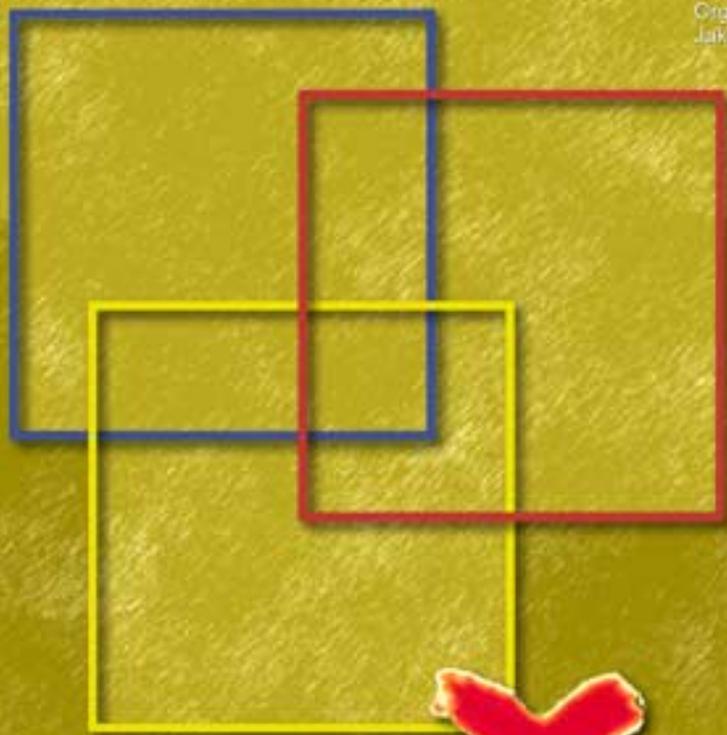




International
Labour
Organization
Jakarta



~~Child Labour~~
in the Informal Mining Sector
in East Kalimantan

a Rapid Assessment

IPEC

International Programme on
the Elimination
of Child Labour

International Programme on the Elimination of Child Labour

**CHILD LABOUR
IN THE INFORMAL MINING SECTOR
IN EAST KALIMANTAN**

A RAPID ASSESSMENT

International Labour Organization

2004

Foreword

The latest ILO global child labour estimates confirm what many have feared for some time: the number of children trapped in the worst forms of child labour is greater than previously assumed. It is now estimated that an alarming 179 million girls and boys under the age of 18 are victims of these types of exploitation. Among them, some 8,4 million are caught in slavery, debt bondage, trafficking, forced recruitment for armed conflicts, prostitution, pornography and other illicit activities.

Severe economic hardship, which has affected Indonesia since 1997, has forced poor families to send underage children to work. According to the 1999 data by the Central Bureau of Statistics (CBS), a total of 1,5 million children between 10 and 14 years of age worked to support their families. At the same time, data from the Ministry of Education shows that 7,5 million or 19,5 percent of the total 38,5 million children aged 7 to 15 were not registered in primary and lower secondary school in 1999. While not all these children are at work, out-of-school children are often in search of employment and at risk of becoming involved in hazardous economic undertakings.

In the face of this, it is truly encouraging that the Government of Indonesia has ratified both the ILO Worst Forms of Child Labour Convention (No. 182) and the ILO Minimum Age Convention (No. 138) by law No. 1/2000 and No. 20/1999 respectively. By ratifying Convention 182, Indonesia made a commitment to *“take immediate and effective measures to secure the prohibition and elimination of the worst forms of child labour as a matter of urgency.”*

Pursuant to this, the Government of Indonesia has developed a National Plan of Action on the Elimination of the Worst Forms of Child Labour which is now embodied in a Presidential Decree (No. 59, August 2002). The Plan seeks to eliminate worst forms of child labour during during a twenty year time bound programme. The plan also identifies five forms of child labour as the most urgent to be targeted for elimination in Indonesia within a five-years. These are: children involved in the sale, production and trafficking of drugs, trafficking of children for prostitution, child labour in the footwear sector; in mining; and in off-shore fishing.

The ILO's International Programme for the Elimination of Child Labour (IPEC) is currently providing support to the Government to implement the National Plan of Action through a support that started in January 2004. The TBP is providing support to develop policies, programmes and projects that have an effective impact on the worst forms of child labour.

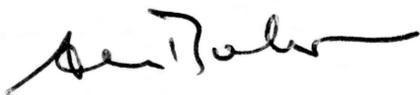
Although there is an increasing volume of information on child labour, there are still gaps in the knowledge and understanding of the various forms and conditions in which children work. The availability of data is crucial in order to ensure a good understanding of the child labour situation and the particular needs of the targeted populations. In order to ensure the availability of such information, ILO-IPEC has undertaken a series of six rapid assessments researching the sectors targeted by the National Plan of Action.

The particular research was undertaken by Laboratorium Antropologi, the Faculty of Social and Political Science, University of Indonesia, an academic institution with ample experiences of conducting research, seminar, training, and publication on various social issues. Opinions expressed in this publication rest with the author and do not necessary reflect those of the ILO.

The initiative was coordinated by Ms. Arum Ratnawati, who, together with Ms. Anna Engblom, Mr. Pandji Putranto and Mr. Oktav Pasaribu also provided technical backstopping and editorial support. The report was edited by Ms. Karen Emmons. The initiative was made possible through the generous support of the US Department of Labour.

I hope that this rapid assessment will make a meaningful contribution to building the knowledgebase about the worst forms of child labour and in the long run to the elimination of such exploitation in Indonesia.

February 2004



Alan Boulton
Director
ILO Jakarta Area Office

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Glossary

<i>ambub</i>	brownish-yellow sand and soil from the river bed, containing no gold and usually disposed of
<i>agas</i>	a kind of mosquito
<i>alergi</i>	scabby ulcerations on the arms, hands and legs; believed to be caused by an excessive consumption of eggs
<i>ampar</i>	the bedrock stratum below the sandy river bottom, where gold veins usually appear
<i>anggota</i>	a unit worker
<i>cés</i>	small wooden boat with an engine
<i>coret</i>	parts; unit of gold (for distribution among the member of the unit); distribution of gold is done after the wash of doormat which may occur three or four times a day, the members who join the first doormat wash can be different from the following doormat wash depends on what time the members join the work in that day
<i>hulu</i>	Upstream part of the river
<i>jajong</i>	fail to get gold
<i>kombinasi</i>	loans in the form of material (fuel, foodstuffs, engine equipment) from bosses shop owners), which are repaid weekly after the mined gold is sold, usually in Thursdays or Friday mornings
<i>langkar</i>	a woven basket to carry debris removed from the river bottom.
<i>lenggang/ ngelenggang/ melenggang</i>	panning gold in the river
<i>lenggangan</i>	gold pan
<i>melangkar</i>	lifting up and carrying debris removed from the river bottom using a woven basket

<i>mbangkit</i>	doormat washing in water and detergent to remove dirt and the gold nugget
<i>mopo'</i>	successful (gold) strike
<i>ngerébo'</i>	panning gold from sand that had been panned by others before (sand from <i>sedot kering</i> units or washed <i>welkoms</i> from <i>sedot selam</i> and <i>sedot rajak</i> units)
<i>puya'</i>	iron sand containing gold dust
<i>solongan/ lobang solongan</i>	horizontal tunnels dug along the <i>ampar</i>
<i>welkom</i>	fibrous material to catch gold; usually coconut-fiber mats (which most often have “welcome” written on them)

Acknowledgement from the Consultant

Laboratorium Antropologi, Faculty of Social and Political Science of University of Indonesia would like to express its appreciation to the following parties for their contribution in the implementation of this rapid assessment.

Firstly, we appreciate the hard work of the Research Team: Semiarto Aji Purwanto (Team Leader), Fadli Yusfi (Field Researcher), Fransisca Titiwening (Field Researcher), Fatmawati (Research Assistant) dan Budi Mulia (Research Assistant).

Secondly, thanks are due to the all informants in Kelian Dalam Village who have warmly welcomed the researchers and for their willingness to participate in the research activities. We do hope that the study would give benefit to the people of Kelian Dalam village.

Thirdly, we would like to extend our sincere thanks to the government officials in the village, sub district, district and province of the research area for their valuable information and data and for their times which enabled us to discuss the results of this study during validation workshop. We hope this study will be of use in formulating the policy on child labour in mining sector.

Last but not least, we are grateful to the ILO-IPEC for the opportunity to conduct this study. We look forward to continuing better collaboration in the future.

Executive Summary

In preparation for a time-bound programme addressing 13 occupations involving child labour, International Labour Organization-International Programme on the Elimination of Child Labour office in Jakarta, in cooperation with Laboratorium Antropologi, University of Indonesia, conducted this rapid assessment, focusing on child labour in the informal mining sector. Specifically, the assessment looked at the situation of traditional gold mining in one village in East Kalimantan province. The report is based on the findings of field observations and interviews with 36 young people involved in the gold mining activities. It includes research on the community, families of young workers and gold mine operators.

In addition to the situation of the young miners, the rapid assessment, which conducted in Kelian Dalam village, looked at the community perceptions of child labour, the mobility patterns of child labourers and their families; young labourers' perception of the work and their future, the different mining processes and the occupational conditions, hazards and impacts on child labourers and level of awareness of those hazards, the attitudes of mining operators toward child labour and the recruitment process and roots of the problem.

Prior the fieldwork a literature review was undertaken to help focus the research and to obtain statistical data on the mining sector and child labour in Indonesia. The fieldwork employed direct observation, formal and informal individual interviews (with a questionnaire and additional in-depth interviews with selected people) and group discussions. Direct observations helped in the estimation of the number of children working in the specific sector and area by a simple counting of the children seen working.

The researchers studied the village during the wet season, when mining activities are subdued because of the high water level; in a house-to-house survey, the researchers identified 223 children who work in mining. However only 36 children who were seen working within the period of field work were interviewed. The 36 young respondent's main reason to work in the mining

sector was to help their family. Most of the children worked on their own will; only three young people said they were ordered by their parents to work.

The children working in the units performed many of the same jobs as the adults. The duties were not very hard and did not require a lot of effort. They worked between one and six hours when working on their own and between eight and fourteen hours when employed in a unit. However, about a third of the independent young miners only worked one to two hours a day, indicating that for a large number of young people in the village, gold mining is essentially a pastime instead of an occupation.

Kelian Dalam has four major problems related to education: lack of teachers, low attendance level of the teachers, low capability of funding education and lack of motivation toward enhancing children's education. Those four problems are interrelated. The low attendance level of the teachers has resulted in a low motivation on the part of the parents to keep their children in school. The low economic capability has resulted in parents being unable to fully educate their children. Education, for these families, is regarded as a waste of funds that can be used for other needs.

The most dangerous hazard to the gold mine workers are pit collapses, which almost always results in death, though there are no recent reports of any such mishap. Besides the hazards, prospecting sometimes requires a good deal of physical exertion. Exhaustion was a major complaint among the 36 child labourers in the assessment. Several activities in the gold mining process, such as the diving, can be painful. All workers, children and adult, male and female, do the diving. First-time divers always feel pain caused by bleeding of the nose and ears due to the water pressure.

The practice of gold prospecting is unregulated. In practice, every prospector needs only to agree with other miners on their location. This lack of regulation leads to uncontrolled mining activities. Without regulations, the resulting effect toward the environment is very harsh. However, the lack of regulation on child labourers is rather irrelevant because gold prospecting is tightly related with community traditions. It is difficult to put sanctions on the use of child labour because most children in Kelian Dalam prospect gold as part of their play and socialization patterns. No exploitation was found in this assessment. The use of child labour in the units is more related to the lack of options for young people, namely education, but also other types of employment.

Any recommendations in order to eliminate child labour, especially in the case of Kelian Dalam, have to consider several related causal factors and contexts. Economic factors, tradition, socialization, education, occupational

hazards, availability of resources and regulation are intertwined in the resulting situation.

Attention has been directed to the child labour problem in Indonesia for many years, though the Government began to handle the issue more seriously after the 1997 economic crisis. Through laws No. 20/1999 and 1/2000, the Government ratified, respectively, ILO Convention No. 38 on the minimum age for admission to work and Convention No. 182 concerning the prohibition and immediate action for the elimination of the worst forms of child labour. However, despite those laws forbidding child workers younger than 15 years old in all economic sectors, economic necessities and lack of alternatives, such as schools, continue to force or encourage the employment of children.



Introduction

Community gold mining is a tradition of several regions in Indonesia. This report is based on a rapid assessment involving 36 young people involved in the gold mining activities in one village of East Kalimantan province. It includes research on the community, families of young workers and gold mine operators. This rapid assessment was a follow-up to two studies,¹ one of which was commissioned by the International Labour Organization-International Programme on the Elimination of Child Labour (ILO-IPEC) in Central Kalimantan.

The previous researchers found that gold mining activities increased after the economic crisis in 1997 and that young people, most of them male, worked in almost all stages of mining. The parents were reported as having opinions that while gold mining was hazardous it was not exploitative of children and that education was not realistic to pursue due to the distance to the schools or lack of accessibility for other reasons. The researchers also found that most young workers, aged between 15 and 17 years, were indigenous Dayaks and that many of the gold mining operations in the province were dominated by indigenous peoples.

Background of the rapid assessment

Attention has been directed to the child labour problem in Indonesia for many years, though the Government began to handle the issue more seriously after the 1997 economic crisis. Through laws No. 20/1999 and 1/2000, the Government ratified, respectively, ILO Convention No. 38 on the minimum age for admission to work and Convention No. 182 concerning the prohibition and immediate action for the elimination of the worst forms of child labour. However, despite those laws forbidding child workers younger than 15 years old in all economic sectors and those aged 17 and younger in the

¹ The first one was conducted in 2001 by an NGO based in Central Kalimantan and the second was conducted in 2002 by M. I. Djajadi for the ILO-IPEC and focused on Central Kalimantan.

so called worst forms of child labor, economic necessities and lack of alternatives, such as schools, continue to force or encourage the employment of children. Such practice seems to occur primarily, if not only, in the informal sectors where there is no monitoring of labour practices and where employers prefer child workers because they can pay them lower wages than adults. And many struggling families are greatly helped by the additional income working children bring home. While some of those children are asked by parents to work, many children *want* to help out, particularly when their access to education is limited and they have little else constructive to do with their time.

More recently through Presidential Decree (*Keppres*) No. 59/2002, the Government identified 13 occupations involving child labour that must be addressed immediately in a time-bound programme (TBP). The prohibited jobs are prostitution, mining, pearl diving, construction, offshore fishing (on platforms known as *jermal*), scavenging, the production of and activities that make use of explosives, domestic work, cottage industries, plantations/estates, timbering and those that involve hazardous chemical substances.² To plan those time-bound programmes, reliable data on each specific situation and needs of the target population are required. As there have been few studies of young people's involvement in the mining sector, a rapid assessment was requested to better understand the situation and conditions of child miners.

Objectives of the rapid assessment

This assessment was to aid the design of the time-bound programme. It also is to provide a baseline situation analysis that can be used to measure the progress of the TBP's implementation. Baseline surveys conducted later will be used to more directly measure the impact on target groups.

The primary objectives of this assessment were:

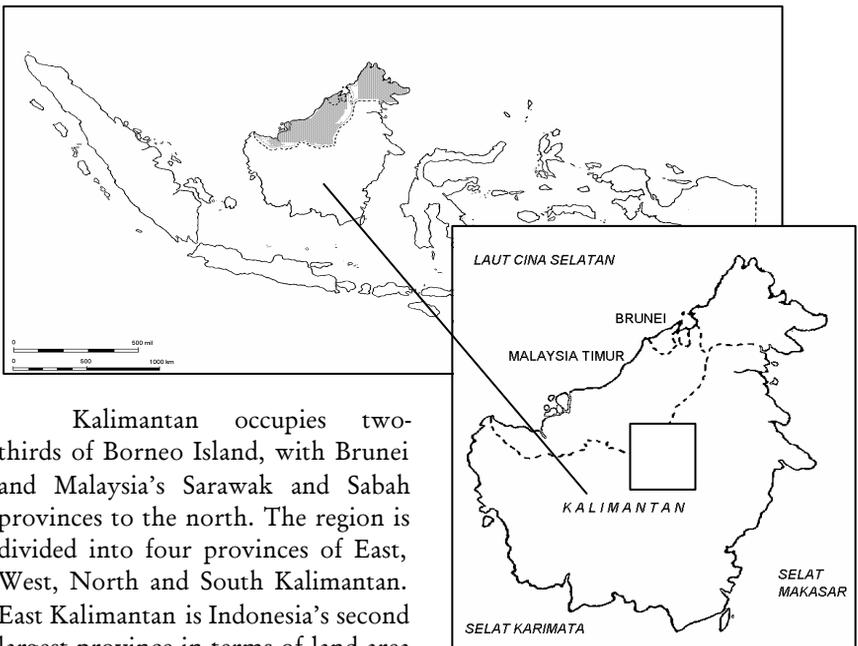
- To generate qualitative data related to children's involvement in the informal mining sector, including the nature, causes and consequences;
- To produce quantitative data on the magnitude of children's involvement in the targeted sector, including both national estimates and more precise figures for selected districts;
- To explore gender dimensions of child labour in the informal mining sector, including differences in causes, sensitivity to conditions as well as factors that cause gender differences;

²Presidential Decree of the Republic of Indonesia, No 59/ 2002

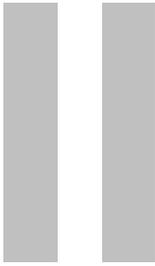
- To propose recommendations for eliminating young people’s involvement; and
- To assist in improving methodologies for investigating the worst forms of child labour.

The rapid assessment was to look at a variety of issues: the magnitude of young people’s involvement, their education level, length of occupation and family background (level of poverty and other social, economic and cultural characteristics); the level of awareness of the occupational hazards among both young people and their parents; community perceptions of child labour; the mobility patterns of child labourers and their families; young labourers’ perception of the work and their future; the different mining processes and the occupational conditions, hazards and impacts on child labourers; the attitudes of mining operators toward child labour and the recruitment process; roots of the problem and involvement of children; the health and education services available in the area; income-improvement programmes and other interventions by the Government, donor institutions, local and international nongovernment organizations (NGOs) to address the child labour problem.

Figure 1.1: Map of the rapid assessment research site



Kalimantan occupies two-thirds of Borneo Island, with Brunei and Malaysia’s Sarawak and Sabah provinces to the north. The region is divided into four provinces of East, West, North and South Kalimantan. East Kalimantan is Indonesia’s second largest province in terms of land area but contains a relatively small population.



The Rapid Assessment

Geographical location

West Kutai district in East Kalimantan province is rich in minerals, including gold. The rapid assessment took place in Kelian Dalam village (in Long Iram subdistrict), which is located on one of the tributaries of the Mahakam River in West Kutai district.³ Though the province is known for its wealth of natural resources, the population is considered impoverished. These two conditions have resulted in considerable natural resource exploitation (especially in mining) and a large number of child labourers. The area reportedly contains the largest number of community gold mining operations and was selected on the presumption that a large number of child labourers were involved in the mining activities.

For the assessment, mining sector refers to mines managed by the local population, commonly called *pertambangan rakyat* (community mining). These mines operate in many regions throughout Kalimantan, Sumatra, Sulawesi, West Java, East Java and Papua provinces. While the informal mining sector involves both gold and coal mining,⁴ this assessment focused on gold mining activities. The target group was all children younger than 18 working in the community gold mining sector.

Methodology

Research team

The team consisted of five researchers from the Laboratorium Antropologi, University of Indonesia: a lead assessor supervised all research

³Indonesia consists of several provinces (*propinsi*). A province consists of several districts (*kabupaten*) and municipalities (*kota*), which consist of subdistricts (*kecamatan*), which further consist of several villages (*kelurahan/desa*).

⁴Places known for gold mining include Pongkor (West Java), Manado (North Sulawesi) and Nabire (Papua); coal mining areas include Sawahlunto (West Sumatra), Paserpenajam (East Kalimantan) and Kota Baru (South Kalimantan).

activities, a field supervisor and three field assessors. The team received specific training on interviewing sensitive groups such as children and were provided with known details of child labour in the mining sector in Kalimantan and of the focus area. As well, the team received instruction in use of the tools and methods used in ILO-IPEC rapid assessments.

Actual collection of information

Both primary and secondary data were collected for this assessment. For background knowledge and to help focus the research, the team first reviewed published and unpublished literature, media reports (from the national *Kompas* newspaper and local newspapers) and relevant research studies, journals and bulletins from academic institutions and NGOs (such as JATAM and ELSHAM). As there were many articles on child labour, the team's focus centred on articles from the past three years, which mostly mapped the impact of the economic crisis. International sources, which were not included in this literature review, were reviewed in many of these articles. Generally speaking, however, the available data on child labour in community mining was quite limited.

