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LAPINDO BRANTAS AND THE MUD VOLCANO SIDOARJO, INDONESIA

A Background paper prepared for
Friends of the Earth International
and Friends of the Earth Europe

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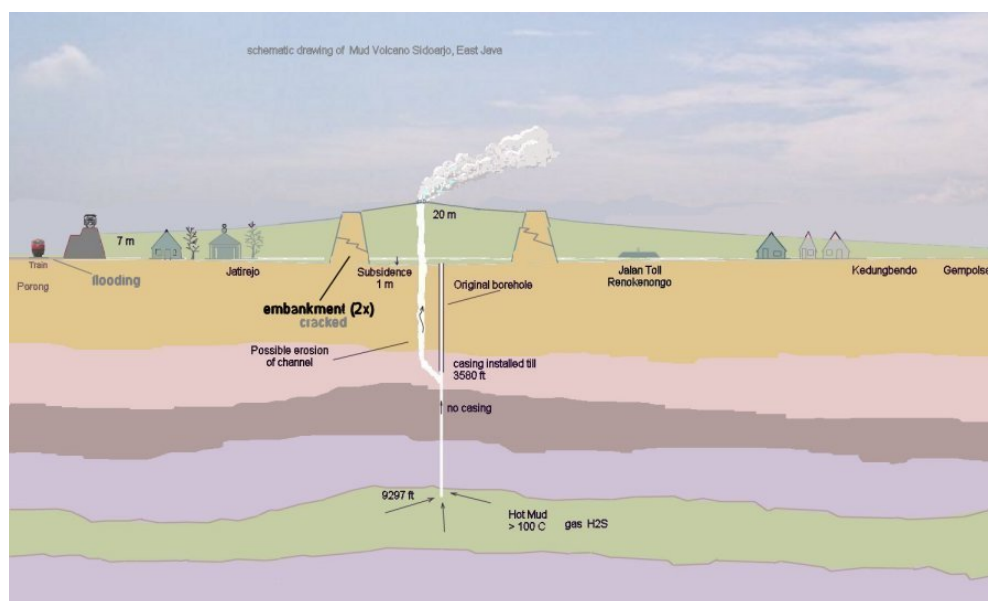
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BACKGROUND

For almost a year, a sea of hot mud has been gushing from the ground in Sidoarjo, East Java, 35 kilometres south of Indonesia's second largest city, Surabaya. Thousands of people have been forced from their homes since May 29th 2006, when hot mud started spurting from the ground near a gas exploration well on Indonesia's most densely populated Island. Over the following months, approximately 600 ha of land and villages were submerged, farmland was ruined, businesses and schools closed and livelihoods lost as the mud inundated the surrounding area.¹ Major impacts on the wider marine and coastal environment are expected, with knock-on effects for the many thousands of people who depend on fish and shrimp for their living.

What happened?

Lapindo Brantas' Banjar Panji I gas exploration well had reached a depth of over 3,000m when the mudflow started, according to an UN agency report. Although some sources – including Lapindo Brantas – have called the mud flow a natural disaster, it is most likely that it occurred as a consequence of PT Lapindo Brantas's failure to install a casing around the well to the levels required under Indonesian mining regulations. The mud started seeping into the well at a depth of around 1,800 metres, and cement plugs were put in to stop it. This led to the pressurised mud forcing its way to the surface about 180m near the well.



