintenance team and activities	Permanent employee with contract	2,000,000 – 3,000,000	None	Yes	Yes
Nopi	14	11	33	General duties	Forest maintenance duties	Permanent day labourer (no contract)	1,000,000	Health and safety; no health insurance sick pay or pension plan	No	Borderline
Mosin	15	12	30	Land Preparation	Cleaning forest floor ready for seedlings	Permanent Labourer (provided by outsourcer, paid by amount of land cleaned)	1,000,000 Paid according to monthly tally of area prepared divided equally among team of 15	Health; appalling living conditions; no health, accident or workers comp. insurance; no pension plan, etc.	No	No
Alex Yusdin	16	13	51	Tree feller	Felling trees trimming logs	Permanent Employee (paid by cubic meters of wood cut and delivered to road	2,500,000	Not enough protective clothing or awareness of health risks	No	Yes

Name	No.	Case	Age	Job Description	Type of Work	Employment Contract	Income (Rupiah/ Month)	Issue Encountered	Union	Decent Work Assessment
Yusuf	17	13	40	Skidder	Bulldozer operator tows logs to loading bay	Permanent Employee (paid by cubic meters of wood cut and delivered to road	2,500,000	Not enough awareness of Dozer limitations on slopes, need formal training	No	Yes
Adriana	18	14	-	Nursery worker	Propagating seedlings	Casual day labourer	1,000,000	No health, accident or workers comp. insurance, no pension plan etc.	No	Borderline
Cumiyati	19	15	66	Cook	Prepares daily meals for permanent workers	None, works for outsourcing company.	1,600,000	Long hours (16 hrs/ day); no modern facilities	No	Borderline

Two women were interviewed at the ITCI Forest Base Camp. Both were from ethnic groups from outside Kalimantan (Case Studies 14 & 15), one from East Java and working as a cook, and the other from Toraja (Sulawesi) and working in the nursery. The cook earned a slightly higher than average income, and the nursery worker earned an average income, no more or no less than her male colleagues. Career development or promotion to better jobs, however, is likely to favour men.

In commercial forestry in general, both the ethnic and gender dimension seemed fairly well managed. The Guidelines, however, will be very relevant to further development, especially with regard to workers' health and safety.

The basic requirements of the international labour Conventions are:

- ◆ equal pay for men and women for work of equal value;
- ◆ no discrimination on the basis of race, colour, sex, religion, political opinion, national extraction or social origin.

4.5 Fair remuneration

There are a number of cases in which remuneration seemed unfair. In the case of the rubber tappers and pine sap tappers (Case Studies 4 & 5), remuneration was far below even the provincial minimum wage. But these are not wage workers, they are paid according to how much they harvest. Unfortunately the amount they harvest is probably not always under their control either, as different seasons will provide different yields in different forests. The fair remuneration standard states that piece rates should be adjusted to reflect local minimum standards. Clearly this is not happening in East Java. This convention is certainly relevant and should be applied to forestry and plantation workers. However, it may be difficult to sanction state-owned enterprises for failure to comply.

The basic requirements of the international labour Convention are:

- ◆ in no case should the remuneration of wage earners be lower than the legal minimum wage;
- ◆ failure to comply with the minimum wage rates must be sanctioned by appropriate penalties.

4.6 Occupational safety and health

There are many examples of occupational safety and health problems in the 15 case studies. In almost all cases, awareness of occupational safety and health issues was very low, and almost nonexistent in some cases. In the case of most non-indigenous workers in Kalimantan, malaria is a constant threat to health and productivity. In some cases (Case Study 12 in particular), general living conditions in the forest are reason for concern, especially for outsourced workers. Most of these conditions could be vastly improved with minimal investment in housing. The food and water supply for example, could be improved with solar or gas-powered refrigerators and water filters. The housing situation could be improved with good portable housing rather than makeshift tents and sub-standard wooden accommodation, and installing flywire screens on windows and vents would probably considerably reduce the malaria threat. There was no evidence of any form of training or awareness building in relation to health and safety in the workplace. The incidence of mixing chemicals by hand (Case Study 11) is a cause for concern, and the lack of first aid knowledge could mean the difference between life and death in an isolated work location where doctors or paramedics are not immediately available, which would include all case study locations.

The Guidelines should also apply to outsourced workers, but it seems in some cases that outsourcing is practiced by companies to mask poor conditions or at least to relinquish responsibility for them. No senior staff of outsourcing companies were sighted during the study. It is also of major concern that many workers have no health or accident insurance, workers' compensation, or social safety net.

The basic provisions of the international labour Conventions are:

- ◆ that employers must ensure that, so far as is reasonably practicable, workplaces, machinery, equipment and processes are safe and without risk to health and safety;
- ◆ that employers must take appropriate measures to reduce risks to health from chemical, physical and biological substances;
- ◆ that employers must provide, where necessary, adequate protective clothing and protective equipment to prevent, so far as is reasonably practicable, risk of accidents or adverse effects on health;
- ◆ that workers shall be informed of health hazards in their work and shall be given appropriate training in occupational safety and health (OSH).

4.7 Specific provisions for safe and healthy forestry work

Specific provisions include the testing and certification of equipment, which although not dealt with specifically in the study, would seem to be lacking. A summary observation of equipment and operations indicates that much of the machinery is very old, and in some cases is constructed out of several components of different older brands of machinery. In ITCI, for example, there was a low loader truck built out of parts cannibalized from three other broken-down trucks. This indicates that testing and certification is probably nonexistent, with more of a "cowboy" attitude taken towards machinery operation and maintenance. This is quite common in isolated areas, even in developed countries.

Dangerous substances are also a concern, and clearly there is little awareness of these in the forestry sector in the locations visited. Awareness with regard to working with pesticides was very low. All of the workers' knowledge in this regard is acquired from reading the instructions "on the bottle".

Work clothing and personal protective equipment is also a point of contention. In most cases proper work clothing and protective equipment is not provided. Senior management in some cases had good durable uniforms, and two interviewees were provided with steel-capped boots. In general, though, work clothing and personal protective equipment needs could be given much more attention.

First aid and emergency rescue were also concepts that were difficult to identify in the majority of cases. The big logging companies like ITCI have generally good facilities, including a hospital and ambulance; however, the ambulance is not a four-wheel drive vehicle and would probably not be of any use in wet conditions. It is also quite old. Most of the emergency rescue facilities are left over from the "Golden Age" of logging, and in most cases the general facilities and buildings are in decay. As mentioned above, first aid training is virtually non-existent. Occupational health services were not visible and did not arise in any of the discussions. Shelter, housing and travel were also generally lacking, as mentioned above.

4.8 Workforce qualification and training

None of the workers interviewed had any form of workforce qualification, and very few had any form of training other than in standard machinery operation, which is likely provided by the machinery provider. There were some incidences of training in technical forestry matters that are essential for good forestry production. None, however, resulted in any form of certification. There was no evidence of work rotation schedules that may lead to a broad-based forestry worker qualification. None of the government agencies have any materials in relation to this, although the Ministry of Forestry seems to have begun thinking about it at least.

5. Key Issues Identified by Informants

During the study, discussions were conducted with several key informants. The major issues originating from the discussions and related to labour in forestry are as follows.

5.1 Ministry of Forestry (MoF)

The Ministry of Forestry is currently undergoing a transformation. Currently, many of the public servants engaged in the MoF do not have qualifications related to forestry management; the wages are also not considered to be sufficient. There is a general skills shortage in the Ministry, especially in the regions. Apart from this there are no real standards for human conditions, such as safety or health standards, applied to the forestry sector at all, nor is there any training, or even any training modules, on labour conditions. According to the 2006 data, of the 7,857 people who attended training programs, none received any training related to labour inspection or conditions. Most training is related to technical forestry matters.

The key informants within the Ministry explained the transformation as a reform of the Ministry of Forestry (MoF) based on Minister of Forestry Regulation No. 11 of 2008 regarding Technical Competence and the Certification of Technical Skills in Sustainable Forestry. This reform is currently aimed at training technical manpower in a number of skills related to the technical aspects of forestry. It is limited to public servants and formal company employees. The system operates through a cooperative structure shared between private enterprise and the government. The technical manpower who actually work in the field are trained by the Ministry of Forestry but are private company employees known as GANIS.²⁰ They are responsible for such things as timber cruising (forest inventory), production forest planning, and wood testing and measurement. There are 17 different areas of competence for technical manpower set out in the Regulation No. 11/2008, as follows:

1. Timber Cruising
2. Production Forest Planning
3. Forest Area Opening (new production forests)
4. Forest Harvesting
5. Forest Development (planting new forests)
6. Environmental Management
7. Social Management (community forestry)
8. Log Testing

²⁰ GANIS is an acronym constructed from the Indonesian term TenaGA TekNIS which means Technical Specialist.