As well, the team sought all available statistical data on the mining sector in Indonesia in general and on child labour in particular – the statistics office in East Kalimantan was a good provider of data and the Web site of the East Kalimantan Regional Development Agency (Bappeda) also provided excellent, recently updated data on macro development planning.

With no data available on the child labour situation in the research site, the research team spoke with ILO-IPEC staff in Jakarta and Bappeda staff of West Kutai district to obtain whatever preliminary information possible. The team then conducted the field work component of the rapid assessment from 18 January to 6 February 2003.

Prior to the fieldwork, the team consulted with key informants (such as government agencies, workers and employers organizations, academic institutions, donor agencies, NGOs, etc.) familiar with child labour in the informal mining sector to identify principle features. Such consultations have also served as a means for identifying partnerships to be further developed for assessing possibilities for local resource mobilization and for ensuring institutional as well as individual cooperation in future project work.

The field research involved direct observation, formal and informal individual interviews and group discussions. The observations aimed to gather data, to understand the nature and extent of the work involved, as well as to allow for the identification of the difference between what the child labourers said they do and what they actually do. Direct observations helped in the

estimation of the number of children working in the specific sector and area by a simple counting of the children seen working.

Three questionnaires were developed for interviewing child labourers, their parents and the mining operators who employed them. After an initial survey in the focus area from which a total of 223 child labourers were counted, the team distributed questionnaires to only those they found working during the research period – 36 young people. As well, they found 14 parents to answer the questionnaire: seven families who have a child working and seven families who no children working; and 14 mining operators (consisting of seven operators from river mining units and seven other from land mining units). People's willingness or availability to participate in the study determined the final numbers; the limited time did not allow the research team to build sufficient rapport necessary to encourage many families or unit owners to be interviewed.

The researchers then further interviewed some of the questionnaire respondents more in-depthly as well as other informants such as religious and *adat* leaders, and village heads, RT⁵ heads, teachers, gold traders and Bappeda, Central Bureau of Statistics (BPS) and NGO officials at subdistrict and district level.

In addition to the interviews and discussion with the three parties directly involved in gold mining, the team interviewed other individuals (Table 1) – including teachers, social workers, local formal and informal leaders – using an in-depth, open-ended technique and a standard list of questions. Discussions with small focus groups of six to eight people, including young people, various adults with an emphasis on women, teachers and community leaders, were planned as an integral component of the data collection. However, there were difficulties in bringing the people together because of varying work schedules, and thus group interviews were not conducted.

⁵ Every village in Indonesia consists of several *Rukun Warga* (RW) or *Rukun Kampung* (RK), which are similar to hamlets; each of them contains a number of *Rukun Tetangga* (RT), meaning “neighbourhood association”

Table 2.1: Sources of data and respondents

Source	Questionnaire respondents	In-depth interviews
Child labourers	36	7
Household	14	14
Owner/supervisor	14	8
RT head	-	4
Religious leader	-	3
Adat leader	-	1
Teacher	-	3
Gold trader	-	3
Subdistrict head	-	1
Government official	-	4
NGO	-	2
Total	64	50

Research strategy

Because mining activity can cause environmental degradation, all operations are required by national regulation to have impact environment analysis before any activity begins. As this was never conducted by community mining practitioners, many people consider it as an illegal activity even though there is no governing regulation *per se*. The perceived illegal nature of the informal mining sector thus creates a tendency by all parties involved to cover up their activities or the involvement of children, the research team recognized at the outset a need to pursue data collection with a careful and sensitive approach. With that in mind, the team adopted the following strategy:

1. Select the assessment site based on the literature review and consultations with various informants.
2. Contact the village head in the focus area; often mine operators have a working relationship with the village government, so the village head can help in establishing trust and rapport with the operators. The role of the village head was critical in the assessment as he gave the permission for the operation of the mines in the first place.
3. Create rapport with the operators (in the same two-week period allotted for the actual assessment activities) and inform them of the goals of the research team, which was to understand the economic system of rural areas, especially after the passing of the regional autonomy legislation. The field researchers disclosed they were seeking a snapshot of the rural economic system and its activities, as well as the situation of child labour.
4. As the presence of illegal mines is not separable from official and extra-official support from various parties, establish similar rapport with the

local district head, police chief, military commander and parents of child labourers.

5. The field researchers must present a neutral, objective attitude toward child labour to ensure that both the children's families and the employers do not react with guilty feelings for allowing under-aged children to work.

Data review and analysis

The results of the questionnaires were processed with SPSS (Statistical Package for the Social Sciences) computer software. From the earliest stages of the research, every observation, and interview were tabulated and coded for data review and analysis. Cross-checking between the different research was done to validate results. After the assessment, the researchers triangulated the data to confirm the various findings. Before the research team returned to Jakarta, they discussed their initial findings with officials in the West Kutai Regional Development Planning Agency (Bappeda) and with key informants. A more formal stakeholder workshop to further verify findings and recommendations took place on 45 April 2003, two months after the field research, through presentations and discussions with West Kutai government officials and several NGOs in Samarinda.

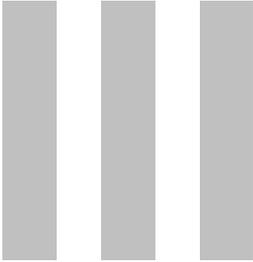
Limitations of the research

The presence of outsiders is especially unwanted in community mining areas and operators of the mines tend to view outsiders as a hindrance, even as a threat to business. As mentioned, data collection during the field assessment was thus difficult as the community mines are perceived as operating illegally, which prompted many parties involved in these activities to cover up the existence of child labour. This was true not only for the mine operators but also the parents of the children.

Another difficulty was the collection of accurate statistical data to estimate the number of child labourers in a specific district. The research team *attempted* an estimation by comparing the number of inhabitants according to age groups with the education data according to age groups. (Identified child labourers were divided into three age groups: 5-10, 11-14 and 15-17.) The result of that comparison, showing the number of children who are not educated in the formal education system, might suggest the number of possible child labourers. However, such data in the provincial, district and subdistrict levels was not complete and thus did not allow for a valid estimation of the number of child labourers.

Also, the rapid assessment took place in a two-week period during the wet season, when the water level in the river rises and the prospecting activities are much subdued. Even though there were still several miner groups at the time of the study, the number of miners was only half the number it is typically in the dry season.

All names of persons used in this report have been changed for privacy reasons.



The Focus Area and the Situation of Working Children

West Kutai district

West Kutai is a new district, having been separated from Kutai district since November 1999. At that time, Kutai was divided into three new districts and one municipality: Kutai Kartanegara (also known as Kutai Induk), West Kutai and East Kutai districts and Bontang municipality. West Kutai is one of the largest districts in East Kalimantan, as shown in Table 3.1. Although it is the second largest district in the province, West Kutai is relatively sparsely populated. Around 70 per cent of its land is still forested and not used for agriculture because of the poor soil quality.

Table 3.1: Number of subdistricts, villages, area and population by district/municipality in East Kalimantan province

District/ municipality	Sub- districts	Villages	Area		Population in 2000*
			km ²	%	
Pasir	12	151	14,937.0	7.06	267,960
West Kutai	13	208	31,628.7	14.96	136,161
Kutai Kartanegara	18	177	27,263.1	12.89	424,452
East Kutai	5	100	35,747.5	16.91	147,520
Berau	8	98	24,201.0	11.45	117,458
Malinau	5	135	42,620.7	20.16	36,444
Bulungan	5	85	18,010.5	8.52	83,181
Nunukan	5	214	14,585.7	6.90	79,363
Balikpapan	5	27	749.0	0.37	406,833
Samarinda	6	42	783.0	0.35	521,471
Tarakan	4	12	507.1	0.24	116,023
Bontang	2	9	406.7	0.19	99,679
Total	88	1258	211.440	100	2,436,545

Source: BPS and Bappeda East Kalimantan, 1999

* Source: BPS East Kalimantan, 2001

While natural resources are abundant throughout the province of East Kalimantan, West Kutai highly depends on them for its development – principally agriculture and mining, as shown in Table 3.2. The agricultural

sector mostly involves forestry. Timbering is managed through concessions run by timber companies while individuals gather nontimber products from the forest. In the mining sector, gold is the prime resource, followed by coal.

For more than 50 years, communities along the Mahakam River, especially in the downstream region, have been gold mining. The *pengerébo*, or community miners, use simple technology to work both in the river and on the mainland. Kelian River, a tributary of the Mahakam, is one of the oldest sites for gold mining, having been exploited since before the Second World War. In 1992, the Indonesian Government gave a multinational company, the PT Kelian Equatorial Mining (PT KEM), a mining concession to exploit the Kelian River.

Table 3.2: Percentage of the contribution of various sectors to the regional income

Sectors	1997	1998	1999	2000	2001
Agriculture (staple food, horticulture, livestock, forestry, fishery)	27.43	22.28	26.40	29.27	24.41
Mining	43.47	54.06	49.28	43.04	47.83
Processing industry (excluding oil and gas company)	4.91	4.31	4.44	5.91	5.93
Electricity, gas and clean water	0.10	0.08	0.08	0.18	0.18
Construction	10.53	8.42	8.92	10.52	12.02
Trading, hotel and restaurant	8.35	8.42	8.92	10.52	12.02
Transportation and communication (cargo, post and telecommunication)	1.70	1.41	1.56	1.65	1.54
Finance, rent, and company	2.40	1.94	1.86	2.14	2.15
Services (government and private)	3.49	2.89	2.93	3.69	3.32

Source: Central Bureau of Statistics of East Kalimantan, 2002

There are many mining operations in West Kutai: gold, coal and Type C minerals,⁶ that bring significant income to the region. PT KEM has operated for the past ten years in Long Iram and made significant contribution to the development of Kutai and Kutai Barat districts. In the past two years, three coal mining operations began operating in West Kutai: PT Gunung Bayan Pratama Coal, PT Turbaindo and PT Teguh Sinar Abadi. Type C minerals are of more interest to local business people because of the Government's push to develop the infrastructure, including offices, schools, shops, etc. As type C minerals are among the main building materials, people are keen to invest in

⁶ According to Mining Legislation No. 11/1967, minerals are classified into three types: Type A: strategic minerals such as oil, gas, coal and tin, Type B: vital minerals such as gold, copper and diamonds, and Type C: nonstrategic and nonvital minerals such as sand, granite, limestone and others.

exploring or mining for them to meet the local need. The mining of aggregates in Muara Asa village has been highly profitable in the past several years. A cubic metre of aggregate is valued at 35,000 rupiah, while coral extracted from the river is valued at 50,000 rupiah per cubic metre.

Despite the abundance of natural resources in the province, many people live in poverty. Table 3.3 indicates welfare levels⁷ for each district in East Kalimantan. Most of the poor within the category of *prasejahtera* (pre-welfare) and *sejahtera* I (welfare I) are found in West Kutai (21.77 per cent *prasejahtera* and 38.1 per cent *sejahtera* I) and in East Kutai (22.9 per cent *prasejahtera* and 29.3 per cent *sejahtera* I).

Between 1998 and 2000, the work force in East Kalimantan dropped by 14,840 people, from 1,079,990 to 1,065,150. Though there was a rise of 27,900 workers in 1998-1999, there was a sharp drop of 42,700 people in 1999-2000. The growth rate of the work force, which was 55.8 per cent in 1998, rose to 55.9 per cent in 1999 and to 55.95 per cent in 2000. The growth rate of the female work force also grew from 35.77 per cent in 1998 to 36.6 per cent in 1999 and 37.09 per cent in 2000. The growth rate of the male work force dropped in 1998-1999 but rose in 1999-2000.

Table 3.3: Demography and welfare levels in East Kalimantan, 1999/2000

District/ municipality	Pra- sejahtera	Sejahtera I	Sejahtera II	Sejahtera III	Sejahtera III Plus	Total
Pasir	7,411	24,498	17,005	10,266	4,217	63,397
West Kutai	7,268	12,691	8,547	3,509	1,365	33,380
Kutai Kartanegara	11,669	34,968	32,750	17,751	5,282	103,420
East Kutai	8,875	11,358	12,448	4,911	1,160	38,752
Berau	235	10,711	7,974	5,530	664	25,114
Malinau	1,366	3,829	2,171	603	183	8,152
Bulungan	591	8,765	5,734	3,333	1,069	19,492
Nunukan	472	6,619	6,320	3,444	1,609	18,464
Balikpapan	124	18,037	25,820	31,645	16,219	91,845
Samarinda	4,942	32,189	27,564	32,353	12,742	109,790
Tarakan	200	8,234	6,972	-	-	15,406
Bontang	2,948	5,916	4,364	7,679	3,929	24,836
Total	47,101	177,815	157,669	121,024	48,439	552,048

Source: BKKBN (National Coordinating Body for Family Planning), East Kalimantan, 2001

⁷Welfare levels in Indonesia have for the past ten years been classified into five categories: *Prasejahtera*, meaning “a condition of pre-welfare or poorest of the poor”; *Sejahtera* or welfare, which refers to three degrees of welfare – *Sejahtera I*, *Sejahtera II* and *Sejahtera III*; and *Sejahtera III Plus*, meaning “well-to-do”. There is a particular criterion on how the classification is made, as developed by the Bappenas (National Development Planning Agency).

Long Iram subdistrict

Long Iram subdistrict has 21 villages, some of which are transmigration villages inhabited by migrants since the early 1980s. The densest population areas are Long Iram Kota (the subdistrict capital) and Kelian Dalam, which is the location of the traditional community gold mining activities. Other significant villages are Tering, a ferry port on the Mahakam River connecting Long Iram to Melak and several nearby transmigration villages.

Despite the decade-long PT KEM operation, most locals work in agriculture – farming dry fields – or in forestry. Only about 12.5 per cent of the district’s population works in mining. The forestry sector, which has the greatest potential in West Kutai district, provides a significant source of income for people in Long Iram, especially since the regional government allowed individuals to log the forest. Previously, only large companies were allowed forest exploration concessions, and the inhabitants had to work in the companies or log illicitly.

Educational facilities are sufficient in the subdistrict, as there is a high school, and health facilities are also adequate. Both types of facilities, however, are found in the denser population areas. A public hospital is located at Teringbaru and two community health centres (*Puskesmas*) are in Tering Seberang and Long Iram Kota with a total of four physicians available. “Integrated service posts” (*Posyandu*, which translates as “mother and child health posts”) in all villages provide health service for mothers and children, which is the priority of the health institution. These activities are performed by health cadres and supervised by paramedics. To assist births, village midwives (*bidan desa*) are assigned to some villages, entrusted also with the duty of health instructors. Most births, however, still depend on assistance of traditional midwives (*dukun bay*), which are located in every village.

Table 3.4: Demography of Long Iram subdistrict, 2000

Villages	Male	Female	Total
1. Muyub Ulu	107	98	205
2. Tukul	323	230	553
3. Jelmuq	227	235	462
4. Tering Baru	225	213	438
5. Tering Lama	651	579	1,230
6. Tering Seberang	617	569	1,186
7. Purworejo	396	351	747
8. Kelubag	102	82	184
9. Muara Mujan	367	304	671
10. Anah	163	147	310
11. Muara Leban	221	233	454
12. Long Iram Seberang	350	296	646
13. Long Iram Kota	1,030	991	2,021
14. Long Iram Bayan	210	258	468
15. Long Iram Ilir	179	138	317
16. Sukomulyo	577	504	1,081
17. Long Dalq	190	154	344
18. Keliway	148	136	284
19. Ujoh Halang	68	52	120
20. Kelian Luar	207	170	377
21. Kelian Dalam	855	841	1,696
T o t a l	7,213	6,581	13,794

Source: Monograph of Long Iram subdistrict, 2000

Kelian Dalam village

The village of Kelian Dalam is located two hours from the district city. It was founded in 1948, with some 20 Dayak households originally from Long Iram village, when prospectors from the upper Mahakam area discovered gold in the Sungai Babi River. By 1952, the village had grown to 40 Dayak households. That year, however, major flooding destroyed 22 houses. Around ten families returned to Long Iram or moved on to the village of Tukul. Also in the same year, the new discovery of gold was heard by the Siangmurung clan from the upper Mahakam area. Many of those clan members then moved to Sungai Babi village and considered themselves to be “original” inhabitants. They regarded later arrivals as “newcomers,” including the Bugis and the Javanese. Presently, the inhabitants of the Kelian Dalam village include four major ethnic groups: Dayak (Kenyah, Tunjung, Bahau, Punan, Penihing, Bakumpai and Benuaq clans), Bugis (Bone, Sinjay, Makassar, Mandar, Manado and Wajo clans), Banjar (Cempaka, Barabai, Martapura and Kandangan clans), Javanese and Sundanese. The population growth resulted from migration from the village of Gah Lalang, in which the PT KEM company operates.

Kelian Dalam village consists of four *rukun tetanggas* (RTs), or neighbourhood associations.⁸ The upper part of the village is mostly inhabited by newcomers, such as the Javanese, Bugis, Banjar and migrants from Central Kalimantan. The lower part is inhabited by “indigenous” people, such as the Dayaks.

A typical household in Kelian Dalam consists of one nuclear family with three children. Since most of the inhabitants are migrants, the houses are mostly grouped according to ethnicity. A large part of the migrants come at the invitation of other family members who migrated earlier. This means that many of the house groupings are inhabited by extended families. This relationship is strengthened with employment in the same sector.

Most migrants are married couples or families. Their children tend to marry others of the same ethnicity or place of origin. Inter-ethnic marriages sometimes occur between the different Dayak subtribes, while the Bugis, Banjar and Javanese mostly marry members of their same ethnic group. Girls tend to marry at age 16 years and boys between 18 and 20, when they have graduated junior high school.

Table 3.5: Sex composition in Kelian Dalam village

Age (years)	Sex		Total
	Male	Female	
0-6	62	60	122
7-17	119	104	223
18-50	81	69	150
> 50	31	16	47
Total	293	249	542

Politics in Kelian Dalam

There is significant social resentment from the locals toward the newcomers, though the Kelian Dalam villagers are not unanimous on the definitions of “indigenous” and “newcomers.” According to older people, anyone living in a particular area and doing good things for the community is indigenous. However, most of the youth think that an indigenous person is someone born in the region. The language used in the village is Bekumpai, though there are few Bekumpai people, who originated from Central Kalimantan and founded the village, living there.

⁸ Every village in Indonesia consists of several *Rukun Warga* (RW) or *Rukun Kampung* (RK), which are similar to hamlets; each of them contains a number of *Rukun Tetanggas* (RT), meaning “neighbourhood associations”. In the urban area, RW is used in place of RK. In Kelian Dalam, since the village is considered to be very remote and very low in population density, no RKs are present and only RTs exist.

The villagers are divided into several individually unified groups, mostly based on ethnicity, such as the Javanese and the Bugis, and some factional groups. Each group has leaders who unify their respective peoples. The village head is an elected position.

On top of the ethnic divisions, the villagers have divided into three factions with different views regarding compensation being sought from PT KEM for destruction of property (So far, 444 families have received compensation and others are still waiting.) In 1996-1997, the villagers organized themselves into an association known as Lembaga Kesejahteraan Masyarakat Tambang dan Lingkungan (LKMTL), which is facilitated by JATAM, a national NGO concerned with mining operations in Indonesia.

Community mining

The West Kutai District Mining Office does not have any policies to manage community mining. Although the potential in mineral resources is considerable, no planning has been made. Permits have been given to three coal mining operations, but Type C mineral exploitation has not been as well managed. The same occurs with traditional gold mining. The community is free to mine without permits, taxes or fees.

Mining the country's natural resources presents high expectations to many parties in the national, regional and private spheres. Since the onset of regional autonomy, governments in the provincial and district levels are struggling for authority to manage the minerals. Simanjuntak observed in 2002 that decentralization in the mining sector has allowed regional governments and individuals to be directly involved in managing the minerals. He also found that even though much of the necessary infrastructure (legal, technical and capital) is not yet ready, regional governments are not inclined to lose out on the opportunities. And the lack of readiness in the regulatory measures and supervision at the regional level have contributed to environmental damage and health problems among the miners.

Though the earnings from prospecting can reach significant amounts, the uncertainty level is also high. Not every prospector can strike gold and not every time. Still, labour costs and capital must be reckoned. Such an economy based on a single sector is quite vulnerable. Currently, Kelian Dalam villagers, especially the Dayak people, keep their rice farms to provide foodstuffs. This farming is their main occupation though they also work in other sectors, such as prospecting and gathering forest products like rattan and timber. Migrants, such as Bugis and Javanese, mostly came to prospect, so farming is not a feasible option for them.

As is common in Kalimantan villages, the harvested rice is intended for the farmers' own consumption. The yield is only sold if there is a surplus. The farming is not done intensively. After the farms are planted with rice or other crops, such as vegetables or fruit-bearing trees, the farms are unattended until harvest time. Thus, the yield depends on the vagaries of nature, and no effort is made to ensure that the crops will result in high yields. In Kelian Dalam, one farmer group has formed, with coffee as their crop and funding from the regency government. This programme is intended to be widened to include other villagers not yet involved in the group as well as create more groups.