Schematic drawing of the mudflow as conjectured by experts

The mud has not only continued to flow from the first rupture, but the daily amount gushing out has increased, from an initial 5,000 m³ per day reported by the environment ministry, to up to 150,000 m³ per day reported in January 2007.² Newer estimates range from 100,000m³ to 110,000m³ per day.³ The weight of the mud on the ground is reportedly already pressing down a large area of land by approximately one meter.⁴

¹ Radar Sidoarjo on <http://mudflow-sidoarjo.110mb.com/index.htm>, March 12 2007 (retrieved April 06 2007)

² Mud Volcano In Java May Continue To Erupt For Months And Possibly Years. Science Daily, Jan 24 2007

³ Govt weighs options for battling the sludge, Indra Harsaputra, The Jakarta Post, May 29 2007; and <http://mudflow-sidoarjo.110mb.com/index.htm>, Comments and Prospects (retrieved 11.06.07)

⁴ <http://mudflow-sidoarjo.110mb.com/index.htm>, Comments and Prospects (retrieved 11.06.07)

MEASURES

Stopping the flow

So far, all efforts to stop the flow have failed. Some sources have warned that the mudflow could go on for many more months, or even years, and most think that the flow is unstoppable.

First efforts to stop the flow were through drilling relief wells. But drilling operations have been seriously hampered, with continual delays forced upon the relief well drilling team, due to lack of funding. The next plan of the National Mudflow Mitigation Team was dropping thousands of concrete balls into the mouth of the mud volcano, hoping that this will reduce the amount of mud flowing from the site by up to 70%. This is the first time this technique was tried anywhere in the world, and it was widely thought that this plan offered more inherent dangers than chances of success (and potentially induces further flows to the surface in an area already severely weakened).⁵

The first series of concrete balls was lowered into the mud volcano on 24th February 2007.⁶ On 19th March 2007, after hundreds of balls had been dropped into the mouth of the hole, the flow of mud stopped for a period of 35 minutes. But the engineers reported that they did not expect that the mudflow would stop permanently in the near future because the mud volcano could not be suddenly closed to avoid greater volcanic explosions.⁷

By early May, it was finally clear that the experiment with the cement balls failed to stop the flow and was abandoned altogether. As a new solution, the Japanese government offered to build a 'double-cover dam' to contain the mud until it forms enough volume to suppress the flowing mud beneath it. Japanese scientists say that they have successfully carried out a similar project in the Philippines.⁸ Other experts, however, warn that any attempt at plugging the flow could create more problems.⁹



Cluster of four cement balls to be dropped in the crater

Damming the mud

The authorities' response to the immediate question of what to do with the mud was to build containment 'basins' or 'ponds' by enclosing areas of land within earth walls, or levees, with assistance of the Indonesian subsidiary of the Dutch company Van Oord, plus 1400 army personnel. In its June-July mission, the United Nations Disaster Assessment and Coordination (UNDAC) team found that the 2m high earth dams had indeed helped limit the damage, but were not a sustainable solution as heavy rains in the rainy season would cause the walls to collapse and ponds to overflow. The mission reported they had already observed wall collapses during their dry season visit.

During the past few months, dams and ringdykes have overflowed and broken regularly, causing the flooding of more land and damaging infrastructure as well as allowing contaminated water to leak into the surrounding paddies (ricefields).¹⁰ Due to the rain, the dams became unstable, making repairs difficult. Trucks are unable to deliver new soil and

⁵ Engineers abandon attempt to plug a gushing mud, The Jakarta Post, March 02 2007; Mud volcano work suspended, Al Jazeera English, Feb 25 2007

⁶ Balls used to plug Java mud flow. BBC News, Feb 24 2007

⁷ Brief halt for Indonesia mud flow. BBC News. March 20 2007; East Java mudflow stops for 35 minutes. The Jakarta Post, March 19 2007.

⁸ <http://mudflow-sidoarjo.110mb.com/index.htm>, 11.05.2007 (retrieved 11.06.07)

⁹ Govt weighs options for battling the sludge, Indra Harsaputra, The Jakarta Post, May 29 2007

¹⁰ See regular updates on <http://mudflow-sidoarjo.110mb.com/index.htm>

stones for repairs. Furthermore, heavy equipment applied for repairing the dams is breaking down and replacements are not readily available. The town of Sidoarjo is being threatened, and mud may flow into the streets within the next 12 months.¹¹