9. Sawn Wood Testing
10. Layered Wood testing (veneers, plywood, chipboard, etc.)
11. Chip Testing
12. Fuel Wood/Charcoal Testing
13. Specific Wood Group Testing (Rattan, Bamboo, etc.)
14. Oil Product Testing
15. Resin Product Testing
16. Sap Product Testing
17. Bark Product Testing.

These technical personnel are responsible for the implementation of the related standards in companies engaged in the forestry sector, according to the type of work going on in each. Clearly the companies have a commercial orientation, which may influence them to vary their standards, so in order to ensure that each company acts in compliance with the law, these technical personnel are further supervised and monitored by government personnel known as WASGANIS.²¹ The WASGANIS, however, are only trained in 13 fields of competence. There are no WASGANIS for Timber Cruising, Forest Area Opening (new production forests), Environmental or Social Management. At this stage, it is not clear why, although it is likely that these supervisory roles are the responsibility of other departments.

The WASGANIS are currently employed as civil servants under the Directorate General of Production Forest Development, which is part of the Directorate of Forest Contributions Development and Distribution of Forest Products. In discussions with regional government staff in East Kalimantan, it was stated that some regional government staff from the provincial forestry services office are also currently undergoing training to become WASGANIS.

In relation to this, the Directorate General of Forest Planning and the MoF's Human Resources Department has started working on labour standards for public servants and for labour in forestry. The National Board for Professional Certification and the Professions Certification Institute are currently working together on standards. The work that is going on here, however, seems to be related to minimum skills competence standards, rather than standards for labour conditions. The application of these standards is aimed at a specific, rather small group of employees, rather than the general working public.

A summary observation from the field indicates that there are technical supervisors in the field but they are likely too few in number and possibly under-equipped. In addition, the supervisors are not actually close enough to the front line (i.e. the workers in the field) to function sufficiently as labour inspectors. Moreover, the commercial focus of companies would likely cause their technical staff (GANIS) to be biased in their interpretation of the labour standards. There are also currently no technical standards for labour inspection, which is the purview of the Ministry of Manpower and Transmigration rather than the Ministry of Forestry.

²¹ WASGANIS is an acronym constructed from the Indonesian PengaWAS TenaGA TekNIS, which means Technical Specialist Supervisor.

5.2 Decentralization and Disnakertrans

Since the Indonesian government decentralized its operations in 2000, the role of central government has become primarily one of oversight (that was the objective, at least), while regional governments were responsible for operational matters. However, the central government is still involved in some operational matters. Moreover, central and regional government still do not communicate well with each other.

Discussions with the regional Manpower and Transmigration Services Office (Disnakertrans) in Jember indicated that there is still some confusion over the management of labour. The oversight of labour conditions since decentralization has not been effective, and a new policy is needed. The key informant was the head of the Welfare and Workers' Conditions Section. He stated that there are no labour standards and there is no routine inspection of labour conditions. The staff of Disnakertrans only go to the field if something is reported, and the office is understaffed even when it comes to implementing this role. The only legal basis he has to carry out this work is Law No. 13 of 2003 regarding Working Conditions, which is a very broad document covering all types of work, and only provides for the opportunity to negotiate. No standards are incorporated in the law. Law No. 1 of 1970 regarding Worker Safety and Health is also used as the basis of labour management, but in most cases these laws are open to interpretation and argument. Clear standards are very badly needed.

An interesting issue that came out of the discussion was the regional stance on standards. According to Law No. 22 of 1999 regarding Regional Government (Decentralization), standards are the exclusive responsibility of the central government. There is a need for a national organization such as a Federal Bureau of Labour Standards, which in the case of Indonesia would translate to something like the National Board of Labour Standards. According to the source, the issue of labour standards is a very politicized matter in the regions. If the regional government tries to establish standards or intervene in labour issues and side with labour, they stand to lose major support from business in these matters, risking the breakdown of relationships and making the management of labour even more difficult. According to the source, the answer is to have a central government authority established with this role. Ideally the central government could place an inspector or a section in each district office, or a separate office located at the provincial level to carry out routine labour inspections. In this way the regional offices would be legally bound to follow and enforce the standards but their relationship with regional businesses could be maintained because they could explain that they do not make the rules, they just have to follow them. The issue of minimum labour standards is one that relates to equality for all citizens; such standards should therefore be developed and applied nationally. Regional businesses would then need to find creative ways to meet the standards. This may include tapping into carbon trading schemes. The source also noted that profits always tend to increase but wages don't, so it is possible that creativity would not be the key issue here; rather, a little empathy.

5.3 Conservation

The key informant interviewed at the Natural Resources Conservation Centre in East Java pointed out that the main problem they face is the management of their national parks and nature reserves. They are constrained by the lack of funding, infrastructure and facilities for routine patrols. There is a need for policy development in the conservation sector. At the moment there are conservation parks that are set up for visitors and reserves that require permission to enter. However, while information on the location and so on of these restricted reserves is publicly available on the internet, they do not have any infrastructure to support patrols and monitoring. As a result many people now enter the reserves without permission. There is a fear that this trend will continue and that ultimately, irreversible damage will be done to the environments of the reserves. In a country with the population pressure of Indonesia, and

particularly Java, it is not possible to have such reserves. It is likely that many poor people who live near these reserves also use them for subsistence purposes, taking forest products obtained through hunting and gathering. The terrestrial reserves should be converted to parks so that people can pay a fee to access them at the site and be allowed limited access to certain areas with supporting infrastructure, and the fee put towards infrastructure and reserve maintenance such as fencing and access facilities. The local people, especially those currently involved in illegal forest activities, could be employed in these infrastructure development and maintenance activities to earn incomes to replace their gains from illegal activities. Simple infrastructure, such as sealed concrete bicycle and motorcycle pathways, would then allow for the management of visitors (by keeping them on the pathways and in designated areas), and enable efficient and effective patrols to monitor perimeters and illegal activity as well as the state of the reserve. All the jobs created would be green jobs.

5.4 Child labour in Jember

As mentioned in section 4.1, child labour was not directly encountered and could not be verified during the study. However, a key informant pointed out that at certain times of the year in Jember, especially during the active seasons in the rubber and tobacco industry, child labour is a significant problem.²² The problem is caused by overpopulation and poverty. School dropout rates are high, and this retards regional development in a generational manner.

It is important to point out that the school dropout rate is influenced not only by financial matters, but is also driven by the dynamics of opportunity cost and the psychological influences on the parents. In conditions of poverty, where the smallest of income augmentations provide significant benefits, the contributions of children to family incomes are very meaningful. In other cases, child labour is out and out forced labour. However, if reasonable parents see their children doing well in school they will struggle to keep them there. But when children work long hours and go to school as well, it is likely that their school grades will suffer. When the parents then see that the child is not doing as well as others in school they will reassess their position, and that reassessment would likely include the notion of their child dropping out of school. After all, this is probably exactly the same dynamic that influenced their own generation.

The key informant on child labour also suggested that there is evidence that the companies have a strategy of employing families rather than individuals, and pay the households piecework rates.

5.5 Tree theft

The Perum Perhutani (PP) unit in Mojokerto has a problem with tree theft. This problem prevents them from obtaining sustainable forest certification so that they can sell wood and other products as certified sustainable products in overseas markets where prices are better. Tree theft is largely driven by poverty, and a majority of the wood stolen is for personal use rather than resale. In order to overcome this problem, PP initiated a profit-sharing scheme through which people who work for PP²³ can get up to 25% of the profits; however, if trees are stolen from the local area, the share decreases. This has served to reduce annual thefts by 50% in recent years, but for persons not included in the profit sharing arrangements, such

22 While no forms of child labour were encountered directly during the study, this key informant did provide a convincing description of the child labour problems, and this is the anecdotal evidence that is also referred to in Section 4.3 above. Although the source was credible, the study did not seek verification in the field due to the fact that it generally occurs on a seasonal basis, and it was the “off season” at the time of the study.

23 We assume this includes contracted piece workers.

as professional thieves and other poor farmers in the area, there is no incentive. It is thought that a lot of the wood stolen is used only for house repairs in the traditional manner of the villagers. This was observed in Case Study 8. A recent newspaper article²⁴ also attests to this modality. A 44-year-old man was captured stealing wood. His reason for stealing was poverty: he had no money to buy wood to repair his house, and he also intended to sell a portion of it, most likely to a neighbour with a similar problem.

It was noted during the study that over the last five years, PP in East Java has contributed an average of Rp. 140,581,500,000 in profits to the government coffers. While it would be interesting to see what this is used for, the point here is that perhaps a more equitable distribution of profits could be practised. PP East Java has 7,250 field staff and 1,801 of them have only an elementary education or less. Assuming that the lowest paid staff are also the least educated, and are similar to pine sap tappers, they would earn Rp. 400,000 to 500,000 per month. To bring these lowest paid staff up to provincial minimum wage levels of income would require a maximum of Rp. 4,500,000,000 per annum (in round numbers), or approximately 3.2% of the average annual profit. Perhaps PP should consider paying daily rates based on provincial or local minimum wages, possibly linked to minimum daily average production or some other method that would allow workers to achieve minimum wage levels at least within a 40-hour working week.