Kutai Barat regency depends on rubber plantations as one of its major cash crops; Kelian Dalam has the potential for rubber plantations. But while rubber trees have been planted in Long Iram village, none have yet been planted in Kelian Dalam. In the next village, Tukul, some villagers have planted *pulut merah* rattan (*jepun*), a short kind of rattan, which is very lucrative. The rattan might also be planted at Kelian Dalam, since according to the traditional leader, rattan used to grow in the forests around the village.

Several prospectors are pessimistic regarding the outlook of gold mining in the Kelian Dalam area. Gold finds are becoming rare, while other sectors do not appear to be promising in terms of providing good income. Villagers are only beginning to look to plantation work as a new income source. Plantation activity in growing coffee and cocoa started in 2002 and 22 households in Kelian Dalam have requested funding from the government Office of Plantations to start up cultivation.

Community infrastructure

▪ Roads

One main road connects the village to Long Iram Kota, the subdistrict capital. The road is only passable in the dry season, however. In the wet season, it turns into muck with deep potholes. To reach the road, the villagers have to cross the river using ferryboats. Presently a bridge is being built to connect the village to the road so no ferry crossing will be needed.

▪ River landings

Due to its location, the most common vehicles used for transport are boats and two river landings. Ten taxi boats serve the daily needs of the villagers.

▪ Commerce

Besides gold mining and farming, Kelian Dalam villagers earn income through shops and food stalls and live at the back of their businesses. PT KEM operates a cooperative selling basic needs and mining supplies; there

are about 20 food stalls and large and small shops selling clothing and basic needs, as well as gold prospecting supplies, such as mats, mercury, PVC pipe, hoses and pans. Two shops smelt gold and make jewellery. There are also two workshops for repairing gold mining equipment and other machinery, such as boat engines.

Ten shops buy gold from individual miners and then sell it in Banjarmasin or Samarinda. Unit workers sell their gold through the respective unit owners directly to Banjarmasin or Samarinda.

The villagers very rarely buy furniture. They only spend for it when they have extra income, such as in the dry season. Itinerant peddlers from Java and Sulawesi offer bedclothes, with a price between 200,000 and 300,000 rupiah for each set. Such a price is considered expensive nowadays, but in the dry season, when the income is high, they will gladly buy at such prices without haggling. During periods of gold strikes, villagers tend to spend a large sum of money for clothing. A female mine worker reported that she spent between 500,000 and 1 million rupiah (US\$58 and \$115) in a clothing and cosmetics shopping spree in Samarinda. When mining earnings are slight, villagers rarely, if ever, buy clothing. Any income is only used for meals and children's needs. The only ones who can buy clothes are the bosses and shop owners.

Every woman in Kelian Dalam owns some type of gold jewellery – necklaces, bracelets, rings. Some wear the jewellery daily, but others keep them at home. Buying gold is considered a form of investment. One woman interviewed during the assessment claimed that each woman owns at least 100 grams of gold in the form of jewellery, as an investment. It is a preferred form of savings as there are no banks in the village. When they are in need of money, they will sell their jewellery. Another woman interviewed mentioned that she only has 20 grams of gold, in a necklace.

▪ **Entertainment**

Even though PT KEM once promised to provide electricity to the village, it has yet to happen as the cost proved to be higher than the company's donation of 1 billion rupiah. The village remains split on how to spend those funds, however. Generators allow villagers to run radios or televisions for about four hours each evening and households pay a monthly fee. The villagers without a TV crowd into various shops that do have a set, usually the ones selling gold. Other forms of entertainment consist of a *karaoke* (1,000 rupiah per song), snooker hall (1,000 rupiah per hour game), table tennis, a movie theatre, a Playstation game centre (1,000 rupiah per hour) and a cafe. The *karaoke* is located inside the movie theatre, which is no longer popular due to people's lack of income. The cafe has

been open for one year and has created controversy because it sells alcoholic drinks and cigarettes. Gambling is another popular activity, typically on Friday nights.

A football field is located on a former riverbed, the river flow having moved elsewhere due to mining activities. Each afternoon, the football field is crowded with young and old players. A volleyball field is located in the old elementary school yard and games are only organized during independence day celebrations.

- **Water supply**

Kelian Dalam villagers think that the Kelian River has been polluted by the activities of the miners, especially by PT KEM, which operates upriver. In normal conditions or in the dry season, the villagers bathe and wash in the river, including brushing their teeth. When the river floods due to rains in the upper part, they tend to avoid the river out of fear of catching skin diseases, which they believe are caused by PT KEM's effluent that is disposed into the river. Even though sewage is not intentionally discharged, PT KEM's sewage tanks can overflow in the rains and enter the river.

It is not known whether their fears have merit. However, PT KEM provides the villagers with clean water that is piped from a spring located across the Kelian River into storage tanks. Each neighbourhood association (RT) is provided with two tanks, but sometimes only one is functional. The villagers do not feel responsible for the maintenance of the tanks, which were the initiative of PT KEM. Sometimes the water runs dry with no apparent cause and villagers have to use the Kelian River, even in the rainy season.

- **Sanitary facilities**

None of the homes in Kelian Dalam have bathrooms or toilets. Bathing and washing are done near the fresh-water tanks, while the river is used as a toilet. Four bathing rafts are present, and two chambers are used as toilets. The rafts were built and are maintained by the villagers.

- **Primary health care facilities**

The Health Agency sends to all villages a paramedic (Table 3.6) who is also the *bidan desa*, or *bides* (village midwife), whose main responsibility is to assist births and to manage the *posyandus*, as well as treat patients. In Kelian Dalam, the *bides* is also entrusted with lecturing miners on the dangers of mercury. Although, according to a health agency official, the lectures don't seem to have resulted in much success.

Kelian Dalam had no *bides*, as she is typically called, at the time of the assessment. The previous *bides* came to the village only once a week from her home in Long Iram.

Posyandu (integrated service post) takes place once a month. Previously, PT KEM, which still provides for tuberculosis drugs, paid the transportation subsidies for the *bides* but stopped it two months ago. The community health centre (*Puskesmas*) pays it now. Though villagers are not reluctant to seek medical attention, the previous *bides* noted, when interviewed, that they do very little to live a healthier life. Other cases handled by the *bides* include injuries from occupational accidents and fights. Fights often occur between the Bugis and the Dayak, mostly over land and women disputes and fuelled by alcoholic consumption.

Table 3.6: Health facilities in Long Iram subdistrict, 2000

Villages	Health institution					Health personnel			
	1	2	3	4	5	6	7	8	9
1. Muyub Ulu	-	-	-	-	1	-	-	-	1
2. Tukul	-	-	-	-	1	-	-	-	2
3. Jelmuq	-	-	-	-	1	-	-	-	3
4. Tering Baru	1	-	-	-	1	1	18	8	5
5. Tering Lama	-	-	-	-	1	-	-	-	4
6. Tering Seberang	-	1	-	-	1	1	2	1	3
7. Purworejo	-	-	-	-	1	1	-	-	3
8. Kelubag	-	-	1	-	1	-	-	-	2
9. Muara Mujan	-	-	-	-	1	-	-	-	3
10. Anah	-	-	1	-	1	-	-	-	2
11. Muara Leban	-	-	1	-	2	-	-	-	3
12. Long Iram Seberang	-	-	1	-	1	-	-	1	4
13. Long Iram Kota	-	1	-	-	5	1	5	4	6
14. Long Iram Bayan	-	-	-	-	1	-	-	-	3
15. Long Iram Ilir	-	-	-	-	1	-	-	-	2
16. Sukomulyo	-	-	-	-	1	-	-	-	3
17. Long Daliq	-	-	-	1	1	-	-	-	3
18. Keliway	1	1	-	-	1	-	-	-	3
19. Ujoh Halang	-	-	-	-	1	-	-	-	2
20. Kelian Luar	-	-	1	-	1	-	-	1	4
21. Kelian Dalam	-	-	1	-	1	-	-	1	2
Total	1	2	5	1	26	4	26	20	63

Source: Monograph of Long Iram subdistrict, 2000

Remarks: 1: hospital, 2: *puskesmas*, or community health centre, 3: *puskesmas bantuan* or subcommunity health centre, 4: *balai pengobatan*, or private medical centres, 5: *posyandu*, or integrated service post, 6: medical doctor, 7: *mantri kesehatan*, or paramedic, 8: other paramedics, usually *bidan desa* or ob-gyn assistant based in village, 9: *dukun bayi*, or traditional midwives

- **Schools**

Kelian Dalam village has a state elementary school, a *Taman Pendidikan Alquran* (Islamic religious school) and an Islamic kindergarten. Young children attend both the elementary and religious schools. The elementary school is open in the morning and students travel on foot, since the distance is not too great. The villagers think that the education conditions and quality in the village are very poor. Those who can afford it need to send their children elsewhere for better and higher education. Those who can't afford better education are unable to prevent their children from working.

- **Religious facilities**

There is a mosque and two Protestant church buildings: a Kemah Injil ("Ark of the Testament") church and a Western Indonesian Protestant church serving some 16 people; 11 villagers are Catholic.

Situation of children

School population

The 2001 National Survey on Social and Economic Conditions (*Susenas*) indicated that 450,706 children younger than 15 in East Kalimantan province were enrolled in TK (pre-school education), SD and SMP⁹, as shown in Table 3.7. The *Susenas* also reported that the total number of children younger than 15 in the province was 846,248, or one-third of the population. Thus, 395,542 children were not registered as students and likely to be working. What seemed also likely is that many child labourers are not reported or that there is an under-reporting of child labour. Or it may be that children working in home industries are not considered as workers.

⁹ The national education system in Indonesia is divided into three parts: elementary education, including *Taman Kanak-kanak* (TK), or kindergarten, and *Sekolah Dasar* (SD) or elementary school; middle education includes the *Sekolah Menengah Pertama* (SMP), or junior high school, *Sekolah Menengah Umum* (SMU), or high school, and *Sekolah Menengah Kejuruan* (SMK), or vocational high school, and higher education refers to colleges and universities.

Table 3.7: Students in East Kalimantan, 2000-2001 (latest data)

Districts	TK	SD	SLTP	SMU	SMK
1. Pasir	1,978	40,917	10,048	3,504	1,343
2. West Kutai	-	20,300	4,896	1,783	345
3. Kutai	5,096	61,077	15,191	5,981	2,501
4. Kartanegara	-	19,512	3,907	1,429	209
5. East Kutai	-	19,512	3,907	1,429	209
6. Berau	875	16,060	3,850	1,626	490
7. Malinau	-	7,108	1,217	431	-
8. Bulungan	1,917	13,880	3,537	1,111	1,087
9. Nunukan	-	13,517	2,428	1,219	-
10. Balikpapan	3,522	48,855	20,908	8,401	11,418
11. Samarinda	4,383	61,940	24,059	11,253	12,019
12. Tarakan	-	14,911	5,310	2,760	1,411
13. Bontang	-	14,005	5,502	2,203	2,453
Total	17,771	332,082	100,853	41,701	33,276

Source: East Kalimantan Office of Education, 2001

Table 3.8: Composition of schools, teacher and pupils in Long Iram subdistrict

Villages	Kinder-garten			Elementary			Junior High			Senior High		
	S	T	P	S	T	P	S	T	P	S	T	P
1. Muyub Ulu	-	-	-	1	6	65	-	-	-	-	-	-
2. Tukul	-	-	-	1	3	80	-	-	-	-	-	-
3. Jelmuq	-	-	-	1	10	103	-	-	-	-	-	-
4. Tering Baru	-	-	-	1	11	216	-	-	-	-	-	-
5. Tering Lama	-	-	-	-	-	-	1	10	88	-	-	-
6. Tering Seberang	-	-	-	2	14	210	1	8	47	-	-	-
7. Purworejo	-	-	-	1	9	148	-	-	-	-	-	-
8. Kelubag	-	-	-	-	-	-	-	-	-	-	-	-
9. Muara Mujan	-	-	-	2	14	135	1	6	42	-	-	-
10. Anah	-	-	-	-	-	-	-	-	-	-	-	-
11. Muara Leban	-	-	-	1	7	57	-	-	-	-	-	-
12. Long Iram Seberang	-	-	-	1	9	138	-	-	-	-	-	-
13. Long Iram Kota	1	3	20	3	26	274	1	14	240	1	15	254
14. Long Iram Bayan	-	-	-	-	-	-	-	-	-	-	-	-
15. Long Iram Ilir	-	-	-	1	6	92	-	-	-	-	-	-
16. Sukomulyo	-	-	-	1	9	158	-	-	-	-	-	-
17. Long Daliq	-	-	-	1	6	60	-	-	-	-	-	-
18. Keliway	1	1	5	1	2	57	-	-	-	-	-	-
19. Ujoh Halang	-	-	-	-	-	-	-	-	-	-	-	-
20. Kelian Luar	-	-	-	1	6	82	-	-	-	-	-	-
21. Kelian Dalam	-	-	-	1	7	200	-	-	-	-	-	-
Total	2	4	25	20	145	2,075	4	38	417	1	15	254

Source: Monograph of Long Iram district, 2000 Note: S (school), T (teacher), P (pupils)

Table 3.9: Student composition in Kelian Dalam elementary school, July- December 2002-2003 academic year*

Month	Grade I			Grade II			Grade III			Grade IV			Grade V			Grade VI		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
July	17	22	49	24	13	37	17	6	23	13	10	23	11	8	19	9	14	23
August	17	22	49	24	13	37	17	6	23	13	10	23	11	8	19	9	14	23
September	17	22	49	24	13	37	17	6	23	13	10	23	11	8	19	9	14	23
October	17	22	49	23	13	36	17	6	23	13	10	23	10	7	17	9	14	23
November	15	22	47	23	13	36	16	6	22	13	10	23	10	7	17	9	14	23
December	15	22	47	23	13	36	16	6	22	13	10	23	10	7	17	9	14	23

Source: Records in Kelian Dalam elementary school *Only data available

Prevalence of child labour

Using data from the Central Bureau of Statistics, the rapid assessment research team compared the age classification of the population and people's income activities at the subdistrict, district and province levels.

In Long Iram subdistrict, according to the 2000 national census, there were 5,060 school-aged (10-19 years old) children, which represented 32 per cent of the total population. Among people aged 10 and older, 8,199 were working and 243 were looking for a job. From the two sets of data, the research team estimated that 1,485 children aged 10-17 were among those working. Unfortunately, the conclusion is a little misleading as there was no data available for children aged 5-10 both in terms of activities and school drop-outs.

In West Kutai district, again according to the 2000 national census, the number of people aged 10-19 working was 3,747 and 782 of them were looking for a job. The research team thus estimated that 4,529 children were working. But they considered that to be a low to moderate estimate because around 1,000 young people declared their main activity in the census as going to school, working or other.

Although it makes no specific reference to gold mining, the 2001 *Susenas* found that 23,283 children aged 15-17 years worked as labourers in East Kalimantan province, mostly in Samarinda and Kutai districts.¹⁰ The survey also mentioned that around 60 per cent of the child labourers were employed in the plantation, forestry and fishing sectors. The rest were involved in the trading sector (28.6 per cent) and the industrial sector (5.4 per cent), especially in home industries. The highest number of child labourers was found in West Kutai district, with 4,180 children, while the lowest was in Bontang, with 176 children.

¹⁰ *Kompas*, 24 April 2002

Responses to child labour

When interviewed for the assessment, an official of the West Kutai District Manpower Office stated there are no recorded child labourers in the region. This is true in reference to the formal sectors, but child labour exists in the informal sectors, though the official would not comment. However, child labour in the informal sectors is the responsibility of the Office of Social Affairs (*Dinas Sosial*), which has yet to establish an office in the newly created district. The District Manpower Office had been open less than 18 months at the time of the assessment.

The only government office with any relationship to child labour in the area is the Office of Education, though the Office of Health pays some attention to the dangers of mercury poisoning. A large portion of the Government's attention toward children is focused on the improvement of the elementary education system.

With the enactment of the compulsory nine-year education system, the Government assumed that children between the ages of 6 and 15 would thus attend school¹¹ and that would then reduce the number of children who work. However, an evaluation of the programme conducted by researchers with LIPI (Indonesian Institute of Sciences) and the Australian National University who were investigating the child labour phenomenon in West Nusa Tenggara and East Nusa Tenggara provinces revealed that the role and contribution of children in a household's economy was not significantly related to why young people drop out of school. According to the study, more than half of the junior high school students interviewed declared that they also worked. Instead, it was the distance to school, especially in the higher education levels, that was the main cause of students leaving school.¹²

A situation analysis on child labour and education in East Java in 1999¹³ found that it is difficult to return children to school when they have dropped out to work. It also found that attempts to increase young workers' skills are not popular. Since the young workers do not have any skills they can only do

¹¹ Efforts to enhance the quality and inclusion of basic education for children has been started since 1973 by Presidential Instruction No. 10 about the facilities for children to study. With this instruction, which was excluded from the education budget in the national budget (APBN), all SD in the country has received fund to build up the schoolbuilding and other facilities. In 1983, a national movement has been announced which free the children of 7-12 years old to study in SD without any tuition fees. Starting in 1994, this national movement has also covered junior highschool or SMP to enable children of 7-15 years old to get free educated.

¹² Daliyo *et al*, 1998

¹³ B. Suyanto, 1999

the jobs that require physical strength rather than a skill. The researchers in the situation analysis suggested creating alternative education programmes for child labourers rather than trying to return them to formal education.

In 2002, the Research and Development Institute of the National Education Department amended its programme priority and strategic issues to allow for the training of young people no longer in school to become more skilled and thus productive workers. That shift was based on the assumption that all children finish the basic six-year education programme and have a sufficient degree of literacy. Indeed, illiteracy in Indonesia among 10-year-olds dropped from 15.9 per cent in the early 1990s to 11.6 per cent in 1999.

Currently, the West Kutai District Office of Education is trying to keep more children in school longer. Incentives in the form of scholarships are given to excellent students or those who lack financial resources. Needy junior high school students receive up to 20,000 rupiah (US\$2.30) per month, while those who rank first in grade achievements per class will get up to 30,000 rupiah (US\$3.45) per month. At the high school level, the subsidy is 50,000 rupiah (US\$6) per month and university students receive 200,000 rupiah (US\$23) monthly. Fifty scholarships were allotted in both 2001 and 2002.

The District Office of Education oversees four state and private junior high schools, four state senior high schools and eight private senior high schools and is confronting the serious lack of teachers by offering scholarships.

District Office of Education officials recognize the problem associated with the lack of schools but find it difficult to provide facilities in remote areas. Although elementary schools are present in almost all villages, high schools are only present in some of the villages, making access difficult and expenses for schooling great. As compensation, the Office of Education opened a vocational training centre in Barong Tongkok to teach skills in construction, milling and electronics. Students are recruited from the villages.

Several NGOs and local organizations are present in West Kutai. Most focus on forestry, natural resources or environmental issues. They are united in the “West Kutai Forestry Programme Working Group,” consisting of *Kelompok SHK Kaltim*, Sustainable Forest Management Programme (an extension of Samarinda-based GTZ), and the Rio Tinto Foundation. In the agricultural sector, CARE International promotes alternative agricultural technologies.

No NGO in West Kutai concentrates on the child labour problem or even education and health issues. Some NGOs, such as JATAM, *Putijaji* and LKMTL, monitor mining activities but focus only on the lack of PT KEM’s contribution to the community’s social and economic life.

IV

Traditional Gold Mining in Kelian Dalam Village

When the exploitation of gold in the area began in 1948, the technique used was the shovelling of sand from the river and then panning the gold. When a gold vein was found running from the river to drier ground, mining activities also began. A hole was dug in the soil, measuring 2 sq m with a depth reaching 5 m, and tunnels called *lobang solong* were bored with a length of 2-10 m. This method originated from the Banjar who were then arriving at Kelian River to prospect for gold. In the 1980s, the Banjar also introduced the mechanized mining method.

Nowadays, there are two ways of extracting gold from the Kelian River related to the location: mining, which is done in dry ground, and prospecting in the river. Each method has its own techniques and characteristics.

Technology

Three mining methods for gold mining are used in Kelian Dalam: *sedot selam* (wet/dive suction), *sedot kering* (dry suction) and *rujak* suction. (A fourth method of spraying recently ceased when the sole spray unit was replaced with a dry-suction unit.) A dry suction unit is normally located about 50 m from the river, sucking sand from the surrounding land. Wet and *rujak* suction units are located in the river, sucking sand from the riverbed (see Annexes 4-6 for an illustration of each method).