River and sea disposal

As it became clear that construction of containment ponds couldn't keep up with the rate the mud was gushing from its underground source, it was decided to channel the mud into the Porong River and on to the sea (Madura strait). Pumping of sludge into the sea started on October 16, 2006,¹² but the mud's viscosity hindered efforts to channel it into the sea.¹³ In addition, local media outlets reported in January 2007 that the wrong pumps were installed to divert the liquid to a nearby river and are not functioning.¹⁴ In June 2007, local media outlets reported that the spillway and pumphouse to pump mud into the Porong river and into the sea became temporarily out of order as mud filled it up, dried, and blocked it completely.¹⁵

Longer term measures

In an October report, Indonesia's environment ministry said that it was looking at alternatives to prevent the mud ending up in the Madura Straits. These included collecting the mud on the shore and creating a new mangrove wetland area on the coast; using the mud as a building material for road construction; and using it as a fertiliser mix. The heat of the process may be usable for thermal energy. It remains to be seen whether these options are seriously considered.

The mudflow in numbers

Average amount of mud flowing from the volcano	over 300 days: 150.000m ³ /day ¹⁶
Distance of the mud to the city limits of Sidoarjo (population 1.5 Mio.)	3.8km ¹⁷
Number of patients registered at Sidoarjo hospital as affected by gas (hydrogen sulphide - H ₂ S) from the mud volcano	1,500 ¹⁸
Estimated area covered by mud	Approx. 360 (3,6km ²) ¹⁹ - 600 ha (6km ²) ²⁰
Estimated thickness of the mud layer (Feb 2007)	10m ²¹ - 18m ²²
Estimated number of displaced people	11,000 ²³ -50,000 ²⁴ (average estimation: ~ 15,000 ²⁵)

¹¹ <http://mudflow-sidoarjo.110mb.com/index.htm>, Comments and Prospects (retrieved 11.06.07)

¹² Sidoarjo sludge starts to be dumped into the sea. Indahnesia.com, Oct 16 2006 http://news.indahnesia.com/item/200610166/sidoarjo_sludge_starts_to_be_dumped_into_the_sea.php (Retrieved April 10 2007)

¹³ Indonesian experts drop concrete balls to cap mud volcano. Taipei Times, March 11 2007

¹⁴ <http://mudflow-sidoarjo.110mb.com/index.htm>, January 23 2007 (retrieved April 10 2007)

¹⁵ <http://mudflow-sidoarjo.110mb.com/index.htm>, Comments and Prospects (retrieved 18.06.07)

¹⁶ <http://mudflow-sidoarjo.110mb.com/index.htm>, March 12 2007 (retrieved April 10 2007)

¹⁷ Ibid.

¹⁸ East Java mudflow disaster. Down to Earth No. 71, November 2006 <http://dte.gn.apc.org/71mud.htm> (retrieved April 13 2007)

¹⁹ Birth of a mud volcano: East Java, 29 May 2006. Richard J. Davies, Richard E. Swarbrick, Robert J. Evans and Mads Huuse, GSA Today 17 (2), Feb 2007

²⁰ Radar Sidoarjo on <http://mudflow-sidoarjo.110mb.com/index.htm>, March 12, 2007 (retrieved April 13 2007)

²¹ Birth of a mud volcano: East Java, 29 May 2006. Richard J. Davies, Richard E. Swarbrick, Robert J. Evans and Mads Huuse, GSA Today 17 (2), Feb 2007

²² <http://mudflow-sidoarjo.110mb.com/index.htm>, January 23 2007 (retrieved April 10 2007)

²³ New Indonesia Calamity: A Man-Made Mud Bath. Bonner R, New York Times, Oct 06 2006; and Birth of a mud volcano: East Java, 29 May 2006. Richard J. Davies, Richard E. Swarbrick, Robert J. Evans and Mads Huuse, GSA Today 17 (2), Feb 2007