5.6 Biofuel feed stocks

The staff at PP KPH Mojokerto in East Java also pointed out a fundamental problem related to biofuel production. Often programs are invented at central level for purely political reasons and suddenly, without any warning or planning, the local staff are told to “plant a million trees” or “plant jatropha,” which they are then duty bound to do. PP staff were recently told to plant jatropha in all available spaces, so they used the plants to create buffer zones between roads and forests on the estates. However, when it came to harvest time, the market price for the seeds was so low that nobody was interested in either harvesting it or maintaining it. This could cause great damage to the biofuel industry, because many of those who initially saw this as a potential income opportunity are now discouraged and will likely not be interested if asked to plant jatropha again. It will take a major effort to re-convince them to grow it. If programs such as this are to be initiated, there should be a carefully thought out plan including a guaranteed price, established processing facilities and, if necessary, government subsidies. This point was also made about forestry in general. A forestry expert interviewed in East Kalimantan pointed out that in order to make re-greening or reforestation programs successful, more emphasis must be given to the maintenance of trees. Many of the seedlings planted will die due to competition from other established or more aggressive species if maintenance is not considered, and many of the seedlings themselves are of low quality. It was noted that several companies base their “green economy” corporate social responsibility (CSR) programs on re-greening campaigns, and measure and market their success on the amount of seedlings they produce and disseminate and/or plant. These figures are sometimes astronomical, with some companies claiming to have planted 7,000,000 seedlings or more. The sheer scale of these claims is cause for some concern and doubt if one considers that planting this many trees at 10-meter intervals would result in a line of trees 70,000 km long. This claim is attributable to just one company. However, the point is that all of these programs seem to only concern themselves with generating good news stories while actual results are not considered. If they were planned properly and implemented well it is likely that they could provide an immense amount of green employment and decent income opportunities.

24 Radar Mojokerto, 30 May 2009. As published on the Perum Perhutani Website http://www.unit2.perumperhutani.com/home/index.php?option=com_content&task=view&id=79&Itemid=1, accessed on 05/11/09

6. Conclusion

Although the study cannot claim to have addressed all the issues, it has shed some light on the main labour-related issues in two prominent forestry locations in Indonesia. Although only 15 cases were examined, it could be argued that these cases are representative of the general labour conditions in forestry in Indonesia. The cases range from workers who work and live in very poor conditions to those who enjoy very good conditions by local standards. The problem is that in almost all cases, the level of awareness of worker safety and health issues is low, and a general understanding of the longer-term impacts of living and working in poor conditions is lacking. For this reason, it is considered appropriate to expend more energy on raising workers' awareness with regard to these issues.

The results of the study have been explored and assessed against the background of the Guidelines for Labour Inspection in Forestry, and on this basis the Guidelines are considered to be relevant and applicable to the Indonesian forestry sector. The Guidelines are flexible and adaptable to Indonesian conditions and would provide an ideal platform for the development of a forestry labour inspection capacity in Indonesia.

Several interesting points are highlighted in the case studies, but all the poor labour conditions are directly related to matters that are outlined in the Guidelines.

7. Recommendations

Almost all employment related to sustainable forestry in Indonesia could be described as green jobs²⁵. It is important that this sector begins to get priority support for both policy and operational matters in Indonesia. The sector needs an institution dedicated to inspection, monitoring and reporting of labour conditions in forestry, which should be established as soon as possible due to the myriad issues this study has revealed and the importance of the forestry sector as a potentially major and growing force within the green economy in Indonesia.

The development of Labour Standards is an essential component of economic development in Indonesia, and the current status of forestry as a sector of growing importance in the green economy makes it the ideal place to begin this process. The likely transition of the sector from pure exploitation to a cultivation and harvest cycle will create conditions that will require high quality monitoring and enforcement systems.

The Guidelines are an ideal foundation, and could become the basis of an effort to develop training modules on labour conditions²⁶ for the Ministry of Forestry and/or Ministry of Manpower and Transmigration. These organizations need to be brought together and a dialog established around this common need.

In order to drive this activity forward, a new body of staff will be required, along with a renewed approach to improving labour conditions in forestry. Some dissemination activities and awareness building about the Guidelines for Labour Inspection in Forestry need to be undertaken, and discussions initiated with the relevant ministries about such a development and its relationship with youth employment and green jobs. There is great potential for green youth employment as inspectors will be needed. Initial interdepartmental discussions should focus on the possibility of establishing the labour inspection capacity, and where the organizational home for that function should be.

The relevant stakeholders might also like to consider a pilot project to establish an accepted set of guidelines for application in Indonesia, and develop the process and organizational capacity required to support implementation. Ideally such a project could focus on one or two provinces initially to cover all forms of forestry and conditions.

A separate effort may be required to raise awareness of worker safety and health, including first aid, in forestry in Indonesia. The ILO might like to consider ways in which it could contribute to establishing training modules and dissemination programs in this area.

25 They are green jobs because they are related to the maintenance of forests for their environmental services benefits. Sustainable forestry is where the important biosphere functions of forests, such as the capture of atmospheric carbon, maintenance of the hydrological cycle, prevention of erosion and soil loss, prevention of landslides and provision of a home or warehouse for biodiversity, are maintained. This means that any jobs that are related to forest plantation development, reforestation, plantation management, forest management, harvest of forest products, forest maintenance etc., are technically green jobs, because green jobs are those that contribute to the maintenance of biosphere conditions to support human and other life forms and their economies.

26 Training modules on labour conditions are required as fundamental input into a labour inspector function within the Ministry. At present none exist, and a general awareness of what constitutes good labour conditions, let alone standards for such conditions, is not yet developed.

Eliminating child labour and improving the basic working conditions in the forestry sector of Indonesia is closely related to the income levels in forestry. The forestry sector is likely to be characterised by the lowest average sector income levels in Indonesia as it shifts into plantation forestry mode. Some further studies of income levels and ways to augment incomes in this sector should be commissioned.

Also in relation to income levels, much of the lower paid work in forestry appears to be done only in relation to production, i.e. in the harvesting of produce. This is piecework, where the worker is paid according to the amount of produce he/she gathers, which may be a daily or weekly tally of kilograms of pine sap or latex, for example, that is delivered to the buyer. More research is needed into this area in order to find ways to increase the income levels of those whose jobs entail 40 hours of work per week but do not meet minimum wage standards.

There is clearly an opportunity to develop green employment creation programs for the poor in relation to forest park and reserve management within the Ministry of Forestry. The initial steps in this regard would be an exploration of park and reserve management policy to ascertain the possibility of incorporating changes that will lead to the better management of these valuable biodiversity reserves. Improved management of these parks and reserves could potentially provide green job opportunities for the poor in the short term, and in the longer term for youths, in patrolling, management and tourism.

If possible, some research should be undertaken on the efficiency and effectiveness of corporate social responsibility programs that are related to forestry development in Indonesia to find out what they do and how much they contribute to the green economy. A qualitative and quantitative analysis of programs would be useful to determine their effectiveness, and this will be essential in addressing carbon credit issues.

Further studies are needed to look into the possibility of augmenting low incomes in forestry through green employment-intensive programs linked to carbon trading or carbon credit programs.

It is also important to undertake some type of study of child labour in Indonesia, possibly beginning in East Java where it is likely to be rife in specific regional pockets.

8. Appendix 1

Case Studies of Labour in Forestry

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Case 1. Field Foremen: Perum Perhutani Mojokerto

Pak Bambang is 55 years old and has worked as a contractor for Perum Perhutani for 8 years. He works on an annual renewable contract basis and is paid by the quantity of work that he does, based on the annual work plans from the Perum Perhutani Mojokerto branch. Pak Slamet works under the same system but he has worked for Perum Perhutani for 10 years and is 30 years old. Pak Bambang manages all the nursery work for the Perum Perhutani activities in Batu while Pak Slamet works closely with Pak Bambang and takes care of the forest planting. He plants and looks after the seedlings provided by Pak Bambang.

Pak Bambang has five children whom he has managed to keep in the education system, so that all have graduated from university and none are unemployed. He has a house and a motorcycle and is quite happy with his lot in life. Pak Slamet also has his own house and motorcycle and is also satisfied with his position. Both men go to Mojokerto once a week for “refreshment” and shopping with their wives. Apart from this weekly activity, the work is full time every day for 7-8 hours. Pak Slamet has a one-year-old child and expects to be able to educate his children to university level. Pak Bambang has had some technical training in nursery activities through a course at the Forestry Technical School at Bogor. He has never had any training at any other institution. Pak Slamet has had no technical training.