In all the suction methods, the gold is pumped out mixed in with sand and pebbles to drums on the platforms. Drums prevent them from overflowing. From the drums, the sluice flows to filters, which are placed between the drum and carpet. The filters allow fine sand and gold to move through and prevent larger stones and debris from passing through. The sand and gold mixture then falls into the carpet with bars of iron on it. This is intended to catch any diamond that might be in the sand. The carpet is usually a doormat made of coconut fibre, called *welkoms* (as “welcome” is always printed on them). The fibres catch the gold. The doormats are washed in water and detergent to remove dirt and gold nuggets in a process called *mbangkit*. The

water that flows down from the doormat is caught in pans to keep the gold washed out by the water; this activity takes place in the river.

The panning separates the gold from most of the sand, leaving it in the pan with bits of iron (*punya*) in sand stuck to it. The gold is separated from the iron through the use of mercury, magnets or a blowing system. Mercury is more popular because it is easier and results in a finer gold. Magnets and blowing are said to require more thoroughness and diligence. In a process called *meraksa*, mercury is dripped into the pan and sticks to only the gold. The gold is then poured into a bucket, leaving the sand and iron bits behind in the pan. The mercury and gold mix is then heated to remove the mercury, which evaporates.

The technique for extraction that is used depends on the location and the capital of the unit operator. Gold prospecting in Kelian Dalam is done in groups (units) or individually. Groups work with the mechanical methods, with each unit typically employing five to seven workers and in busy times, as many as ten workers.

Then there is a form of prospecting known as *ngerebo*: It is the panning for gold from the sand that has been panned earlier by another or from sand that has been through the *mbangkit* process. Sand can also be obtained by diving from the pits of *rijak* and dive suction units. The results of *ngerebo* is the property of the prospector. Many people, including children, do this kind of work.

The mechanical methods:

▪ **Sedot selam**

Mechanical devices began to be used by divers in 1984 to suck the sand from the river bed. A *sedot selam* unit operates from two small rafts connected to each other and located on the river. The first raft carries suction equipment (to suck sand and water) and the platform. The other raft carries the compressor and roller and is anchored close to the alleged gold site.

Wearing an aqualung and other diving apparatus, a diver digs a 4 to 8-m-deep pit to reach the *ampar*, the bedrock stratum below the sandy river bottom where gold veins usually appear. To reduce the amount of river water pouring into the hole, a temporary dam of wood and large rocks arranged across the river is first constructed. The dive suction then removes the sand or debris carried by the current (*ambul*). The diver manipulates the suction hose to suck the sand where it is needed.

Thus, the duties of workers on a *sedot selam* unit are to: i) build the raft; ii) mark out the location; iii) construct the temporary dam; iv) dispose of the *ambub* and suck the sand; v) wash the doormats (*welkom*); vi) separate the gold from the iron ore (*pya'*).

The small size of the unit allows it to move to most parts of the river. A location is determined by the amount of gold that appears by first panning sand in the riverbed. After a two- to three-hour wash of the doormats, the operator and crew decide if the amount is sufficient to make digging in that spot worthwhile. A unit might move daily, depending on the amount of gold retrieved each day.

To dig, the diver works in a cross-legged posture. He uses his feet to keep the suction-pipe's mouth in place and he removes by hand the larger rubble, which is placed inside the *langkar*, or basket, which is lifted up to the raft to be disposed elsewhere. The murky river water prevents the divers from seeing clearly and they must grope along the walls of the pit. A diver can feel the gold ore with his hands because it is colder than ordinary *ambub* sand. The diver then manipulates the suction pipe to suck gold ore to the platform. Meanwhile on the raft, the other workers lift up the *langkar* with the roller, dispose of the *ambub*, control the machinery and remove blockages in the suction pipe. The gold is panned by a washing to separate it from the sand.

Gold obtained in the dive suction unit is usually in the form of nuggets, so it can be separated from the ore by blowing on it. Mercury is rarely used since the gold is not in a powder form.

▪ **Sedot kering**

The method of mining gold on dry land but without tunnelling, called *sedot kering* in Bahasa, was introduced in 1999. In this system, a 4- to 8-m-deep pit is dug, as far as 50 m from the river. An engine and a pump are located next to the river and used to suck water to the pit to make the soil "suckable". That watery soil is then pumped to the platform through a second set of engine/pump and then channelled back into the river through a carpet that will catch the gold ore.

A dam is built on the riverside of the hole to prevent flooding that might result from a heavy rain. (When the pit is flooded by rainwater, the water pump drains it back to the river until the pit is dry.) After the pit and dam are built, the unit workers construct the platform and lay the PVC pipes. (They also build housing facilities at this time.)

The gold found in the dry sandy soil is powdery and easily swept away by water. The gold ore is obtained by spraying the pit's walls with river water.

A headman directs this operation; one worker controls the pipe for spraying and the others remove the sandy soil and rock debris to keep the pipes that will remove the mud from being blocked. If the unit is lucky, a vein of gold is discovered. The gold, along with the sandy soil, are carried to the platform through the pipes. On the two-level platform, the doormats catch the gold from the sluice flowing over it. The doormats on the top platform catch more gold and are washed daily while those on the platform just below it are washed weekly.

Lenggang operations separate the gold from the sand: In the washing process, sand and gold are removed from the doormats' fibres. The mix is put into the inverted cone-shaped pan (*lenggangan*) to separate the gold out. As gold is heavier than the soil, it sinks to the bottom.

To remove the iron ore from the gold, a worker blows on the gold dust or uses magnets or mercury. In the blowing method, the gold is put on a piece of thick paper with one of its corners folded to form an envelope. The paper is held at an angle with the envelope at the bottom and rocked gently while the worker blows on it. The lighter soil bits will be blown away and the gold will collect in the envelope. As the sandy bits contain iron, a magnet is sometimes used to draw out those bits. Mercury is used in pans, and as previously explained, separates the gold from the sand. The mercury is then lit with fire to burn it away, leaving only the gold.

The duties of workers in the *sedot kering* unit are to: i) dig the pit; ii) build a dam; iii) construct the platforms and lay the pipes; iv) spray the pit with water; v) pump out the sandy debris to the platform; vi) wash the doormats; vii) separate the gold from the sandy soil with water then from the iron ore by blowing or using magnets or mercury.

- **Sedot rujak**

Around 1999/2000, Kelian Dalam miners began to use the *rujak* suction method, which they adapted from the Central Kalimantan prospectors. The operations are similar to the dive suction method, only differing in the use of a stick to manipulate the hose. This method also uses rafts but ones larger than those used in the dive suction method, so it can only be applied where the river is broader. The rafts are usually built *in situ* because their size makes them less portable. Unit owners often build two neighbouring rafts, or they build a raft next to one owned by a relative working in a spot proven to produce plenty of gold.

The *rujak* suction unit sucks gold ore from the river bottom using suction hoses. The pipe is controlled by an operator using a stick. The stick operator cooperates with the engineman. After a diver digs a pit, the

machine pipe starts sucking. When it takes up mostly *ambuh*, the stick operator signals the engineman to stop the pump. He will then move the stick elsewhere, and signal the engineman to restart the pump. If the hose is blocked, a worker will dive to remove the offending rocks or wood. Such obstructions are put in a basket (*langkar*) by divers to be taken ashore using a roller (*putar giling*) and then disposed. This process also causes the pit to become larger and deeper.

The platform in the *rujak* suction method is divided into two parts. The first platform is located just below the pipe carrying the sluice and the second is just below the first one. The *welkoms* on the first platform catch the most gold and are washed daily while the ones on the second platform are washed weekly. The *welkoms* are floated and rocked gently in basins full of water.

Capital

A unit owner certainly needs larger amounts of capital compared to the *pengerébo*' miner who requires only a pan. A 25- to 60-cm-wide pan costs between 40,000 and 150,000 rupiah (US\$5 and \$17). To create a mining unit requires an investment of around 15 million rupiah (US\$1,700), which can be obtained from "money lenders" called "bosses", or from relatives. No bank loans are available. Typically, the unit owners started out as workers and saved to start their own unit. The bosses usually run a sundry shop, providing various kinds of mining supplies, such as pumps, equipment, fuel and supplies for workers.

Loans from the money lenders are usually not as cash but with the mining equipment. Those who take the loans are expected to sell their gold to the same money lender, and the cost of the supplies and equipment typically is deducted from the value of the gold; payments are thus made in several instalments.

The wood to build the rafts and housing are taken from the forest by the unit owner. If they do not own a chainsaw, they can borrow one for 50,000-75,000 (US\$6-\$9) rupiah per day. A raft for a *rujak* suction unit, for example, requires one week's worth of timber.

The unit owner provides for the daily needs of only those workers with no money of their own. They will repay the owner with their earnings. Workers who are unable to repay their debts might sneak away. Any defaulted loans of the workers are the responsibility of the unit owner. Bankrupted unit owners sometimes flee also, leaving unpaid debts. None of this is reported to the police as the mining operations are perceived as illegal and there is often no proof. Loans to the unit owners or workers are made without written

statements. Loan defaults are common. A money lender and unit owner in Keliam Dalam, knows of many defaults but has only experienced it once by a unit owner who owed him 58 million rupiah, plus 5 million rupiah in supplies loaned to his unit workers. As a Javanese and thus considered a newcomer and outsider to the villagers, the money lender did nothing, not even tracking the debtor and forcing him to repay the debts. “I financed my friend to his ruin. But I was abandoned, and there goes my money,” explained the money lender.

An owner of a sundry goods store, likened prospecting to gambling. When a miner is lucky, he strikes a lot, but he can also lose a lot. When he first attempted to prospect, he invested in a sucking machine. Within two years he lost more than 300 million rupiah (US\$34,500) because he didn’t find any gold. His luck changed a year later with a strike. But all tolled, he still came out with a loss of around 100 million rupiah. Losses can be caused by the lack of a strike or by the falling price of gold, which is related to the value of the US dollar. If the dollar falls, so does the price of gold, and the reverse also holds true.

Labour

Each unit requires different numbers of workers with different specializations. The minimum requirement when hiring a worker is a good natured, diligent and cooperative attitude. There are no special requirements for workers in the dry suction units. In the *rujak* suction units, a diving ability is required; although, when a sufficient number of divers are hired, others who can’t swim might be accepted to do other jobs.

Haji Didin, 35 unit owner

In the dry season and in *mopo*’ conditions when large pieces of gold are easily found, Haji Didin increases the number of workers in his unit. Unlike most unit owners, he hires only from his extended family living in his Sulawesi hometown, on other island around 1,000 km away. Haji Didin pays their travelling expenses both ways. When the dry season is over, they return home with gold and money. Working in the wet season is not lucrative enough to stay. “They cannot stand to suffer with no income,” said Tuti, Haji Didin’s daughter. In the wet season, Haji Didin employs only ten workers to run two to three units; in the dry season he has 30-50 workers operating up to five units in the same pit.

Typically, ethnic backgrounds and family or friendship relations are not especially considered in the recruitment of workers. More than one ethnic group might be working in the same unit, for instance. But when there are a large number of people seeking jobs, such relations might become the hiring criteria.

Almost every worker can perform each job in the unit – there is little or no specialization or division of labour. In each unit, there are at least a headman, diver, *langkar* operator, litter operator, platform operator, washer, *lenggang* operator, and engine operator. One unit typically employs three to four divers who do the diving in turns. When one worker is diving, the others do other tasks.

- **Headman**

As the coordinator of the process, the headman might be the right-hand man of the owner or the owner. The headman might double as a diver, washer or whatever role needs filling. His main job is to ensure a smooth operation, from the start of the work through the payment of the wages, including selling the gold.

- **Diver**

The diver at the bottom of the river manipulates the hose to suck the sand where the *ambuh* is lightest, so more gold is contained in the sand compared to the *ambuh*. In the *rujak* suction method, more *ambuh* is found. The team in the *rujak* suction unit will only dive when larger stones or wood block the pipe; the hose is typically controlled from the surface with a stick. In the dive suction unit, the diver manipulates the hose at the bottom of the river. He usually knows where the gold is and controls the hose accordingly. Dive suction units are considered more effective than *rujak* suction units. In the dive suction units, no crowbars to break rocks are necessary. The stones in the *rujak* suction units are larger than those in the dive suction units, which measure only 10-15 cm in diameter. The stones larger than 15 cm will be taken out and disposed.

- **Langkar operator/watcher**

A *langkar* is a basket used to lift stones, wood and other debris from the pit that might affect the inflow of sand into the spiral hose. This is performed by two persons sitting on seats. When the *langkar* is full, they take turns to pull it up and do other tasks while waiting. These can be any type of worker. The *langkar* must not be left unwatched so that it can be hoisted up immediately upon signal from the diver. The watching of the *langkar* can be done while talking, smoking or snacking, and the watcher

does not have to remain at his post continuously. He can take a break, as long as another worker watches.

- **Litter carrier**

A litter bin is used to haul debris from the *langkar*. Two men usually carry the bin, one can weigh around 10 kilos or more. Sometimes the stones or wood are too big and require two people to lift them. Any worker fit to carry heavy loads can handle this job.

- **Platform watcher**

He watches the platform to check whether the sluice flows freely into the doormats. If there are obstructions, he will inform other workers to increase the throttle of the pump. This role can be done by any worker.

- **Doormat washer**

This occupation calls for thoroughness and care, as the unit can't afford to lose any gold. But anyone can handle this job. The mats are removed from the platform and then manually washed in basins covered with tarp and beaten. The water carries the sand away, leaving gold and *puya*. The mats continue to be sprayed until the gold sticks in the mat's fibres and the *puya* is carried away.

- **Lenggang operator**

Lenggang is the process of panning the gold and sand to separate them. Any worker can perform this task. Because water is required, the activity is performed at the river even though the sand might be obtained using the dry suction method. Usually the workers work in a wading position.

- **Pump operator/engineman**

To guarantee the sand flow to the platforms, the engineman gives signals to an operator, whose duty is to throttle the pump. No specific worker operates the pump – just whomever is nearest at the time of the signal.

Mining permits

No miner in Kelian Dalam pays any mining fees to the village, district or regency. The larger, formal operators such as PT KEM pay fees at the regency level, becoming one of the sources of regional income. There are no government restrictions of other mining operations, as no legislation regulates traditional mining.

According to the Kelian Dalam traditional leader,¹⁴ if outsiders want to pan gold in the region, they need to report to the village head, but there are no other regulations. No one is allowed to work in another owner's pit. If there are no pits in a selected location, anyone can work there. If there is a pit already, the person seeking to work the area needs to determine whether the pit has been abandoned or not. No one can prospect for gold in an area where a pit already exists because the location has already been paid for by a mining unit owner to the land owner where the pits exist. Only land can be bought for use in the dry suction method. The locations in the river cannot be bought since the river is public property. However, it is expected that prospectors will contribute to the village for its development. The sale of lands in the village is managed by the traditional leader; the village head is only informed of a sale.

Starting in 1998, a village regulation required each mechanized unit pay a monthly fee of 25,000 rupiah (US\$3) for each unit. However, the people consider the fee useless because no one has paid for the past four years. Especially as earnings from prospecting have fallen up to 90 per cent, the fee now seems impossible to enforce. Still, there are prospectors – if only because there is no other employment alternative. Crocodile hunting used to be popular and lucrative but now the Government forbids the catching of crocodiles, with a one-year jail term for violators. The rattan market has also dried up.

Working season

Prospecting for gold can be done almost year round, except in the flood season (roughly October to May) when the miners must wait until the water recedes. Flooding periods in Kelian Dalam, being located in the upper parts of the river, last only three days at the most at a time. After the water recedes, the workers began to remove the sand and wood debris (*ambub*) that covers the pit.

In the dry season, the working conditions are better since the river is relatively free of *ambub*. Less fuel is used as no *ambub* needs to be pumped out. When a large amount of gold is found, (*mopo'* time) workers have no time to rest – they work 24 hours a day for two to three days. They eat their meals without a break and think to rest would be a waste of time; working nonstop brings really large amounts of gold.

¹⁴A traditional leader, or *Kepala Adat*, differs from the village head; the traditional leader is acknowledged by the Government also, but he carries out different roles/tasks, such as witnessing the selling and buying of lands, mediating family conflict, etc.

Selection of mining locations

In choosing the location for their operations, miners look for certain conditions and textures: solid sand, mossy green in colour, and greenish rather than black stones. In addition, they call on a “paranormal”, someone with supernatural powers whose find lost items or people and identifying spots where large gold deposits may be found. The potential areas are numbered, and the paranormal is asked which number contains the most gold.

Some unit owners operate in former *mopo*’ locations. If these areas are owned by others, a portion of the gold that is found is given to that owner as a kind of “rent”. Other operators build in new areas not previously exploited.

To choose a location, a *sedot selam* operator usually runs his pumps for two to three hours, analysing what comes up in the doormat fibres in the washing process. If the results are not satisfying, he will move elsewhere. He can move daily until he finds a satisfactory location. A *sedot kering* unit owner said he may dig three pits before finding the best location.

If the workers strike gold, the mining will continue in the direction where the vein is found running. But when no or little gold is found, the workers change direction. In the dive and *najak* suction units, the change of direction is made after two to three hours of diving. The best direction is only found after the doormats are washed to determine the amount of gold in the fibres. In the dry suction units, the washing of the mats are performed after one or two hours of spraying. If the workers think that the results are low, the mining will continue in another direction; but if a lot of gold is found, the mining continues in the same direction until the workers think that the direction must be changed.

A money lender in Kelian Dalam, currently owns a land parcel in Kopi (a subvillage in Kelian Dalam) where he operates a mine. It was a former mine that produced a large amount of gold – In 1997, the gold taken from this site sold for more than 2 million rupiah (US\$230) in each section per day. When the gold extracted became quite small, the owner decided to sell it and move his operations elsewhere. His mining unit can find 40-50 grams of gold per day in the wet season. In the dry season, the gain can be as much as 100 grams. The lower amounts in the wet season are caused by the pump having to be used to suck the water in the pit. His unit tried six spots in this location before finding gold at this site. In his pit, he operates two dry suction units.

The panning (*lenggang*) workers face similar conditions but with minimal risk of material loss. They lose time and effort. If the sand in one location produces no gold, they move to other locations. They can move easily as they only use simple equipment – pan and pail.

Income

Once a unit sells its gold, weekly or biweekly, its production costs are calculated. These costs are called *kombinasi*, referring to the combined variables that must be paid, such as fuel, engine maintenance, equipment, foodstuff, cigarettes, coffee and sugar. After the *kombinasi* has been covered, what remains from the sale of the gold is divided among the workers.

There are two methods of dividing the earnings: i) a 50-50 distribution between the owner and the workers and ii) the *coret* (unit of gold) system where each worker receives one *coret* and the owner takes four. If the headman is not the owner himself, he will receive an additional *coret* as a bonus. The owner receives three *corets* for his investment in the engine, but if he also works in the unit, he receives an additional one *coret* along with the other workers. In the dry land units, the hire of land costs one to two *corets* depending on the deal between the land owner and the miner.

The distribution of earnings is done after the doormat washing. A process of gold prospecting will end up with doormat washing when the prospectors can see how much gold they obtained. The process may occur three or four times a day, and the people involved in each process can differ from one to another. Female workers who need to finish their domestic work may miss the first round of doormat washing.

For example, the daily *kombinasi* costs in a dive suction unit with six workers are around 80,000 rupiah, which he pays as the unit owner. (The unit uses 20 litres of fuel alone in one day, at a cost of 3,000 rupiah (US\$0.35) per litre). If in one day the unit acquires 150,000 rupiah worth of gold, the net earnings are 70,000 rupiah (US\$8.50). The net amount will be distributed according to the number of *corets* in his unit. The distribution is six *corets* for the six workers and four *corets* for the owner who is also a diver. Thus, each worker receives 7,000 rupiah (US\$0.85) and the owner takes 28,000 rupiah (US\$3.40). The pump owner receives three *corets*, the workers and headman are given one *coret* each. However, in bad (*jajong*) conditions, Mawan may take only one and a half or two and a half *corets* for his ownership. He feels compelled to help his workers get a decent income for working hard. According to the unit owner, the *coret* distribution system differs between units.

There is reluctance among miners to talk about how much they earn out of a superstitious fear that talking about money will jinx their income. The income from gold prospecting is never certain and is greatly affected by weather conditions. In the dry season, miners may work longer and extract a large amount of gold as the river's flows are slight and debris does not cover the pits.

The workers in the units, both children and adults, are worse off compared to those panning on their own because they all receive the same amount. Of course, if the unit does well, the workers make more money, but they face more risks, such as bankruptcy, than those working individually. If a unit worker receives 200,000 rupiah (US\$24.40) in a week, he might receive more or less in the following week. The income of the prospectors nowadays has fallen dramatically compared to the earlier days in 1986-1990. Sometimes, in one week the workers receive only enough to repay their debts and have nothing to take home. Sometimes not even the operational costs are covered. This causes many debts to be defaulted. If they can stand the humiliation, they remain in the village; otherwise, they migrate elsewhere.