IMPACTS

Flooding and displacement

Estimations how much land has been flooded so far differ from approx. 360 hectares²⁶ to approx. 600 hectares²⁷. If the mudflow continuing unstopped for possibly years, at least 10km² around the volcano will be covered in mud.²⁸

News reports keep the number of displaced people at around 15,000²⁹. Some sources say this number is far too low given the fact that at least 10,000 houses are uninhabitable at an average of 5 people per house³⁰ and claim that at least 50,000 people have been forced from their homes³¹, while other sources put the number at only 11,000³². Similarly, the number of flooded villages varies greatly from four to eleven; according to the latest updates from the Jakarta Post, 3,500 families were displaced and 11 villages, 350 ha of farm land and 23 schools buried.³³

Estimations are that with the mudflow continuing unstopped for possibly years, over 11,000 people will be permanently displaced.³⁴ Because the stability of the surface in the area is affected, more residents may have to move to safer places. Many houses in the west already have broken walls and floors.³⁵

Health

In early August, the environment group WALHI reported that Sidoarjo hospital had as many as 1,500 patients registered as affected by gas (hydrogen sulphide - H₂S). Symptoms included dizziness, breathlessness, breathing difficulties and irritation. Many others had diarrhoea.

Small amounts of H₂S continue to escape from the site, at levels to make the air smell foul. According to Lapindo, this poses no threat to nearby communities - Lapindo itself discounts media reports which stated the mud was toxic or poisonous. Lapindo says the mud is "only mildly reactive under extreme conditions". The June investigation of the UNDAC mission did not find significant levels of toxicity in the mud, but reported that some samples analysed by the local authorities and university showed that there were high levels of toxics, such as heavy metals, including mercury - however these may be linked to contamination from industrial sites inundated by the mud.

Lapindo reported that although there had been no fatalities from the incident itself, two men died as a result of heavy equipment accidents. At least eight people have been killed in a large gas pipe explosion near the mudflow site in November (13 according to other sources³⁶), probably caused by the weight of the mud on the underground pipe.³⁷

²⁴ Ibid.

²⁵ E.g. Reuters on <http://mudflow-sidoarjo.110mb.com/index.htm>, Feb 26, 2007 (retrieved April 10 2007)

²⁶ Birth of a mud volcano: East Java, 29 May 2006. Richard J. Davies, Richard E. Swarbrick, Robert J. Evans and Mads Huuse, GSA Today 17 (2), Feb 2007

²⁷ Radar Sidoarjo on <http://mudflow-sidoarjo.110mb.com/index.htm>, March 12 2007 (retrieved on April 10, 2007)

²⁸ Mud Volcano In Java May Continue To Erupt For Months And Possibly Years. Science Daily, Jan 24 2007

²⁹ E.g. Reuters on <http://mudflow-sidoarjo.110mb.com/index.htm>, Feb 26, 2007 (retrieved on April 10, 2007)

³⁰ <http://mudflow-sidoarjo.110mb.com/index.htm> (retrieved on April 10, 2007)

³¹ New Indonesia Calamity: A Man-Made Mud Bath. Bonner R, New York Times, Oct 06 2006; and Birth of a mud volcano: East Java, 29 May 2006. Richard J. Davies, Richard E. Swarbrick, Robert J. Evans and Mads Huuse, GSA Today 17 (2), Feb 2007

³² Ibid.

³³ After Iran, SBY faces mudflow motion, Jakarta Post, June 8 2007 (retrieved June 12 2007)

³⁴ Mud Volcano In Java May Continue To Erupt For Months And Possibly Years. Science Daily, Jan 24 2007

³⁵ <http://mudflow-sidoarjo.110mb.com/index.htm>, May 25 2007 (retrieved June 11 2007)

³⁶ Mud Volcano In Java May Continue To Erupt For Months And Possibly Years. Science Daily, Jan 24 2007