Each man has a team of 8 people consisting of 6 women and 2 men. All the team members are over 20 years old and are described as casual labourers (*pekerja bebas*). Pak Bambang and Pak Slamet have an average income of between Rp. 2 and 3 million per month, while the people who work under them earn Rp. 900,000 to 1,000,000 per month. All appear to be very satisfied with the work and conditions. All these people have alternative income streams as well. All the women have working husbands and the income from this activity is likely to be a supplement to other income. Pak Bambang has a small scrap steel recycling business and Pak Slamet has quarter of a hectare of land on which he grows rice and sweetcorn. The nursery work is a year-round job but the planting work is done in the six months that begin with the wet season, so Pak Slamet and his team only work on this job for six months of the year.

Pak Bambang is the only person who has insurance and this is because he is settled and has a completed house, and all his children have been educated and are now married and self-sufficient. This enables him to purchase his own health and life insurance policies from ABN Amro Bank. Pak Slamet aims to do the same but does not yet have any excess money because he is still completing his house and is saving for the children's education. He says that everyone is very careful at work, in order to not get injured. He jokes that the only people who get injured in this field of work are wood thieves who are too busy looking over their shoulder for fear of being caught to concentrate properly on what they are doing. There is no compulsory insurance scheme for workers. There are also no pension schemes, annual leave or other benefits for contract workers. Pak Bambang has personal savings and expects his children to help support him in his old age.

None of the workers have had training in pesticide use or first aid, although they say they are very careful, wearing masks and gloves while handling the pesticide. There is no work rotation and they claim not to experience any problems related to ergonomics. They do, however, believe that this type of work can only be undertaken until the age of around 50.

None of the foremen or workers are in a union, and both foremen claim to have dismissed people for a number of reasons including not working hard enough, and stealing. All the workers are from the local area (within 1-3 kilometres of the work site) and all have motorcycles for transport.

Case 2. Eucalyptus Leaf Stripper: Perum Perhutani Mojokerto

Pak Parno is 43 years old. He works in the Perum Perhutani eucalyptus forests in Mojokerto as a leaf harvesting team leader, earning on average Rp. 1 million per month. He has five team members who also earn the same amount. All the workers are local people from the immediate vicinity of the plantation. They are paid according to how much they harvest by weight (kilograms). The monthly total is divided equally among the six team members; Pak Parno does not get any extra for being the team leader.

The whole team are casual labourers with no health insurance or pension plans. They often cut their hands with the sickles they use to shave the leaves off the branches. If they are injured in this way it often means that they need to have stitches and lose 2 to 3 days' work. During this time they have expenses but no income. They have never seen any more serious types of accident. It is demanding work that requires good dexterity and accurate perception; it is easy to see that a momentary lapse in concentration could result in serious injury. When they are sick or injured the staff from Perum Perhutani often bring cakes and other food which they appreciate, but it is hardly a replacement for health cover.

The harvesting work is done during an 8-9 hour day with a one-hour rest period at midday during the harvesting season, which is about 8-9 months long. For the other 3-4 months of the year the leaf strippers find work as casual farm labour, which enables them to earn Rp. 15,000 for half a day. Like most workers of this type, Pak Parno has no savings and lives day-to-day, likely also on a cycle of credit and payback.

The nature of the work is such that most people cannot do it efficiently after they reach about 50 years of age, so they begin to become a drag on the younger team members. Once they reach the age of 50, there is little choice but to retire and raise one or two cows at home. The bulk of work involved in this is a couple of hours each day gathering grass.

Pak Parno has two young children aged 10 and 8 who are currently attending school. He wants his two children to continue to university level if he can manage it; however, as he reaches his peak working age both children will be approaching university age, so the challenges will begin to mount, if indeed he can manage to keep them at school that far. He lives with his family in a simple house constructed from local materials. The walls are of woven bamboo, there is a dirt floor, and there is no running water in the house. All the water is collected from a well in buckets. His wife sometimes does casual farm labour if it is available, but for the most part stays home and attends to the household, which includes tending a small garden for family use.

For transport he has a bicycle which he uses to go to the market every three days to buy food and other basic needs. The market is 5 kilometres away and it takes about half an hour on the bicycle.

The biggest challenge he faces at work is access during wet weather, and small bee bites. When it rains the workers often cannot go to work, so they lose a lot of time and income because of the weather. Better quality roads would help.

They have never had any form of training in safety, technical aspects of work, first aid or anything else. They have no protective clothing or shoes and they purchase all their equipment themselves – often on credit. All the skills are taught on the job by the most experienced workers. None of the workers are members of any union; everybody works hard, and they never have any complaints about the work or conditions in which they work. There is no job rotation for efficiency reasons. There are several types of jobs on a plantation such as this, including tree maintenance and nursery work. The only thing that they perceive as likely to constantly cause them problems from a developmental perspective is the low income.

Case 3. Social Forestry Operator: Perum Perhutani Malang

At the beginning of the interview Pak Imron is presented as a poor farmer participating in the Perum Perhutani Social Forestry Program. In this program Perum Perhutani allocates plots of land to poor farmers so they can earn income by growing crops on the land. Perum Perhutani gets 20% of the profits. He is the Head of the local Forest Village Community Institute (Lembaga Masyarakat Desa Hutan). He has a very close relationship with Perum Perhutani. He is 49 years old with two children aged 20 and 14. Both of his children are in school; one is at university and the other attends junior secondary school. According to Pak Imron, in this village, 75% of the young people stay in agriculture while the remaining 25% look for other types of work outside the village. He is a vegetable grower but does not reveal the size of his land. He has a 1/8 hectare plot in the forest, which is the standard social forestry allocation from Perum Perhutani for this area. He earns approximately Rp 1,000,000 per month from several sources, including growing vegetables and raising cows. His children do not do any work other than household chores, and the family eat good meals three times a day. He claims to work 8-9 hours a day, seven days a week, and takes a 1½ hour break for lunch each day.

Through the social forestry program in this location, Arabica coffee is cultivated under the existing trees (Arabica coffee plants cannot grow in direct sunlight). After three years a 1/8 hectare plot will yield about 300 kg of beans, which has a farm gate value of approximately Rp. 900,000 and equates to an annual income supplement of about Rp. 720,000. This is a meaningful supplement for a poor farmer. In this case the farmers are vegetable growers and the most challenging time for them is during the post-harvest period when prices fluctuate significantly. Sometimes crops are left unharvested in the field because the price drops too low when the market is flooded with produce during this time. The coffee is a great idea because farmers in this region no longer get assistance for agriculture.

Pak Imron has never had any first aid training or training in the use of pesticides. He doesn't have any protective clothing, and doesn't wear any proper protective gear such as gloves, facemask, shoes or safety glasses while spraying. He was recently involved in a coffee cultivation training program and study tour to Bogor run by Perum Perhutani, and has participated in training related to vegetable growing provided by the local Agriculture Services Office (Dinas Pertanian). He has never had any training or awareness building on labour issues but did mention that the local community is sometimes difficult to manage, and selfish, with no sense of community responsibility.

As the interview progressed the true nature of Pak Imron's position as a poor farmer became clearer. He owns a house and a motorcycle. The house has brick/concrete walls, a tiled roof, tiled floors, running water, a bathroom, toilet and electricity. He is able to travel into Malang twice a week for shopping and "refreshment" with his wife. He has no insurance or pension plan because if he gets sick or old his wife and children will help him. His wife is a school teacher with a monthly salary of about Rp. 3.5 million. As a school teacher she has a pension plan. He also has a foundation that runs an orphanage. In general he doesn't seem to fit the description of "poor farmer".

Case 4. Pine Sap Tapper: Perum Perhutani Malang (Batu)

Pak Suwaji is a 47-year-old pine sap tapper with a wife and two children aged 16 and 9. The 9-year-old is still in elementary school; the 16-year-old completed elementary school but is now working because they can no longer afford the cost of schooling. As with all other respondents Pak Suwaji would like to see his children go to university. His son's current job is gathering grass to feed, and helping to raise 11 cattle that the family looks after for a third party. The family is basically in a position where they must accept any work they can get. Over an 18-month period they can earn Rp. 2 million for each beast that they raise, based on a 50% share of the profits. Pak Suwaji earns Rp. 400,000-500,000 per month for approximately 9 months of the year by tapping pine sap, and does other casual agroforestry work for about 30 days a year that brings in about another Rp. 450,000. His wife looks after the household, helps with raising the cattle by gathering grass and also finds other casual work if and when she can. Their combined income over an 18-month period is currently approximately Rp. 28.5 million, which means that each member of the family is living on approximately \$1.39 per day. If they did not raise cows, they would be forced to live on about \$0.35 per day. This figure does not include the value of any vegetables or food they produce themselves.