The small finds of gold have been especially experienced since the uppermost parts of the river became the property of PT KEM gold mining company. Some prospectors said that it is now more difficult to find gold in large amounts. The small finds are also attributed to the use of more modern techniques, which have caused the gold deposits in Kelian River to be exhausted.

According to an informant, “In the earlier days when there was lots of gold, I could get more than 1.8 ounce of gold each time I *mbangkit* [doormat washing]. Now such results are unavailable. There is much less gold because the equipment used to mine is more modern and there are more miners.”

Another miner added, “In the earlier days, I panned gold every day in the river. Now, the results are not worth the efforts. Actually, there was not that much gold in the early days. After two to four months of work, after the gold was sold, the income was not much more than this – there’s been no change for the better. Some do say that gold panning is lucrative. I’ve heard that when it is *mopo*, (a large gold find) you can get 1 million rupiah (US\$115) per day, or 6 million rupiah in a week. That might be correct, but in the whole village, possibly no more than one person gets such results. It is not possible for everyone to work in the *mopo*’ location. At most, five or six people can work there. And in a year, there might not be such an occurrence – especially in the wet season, such as presently.”

Occupational hazards

Most of the illnesses treated in the local health care facility in Kelian Dalam are skin diseases and upper pulmonary tract infection. A typical patient is aged between 20 and 40 years old and works in mining, particularly in damp and polluted working conditions. The Kelian Dalam village nurse said that cases of anemia increased in the dry season when workers might not rest or eat well for days at a time. Medications used for treatments include various

antibiotics, such as penicillin, super *tetracycline*, *pulsin* and *dumex* (tetracycline) for the skin diseases; *amphyicillin*, *amoxycillin* and powders for respiratory infections. One dry suction unit worker mentioned that his unit owner provides workers with vitamin supplements and energy drinks.

In the unit mining, none of the workers, even the headman or the unit owner, wear safety equipment, including a head protector. Some workers wear caps, but these only protect them from the sun and not from falling debris. Injuries are made easier because of the arms and legs being soaked in water eight to ten hours each day. Some divers do wear goggles for eye protection. The murkiness of the water prevents even diving goggles and lamps from helping them see falling debris.

Hazards of the sedot kering method

One of the greatest hazards is a wall collapsing on workers. The researchers found few reports of such a hazard occurring, and nothing recent. Because the pit walls are sprayed and sucked continuously, which widens and deepens the pit up to 8 m, the supporting soil in the lower parts is weakened and thus likely to cave in. Seeping water might also weaken the wall, causing sudden collapses. Rock falls are common hazards in the dry suction unit. Minor injuries to the hands and feet, including the loss of fingernails, occur from falling stones or by the crowbar used to remove stones.

A major accident with 33 victims occurred in a dry suction unit in Bilit, a subvillage in Kelian Dalam in 2000. The victims included both unit workers and about 20 *pengerébo*'s who were in the pits gathering gold ore. The unit owner often allowed *pengerébo*'s to gather ore in his pit. They were buried by the collapsing walls and died. A seven-year-old Dayak child was among the victims. He had been prohibited by his parents to *ngerebo*' but did it anyway.

The workload increases in the dry season. Rest and sleep is reduced when a large deposit of gold is found. The fumes of the engines and pumps pollute the air, and the miners work water-soaked in the pits. In addition to pulmonary infections, the wet and damp conditions cause fungal infections and sores.

Hazards of sedot selam and sedot rujak methods

Diving is the most hazardous occupation in these units. The murky river water clouds divers' vision and prevents them from seeing falling debris, even collapsing walls. The cramped pits, only 2-3 m in diameter, do not allow divers to escape collapses. Because of the deeply dug pits, the river bed does not support the pits and the walls collapse easily. Often divers die in accidents in the pits. Usually only the diver on duty is killed as he works alone. Help

almost always comes too late because of the debris that needs to be removed to get to the diver. Such accidents are said to be common but deaths are rare. Locals recalled several divers died between 1991 and 1997, but none have since.

The dive is performed in water murky from the sand brought by the currents and the sands coming loose from the suction. The dive must be done blindly. Every diver wears a long-sleeved T-shirt and trousers to protect their arms and legs from getting scratched. However, the hands and feet remain exposed. Water, sand and stones entering the hoses at high speed can injure the hands and feet of the diver holding the hoses. Injuries from stones, even loss of fingernails are common in the divers. The costs of any treatments are not covered by the unit owners.

Diving to a depth of 8-10 m from the river surface often causes nose and ears to bleed. A diver who experiences this will be given longer rests, even up to one week. Only after he feels better will he be allowed to return to the bottom of the river. Exhaustion and unconsciousness due to lengthy dives and lack of air might occur. Lengthy dives often occur in *mopo'* times. Poorly operating compressors aggravate this condition.

Skin diseases such as athlete's foot and sores often attack *rujak* suction unit workers. The workers are almost always soaked to the legs while working; only when they sleep are they dry. No clean water for bathing is available, and the workers have to bathe in the river. Clean water is available only for drinking and cooking. Some units get their water from wells or collect rainwater; others use the river water and treat it with chlorine.

The huts on the rafts of the *rujak* suction units are almost without walls. The workers have to put up against the cold when they sleep. Eating more than three times daily, smoking and drinking alcoholic are considered to be the best ways to keep warm. The unit owner only provides the huts, and the workers have to bring their own bedding.

In the dry suction units, the risks due to the machines are smaller because the machines are located separately. In the dive and *rujak* suction units, no accidents have been recorded due to the machines. Risks do exist, however. In these units, the pump is powered by a belt coming from the *dongfeng* engine. The belt is unprotected, and workers near the belt might be caught in it, causing injury or death (although there is no record of this happening, the likelihood is said to be high). In the daytime, the belt can be seen, but in the poor lighting conditions in the evenings, accidents can occur more easily.

No complaints of hearing trouble were mentioned in interviews, though newcomers are said to find the rumble of the machines annoying. Conversations require shouting, even among people only a metre apart, due to

the roaring sound of the machines. The workers use special signal language to communicate.

Hazards to the lenggang workers

The *lenggang* workers, who work on their own, only face the risk of injuries to their hands and feet from wood, sand and glass debris when they are collecting sand to pan. Other risks include various diseases caught from elements in the river water, especially skin diseases. Skin diseases most often attack children, though no one interviewed understood why. Most likely, adults have developed greater immunities.

Panning is done in a cross-legged sitting posture in the river. This position prevents backaches and eases the collection of sand, as workers need not bend too much. In this position, they waded in waist-high water. Most of them do not feel the cold, having been accustomed to the water. However, the skin sags and becomes sensitive, especially the soles of the feet and the hands. This causes the skin to cut easily if they step on sharp pieces of wood or stones. The locals called this *kutu air*, but this is not considered as a major obstacle because it causes more discomfort than pain. Such injuries also occur in between the toes, which is more painful since it will be felt when the victim is walking.

Child labour in traditional gold mining activities

Because of the potential hazards to miners in general, the previous two studies looked at child labourers in the mining sector: the first was took place in 2001 by *Tambuhan Sinta*, an NGO based in Palangkaraya, Central Kalimantan and the other in 2002 by Laboratorium Sosiologi, University of Indonesia, Jakarta, which was commissioned by ILO-IPEC.

The first study tried to map the presence of child labourers in Kahayan Hulu Utara, Kapuas district, Central Kalimantan. The researchers found that gold mining activities, a tradition in the region, increased after the economic crisis in 1997. Previously, miners were estimated to represent 30-40 per cent of Kahayan Hulu Utara's population. But at the time of the study, mining was the main occupation of almost all inhabitants. And all members of each family, including children but excluding the elderly, were involved. The study reported that 194 children aged between 6 and 17 years worked in gold mining units: 80 per cent of them worked with pumps on rafts or in land operations and the others used traditional panning methods. The researchers attributed the increased mining activity to the community's main occupation to three points: a lengthy dry season caused by the El Nino phenomenon that jeopardized their dry-field farms; isolation of the region resulting in lack of

facilities, such as markets, schools and mass media; and the greater ease in obtaining income from mining than in other activities, such as farming.

The research also revealed that children worked in almost all stages of mining. Most (90 per cent) of them were male. The parents expressed opinions that the work did not pose any problems or risks to their children and that education was not realistic to pursue due to the distance to the schools or lack of accessibility for other reasons.

In the second study, M.I. Djajadi (2002) explored the phenomenon of child labourers also in Central Kalimantan. He found that most workers, aged between 15 and 17 years, were indigenous Dayaks and that many of the gold mining operations in the province were dominated by indigenous peoples. He also found that gold mining was not considered to be exploitative toward children, although hazardous.

The literature review in preparation for this assessment provided the conclusion that only *outsiders* regard gold mining activities to be hazardous to child labourers. Reporters, researchers and health officers are deeply concerned about the mercury poisoning that threatens all the traditional gold miners and with the negative social and psychological effects that working at a young age may have on children. People in the mining communities instead perceive gold mining as the best alternative to overcoming their poverty and for providing jobs for school drop-outs.

Occupational hazards for young miners

Attention on child labourers in mining began appearing in the media about five years ago, particularly with the rise of gold mining along many rivers in Central and East Kalimantan after the economic crisis. Among the reports, the use of mercury¹⁵ was noted as a serious threat to the health of all miners. In 1999, the Government declared that the Kahayan River in Central Kalimantan was “completely polluted” with mercury. According to a *Kompas* report, more than 1,812 gold mining rafts¹⁶ operated in three districts where

¹⁵ In the trade regulation of chemical materials in Indonesia, mercury is categorized as a poisonous and dangerous material along with *borax*, *formalin* and *rhodamine*. Their circulation is controlled by the Department of Trade and Industry, which issued a Ministerial Decree No 254/Kep-7/2000 on the regulation of importing these chemical materials. According to the decree, the circulation of mercury should be limited to a pointed trader and should not be widely traded.

¹⁶ The rafts of the gold miners in Central Kalimantan are called *kasbuk*, while in Kelian people usually call it *rakit* (meaning “raft”) or unit. The rafts contain several pieces of machinery to suck sand from the bottom of a river and the necessary tools to take the gold from the sand.

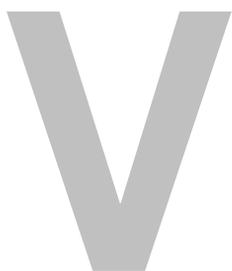
the river flows. In another *Kompas* article two years later, there was reference to most major rivers in Central Kalimantan being declared polluted with mercury due to the gold mining.

Other *Kompas* stories refer to mercury pollution in rivers in South Kalimantan and in West Kalimantan where gold mining has caused mercury levels to reach between 60 and 200 times the allowed level. Even though there are reports of mercury pollution in East Kalimantan, the reports attribute the poisoning not to the traditional practices of gold mining but to the tailings released by formal mine companies active in Long Iram.

Table 4.1 describes hazards as characterized by the rapid assessment researchers through the discussions with participants and their observations.

Table 4.1: Occupational hazards in the informal mining sector for children

Hazards	Description
Physical	Intense work, use of heavy machinery, risks of certain tasks for children such as diving
Chemical	Use of mercury and high-concentrate detergent to wash the carpets
Biological	Insect, bacteria, fungi
Psycho-social	Mingle with adult workers, not attending school, lack of playing time



The Rapid Assessment Findings

Estimates of magnitude of young miners

As for gold miners, the Central Bureau of Statistics noted that in 2000 some 47,100 people (or 4.7 per cent of 1,021,198 all working people) were involved in mining activities in East Kalimantan. Unfortunately, because West Kutai district was established in 1999, there is no demographic data available; information regarding mining workers was only available at the old Kutai district. And the data in Kutai was not precise as manufacturing was included with other industries – for a total of 67,598 workers in the district. The research team estimated that the population in West Kutai district was about 25 per cent of the old district’s population and thus, there were approximately 16,900 people working.

Using the index number of mining workers in the province, the researchers then estimated that the number of mining workers in the district to be about 795. As the numbers only refer to workers identified formally through the national census, there is a big probability that the actual number is much higher. Factoring in other villagers involved in the traditional, or informal, mining sector (including coal mining), the research team estimated there are 2,000-2,500 mining workers in West Kutai district.

The population of Kelian Dalam at the time of the assessment was 542 people. This number fluctuates, depending on the time of year. In the dry season, many migrants, including women and children, arrive from other areas to work in the gold mines. Many come from South Sulawesi and Central Kalimantan. According to the census data obtained from the RT head, there were 345 children in the village who were younger than 17. According to data obtained in each household visit, 223 children (aged between 7 and 17 years) in Kelian Dalam panned for gold.

There are three gold mining sites in Long Iram subdistrict, with the biggest in Kelian Dalam; if about 200 children worked in Kelian Dalam, the research team estimated that about 300-350 children worked in the subdistrict.

As mentioned earlier, most, if not all, inhabitants of Kelian Dalam are now engaged in some way in gold mining. From early ages, children are trained to pan for gold. According to several people interviewed for the assessment, all school-aged children (7 years and older) in Kelian Dalam spend some time panning for gold. Many of them learned to pan as they played in the river and watched their parents working.

The assessment researchers found that only a small percentage of children in Kelian Dalam actually work as gold miners. Even though most children are able to prospect for gold, many consider their panning to be more a childhood game or a pastime. Based on the field observations and interviews, the researchers estimated that of the 223 children living in the village, only 36 were working as miners: 26 individual (*lenggang*) workers and 10 in gold mining units. All 36 answered the assessment questionnaire.

Schooling

Most of the child labourers, 69.4 per cent, are in elementary school, and 2.8 per cent are in junior high school (Table 5.1). The others had dropped out; none had ever attended high school.

Table 5.1: Level of education of respondents

Education	Frequency	Per cent
Did not finish elementary school	2	5.6
Still in elementary school	25	69.4
Finished elementary school	6	16.7
Did not finish junior high	2	5.6
Still in junior high	1	2.8
Total	36	100

To continue their education beyond the village elementary school, students need to travel to Long Iram town, about two hours by boat. This requires a great deal of expense and support; few children are able to continue their education after elementary school. The number of students continuing to high school level is even fewer. Those not in school or mining are helping their parents farm or just hanging around the home.

Lack of available educational facilities, difficult and expensive transportation and the possible gains from gold prospecting made parents consider education as unimportant, even though they would want their children to be educated given easier access.

Many children and parents talked of how the cost to continue education was too much for the family to afford. It's not the cost of the school but rather it's the accommodation and transportation expenses that make education for many people prohibitive. Twelve-year-old Ari, for example, was in her final year of elementary school at the time of the assessment. When interviewed, she said it was impossible to go elsewhere for school because her father is already old and sick. To continue her education, Ari would have to move to Bigung, Long Iram or Melak. The family has no relatives in any of those towns, and her parents can't afford to pay for boarding costs. Ari said that her three older siblings did not continue their schooling either for the same reason. Going away to school alone seems not desirable, however, to her. She said she didn't want to live far from her mother. As for her future, Ari thought it's likely she will become a housewife, "take care of the fields" and *ngerébo'* like her sister.

Play time

Children in Kelian Dalam village, both working and those still in school, spend their free time playing rubber balls, hide and seek, *lupus*, football, volleyball and swimming in the river. The children are expected to help their parents in cleaning the house, washing dishes and clothes and babysitting younger siblings.

School starts at 7 a.m. and ends before noon. Muslim children attend religious school from 2 p.m. to 4 p.m. Most of the children who do not go to school spend their time playing and helping their parents pan for gold. The river is the preferable play area as they can pan for fun and make money if they find anything. Those young people out of school who pan for gold can still play while they work, swimming and diving. And as there is no strict schedule they must follow, they can play with friends into the evening.

Children interviewed during the assessment believed the riverbank sand contained very little gold anymore but that gold could still be found in the soil around village houses. This, however, caused problems with children illicitly taking soil from other houses. As many of the houses are not on strong foundations, removing too much soil can cause them to collapse and many houses are now fenced to keep panning children away.

Children in Kelian Dalam spend between 2,000 and 5,000 rupiah per day for snacks. They usually buy more than one pack of snacks (*Taro*, *Star Wars* and *kuaci*), instant noodles eaten dry, biscuits (*astor*) and *bon-bons*. A packet of snacks or instant noodle costs 1,000 rupiah, while a three-pack of *kuaci* (dried watermelon seeds) costs 500 rupiah. Three sticks of *astor* or *bon-bon* cost 500

rupiah. After selling the gold they obtain, a child may spend all the earnings on snacks.

Working conditions

There are two types of child labourers in Kelian Dalam: those working in the units and those panning independently or working on their own in pits. Children working in a unit often are related to the unit owner or the headman (Table 5.2). If not, then it's likely the young person is related to one of the adult workers: father, uncle or older sibling. It is also possible that the young miner was invited by a friend who is related with the headman or another worker. Generally, a child miner is not a complete stranger to the other workers.

Table 5.2: Relation between unit owner or headman and the respondents

Relation with the supervisor	Respondent	Per cent
Father	3	8.3
Uncle	3	8.3
Others	4	11.1
Work individually	26	72.2
Total	36	100

The children not working in the units pan the gold themselves and obtain their earnings in the same day; they do not have to wait until the weekend like the unit workers do. In practice, individual workers are not completely independent. Sometimes they work with others. Children who were asked by their parents to mine often work with their parents, but sometimes they work with friends.

A young miner can find between 100 and 200 mg of gold and earn 6,000 to 12,000 rupiah (US\$0.70 to \$1.40) per day. Some spend all or part of their earnings immediately, while others save it for school snacks, buying breakfast or to give to their mothers. Of the 36 child labourers, 25 said they give part of their earnings to their parents and spend the rest for personal needs (Table 5.3). This also holds true among the children working on their parents' orders. Compared to Table 5.11 on the reasons for mining, the main motivation for working seems to be assisting the family's income, though only three were directly ordered by their parents to work.

Table 5.3: Uses of income (besides personal needs)

Use of income	Sex		Total
	Male	Female	
Saved	2	1	3
Give to parents	19	6	25
Personal use	6	2	8
	27	9	36

Work duties

Most of the child miners have learned the practice from their parents. Even though their parents do not force them to work, they say they are comfortable working. Table 5.4 shows the various employments of the child labourers in the informal gold mining sector.

Children are not typically involved in the washing of the mats, *lenggang* and separating gold from the *puya* since they are regarded as less careful than adults and may allow some gold to be lost into the river. Generally, females are not involved in the setting of the engine as it is regarded as men's work requiring strength to lift and carry. But if there is an individual child or woman who can perform any type of task, they will be allowed.

Table 5.4: Production process and labour involvement

Production process	Involving		
	Adult male	Adult female	Children
<i>Sedot kering</i>			
Digging pit	Yes	Yes	Yes
Building dam	Yes	Yes	Yes
Assembling pipes and platform	Yes	Yes	Yes
Setting engine	Yes	No	Yes
Spraying pit walls	Yes	Yes	Yes
Removing stones	Yes	Yes	Yes
Washing the doormats	Yes	Yes	No
<i>Lenggang</i> operations	Yes	Yes	No
Separating gold from the iron ore	Yes	Yes	No
<i>Sedot selam and sedot rujak</i>			
Building dam/breakwater	Yes	Yes	Yes
Setting engine	Yes	No	Yes
Assembling pipes and platform	Yes	Yes	Yes
<i>Langkar</i> operations	Yes	Yes	Yes
Lifting litter	Yes	Yes	Yes
Washing the doormats	Yes	Yes	No
<i>Lenggang</i> operations	Yes	Yes	No
Separating gold from iron ore	Yes	Yes	No

Table 5.5 shows that the children involved in individual panning work between one and six hours a day, though about a third of those interviewed (eight young people) said they generally only spend one to two hours a day panning. Those in the units work eight to fourteen hours a day.

Table 5.5: Length of work each day

Length of work (hours)	Number of workers		Total	Per cent
	Male	Female		
1-2	9	3	12	33.3
3-4	3	1	4	11.1
5-6	5	3	8	22.2
8-9	2	1	3	8.3
10-11	4	1	5	13.9
12-14	4	0	4	11.1
	27	9	36	100

Child labourers in the traditional mines have enough time to rest (Table 5.6), even those working in the units. Although in the gold-strike periods they take shorter breaks. For those who are prospecting as a pastime, asking about rest periods is somewhat irrelevant, since they are only working in their free time after school.

In general there are no strict schedules to start and stop working.

Gender aspects

In some cases, female unit workers can take extra time to finish their domestic work in the home or cooking for the unit before starting to prospect for gold, but this means shorter hours and smaller pay. When interviewed, Tuti, a 16-year-old girl working in a dry suction unit, said that female workers can begin working later than the male miners. While the male workers begin at 8 a.m., the women begin at 10 a.m., having cooked or conducted the domestic chores. Some times the women don't enter the pit until after lunch. The women are also given longer periods of rest; during their menstrual period they may be given days off because of superstition by the unit owner's wife that menstruating women in the pit will cause low or empty yields. They can go on working in the kitchen, however, cooking meals for the other workers. The difference in working hours results in women's income being lower than the men's.