³⁷ Hot mud, gas fumes bog down rescuers. Jakarta Post Nov 24 2006

Infrastructure



Inundated railway track and road

Infrastructure has been damaged extensively, including toll roads, power transmission systems, gas pipelines and national artery roads. Traffic to the south from Surabaya is still possible through Mojokerto or Mojosari. The highway to Gempol is definitely blocked, while the mainroad along Porong is occasionally inundated by the mud. This affects traffic from Pasuruan to Surabaya and back. Furthermore, demonstrations by the local residents may temporarily block the road. Railway tracks have been inundated and although some routes have been repaired, service remains dangerous because of eroded tracks. Moreover, irrigation channels have been swamped by the mud, and drainage and drinking water pipes affected.³⁸

Environmental

Statements on the composition of the mud vary depending on the kind of test and who commissioned it. A mud characteristic test by PT Energi Mega Persada – one of the main companies involved – classified the mud as non- non-hazardous and non-toxic³⁹, while according to an environmental analysis initiated by the East Java Regional Development Office, Sidoarjo Regional Environment and Mining Office, and PT Lapindo Brantas Inc., the mud contains phenol at concentrations exceeding the maximum residue limit. Phenol is toxic to fish and aquatic vegetation, not to mention human health.⁴⁰ An X-ray spectrometer analysis produced the following results for the composition of the solid fraction of the mud: Iron 83,1%, Silicon 4,1%, Potassium 4,1%, Calcium 4,1%, Titanium 1,8%, Chlorine 1,6%.⁴¹

Whether or not the mud itself is considered toxic, it certainly has impacts on the environment. The disposal into the Porong river and the sea affects the river ecosystem and the aquaculture industry, and the high level of salinity (akin to seawater) makes overflowed land infertile. Mud and water from the basins has already leaked into surrounding paddies (ricefields), destroying the income of many rice planters.⁴² Rice fields and fish and shrimp ponds have been destroyed, threatening Sidoarjo's status as the biggest shrimp producer in Indonesia after Lampung.⁴³ WALHI predicts that the disposal of the mud into the river will destroy 4,000 hectares of fish and shrimp ponds in the Jabon subdistrict, threatening the livelihoods of thousands of fisherfolk in Sidoarjo, Madura, Surabaya, Pasuruan and Probolinggo.⁴⁴ In addition, the bad impact of off-loading the water extracted from the mudflow into the waters in East Java would possibly affect the tourism sector in the popular island resort of Bali which is adjacent to East Java province.⁴⁵

The office of the ministry of environmental affairs initially rejected the idea of pumping the mud into the Madura Strait, but later the Minister Rachmat Witoelar issued a permit of the plan with the requirement that the mud must be treated and processed to separate solid waste and to let only normal water to the sea.⁴⁶ But the outflow rate seems to be too high and mud is overflowing into the river untreated frequently.⁴⁷

³⁸ <http://mudflow-sidoarjo.110omb.com/lumpur36.htm>, April 28 2007 (retrieved June 11 2007)

³⁹ Environmental Impact of the hot mud flow in Sidoarjo, East Java, Agustanzil Sjahroezah, Energi Mega Persada, April 19 2007

⁴⁰ The Case of Lapindo, and the Failure of Legal Supremacy. WALHI website http://www.eng.walhi.or.id/kampanye/cemar/industri/061128_case_lapindo_cu/ (retrieved April 11 2007)

⁴¹ <http://mudflow-sidoarjo.110omb.com/lumpur38.htm> (retrieved June 11 2007)

⁴² <http://mudflow-sidoarjo.110omb.com/index.htm>, February 17 2007 (retrieved April 10 2007)

⁴³ President recommends five steps for curbing Sidoarjo mud flood. ANTARA News, Aug 31 2006

⁴⁴ The Case of Lapindo, and the Failure of Legal Supremacy. WALHI website http://www.eng.walhi.or.id/kampanye/cemar/industri/061128_case_lapindo_cu/ (retrieved April 11 2007)

⁴⁵ Expert against idea to channel mudflow-extracted water to sea. ANTARA News, Sept 04 2006