For this they work from sunup to sundown every day, except on days when the weather or other conditions prevent them from working. It was pointed out that during bad weather, trees are often struck by lightning and/or blown down by the wind, which makes conditions dangerous. To earn the forestry income, about 100 trees must be tapped by each person each day. Payment is based on the amount of pine sap gathered.

The family does not own a house or land. They live permanently in the forestry base camp in a house with woven bamboo walls which until recently had a soil floor. Eighteen families live in the same base camp under similar conditions. The house does not have a toilet or bathroom. The family shares the neighbour's toilet and washing facilities. There only form of transport is walking and Pak Suwaji can spend anywhere between 10 minutes and one hour walking to and from work each day, Pak Suwaji doesn't wear shoes. They do not go to the local town very often, and usually purchase all the things they need from the local kiosk (*warung*).

The sap tappers have been given training in fire-fighting, best practices for sap tapping, and agroforestry extension. It appears that the fire-fighting is a voluntary activity driven by the perceived need to defend livelihoods. Although they do fire-fighting duties they have never had any first aid training. There is some limited job rotation but the majority of work is tapping the trees. Other duties are in agroforestry, where a social forestry modality is practised, some tree thinning and the fire-fighting. There are no qualifications or certification, no union membership and they never go on strike because no work means no food on the table.

According to Perum Perhutani staff, the mix of poor conditions, including low income and low productivity, conspire to make it difficult to find labour.

Pak Suwaji's brother Pak Supardi is 50 years old and has one 11-year-old child who is currently in junior secondary school. He lives and works in similar conditions to Pak Suwaji, except that his wife works processing garbage and earns about Rp. 600,000 per month. He wears shoes and raises two cows. He said that the only advantage shoes give him is that he doesn't have to look as carefully where he steps as his brother does, because there are many sharp thorns and sticks in the grass. Pak Supardi's family income is approximately Rp. 18 million per year, which amounts to \$1.15 per family member per day.

Case 5. Rubber Tappers: PT Perkebunan Nusantara Jember (Silo Sub-district)

PT Perkebunan Nusantara is a government-owned company that operates a national plantation business. This case study examines the conditions under which labourers in a rubber plantation in East Java live and work. While technically not falling in the category of forestry, the plantation sector also has significant potential as a provider of green jobs if managed properly. Well managed plantations, apart from providing society with foodstuffs and industrial raw materials, also provide important environmental services. It is therefore proposed that the forest or tree-based plantation sector also be included as a target for labour inspection and green jobs development.

During the Dutch colonial period, Madurese people were transmigrated to plantations in East Java because they had better skills with tree crops that require annual maintenance. The local people were only interested in and skilled at growing vegetables and grains: their main interest was essentially food. The Sumber Wading sub-village unit is a community that is descended from the original transmigrants. It now comprises some 300 households living in the houses that were originally built by the Dutch to house their plantation staff. Each house has four main rooms of approximately 20 m². Although these four-roomed houses were originally designed to be single-family homes each house now generally accommodates four families, one family per room. Most of the houses have no running water. Water is provided through a public hydrant, and is brought in buckets to the house for cooking or washing.

Pak Sukarmo is a community leader who lives and works as a rubber tapper on this plantation. He has a wife and five children ranging in age from 12 to 28 years old. The three eldest children have graduated from junior secondary school, while the fourth child (13 years old) has recently dropped out of school. The decision to drop out was attributed to declining economic conditions but is also likely to have been driven to some extent by the fact that the family has seen first-hand that the educational achievements of the eldest three, while imposing significant economic hardship on the family, have contributed little to improving their situation either as a family or individually. The eldest three sons have succeeded only in finding jobs as rubber tappers like their father. The original aspirations of the parents were, like all other respondents, to educate their children to the highest possible level.

The rubber tappers start work at 2 a.m. and continue until 10 or 11 a.m. each day. After that they have a 1-hour break for lunch and then do other things like equipment maintenance, household-related work and so on. They work seven days a week and have no annual leave. As Muslims, they have some time off each week after the Friday prayers. Among the 300 families in the community only 60 people have decent permanent jobs. The remaining healthy men who are household breadwinners and a large number of the young unmarried men are engaged as casual contract-based rubber tappers who are paid according to the amount of latex they harvest each month. On average the tappers bring home only Rp. 360,000 per month. To supplement his monthly Rp. 360,000 tapping income, Pak Sukarmo has a cow that he is raising which, based on previous experience, has the potential to provide a lump sum of Rp. 2,000,000 after 18 months. This is equivalent to approximately Rp. 112,000 per month.

It was not clarified in the interview whether the elder sons were married yet or had families of their own. However, assuming that none of them are married, which would mean that they would all contribute income to the household—the ideal situation in terms of household income—the combined income from all sources would mean that each person in the household would be living on Rp. 7,500, or about \$0.78 per day.

Such economic conditions mean that they cannot afford to buy enough rice to eat, and to make their rice go around all the family members they must mix it with maize kernels (*nasi-jagung*). This is a traditional

sign of hardship in Central and East Java. This low level of income is their greatest challenge in life, and when it is combined with the fact that there is no health insurance, no pension plan and no annual leave, it makes life difficult to bear and some cases leads to anger. Pak Sukarmo has a brother, Pak Surai. Pak Surai is 42, married with one child. His monthly income is the same as that of Pak Sukarmo (Rp. 360,000). His three-member household gets by on less than \$0.50 per person per day. There are likely supplements to this income such as private subsistence gardens; however, these supplements are probably not sustained reliably throughout the year, i.e. they would only be available intermittently and would not add much to the daily subsistence budget on average. The current official minimum monthly wage for this area is Rp. 770,000.

Pak Sukarmo tells the story of one of the workers who fell off the wall of the weighing station while weighing his rubber haul and was unable to work for a month. The workers brought it to the attention of the company but the company did not want to know. He also explains that he must even purchase his own work boots, and the only way he can afford it is through credit so that in the end he pays double the normal price. Moreover, even though the housing conditions are appalling, it is not enough that they receive such a meagre income; they must also pay Rp. 125,000 per month in rent.

They are now members of a local plantation workers' union (SERBUK), and so far have been very happy with what the union has done for them. The workers went on strike once and since then the company no longer uses intimidation tactics, and sometimes former casual labourers get permanent jobs with benefits such as health cover, annual leave and pension facilities. The wage system is now transparent and they continue to struggle to bring their incomes into line with the regional minimum wages. At the moment they are at about 50%. Pak Sukarmo looks forward to the day when all workers can get either permanent employment or at least health and accident insurance, workers' compensation and pension plans. He also feels that the workers need at least one full day of rest per week.

The company has only ever given training in use of pesticides, but it was only after one of the workers was poisoned and ended up in hospital. The only training they have had other than this is from the union. There is no job rotation, no new techniques, no first aid training and no qualification system.

Of all respondents in the case studies, those in this particular location elicited the most concern in relation to general living conditions and income levels, particularly when taking into account the fact that they are employed by a formal government-owned company in a developed agricultural area. Their situation also raises questions regarding the possibility of ethnicity exerting an influence as a determinant of labour conditions in at least some isolated cases. It would also be interesting to see if this is a general trend in the estate crops sector or only regional or isolated in nature.

Case 6. Honey Trader: Sanen Rejo, Dusun Mandelis (Jember)

Pak Untung was a casual day labourer, earning Rp. 20,000 for a day's work. He worked 10 hours a day, seven days a week, which worked out to about Rp. 600,000 a month. However, the work was not always available, so he only received income on an intermittent basis when he could find work. Thanks to a Ministry of Forestry community empowerment program he is now the head of the local Forest Village Community Group (Lembaga Masyarakat Desa Hutan) in Sanen Rejo, and a honey trader. He is 40 years old, married with three children. All his school-aged children are in school and do not do any work. He only owns a small block of land on which his house is located. His house is simple with unplastered brick walls, a tiled floor, electricity, a bathroom and a toilet. He has recently installed an electric pump for his well, but most people still use a bucket to get water out of the well. For transport he has a motorcycle; his family eat three times a day and are satisfied. The closest city is Ambulu and he travels there at least twice a month to sell honey.

The Forest Village Community Group consists of 230 members who cultivate coffee in a social forestry arrangement with Perum Perhutani. The group has 276 hectares of coffee planted on an agroforestry model between the trees in the forests on land owned by Perum Perhutani. To supplement their income, 120 members of the group also harvest honey from bee hives that occur naturally in the forests. Perum Perhutani provided credit in the form of a soft loan to set up the business. The challenges Pak Untung faces are the seasonal nature of production and the low skills and awareness of some of the group members who do not process their honey well, so that he cannot accept honey from some of them. He trades 2 to 2½ tonnes per annum, which he can sell for Rp. 80–100 million. From this total he earns a profit of 20%, which gives him an annual income of between Rp. 16 and 20 million, or Rp. 1.3 to 1.6 million per month, which is a reasonable income in relative terms in this area.