According to Tuti, the female workers accept the wage difference in her unit. They think that women's jobs are indeed not as heavy as the men's. Besides, the male workers are the brothers of the owner.

Health conditions

Despite workers' opinions that mining does not require much effort, the rapid assessment researchers perceived mining for gold, especially in the units, as hard work. Besides the high risk due to the hazards, the researchers opined that the work demands a high standard of physical abilities. Some jobs

even cause pain, such as diving. First-time divers always feel pain and experience bleeding in the nose and ears due to the water pressure. Diving is performed by all workers, adults and children, male and female.

Physical exhaustion after work is the main complaint of the child labourers. Even though the working hours are not long, in certain conditions, such as *mopo*' periods, every worker tries to work continuously, including the children. Much effort is made to fight the exhaustion. Rest does not seem to be the answer. The gold miners, including the children, often drink supplements and vitamins to combat exhaustion. (Energy drinks such as *Extra Joss* and *Kratingdaeng* are consumed daily by most children in the village. Five- to ten-year-olds often drink two sachets of *Extra Joss* a day.) During heavy mining periods, there is often little time to rest. Many young miners said that in those heavy periods they want to work out of excitement and not rest. After the period is over, they feel exhausted.

The unit workers do not have a set time for their meals, since they must have their meals in turns. They can have more than three meals a day, especially when the air is cold and wet. Their always-wet clothing makes the workers continuously hungry. Those working in the units usually eat dried salty fish for lunch and dinner.

However, there are cases showing that prospecting for gold is light and fun work. Working in the unit allows a child to do their preferred job, even to stuff their bellies. The food in the units are available abundantly, and the unit workers can eat whenever they want. (Some units provide food and costs are deducted later and workers in other units bring their food.) Those people who pan individually prepare sufficient food for themselves.

Smoking and drinking supplement drinks and alcohol are often done by the children working in the units. The liquor of choice contains 40 per cent alcohol. According to one informant, drinking alcohol will encourage divers' ability to go deeper into the *solongan* hole. Anto, 17, works in a *sedot selam* unit and now regularly drinks alcohol to warm him after a dive, which is provided in the *kombinasi*.

The cold and mosquitoes (*agas*) are the main reasons for smoking. Miners, including children, smoke up to a pack of cigarettes a day. One man, however, said that he now prefers to chew tobacco, instead of smoking, because it is cheaper.

Hazards children face

Similar to the opinions' of adult workers, the child labourers do not think they are facing serious dangers at work – other than loose soil and rocks in the pits that might fall and injure them.

The children not working in units face less risks compared to those working in the units. A headman's "harsh treatment" was acknowledged by several people as the worst part of the job. Of the ten child labourers in the units, five said that the headman kept tight discipline at work and would reprimand slacking workers.

A slacking worker, such as one who does not start working when others do, will be admonished by the headman. Child workers are generally treated more affectionately than adults; such treatment includes commendations and economical assistance such as extra food and money (Table 5.7). Even a reprimanded young worker is still told to eat meals or rest after a dive.

Table 5.6: Headmen's actions toward slacking workers

Action	Respondents	Per cent
Reprimand	5	50
Admonish	2	20
No action	3	30
	10	100

Table 5.7: Positive treatment received by respondents

Positive treatment	Respondents	Per cent
Given money for the family	2	20
Joked	2	20
Given food	1	10
Commended	3	30
Told to eat	1	10
None	1	10
	10	100

Working conditions in an adults' workplace often physically exhaust the child labourers. Besides, entertainment and relaxation facilities are not suitable for children's emotional growth, resulting in the child workers having the same bad habits as the adults. Smoking, drinking alcohol and gambling are commonly indulged by the children.

Another danger faced by gold prospectors, including children, is the use of mercury. The child labourers in the units do not use mercury, since the work of separating the gold from the *puyá* is done by the unit owner or headman. However, the children not working in the units do this operation

themselves, or sometimes assisted by their parents. Most child labourers know how to use mercury. In Table 5.8, ten children said that they do not use mercury, probably because their parents or older sibling performed the operation. It is possible that the children are unwilling because the operation needs skill and patience.

Table 5.8: Use of mercury

Use of mercury	Sex		Total	Per cent
	Male	Female		
No	7	3	10	27.7
Yes	20	6	26	73.3
	27	9	36	100

Table 5.9: Source of information on the use of mercury

Source of information	Respondents	Per cent
Told by parents	12	33.3
Watching parents	16	44.4
Told by friends	2	5.6
Told by older sibling	1	2.8
Does not know	5	13.9
Total	36	100

Even though mercury is generally used by the adults, most children know how to use it. Only five children said that they did not know how to use mercury. Information on the use of mercury can be given by parents and siblings, or from watching them working.

From the 36 child labourer informants, only two think that mercury is poisonous. They think that it is only dangerous if swallowed or if it comes into contact with the eyes. Generally, the workers do not think that mercury poses any danger, even when swallowed. The gold prospectors in Kelian Dalam use mercury as if it were plain water. They mix mercury with gold using bare fingers. They only take care to prevent mercury from coming into contact with any gold jewellery they are wearing, because the gold will turn white and must be repaired at a cost.

They do not know any evidence of the dangers of mercury. The only hazards they think they are facing are caused by prolonged soaking in the river water, which include itching and small holes in the soles of the feet and which are not related with mercury.

Young people's attitudes about working

In general, child miners in Kelian Dalam work in a rather pleasant situation in that they can choose to work or not. However, in a few cases the young miners think that gold prospecting is very hard work. Children who work in the unit system perceive gold prospecting has many risks. Those who work individually perceive gold prospecting as an easy job and have fun doing it.

The child labourers interviewed in Kelian Dalam said they actually enjoyed prospecting for gold. As Table 5.10 indicates, many had been working for years. It can be seen that 17 of the 36 child labourers had worked for four years or more, and six of them had worked longer than five years – which means they started when they were around 12 years old or younger. Though not the largest group, this might indicate that there are no significant hazardous conditions in relation with their employment. But as more than half of the young respondents had been working in the mining for years, the researchers postulate that perhaps the risks are no longer given any attention by the workers.

Table 5.10: Length of work in years

Length of employment	Respondents	Per cent
Less than 1 year	12	33.3
1-3 years	7	19.4
4-5 years	11	30.6
More than 5 years	6	16.7
Total	36	100

As Table 5.11 shows, 15 of the 36 child labourers claimed they chose on their own to work to help their family. Three others, one boy and two girls, were asked by their parents to help contribute to the household. Five children said they were earning money to start a business later on, either in mining or some other area, which they hadn't yet decided upon. Many children noted they can still play with their friends, though there is less time for it.

Table 5.11 also shows that most of the children were not forced into employment by anyone, including their parents. In addition to the high cost of continuing their education, lack of other work alternatives because there aren't any or because they lack sufficient education for certain types of work, family economics and hopes of *mopo*' (large strikes of gold), young people in Kelian Dalam are motivated into mining by the continuous migration to their area of prospectors from elsewhere. They think that these people are coming because of some "knowledge" that there is indeed more gold in Kelian Dalam.

Table 5.11: Child labourers' reasons for working

Reason	Sex		Total	Per cent
	Male	Female		
Help parents (economy)	11	4	15	41.7
Pocket money	8	1	9	25.0
Income	5	0	5	13.9
Ordered by parents	1	2	3	8.3
Following parents	1	1	2	5.6
Pastime/work in holidays	1	0	1	2.8
Fun	0	1	1	2.8
	27	9	36	100

According to a traditional leader, some child miners were “ordered” by their parents to work. The traditional leader said he has prohibited his children from working in the pits or *ngerebo*’ because of the dangers of falling rocks. Other parents have also forbidden their children from mining in pits, but they continue working anyway.

Minor injuries to the legs and arms due to falling rocks are regarded as normal and harmless because no one has yet to die from it. Scabs (itchiness) and skin diseases, called *alergi* by the people, are regarded as the result of formal mining company’s activities upriver, though there is no proof.

Only outsiders seem to regard gold mining as a worst form of labour for children. The local government has yet to pay attention to the issue of child miners. As explained by an government official in the district, the Government has not paid any attention to school-aged children working in the *sedot kering* and on the rafts because “they are only following their parents. If we tell them to go to school, their parents will ask who will pay for the fees, including living costs and other school needs. The Government does not have any regulations forcing them to return to school. This especially applies to the migrants. We do not know when they come.”

On the elimination of child labourers in Kutai Kartanegara district, the government official replied that he had never heard of any programmes. An ILO-IPEC Jakarta brochure mentions that Kutai Kartanegara has declared itself as a child labour-free zone. The official also believes there is no legal age limitation for child workers, obviously unaware of the law prohibiting children younger than 15 from working.

Parents’ and other adults’ perceptions of young miners

In general, the adults in Kelian Dalam view child labour in the informal mining sector as something not problematic. “Those children who *ngerebo*’, are helping their parents if there is no work to be done at home or at the field,”

explained Sulaiman, 28, a worker in a *sedot rujuk* unit. “When the field has to be worked, they will work in the field. Only when they do not have sugar [for drinking tea or coffee] in the field, they will *ngerebo*’. When they have enough money to buy sugar, they will work in the field, not *ngerebo*’. I am sure about that.”

Although some parents think that the present conditions are better for children than when they were young (see box with Santo’s story), it is still an impoverished environment. There is certainly a poverty in education, health facilities and job opportunities in the village. Since the end of 2002, there has been no midwife or other paramedic posted in the village. Nowadays, the midwife only comes to the village once a week and stays for two days only.

Due to the limited job opportunities, mining has become the main source of income for the villagers, and because it does not provide much money, education is considered expensive. As for the health facilities, there are sufficient services in the subdistrict capital but not in Kelian Dalam village. Formal employment is difficult to enter because of the lack of higher education as well as high school education. With the discovery of gold in Kelian Dalam, prospecting has become the only option for employment and activity for young people who can’t afford to seek an education beyond the elementary level.

Table 5.13: Occupation of respondents’ parents

Employment	Father		Mother	
	Respondents	Per cent	Respondents	Per cent
Commerce	3	8.3	5	13.9
Timber sector	3	8.3	0	0
Gold sector (worker)	16	44.5	10	27.8
Gold sector (capital owner)	3	8.3	0	0
‘Water taxi’	1	2.8	0	0
Farmer	3	8.3	6	16.7
Not working	2	5.6	14	38.9
Bricklayer	1	2.8	0	0
Masseur	0	0.0	1	2.8
Does not know	4	11.1	0	0
Total	36	100	36	100

Santo, 70

Grandparent

Santo and Ani, 41, his second wife, live in RT 2 with their daughter and son-in-law and four grandchildren. Santo was born in Muara Bakanan, Permata Intan district, Central Kalimantan, and migrated to Kelian Dalam in 1963 to work as a prospector. Previously, his family lived in Prampus, Central Kalimantan, working as farmers. Santo forbids his grandchildren to *ngerébo*, especially on school days. If anything, he prefers they go to the field and learn agriculture. Santo never forbid his grandchildren to bathe and play in the river, but he won't allow them to *ngerébo*. The children who *ngerébo* are rather disobedient, according to Santo. When the young people start having their own income, they tend to disobey their parents' and they tend to leave school. On education, Santo said, "As long as there is a will to learn, the parents will try to finance the education." Santo pities the children who squander the opportunity for education. He said their motivation for learning is low and the situation is made worse by the teachers who some times don't attend the classes or leave early. He compared the current education situation in Kelian Dalam to his childhood, which was much harsher. Due to civil conflict during his youth, Santo only went to *Sekolah Rakyat* (elementary school). Santo wants his grandchildren to follow their cousins who were highly educated, one of which attained a bachelor's degree and living in Bali. (People think that the quality of education in Bali is better than that in Kelian Dalam, which is relatively isolated.)

Munah, 32

Mother

A Javanese woman born in Long Iram, Munah quit school after the third grade. She prefers to farm and only *ngerébo'* as a side occupation. Her husband, Ahmad, 50, a Bekumpai, used to farm and *ngerébo'* with her. He can no longer work because his eyes are not functioning well. The couple has lived years in Kelian Dalam for 25 years and has four children. Due to lack of money, Munah's oldest child has only a third-grade education. The second eldest could not continue to junior high school. The two youngest currently are in the fifth and sixth grades in the Kelian Dalam elementary school and attend the religious school in the afternoons. Three months ago, Munah requested a dispensation for the school fees (22,000 rupiah per child) because she could no longer pay them; the school has yet to respond. The village officials have not helped her, for example by writing a letter informing the school that the family is poor.

Of the two older children no longer in school, one works in a mining unit in another village, the other works in farming and sometimes pans for gold. Munah sometimes pans for gold while her husband is unemployed as has problems with his eyesight. She lets her youngest children *ngerébo'* with their friends and believes she can't prohibit them from trying to get their own pocket money. On the day the family was being interviewed during the assessment, Hendri, 8, had earned 12,000 rupiah and gave 7,000 of it to Munah. He used the remaining 5,000 rupiah to buy a *soto* lunch for him and his older brother, Heri, 10. Because she is typically busy with her work, Munah lets her children play anywhere without supervision. In the evenings Heri and Hendri often go to the *Playstation* rental or watch TV in their friends' houses. Due to lack of electricity in Munah's house, the children only come home to sleep.

Munah complains about the lack of education being provided at the elementary school. She says the teachers arrive late, if they show up at all. Her children are dispirited by the experience and only go to school to play with their friends. Munah would not blame her children if they would prefer to leave school to *ngerébo'*.

V

Young Miners' Stories

Ari, 12

Mining for pocket money

When Ari was young, no family member could take care of her. She was taken to the river when the family worked and she learned to *ngerebo*'. Ari panned gold in Kelian River at school holidays with her mother and siblings. She does it for extra pocket money and paying school tuition fees. She also goes to the farm in the planting and *ngetam* seasons. She lives in the fields with the family for several days during the planting and *ngetam* seasons, usually during school holidays.

Ari is the youngest daughter of four children. She is now in the sixth grade of Kelian Dalam elementary school. Her oldest sister, Ahmad, 28, studied up to the fifth grade and then was married; she still lives with her parents. Two older brothers, Rudi, 25 and Odi, 18, who are no longer studying are also living at home. All three older siblings help their parents in their farming and also *ngerebo*' in Kelian River.

Ari's father, Topan, 60, is a traditional leader; he used to work as a gold miner. He comes from the Danum ethnic group. He now stays at home, due to illness. Ari's mother, Rohati, 50, comes from the Benuaq ethnic group, and also works as a farmer. The family's farm is located across the Kelian River.

Ahmad lives with her husband Anto, 45, and has two children, Otoy, 13 and Yo, 3. Anto and Otoy work in the farm and also *ngerebo*'. Ari spends less time now panning for gold because she has been charged with caring for Yo.

Ari's mother forbids her to *ngerebo*' during school days because she often suffers a fever from it. If she becomes sick, she buys her own medication in the cooperative near her house. She uses her own money, although since she now rarely works, she asks her mother or sister for money.

Ari usually works with her sister when she *ngerebo*'s. They worked on the banks of the Kelian River, near a *sedot kering* unit, from morning until

evening. They can get between 100 and 500 mg of gold per day taking sand from the unit's debris, which yields a better result than using sand from the river or from under villagers' homes, as other children do. "In lucky times we can get up to one gram in one day," said Ari. The earnings are used to pay for daily needs. When she worked more frequently, Ari earned between 2,000 and 3,000 rupiah per day for pocket money, and the rest she gave to her mother.

Ari uses mercury if the gold resulting from her *ngerébo*' is in powder form. She buys mercury costing 1,000 rupiah for half a spoonful. Ari was taught how to use mercury by her mother. She does not know any dangers caused by the use of it. She does not think that mercury is poisonous because it does not cause itching, nor is it dangerous if swallowed. Her mother never mentioned any dangers in using mercury.

Tuti, 16

Unit worker

"Of course I get sleepy, but I hang on. When we stop working on Friday, I can sleep," answered Tuti when asked what she feels about working in the dry season, between June and September. "In the pit, we don't feel sleepy. More than 30 persons are there, [not all of them work in the unit] we are laughing and it is noisy. So we do not feel sleepy." They sleep from the morning until the afternoon on Fridays. In the evening they work again. Anemia is often suffered by the workers in the dry season, due to the lack of rest. The unit owner's wife takes sick workers to her physician and pays the expenses. All the workers in the pit are related, Tuti said.

Wanto, 16

Unit worker

Wanto comes from a mining family. His grandparents and his parents were miners, both in the mechanized units and as *ngerébo*'s. Wanto has to work because he is the oldest son, which means he has an obligation to help the family. He can do no other jobs besides mining because his parents never farmed and thus never taught him how to farm.

For a while his parents owned their own *sedot kering* unit but eventually were bankrupted by lack of sufficient gold finds and sold the equipment to repay debts. His father has a mining job in Benggalon and lives in Bontang, around 550 km away. The third of five children and the oldest boy, Wanto finished elementary school despite sometimes being absent in the dry season when he with other classmates would join a mining unit. He currently sprays

and clears the spots from stones in his dry suction mining unit in Nangon, 30 minutes walk from his home.

Wanto no longer cares to continue his education to junior high school. He thinks that continuing education will result in losing time to mine gold. Pointing to his long-time friend sitting next to him, Wanto said he is continuing his education and recently entered high school in Samarinda. Wanto said that his friend receives money from his parents. Though he wanted at first to continue with his schooling, Wanto's family couldn't afford it and so he had to find work.

Wanto's eldest sister, now 18, was able to complete the third year of junior high school with financial help from an aunt, but then she couldn't afford to let the girl continue to higher school. The sister currently lives with her aunt in Samarinda, 400 km away, helping out with chores in the house. A younger brother was among the 33 miners who died in the Bilit mining accident in 1997. The boy was 11. Wanto's youngest brother is 5 years old.

When his family still owned their unit, Wanto was in the fourth grade and worked only during the school holidays. Although the work is tougher in the gold striking (*mopo*) period, Wanto acknowledged that workers are happier because of the potential income. Once, when he was 11 and working in his family's unit, Wanto earned between 4 million and 5 million rupiah (US\$460 and \$575) in the *mopo* period. He used a portion to buy new clothes and shoes and gave the remainder to his mother to save. He wants to buy a motorcycle with his savings.

No longer in school, Wanto took a full-time job in a *sedot selam* unit as a diver when he was 12. But when he dived for the first time, his ears and nose bled. He switched to removing the debris. Later though, when a friend asked, he tried diving again so he wouldn't be seen as a coward. His ears and nose did not bleed that time and he remained working as a diver. He lasted less than a year; the work was too hard, he explained. He's been working in a *sedot kering* unit with six other workers for the past three years. The unit is owned by the uncle of a friend. His duties are to spray and remove stones. He considers these duties lighter than diving.

The unit has changed locations three times in three years. "Many workers have stopped working because the dam keeps breaking. They cannot keep removing water and *ambub*, since they would have to work hard, but gain little," Wanto said. If the dam breaks, the workers have to repair it, otherwise water will enter the pit and has to be removed before gold can be mined.

The collected gold is calculated daily. The calculation of how much one worker earns is done at the end of the carpet washing, but the money is paid after the gold is sold, which is done once a week. (Carpet washing can be done

two or three times in a day and different people might be involved in the carpet washings.) In one day, the unit can get at least 6-11 grams of gold that sells for up to 68,000 rupiah per gram. In the wet season, however, each worker gets between 30,000 and 50,000 rupiah per day. In *mopo'* times, they earn up to 200,000 rupiah (US\$24) per day.

In his job, Wanto holds the hose and directs the stream to the wall, similar to a firefighter. The spray will gouge the pit walls, bringing stones and soil down. The workers in a pit might be buried alive if the whole wall falls. The sprayer will be the first one to die because he's closest to the wall.

Wanto is haunted by his brother's death and has fears of dying. Wanto often suffers from some skin and respiratory ailments. The workers in his unit have to pay for their own medical treatment.

Nuri, 17

Family unit worker

H. Nuri moved with her family to Kelian Dalam village when she was 7 years old. After they moved from Gah Lalang (a subvillage in Kelian Dalam) they bought a plot costing 7 million rupiah in Kelian Dalam in 1993; they lived and mined gold on the plot.

Nuri wanted to continue her education along with many of her friends when they finished elementary school, but her parents wouldn't allow her to live in Long Iram. Nuri was sad and became ill for a month.

Nuri's family is considered financially well off. Nuri, her parents and her younger sister have made the pilgrimage to Mecca. Having stopped her education at age 13, she started working in her parents' gold mine. Nuri sees that gold miners have a good income, while the work is not too hard. She does not want to work for others, since she is rather shy and does not like getting shouted at. Also, her parents would not allow her. Nuri gets the same income as the other workers in the unit. The proceeds are distributed equally to all workers, unit owner, engine owners and headmen. The proceeds are distributed after the *kombinasi* is accounted for, and all workers get the same amount. Nuri can arrive at work later than the others, since she has to manage the house. The other workers are family members.

Nuri's house is located in the mining area, so she can rest and eat at home. While working, she can have three or more meals, according to her whim. If she feels hungry she can eat. The workers usually eat when they begin to feel hunger pangs, since the cold and wet condition, coupled with empty stomachs, might easily harm their health. Nuri has never had any

illnesses at work, because she had enough nutritious food to eat, she said. Any sick or injured workers' treatment costs are covered by the boss.

Nuri has known what it is to have her own income. She can buy whatever she wants, and she often treats her friends when she has surplus income. She still wants to continue her education, but she is ashamed since she is rather old. When she meets her former teachers, they always tell her to continue her education. Previously Nuri wanted to become a policewoman, but now she makes the best of being a gold miner.

Nuri is the oldest child, but she is not close to her father, who forbid her to continue her education and tried to give her in marriage to someone she did not love. She is afraid she might become like her sister, who was forced to marry and finally divorced.

Mahmud, 17

Unit worker

Mahmud planned to go to junior high school in Samarinda, where his grandmother lives. She had offered to finance any of her grandchildren who wanted to continue schooling. However, Mahmud was told by a teacher, who is related to the family, "Why should you continue to Samarinda? In the next year, a junior high school will be built in Kelian Dalam." Mahmud decided to wait. One year passed and the school was never built. His friends went on to school, but Mahmud turned to gold mining. He was regretful at first, but now has lost his ambition. "My mother does not want me to continue my education in the city. She is afraid that the city's influences might be bad," he added.

In the year of waiting for the school to open, Mahmud *ngerebo*. He joined a *sedot selam* unit with three other workers that was owned by his father's close friends, working in a unit near Kopi. He worked for a month with a weekly rest and earned between 30,000 and 40,000 rupiah per day.

Though he finds it hard work, Mahmud reported that he enjoys prospecting for gold because it provides him almost a continual income. "When I was working for one week, I caught a fever. My stomach ached first, and then I caught the fever. I was working on the *langkar* [pulling loaded baskets of stone to be disposed from the pit]. It was hard work. I do not think I am up to the work. Sometimes I set up the platform. My stomachache was not treated, but because I had fever, my father brought me to Long Iram *puskesmas*" (the community health centre). The fever continued for a week. His father told him that his illness was caused by the work and suggested he quit. After he recovered, Mahmud went back to working because his family's

income is insufficient for its needs and three of his younger siblings are still in school. Generally earning only about 10,000 rupiah (US\$1.15) per day, he is unable to help with their education costs.

Mahmud said if his unit fails to turn up gold, he can still obtain some income from *ngerebo* in another location. As the engine owner earns a larger income than a typical worker, Mahmud hopes to own an engine in the future.

He does not intend to continue his education since his three younger brothers still attend school. Mahmud found the work heavy initially, but after a while of working he now considers it ordinary.

Mahmud never smoked until he started working in the unit. When a friend pointed out that cigarettes were included in the general food supplies that all workers shared in the costs of, Mahmud decided that since he was helping to buy them, he would enjoy them.

Mahmud thinks that his current work panning with his father is much easier than working in the *sedot selam* unit because he does not need to lift heavy bundles of rocks or debris. “The water is only waist deep, but the results are lower. In two days work I only get *slawe* (25,000 rupiah). Better anyway than doing nothing.” Mahmud said that he did not dive because he was unable to swim.

VII

Conclusions and Recommendations

The gold mining business is the goal of the migrants into Kelian Dalam, many of whom come as families. From early ages, all children in the village are trained to pan for gold. Various people interviewed for the rapid assessment declared that all school-aged children (7 years and older) in Kelian Dalam spend some time panning for gold. For many children, their experience begins as they play in the river and watch their elders panning. However, not all children who are able to pan gold are involved in the informal gold mining industry. The village of Kelian Dalam was chosen because of indicators that a large number of children were involved in the informal gold mining sector. However, the researchers studied the village during the wet season, when mining activities are subdued because of the high water level; in a house-to-house survey, the researchers determined that 36 of the 223 children who pan the rivers for gold were engaged in the more arduous unit system of mining.

The 36 young respondent's main reason to work in the mining sector was to help their family. Most of the children worked on their own will; only three young people said they were ordered by their parents to work. Not all of the young miners' income was given to their parents; a portion was for their own personal needs and school supplies.

The children working in the units performed many of the same jobs as the adults. The duties were not very hard and did not require a lot of effort. Child labourers were involved in digging pits, building dams, assembling engines, pipes and platform and removing rocks and other debris from the river bed. They more typically did not wash the doormats or pan and separate gold from the iron ore because they were regarded as less careful than adults and possibly might allow some gold to be lost into the river.

The young respondents in the assessment worked between one and six hours when working on their own and between eight and fourteen hours when employed in a unit. However, about a third of the independent young miners only worked one to two hours a day, indicating that for a large number of young people in the village, gold mining is essentially a pastime

instead of an occupation. Child labourers in the traditional mines have enough time to rest, even those working in the units, although during heavy mining times there is little rest time. For those who were prospecting as a pastime, the question on rest periods is somewhat irrelevant because they worked in their free time after school hours anyway.

In general, there were no strict working hours to start and stop working. Both men and women worked for the same length of time, generally. Females, both young and old, while few among the workers in units, might work less hours because of time spent on domestic chores at home or because of cooking for the other workers. In some cases, the female workers were given extra time to prepare their domestic work. Of course, fewer hours mean smaller pay.

The income from prospecting gold is never certain and is greatly affected by the weather conditions. In the dry season, miners can work longer and possibly earn more because the river's flows are slight and debris does not cover the pits. Some prospectors said that it is now more difficult to find gold in large amounts. The small finds of gold reported now are considered to be related to the use of more modern techniques that have exhausted the gold deposits in the Kelian River.

Prospectors from the upper parts of the Mahakam River founded Kelian Dalam village in 1948, after the discovery of gold in Sungai Babi River. These pioneers came from around Long Iram, consisting of various Dayak subethnic groups: Bekumpai, Kayan, Benuaq and Tunjung. The inhabitants of Kelian Dalam (then known as Sungai Babi village) now include also Bugis and Javanese peoples. Further population growth has resulted from migration from the village of Gah Lalang, in which the PT Kelian Equatorial Mining, a multinational gold mining company, operates. Almost all economic activities in the village are related to gold prospecting.

In the past ten years, Long Iram subdistrict has been closely related with PT KEM, a. Though many consider that PT KEM benefits few people, it can clearly be seen that employment is not a problem in the area. With the ease to extract timber (illegally), which has been occurring since the *reformasi*, Long Iram's economy is lively.

West Kutai is a new district, only recently separated from Kutai district. The consolidation of administration, development strategy, infrastructure and personnel are just beginning. Construction of government buildings is underway, and as are the forging of policies at the regency level. The economy is stimulated by the autonomy to manage natural resources, resulting in the quick growth in the forestry, mining, agriculture and infrastructure sectors. In the socio-cultural aspect, the domination of the majority Bakumpai Dayak

people has resulted in minimizing ethnic-based conflicts, such as those recently raging in other parts of Kalimantan.

No miner in Kelian Dalam pays any form of mining fee to the village, district or regency. The regional government does not prohibit citizens to prospect for gold, since there is no regulatory body nor regulations on the mining of gold. Traditional gold prospecting needs no permission.

Kelian Dalam's economy depends on gold prospecting. In such a situation, shops providing meals, daily needs and fuel supplies are high in demand. This has resulted in rapid economic growth. On the other hand, when gold mining is low, that economy slumps too. In the slump season many villagers plant rice and vegetables in the fields.

Social problems in the focus area

Kelian Dalam has four major problems related to education: lack of teachers, low attendance level of the teachers, low capability of funding education and lack of motivation toward enhancing children's education.

Those four problems are interrelated: The low attendance level of the teachers has resulted in a low motivation on the part of the parents to keep their children in school. Previously, the parents, especially those better off financially, tended to emphasize to their children the importance of education. This has worn thin due to the many teachers who often do not attend school. Such conditions force the parents to be more lenient toward the children about staying in school. Children are allowed to prospect for gold after school because of the income it can bring, especially compared to other activities, such as play.

The low economic capability has resulted in parents being unable to fully educate their children. Education, for these families, is regarded as a waste of funds that can be used for other needs. Instead, children are allowed to work to help ease the family's financial burdens. These families might be motivated to keep their children in school with various assistance programmes. However, if the attendance level of the teachers is not improved, such motivation will mean nothing, except if they send their children to Long Iram, which requires more funds because of the transport and boarding costs of a child living away from home if there is no family member to take them in. But some children expressed a reluctance to move away from their family just to get an education.

Occupational hazards

The most dangerous hazard to the gold mine workers in Kelian Dalam are pit collapses, which almost always results in death, though there are no recent reports of any such mishap. Besides the hazards, prospecting sometimes requires a good deal of physical exertion. Exhaustion was a major complaint among the 36 child labourers in the assessment. Even though the length of work was not very long, in certain conditions every miner works for long continuous periods of time. Such exhaustion is combated with supplement foods, energy drinks and *jamu*, and in many cases, tobacco and alcohol.

Several activities in the gold mining process, such as the diving, can be painful. All workers, children and adult, male and female, do the diving. First-time divers always feel pain caused by bleeding of the nose and ears due to the water pressure.

Gold mine workers, especially children, do not pay attention to the hazards caused by the use of mercury used to separate gold from iron ore. Although most child labourers in the units do not use mercury, most children know how to use it. Only 5.6 per cent of the assessment's questionnaire respondents think that mercury is poisonous. Mercury is thought to be dangerous only when swallowed, or if it comes into contact with the eyes. Generally, the child labourers do not think that mercury poses any danger, even when swallowed. The gold prospectors in Kelian Dalam use mercury as if it were plain water, mixing it with the gold using their bare fingers.

Regulations

Gold prospecting in Kelian Dalam is unregulated, even at the village level. In practise, every prospector needs only to agree with other miners on their location. This lack of regulation leads to uncontrolled mining activities. Mining activities can be seen along almost all the Kelian River, and they result in heaps of mud and sand at the riverbank. There are regulations for PT KEM but not for community mining in the use of chemicals. Mercury for example, is perceived as an invisible activity as its use at home or in the unit area is not easily detected.

Without regulations, the resulting effect toward the environment is very harsh. However, the lack of regulation on child labourers is rather irrelevant because gold prospecting is tightly related with community traditions. It is difficult to put sanctions on the use of child labour because most children in Kelian Dalam prospect gold as part of their play and socialization patterns. No exploitation was found in this assessment. The use of child labour in the units is more related to the lack of options for young

people, namely education, but also other types of employment. But the independent panning activities of children are more related to cultural traditions that see the prospecting as a way of preparing young people for their future life.

Toward a child-free working environment

Many attempts have been made to eliminate child labour through the creation of models by academics, action programmes from NGOs, even government action and policies. The latest government effort was to target the elimination of various worst forms of child labour. Suyanto (2002), a child labour observer, has identified three priorities in the creation of action programmes: protection and empowerment of child labourers, opportunities and access to receive maximum education and institutional competency to handle child labour problems.

Suyanto (2002a) further said that the child labour problem cannot be solved merely by using a legalistic-formalistic approach and punitive measures but should be complemented with social and cultural approaches that are in touch with the roots of the problem. A comprehensive intervention programme is necessary, such as life-quality improvement for families living in poverty, increasing awareness of the importance of education, creating awareness of children's rights and commitments complemented with concrete steps.

According to D. Haryadi and N. Sukarna (1999), there are three approaches in solving the child labour problem: elimination, protection and empowerment. Each approach has its own assumptions, values and views. The elimination approach views that children must only play and study and not work. This abolitionist perspective, although dominant, is not realistic and rather inapplicable, since it ignores the reality that the child labour problem is caused by structural poverty. The solution to the child labour problem is not only to compel them to go to schools but also to restructure the economy. The other two approaches allow children to work because as individuals children have economic rights to work, as long as there are guarantees that they are treated well and that they are not neglected nor abused.

In the interests of the children, according to Haryadi and Sukarna, the protection and empowerment approaches are regarded as more realistic. Both approaches offer protection and recognition of children's rights, both as children and workers. Possible activities include increasing abilities to implement ILO Convention No. 182 recommendations and regulations; improving education as an instrument to stop child exploitation; and creating a consumer movement to boycott products made by child labour. The efforts

should also be complemented with economic restructuring, including a new development strategy, and bringing the international structure to a fairer and just system.

A first step is to accurately identify the number of child workers involved in potentially hazardous employment, in both formal and informal sectors. Besides accurate secondary data at the district and industrial unit levels, qualitative or specific data will also be required to identify the social and cultural dimensions of the real problems being faced by child labourers. Based on the data, the following most important step is to decide on the focus and priorities of the programme targets. In this step, it is difficult to create a national programme, and it is at the local level where the programme must be created.

Important to remember in the programme design, as mentioned by Suyanto (2002a), is the principle of being in the best interest of the child, whatever the policies and interventions. As a group, child labourers are in need of special protection. Their basic rights have not been fulfilled and sometimes even breached by approaches biased to the adults' interests. Traditions and habits in the community on the idea of economic independence place a value on children working – the earlier they start working the higher the social appreciation will be of them. Parents who allow their children to work, lack of parental appreciation on the importance of education and other similar problems are often considered as internal and private matters where the State can do nothing to intervene.

Characteristics of child labourers in various sectors described in the literature that was reviewed for this assessment condemn situations that are prone to exploitation, prone to hazards and physically, psychologically and socially challenging to children. The case of child labourers in the traditional mines in Kelian Dalam, however, largely characterize a different situation (Table 7.1).

Table 7.1: Characteristics of Kelian Dalam child labourers

Characteristics of child labourers		Notes
In general	In Kelian Dalam	
Prone to exploitation	No exploitation	No exploitation at all; children work on their own will; no sexual crime; salary similar to grown-ups; work is done in a playful atmosphere and working hours are not tight.
Hazardous	Hazardous	High level of occupational hazards with fatal results, from wounds to landslides
Affecting physical development	Possibly affecting physical development	Demands physical strength and in a wet environment. No duty requires prolonged unergonomic positions
Affecting psychological development	Affecting psychological development	Rest periods are filled with tobacco and alcohol, same salary as grown-ups allow them to buy anything they might want. Life with grown-ups stimulate children to reach adulthood quicker
Affecting social development	Not affecting social development	No indication that employment affects social development negatively, instead it teaches cooperation in groups

Compared to Djajadi's (2002) findings on child labourers in Central Kalimantan, there are several corresponding similarities on the motivation and working conditions. The difference lies in the use of drugs, tobacco and alcohol in Kelian Dalam - these vices were not identified in the previous study. Exposure to pornography in Kelian Dalam is in the form of obscene graffiti and jokes in the working area. Percentages for Kelian Dalam in Table 7.2 were obtained from the assessment researchers' estimations, based on the number of cases and intensity of observation.

Table 7.2: Comparison of Central Kalimantan and Kelian Dalam child labourer characteristics

Types of worst forms of child labour	Central Kalimantan	Kelian Dalam
Slavery and other similar practices	Estimated %	Estimated %
Sale and trafficking of children	None	None
Debt bondage	None	None
Serfdom	None	None
Forced labour	None	None
Compulsory labour	None	None
Forced recruitment in armed conflict	None	None
Prostitution and pornography	Estimated 0 %	Estimated 15 %
Prostitution	None	None
Pornography	None	Yes, for certain aspects
Illicit activities	Estimated 0 %	Estimated 30 %
Drugs production, use and trafficking	None	Yes, in many cases
Hazardous activities	Estimated 65 %	Estimated 75 %
Potential health hazards	Yes, for certain aspects	Yes, for certain aspects
Potential safety hazards	Yes, for certain aspects	Yes, for certain aspects
Potential moral hazards	Yes, for certain aspects	Yes, in many cases

Recommendations

Any recommendations in order to eliminate child labour, especially in the case of Kelian Dalam, have to consider several related causal factors and contexts. Economic factors, tradition, socialization, education, availability of resources and regulation are intertwined in the resulting situation.

While one of Kelian Dalam's main issues is associated with the lack of education access, both in terms of cost and children not wanting to live away from their families, it is a difficult problem to address. Recommending the establishment of a junior high school in the village will not be effective because of the limited population. The West Kutai government has a programme for basic education in the form of scholarships and lodging assistance for student from the remote areas.

The following recommendations from Laboratorium Antropologi, University of Indonesia must be understood in the framework of related factors. Sole attention toward the child labour problem will be ineffective in solving the negative effects of child labour.

Table 7.3: Problems and recommendations

Problems	Recommendation	Target groups	Responsible agencies
<i>Economy</i>			
High hopes on the income from gold	With the massive gold prospecting now occurring, it is now difficult to obtain gold in large amounts. Cheap and efficient technology is necessary.	Mine workers Mine owners	Labour agency Industry agency NGOs
Subsistent farming and agriculture	Introduction of intensive agriculture and farming through trainings, education, depending on the climate conditions, interest and marketing prospects.	Heads of households Drop-outs Child labourers	Agriculture agency Plantation agency
<i>Education</i>			
Lack of teachers in Kelian Dalam elementary school	More teachers are necessary.	School Educational foundation	Education agency
Low teacher attendance level	Improve attendance through incentives.	School Educational foundation Business persons	Education agency

Problems	Recommendation	Target groups	Responsible agencies
<i>Education (contd)</i>			
Low economic capabilities to fund children's education	Empower a family's economy; improve the role of the parents to gain maximum income.	Heads of households Drop-outs Child labourers	Agriculture agency Plantation agency Education agency
Lack of motivation toward education	Campaign and disseminate information regarding the value of education.	Inhabitants of Kelian Dalam	Education agency
Occupational hazards			
Occurrences of accidents at work	High risk in the traditional mining sector is due to the lack of occupational safety procedures; campaign, checking of equipment, occupational safety and health procedures are required.	Child labourers Mine workers Mine owners	Labour agency
Use of chemicals	Unintentional misuse of mercury must be balanced with campaign on its hazards; limitation and supervision of the sale of mercury.	Child labourers Mine workers Mine owners	Mining agency Health agency
Use of over-the-counter (OTC) drugs that can be bought without doctor prescription, tobacco and alcohol among child labourers; rest periods used to smoke cigarettes	Use of drugs and alcohol for exhaustion must be balanced with campaigns on the hazards of tobacco, alcohol and OTC drugs toward children. Awareness raising programmes on the dangers of smoking, alcoholic beverage, drugs and also on the dangers of over-consuming supplement drinks or OTC drugs are needed.	Child labourers Mine workers	Health agency Social agency Community health centres

Problems	Recommendation	Target groups	Responsible agencies
Regulations			
No regulations on traditional mining	Regulations on environmental impacts, rules on the use of mining equipment, mining location permits, and the obligation to preserve environment.	Mining agency Regional development agency Regional environmental impact agency	Regent Regional legislature
Lack of implementation and socialization of labour regulations	Socialization of labour regulations and legislation to the district and village levels.	District officials Village officials Child labourers Mine workers Mine owners	Mining agency Labour agency
Tradition			
Tradition saying that the earlier children become independent, the better	Campaign that childhood should be filled with education. Children are not only part of the family, but also the future of the nation.	Parents General public	Education agency Information agency