None of the group have union membership; nobody has health or accident insurance, pension plans or investments. They hope that their children will find good jobs and be able to support them in their old age.

Pak Untung became sick once and was unable to work for three months. The only way the family could survive was by selling off the small amount of assets that they had. His only complaints are that there are not enough capital resources available for them to underwrite their development, and poor people badly need training and skills development to increase their management and longer term planning skills.

Case 7. Social Forestry Participant: Sanen Rejo, Dusun Mandelis (Jember)

Pak Abdul Bahri is over 50, but does not know exactly how old he is. He has four children aged between 20 and 35. For economic reasons, all the children dropped out of school before completing elementary schooling. He is currently working as a coffee farmer in the Perum Perhutani (PP) Social Forestry Program. The entire family (five people) cultivate 3 hectares. They make about Rp. 30 million per year growing coffee. After PP takes their 20%, this leaves about Rp. 24 million that is divided among the five family members who work on the agroforestry plantation. This means the monthly income for each person is approximately Rp. 400,000, which equates to approximately \$1.40 per day for one person. One of the sons is married with a child, which means that the actual daily amount available for subsistence is less.

Pak Abdul also raises a cow under a profit-sharing agreement with a third party who owns the cow, in the same way that previous respondents have done. For looking after it, gathering grass and feeding it each day, he gets 50% of the profits when the animal is sold after about 18 months. This probably brings in another Rp. 1.2 million per annum, which amounts to an extra Rp. 100,000 per month. He also gets work intermittently on government programs such as re-greening and forest rehabilitation, which supplements his meagre income.

The interview was conducted in the hut where Pak Abdul spends most of his time. It is a temporary residence with woven bamboo walls and an old motorcycle in the corner. There is no running water, no bathroom, no toilet. It is basically one room with a bed in one corner and a simple table and chairs in the other. The floor is soil. Pak Abdul's wife does not work—she looks after the household. All washing (dishes, clothing, bathing) is done in a river about 200 metres away from the hut. Pak Abdul has a better house in the village about 6 kilometres away, but it is not much better. It is 11 metres long by 6 metres wide, with the main difference being that it has brick walls and a well. The floor is made of soil, and, like the hut in the forest, there is no running water, no bathroom or toilet and no electricity. However, it is more comfortable because of the well, which saves time and energy. The house is home for two families (seven adults and one child). Pak Abdul however, only goes home when he has something to sell from the plantation.

His working day, which includes working on the plantation and gathering grass for the cow, starts at about 7 in the morning and continues until about 5 in the evening. He has a one-hour lunch break. This works out to about nine hours per day, seven days a week. Based on this calculation his hourly rate is approximately Rp. 2,000 (20 cents). He has no health, accident, or workers' compensation insurance, or any pension plan other than depending on the family in his old age. He has never had any training. He is not a member of any union or association. He was once ill and unable to work for about 15 days. This merely meant that the rest of the family had to work harder to maintain the coffee and cow during that time.

He has never been to a doctor. There is no doctor here, only a “*tukang suntik*” (a local health worker who gives injections when people are ill or injured; it is not clear what kind of injections). He purchases all his equipment (machete, hoe, rubber boots) from the local store on credit, which means that by the time he has paid for them the outlay is about twice the normal retail price.

Pak Abdul never thinks of travelling anywhere to find better work—firstly, he lacks the resources to do so and secondly, he is totally discouraged. He freely admits that he does not believe he could get a job anywhere else. He suffers from the lack of education and the related low self-esteem, although this low self-esteem does not manifest itself as a psychological disorder or emotional distress; that's just the way life is.

Case 8. Tree Thief: Sanen Rejo, Dusun Mandelis (Jember)

Pak Dwiyono²⁷ is 43, married with two children aged 18 and 7, both of whom are still in school, one in senior secondary school and one in elementary school. He wants his children to complete senior secondary school and cannot expect more than that. He owns an old but solid house on a 200 m² plot with concrete floors and walls, electricity, bathroom and a toilet, which he inherited from his parents. The room we are interviewing in is sparsely furnished with a TV and VCD player in one corner, also presumably inherited.

His usual work is in a limestone gathering and processing business where he works intermittently as a labourer paid according to the amount of limestone he quarries. He estimates that he earns approximately Rp. 300,000 per month in this way, which suggests that the family gets by on \$0.25 per person per day. This was initially his only income opportunity but he sometimes also worked as a day labourer for Rp. 30,000 per day. However, it is likely that the family lives on less than \$1.00 per person per day.

In 2007 Pak Dwiyono was caught stealing wood from the local Perum Perhutani-owned forest. He claims that the wood was for his own use, to repair his house, and that he did not sell any. On further questioning, the details become a little inconsistent and the accompanying staff from the Forest Police also intervened in the questioning process to help the interviewee to an appropriate conclusion. One gets the feeling that at this point that perhaps there is a little more depth to this story than is currently being divulged. Pak Dwiyono was charged with stealing two pieces of teak wood of approximately 2 metres long and 22 centimetres in diameter, which would be worth approximately Rp. 420,000 on the open market (assuming a value of Rp. 2,750,000 per m³). He was found guilty and sent to the Lamongan District Prison for 2½ months. He didn't receive any training in prison but was afraid the whole time he was incarcerated. When he was released he found himself with a debt of about Rp. 3 million that the family had accumulated while he was in prison. Luckily his parents were able to help him out with the debt. He vows never to steal another tree.

Pak Dwiyono has never been employed in any government development project or program, but would certainly appreciate the opportunity to do so, if it should present itself. He does voluntary work for the local council such as cleaning their water source (a spring) and cleaning up the local environment—not the kind of activities you would generally attribute to a criminal.

According to Pak Dwiyono, the trip to prison was the furthest he has ever travelled; apart from that, he has never travelled outside the village. He has also never had a pair of shoes for working in the field. He has no union or any other membership, no health or accident insurance, no holidays and no payments for national public celebrations such as Lebaran.²⁸ He also has no protective clothing, and no complaints. His biggest challenge in life is surviving.

Since was released from prison, he has joined the Perum Perhutani Social Forestry Program. Because of his special status, PP have awarded him more land than the usual social forestry applicants to ensure he has no need steal wood again in the future. He cultivates 1 hectare of land to grow sweet corn, and he has also purchased a calf to raise and sell. He borrows a draught ox and plough from neighbours to work his land and gets two crops per year. During quiet times he resumes work in the limestone business.

27 We agreed not to use his real name.

28 The celebrations at the end of the Muslim fasting period (Ramadhan). Employers usually pay a bonus to workers at this time (known as *Tunjangan Hari Raya*).

Case 9. Security Guard: ITCI Balikpapan

Pak Maslyansyah is 32, married with two children aged 6 and 2. The six-year-old is currently attending elementary school. He has been working for ITCI for 10 years and is paid a salary of Rp. 1.5 million per month. If he can afford it, he would like his children to attend university; he feels it is better for children to be educated than to work. He lives in a good house with concrete walls and floor, which he is gradually improving as money becomes available through savings. He has owned a motorcycle for 10 years. The family eats three square meals a day and are generally happy and healthy. He is able to travel into the city of Balikpapan once per month for “refreshment” or entertainment. His wife had a job before they got married, but now she stays home to look after the household and the children.

He works 12 hours a day, six days a week, on a rotating shift work schedule: one week of day shift, one week of night shift and one week off. In his 10 years of working he has never been seriously ill or had an accident. The most he has had is three days off work and for this he is paid basic wages calculated on the basis of a 7-hour day. He is provided with a new uniform twice a year. He has no complaints about the job so far. His superiors are easy to approach if there is a family problem and any form of help can be requested, except borrowing money. He took part in a one-month training program by the regional police and occasionally has a refresher course in the forest run by the forest police. He has physical training once a week and has had first aid training. He is covered by Jamsostek, which includes health and accident cover and a lump sum payout when he retires or resigns or his employment is terminated. He is a member of SPSI (the All-Indonesia Workers’ Union) but has never been on strike.

He was given a manual and detailed work procedures, and all the equipment he needs to do his job is provided—fire extinguishers, weapons such as a knife and a club, handcuffs, a helmet and a jacket for sea travel.

In general he is very happy with his job, his salary and everything to do with his employment. He is not wealthy but is able to get by comfortably and save money to do small projects around his house which he has built gradually over the years.

His greatest challenge is in handling people in his work: misunderstandings often arise in relation to transport and he must intervene to keep the peace when altercations break out due to people becoming emotional.

His greatest fear at the moment, however, is unemployment. The forestry industry is in recession and lately, logging has been significantly reduced. He has not been paid for the last three months. There is a little desperation in the air, especially among ITCI employees.