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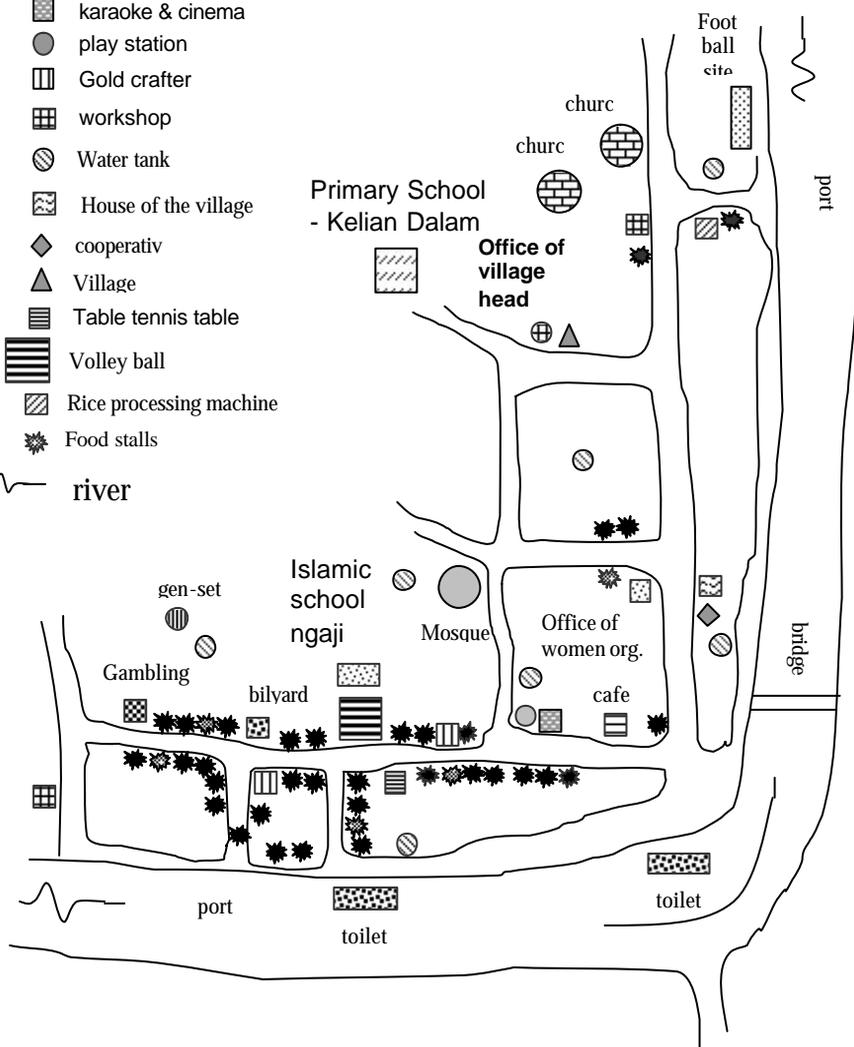
Annex 1

Kelian Dalam Village

North

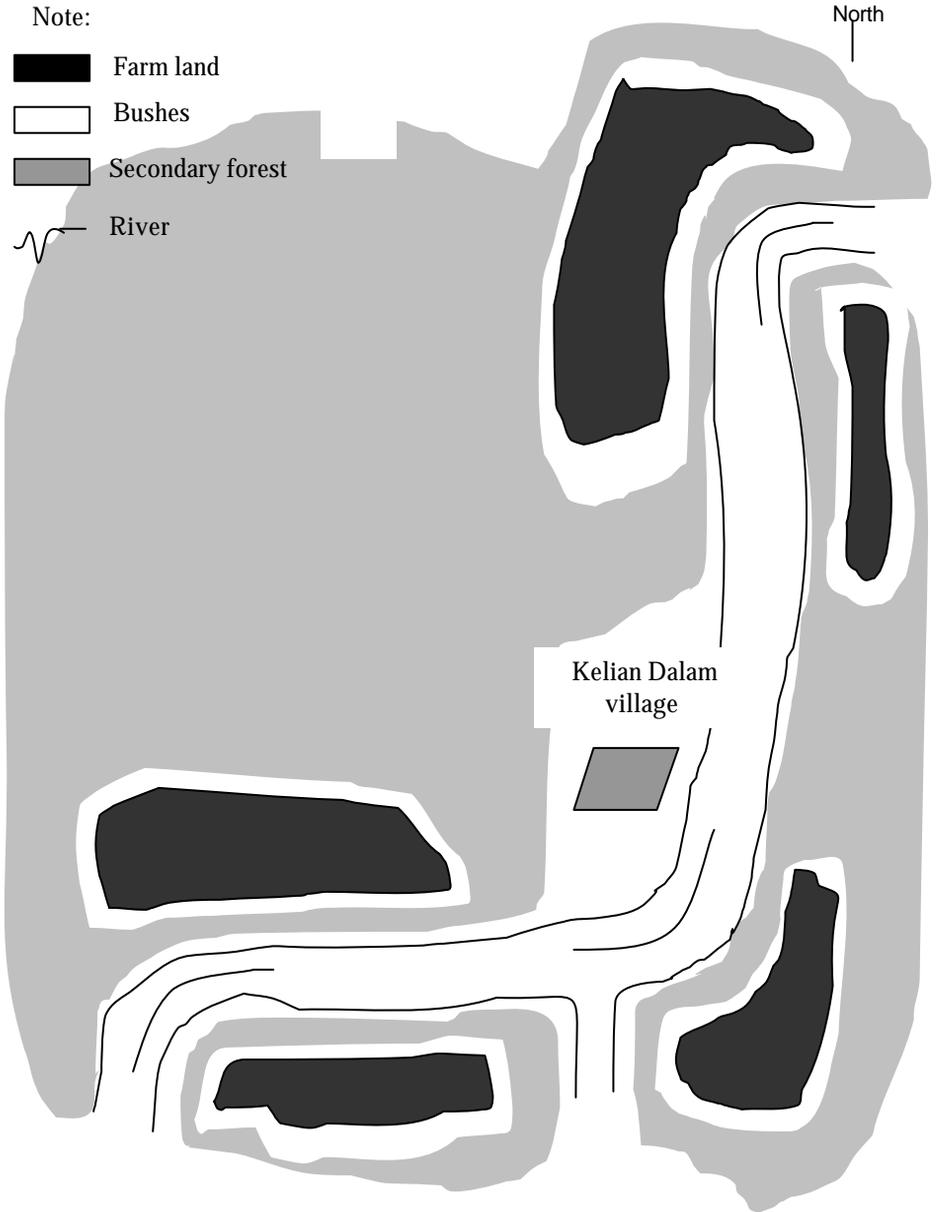
Note:

-  Shops
-  karaoke & cinema
-  play station
-  Gold crafter
-  workshop
-  Water tank
-  House of the village
-  cooperativ
-  Village
-  Table tennis table
-  Volley ball
-  Rice processing machine
-  Food stalls
-  river



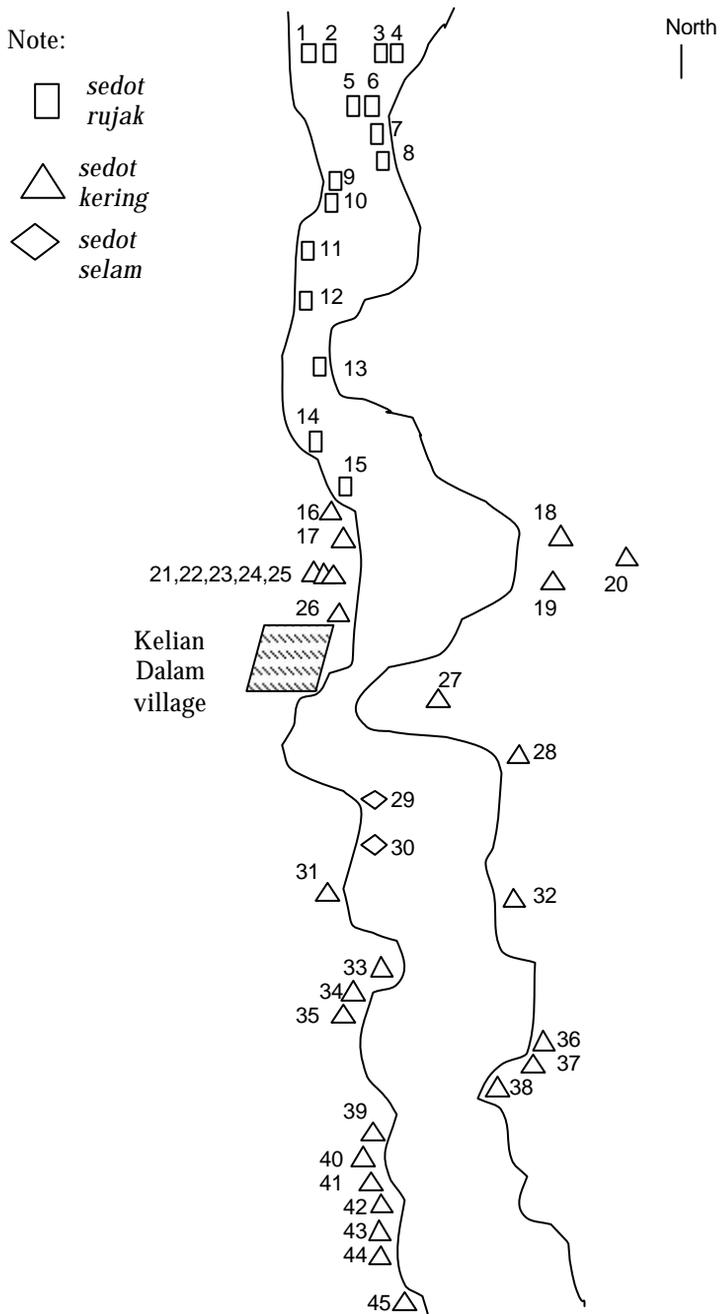
Annex 2

Map of land use in Kelian Dalam

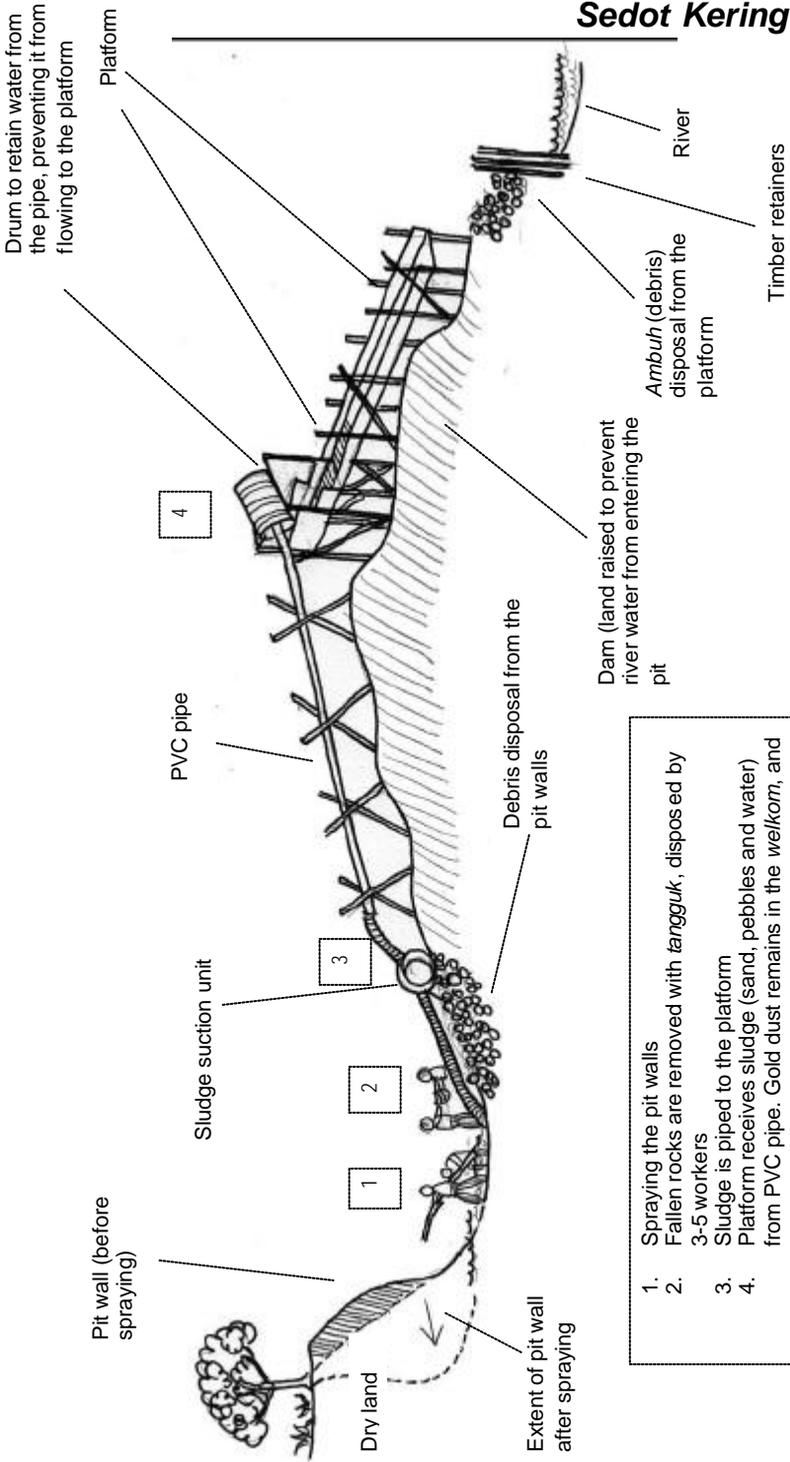


Annex 3

Gold mining sites in Kelian Dalam village



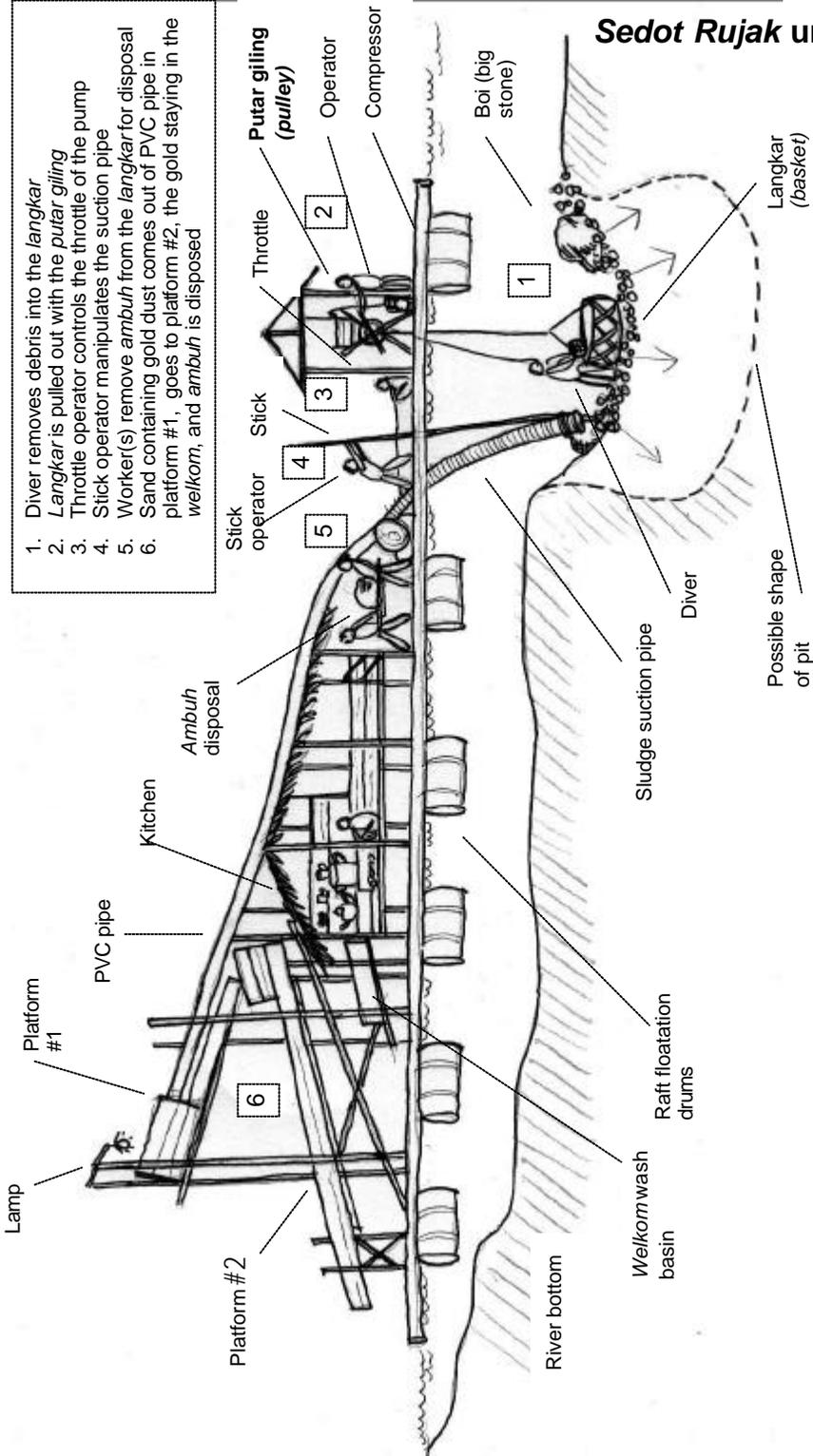
Sedot Kering unit



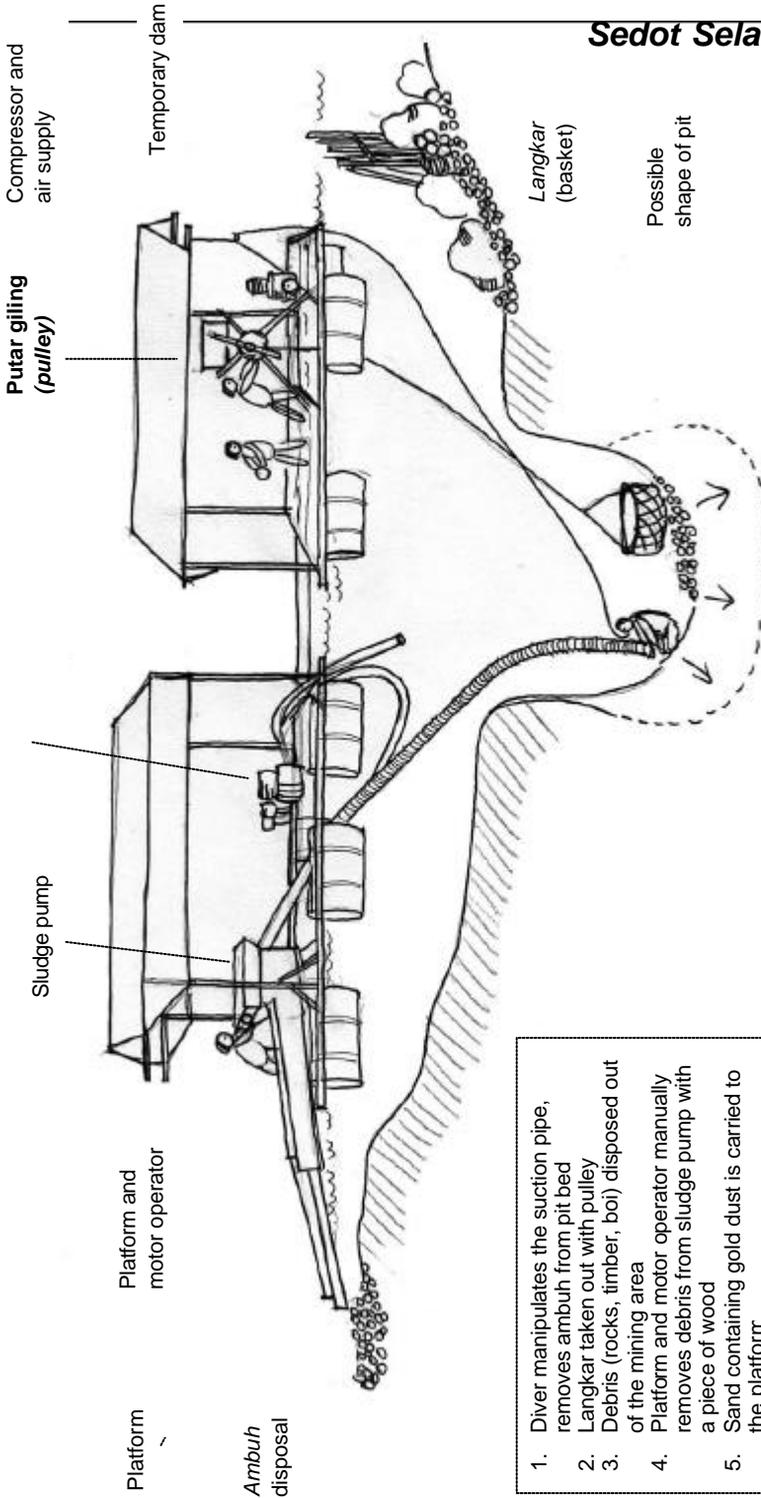
1. Spraying the pit walls
2. Fallen rocks are removed with *tangguk*, disposed by 3-5 workers
3. Sludge is piped to the platform
4. Platform receives sludge (sand, pebbles and water) from PVC pipe. Gold dust remains in the *welkorn*, and debris is disposed at the end of the platform

Sedot Rujak unit

1. Diver removes debris into the langkar
2. Langkar is pulled out with the putar giling
3. Throttle operator controls the throttle of the pump
4. Stick operator manipulates the suction pipe
5. Worker(s) remove ambuh from the langkar for disposal
6. Sand containing gold dust comes out of PVC pipe in platform #1, goes to platform #2, the gold staying in the welkom, and ambuh is disposed



Sedot Selam unit



1. Diver manipulates the suction pipe, removes ambuh from pit bed
2. Langkar taken out with pulley
3. Debris (rocks, timber, boi) disposed out of the mining area
4. Platform and motor operator manually removes debris from sludge pump with a piece of wood
5. Sand containing gold dust is carried to the platform



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