Case 10. Maintenance Supervisor: BFI Balikpapan

Pak Syamsul Hadi is 42, married with two children aged 20 and 9. The 20-year-old has graduated from senior secondary school and is currently unemployed. He wants to find a job rather than go to university but his father thinks that he will eventually get bored looking for work and will decide to go to university. Pak Syamsul wants him to graduate from university.

Pak Syamsul works a standard 5½-day week (40 hours): seven hours a day for five days plus one five-hour day. For this he is paid Rp. 2-3 million per month, depending on whether he does any overtime or not. He owns a nice concrete house in the local village with a tiled floor and all modern amenities such as a bathroom, toilet and electricity. He also owns a motorcycle. The family eats well and always has at least three meals a day. He is able to travel with his family to Balikpapan once or twice a month for shopping and refreshment.

If the weather is not good and he is not able to work in the field, he still gets paid for a basic 7-hour day. He has health and accident insurance, including workers' compensation, and he also has a pension plan with the company through Jamsostek, which will enable him to get a monthly pension payment when he retires at the age of 55. He also gets two sets of work clothes every year from the company but must buy his own boots. No protective clothing is provided. He once accidentally cut his knee with a machete while working—a common accident in this type of work. It usually needs to be stitched and the victim should usually rest for 1 or 2 days.

Pak Syamsul is a member of the Kahutindo Workers Union, which is associated with the International Building and Woodworking Association. He states that he doesn't understand the benefit of a union, even though he once went on strike and it resulted in a wage rise. He has never been refused entry to work and has given inputs to the company in the form of suggestions for a new roof for the base camp, for example. The company accommodated the suggestion and provided a new roof.

He has often had the opportunity to attend training programs during his 20 years of employment and has attended six training programs on the technical aspects of forestry, but he has never had any workplace-related training on first aid or worker health and safety.

The company provides a clear job description for him, but there is limited job rotation, and no certification or skills recognition system. Each person is responsible for the purchase of their own equipment and tools. Pak Syamsul's only complaint is that he does not get paid enough.

Case 11. Field Assistant - Maintenance: BFI Balikpapan

Nopi is a native of East Kalimantan, 33 years old and unmarried. He is a day labourer who works in the forestry plantation maintenance section of Balikpapan Forest Industries (BFI). He is paid about Rp. 1 million per month. He already owns a motorcycle and a house. The house has no toilet, electricity or running water; he uses the neighbours' toilet when necessary. In general he is happy and healthy, he has enough food, all of which is all available locally, so he very rarely needs to go to Balikpapan. He wants to have a family and educate his children to the highest possible level, university if he can manage it. His biggest challenge is the low income that he receives at the moment.

He has no health or accident insurance, no pension plan or workers' compensation. If he falls ill, he does not get any pay. He depends on his family to support him and tend to him if this happens. He has no union membership, has never been told not to come to work, and has never been involved in any industrial action. He never communicates with anyone from the company other than his immediate supervisor. The company operates a military-style chain of command, where workers in any section can only bring complaints to their immediate supervisor. The supervisor then represents the complainant in discussions with more senior staff, and so on. The company does not have a suggestions box or any way for staff at lower levels to access senior level staff, so if a problem occurs where an employee may become the target of unfair treatment by the immediate supervisor, it is rather difficult to deal with. However, so far no-one has experienced this type of problem.

Nopi has never had any type of training on occupational health or safety/safe work practices but when asked if he ever comes into contact with chemicals, he answers in the affirmative. He does not use any protective clothing when working with chemicals; he mixes all the pesticides and other substances by hand and believes that is all right as long as he washes his hands after he is finished. In this sense he could be considered as belonging to a vulnerable group of indigenous persons (he is from the Pasir ethnic group, who are the indigenous people of East Kalimantan) who likely have generally low levels of exposure to chemicals and a correspondingly low level of awareness of the dangers related to them. The lack of training in use of chemicals makes them more vulnerable to the dangers of incorrect use.

He does not have a formal Terms of Reference or Job Description for his position, but he is occasionally briefed by his supervisor. He has never attended any first aid training. All his tools and equipment he provides himself. He would like to become a permanent employee rather than a day labourer because of the extra benefits such as health cover and sick pay.

A summary inspection of the base camp shows it to be a relatively comfortable and well-organized set-up with a separate toilet and bathing space. However, it seems that flywire screens might be a relatively cheap investment that could bring significant worker health and productivity benefits.

Case 12. Outsourced Contractors - Ground Preparation: BFI Balikpapan

One of the groups that elicited most concern from the researcher in terms of working conditions was the ground preparation contractors whose job it is to clean up the undergrowth and prepare the ground for the replanting of seedlings. In this case, one team was visited. General questions were presented to the whole team and they made considered communal responses. Specific questions were also asked in a more focussed manner to certain individuals when interesting points came up.

The team consists of 15 young men who live in what could only be described as generally appalling conditions far from home. They are basically labour supplied by an outsourced contractor. They live and work in the forest for eight hours each day. When not working they spend their time at their base camp, which is basically a tent made of a piece of blue plastic tarpaulin stretched over a simple wooden frame and located on the edge of the logging haul road. The tent has no electricity, no refrigerator, no toilet or bathroom. They do all their washing (clothes, dishes, personal hygiene) in the stream that flows past the back of the tent. In this place they are at the mercy of the elements: malaria is a real problem, and when they smile their gums show evidence of past and/or present disease. The purple gum patches are likely caused by a drop in platelet counts related to spleen enlargement as a result of any number of tropical diseases, but in this case it is most likely malaria and/or hepatitis, and possibly HIV. They claim to be constantly suffering from malaria and each person loses three working days each month to the disease. This amounts to a loss of more than one month's income every year. They come from Bima in West Nusa Tenggara, and they do not have the natural resistance to the rainforest malaria that the local tribes do. Their condition can be compared to the local person in the previous case study (Nopi) and most of the other respondents in East Kalimantan, who appear, comparatively speaking, very healthy. Of course there is a vast chasm of differences in living conditions among the different respondents in the study.

They are paid according to the area that they can clean and prepare, measured in square metres. In this way they can earn an average of approximately Rp. 1 million per month. The total payment for the month is paid in a single lump sum, which is then divided equally among the 15 workers. Of this amount, they each spend approximately Rp. 400,000 (40%) on survival (purchasing food, coffee and cigarettes) and most send Rp. 600,000 (60%) to their families in Bima each month. Most are not married, and the fact that they are prepared to live and work in these conditions probably indicates that their living conditions in Bima are not significantly different. Many rural areas in relatively isolated parts of Indonesia are pockets of hidden poverty. All 15 of the men live in wooden houses in a rural area with no bathrooms or toilets. None own motorcycles.

There are often minor accidents at work, usually cuts from the machetes they use to cut the grass. If they are sick or injured the company assists them to visit the local community health centre (Puskesmas) for free treatment, but that is as far as company involvement goes. Anything more serious is the responsibility of the workers themselves. The sick or injured worker can be referred to a government general hospital for free treatment by the Puskesmas, but it is likely that a significant queue will be ahead of them. None of them have health, accident or workers' compensation insurance, pension plans, union membership or holiday bonuses; they never strike and never communicate with management except through the Team Leader. They have also never had any form of training, but rely on the natural skills they have learned from an early age. If someone is injured badly or very sick they can only call for help and stand by.

Their living conditions with regard to food and nutrition also give cause for concern. There is no formal cook; they take turns at preparing the food each day, based on a simple roster system. They can only go into the city on major public holidays, so they purchase all of their needs from the local suppliers. They buy food once a week from suppliers located about an hour's drive by car down the haul road. Without a

refrigerator, fresh vegetables quickly go mouldy in the humid air, and conditions in the kitchen are sub-standard and unhygienic (see photos).

One of the workers, Mr. Erik, has not been back to Bima, and has not seen his family in 10 years. He just lives here or in similar locations, works and sends money to his parents. He will likely do this for the rest of his productive life.

These appalling conditions could be rectified with relatively minor investments in housing and facilities, namely portable cabins with flywire, solar-powered fridges and simple but hygienic kitchens and ablutions blocks.

Case 13. Tree Feller: BFI Balikpapan

Mr Alex Yusdin is 51 years old and is of Dayak descent. He has worked for six different companies in his 35 years of working experience. His day begins at 6 a.m. when he starts to check and prepare his equipment, adjusting the chainsaw, filling it with fuel, checking the oil etc. At 7 a.m. he travels to the field and starts work. He is allocated an area of forest from which he selects trees, plans the approach to felling them and then cuts them down with the chainsaw. He then trims the logs, i.e. separating the useable logs from unusable waste wood. He also cuts them into transportable lengths. He is paid according to the volume of wood he cuts and delivers to the roadside. In this sense he is a contractor who works as part of a team consisting of himself, an assistant and his “skidder,” who drives the bulldozer and tows the logs to the roadside, where they are loaded onto trucks and hauled to the mill. Although he is paid as a contract piece worker he is engaged by the company as a permanent employee and is covered for health, accident and workers’ compensation insurance as well as a pension plan through Jamsostek. Weather permitting, he works seven hours a day, seven days a week. In an average month he nets Rp. 4.5 million, and after he deducts his expenses, including for his assistant (who gets 20%) he is able to take home Rp. 2.5 million. He has no need for other work.

He is generally happy and comfortable in his work. The food is good, the work is good, challenging and interesting and he takes pride in his equipment and the work. He owns his own chainsaw, which he purchased at a cost of Rp. 9,700,000 (equivalent to about four month’s work). Chainsaws last about five years if they are not struck by a falling tree. In his 35 years in this job he has seen many accidents, people killed by falling trees, and others killed when bulldozers roll over in the steep, rough terrain, but he has survived and is proud of that. He began working in this field as an assistant and progressed to his current position. There is no job description or terms of reference for the job, and no job rotation because the work is specialised and therefore requires specialist skills that must be honed constantly. There is no certification system. In relative terms, however, this is a decent job.

Pak Alex has had six days of training throughout his career, on chainsaw operation. He has never had any first aid training even though he is in such a dangerous working environment. If someone is seriously injured all he can do is stand by and notify the chief. He also has no union membership, and has no input into company policy. He sees no need for this as he is quite satisfied with the work. While working he does not wear any protective clothing other than gloves, no ear or eye protection, and he has never had any problems with his hands due to vibration or his eyes or ears because of flying debris or noise. He has never been sick, because he doesn’t want to be. He believes he can handle the work until he is 55-60.

Pak Alex owns a house in the village at the company site. He has always worked in this general area, and generally goes home about once a month. His house is made of wood and is a good house by local

standards, complete with electricity, running water, bathroom and a toilet. He has four children aged 7 to 28; three of them are still in education at various levels from elementary school through junior secondary and university. His eldest child has graduated from senior secondary school and is currently unemployed but does not want to go to university. Pak Alex has no problem financially in meeting the costs of education. His wife does not need to work. She stays home and looks after the household.

Case 14. Log Skidder: BFI Balikpapan

Pak Yusuf is a log skidder. He is about 35 years old and drives a bulldozer. His work generally involves two main activities. He first prepares a flat area on the side of the road that they are logging, as a loading bay for the log trucks. He then uses the bulldozer to drag the logs out of the forest and into a position where the loader can easily load them on the truck. He is also a permanent worker with exactly the same conditions as Pak Alex, the only real difference being that he is Buginese, from South Sulawesi. This affects him in that he is more susceptible to malaria. As a result he gets sick three times a year and generally loses 3-4 days work each time, even though he has medication (quinine).

He has a nice house by local South Sulawesi standards, with concrete walls and floor, bucketed water, a bathroom and a toilet but no electricity yet. He also owns a motorcycle. He rents a house in Sotek village (the location of the BFI office) and his wife lives there with his 11-year-old daughter, who attends elementary school.

Like Pak Alex, he does not use any protective clothing, has never had any type of training, and is not a member of a union. In fact almost everything about their situation is the same, including the pay. He is happy working here and has no complaints other than that he once asked for a pay rise but was refused by top management, and that there is no entertainment after hours or when they have time off in bad weather.

His biggest challenge is the terrain, which makes operating the dozer a very dangerous job at times.

Case 15. Outsourced Nursery Worker: ITCI Balikpapan

Ibu Adriana is from Toraja in Sulawesi, and she works for a labour outsourcing company that provides nursery workers to ITCI Balikpapan. She has two children aged 17 and 13, both of whom are still in school. Her husband worked for ITCI in a housekeeping job until he was retrenched in 2002. He has still not been able to find work, so she works out of necessity. Her husband now grows food on a small patch of land near the house. All he produces is consumed at home. They own a house in the local village which is good by local standards; it is a wooden structure with a bathroom, a toilet and electricity. There is water available but it is not good for consumption or washing, so they buy water for Rp. 3,000 per drum (200 litres). They eat simple meals three times a day, but never have meat or fish except on days of national celebration such as Idul Fitri. They do not own any form of transport, so they either walk or take public transport if they have money. They are able to travel to Balikpapan about once a year. Everything they need they purchase at the local trading post. Ibu Adriana's main challenge is being so far away from the family. She very rarely sees them.

The youngest child is still living with her husband here in Kalimantan, but the eldest is attending secondary school in Sulawesi. A quick calculation shows that she needs to send Rp. 11 million per year to her son in Sulawesi to keep him in school and cover the cost of accommodation and food. Her monthly wage is approximately Rp. 1 million. She will need to maintain this level of funding for another six or seven years. She says that her children are able to compete and do well in school, so they remain enthusiastic and she continues to support them. She hopes that she can continue to keep them in school until university. The only problem is the money. She would not be able to do this if her children didn't help with the work around the house. The daughter helps for about two hours each day. The food produced by her husband in the garden is also essential.

The company provides onsite accommodation and a place to cook for free, a place to sleep and good bathing and toilet facilities. She has worked here for one year now and is quite happy—no complaints. However, she does not have health, accident or workers' compensation insurance, or a pension plan; her pension plan is her children. The company provides a form of protection in that they will pay 50% of the medical costs if she is injured on the job and can be treated at the local community health centre (Puskesmas). The company will also provide credit for the 50% that is the responsibility of the worker, which the worker must pay back in instalments.

There is a union, the Kahutindo Workers Union, which is affiliated with SPSI, but she is not a member. She has never had any need to be, since she has the opportunity to be involved in policy. She has never had any training, and must provide her own clothing. All the other equipment needed for work is provided by the company.

The company has a contract with ITCI to provide the services, but the workers do not have a contract with the company. They are casual day labourers working 9-hour days for at least six days a week.

Case 16. Outsourced Cook: ITCI Balikpapan

Ibu Cumiwati is from Jember in East Java. She has been working as a cook in the base camp for eight years. She is 66 years old and is still a day labourer, i.e. she is paid on daily attendance basis but works permanently for the company. Ibu Cumiwati originally came to East Kalimantan because the pay was better than in East Java. She is employed by the same outsourcing company that employs the previous respondent (Ibu Adriana). She has six children aged from 12 to 37, all of whom have completed junior secondary school. All except one work as day labourers for ITCI through the same outsourcing company. The youngest is still in school, and if the money is available he will stay in education as long as possible.

One of Ibu Cumiwati's children works as her assistant in the kitchen. She earns Rp. 1.6 million per month, while he earns Rp. 1.4 million per month. She has a house that she purchased from ITCI, and two of her children have also purchased a house. The houses are good by local standards, with a bathroom, toilet and electricity. The water supply is not good, so they capture rain water and purchase water at Rp. 3,000 per drum (200 litres). None of the family owns a car or motorcycle, so they walk or use public transport (motorcycle taxi). They eat three times a day, never buying food regularly, but just eating simple locally grown vegetables such as kangkung and spinach. Occasionally they have salted fish, tofu or tempe. Five people can eat one simple meal for Rp. 10,000 (Rp. 2,000 per person). Once per year they can travel to Balikpapan, if they have the spare cash.

Malaria is the biggest challenge. The impact of malaria depends on the physical condition of the individual; as one gets older, or if one does not eat enough or is already unhealthy, the effects of the malaria will be more severe. Ibu Cumiwati has had up to 10 consecutive days off work because of malaria. No work means no pay, but the doctor must be paid upfront and in full for treatment, although the company will reimburse 50% of the cost. If the victim doesn't have the money to pay for the treatment, the company will give credit, which the patient will then pay back in instalments. It can be hard because not only is the person sick, but while they are sick they also have to worry about the lost income and the accumulated debt: a double-edged sword.

The second biggest challenge is the hours worked. Being a cook means waking up earlier and knocking off later than all the other workers in the camp. This means that each day Ibu Cumiwati gets up at 3.30 a.m. and starts to prepare for breakfast until 6 a.m. After this she cleans up, then begins to prepare lunch, and serves lunch and cleans up until 1 p.m. She then has a rest for one hour and begins work again at 2 p.m. Preparing dinner, serving dinner and cleaning up after dinner usually takes until 8 p.m. In general she works about 16 hours per day. All the cooking is done over a wood fire.

She has no contract with the company, but just gets paid for the days she works. She doesn't wear shoes or any form of protective clothing; she has no insurance for anything, or union membership. Her pension plan is dependent on her children, who she expects will tend to her in her old age.

She is generally satisfied with the work and has a good line of communication with the company management. Her only complaints are that the pay is not really enough, and the pay is often late. At present the pay is three months late. She would take a better job if it was available. She feels tired at times but still feels strong generally. The company pays for all the equipment, which is traditional and simple. She has problems sometimes when the wood gets wet, and it makes cooking difficult. Modern facilities would help.

She has never had any ergonomic or vocational training or first aid training, but can see where formal training as a cook could open up other more lucrative opportunities.