⁴⁶ Environment minister accepts plan to direct mud flow into sea. ANTARA News, Dec 08 2006

⁴⁷ See <http://mudflow-sidoarjo.110omb.com/index.htm> (retrieved June 18 2007)

COSTS AND COMPENSATION

Compensation

Lapindo has so far compensated some of the affected residents, paying homeless families Rp 2.5 million to rent homes for two years. Partial compensation has been paid to 75 rice-farmers and 8 of the 22 companies that were affected by the mud, but cash compensation for the more than 13,000 families hit by the disaster are still not agreed upon.⁴⁸

Based on new mappings of the area in March 2007, the number of families affected by the mudflow reached 13,000, while only 6,000 were recorded in the old map. Indonesia's President has asked Lapindo for compensation payments according to the new map, while Lapindo claims that the costs are too high.⁴⁹ The compensation process has been extremely slow and victims are getting angrier towards Lapindo and the gap between what people are demanding and what Lapindo is offering remains wide. Lapindo has said that next month it intends to pay compensation to victims in four villages, although according to the new mapping and the Jakarta Post, 8-11 villages are inundated.⁵⁰ And payments will only be made upon presentation of a residents' land ownership document – a document which most victims have lost in the floods along with all their other belongings.⁵¹

House of Representatives Deputy Speaker Muhaimin Iskandarhas urged the government to guarantee compensation for people who lost their homes and jobs in the Sidoarjo mudflow disaster, rather than merely trying to get compensation from Lapindo Brantas.⁵²

Assigning responsibility

Controversy exists to what has triggered the eruption, whether the event was a natural disaster or not. PT Lapindo Brantas repeatedly argued that an 6.3 Richter earthquake two days before the eruption had triggered the mud flow eruption rather than their drilling activities, and that the company should be exempt from paying compensation damage to the victims. If the cause of the incident is natural, then the government of Indonesia has the responsibility for the damage instead. This argument was further recurrently echoed by Aburizal Bakrie, the Indonesian Minister of Welfare at that time, whose family firm controls the operator company PT Lapindo Brantas.⁵³

The company and shareholders

The Banjar Panji-1 exploration well is located in the Brantas Production Sharing Contract (PSC) area in Sidoarjo district, East Java province, and is operated by Lapindo Brantas, which is a subsidiary of Energi Mega Persada. It is owned by:

- ▶ Energi Mega Persada (Indonesia): 50%
- ▶ PT Medco E&P Brantas (Indonesia): 32%
- ▶ Santos (Australia): 18%

PT Medco E&P Brantas was until recently owned by Medco Energi Internasional, but in March 2007 sold for only US\$ 100 to the Prakarsa Group from Indonesia (see "Dodging Responsibility")

* For more detailed information on the Financing of the Brantas PSC, please refer to Jan Willem van Gelder: "The financing of the three Brantas PSC companies", June 2007

Geologists disregarded the natural cause and mentioned that the earthquake is merely coincidental. The earthquake could have generated a new fracture system and weakened strata surrounding the Banjar-Panji 1 well, but it does not support the formation of a hydraulic fracture to create the main eruption vent 180 m away from the borehole. Apart from that, there was no other mud volcano reported on Java after the earthquake and the main drilling site is 300 km (186.5 miles) away from the earthquake's epicenter which was

⁴⁸ Lapindo again ordered to pay up, M. Taufiqqurrahman, The Jakarta Post, Jakarta, 5 April 2007; Lapindo pay partial compensation to eight companies; 15 more waiting, Indra Harsaputra, The Jakarta Post, Jakarta, 18 May 2007.

⁴⁹ Govt urged to assist mudflow victims. The Jakarta Post, 20 March 2007 (retrieved April 11, 2007)

⁵⁰ After Iran, SBY faces mudflow motion, Jakarta Post, June 08 2007 (retrieved June 12 2007)

⁵¹ According to <http://mudflow-sidoarjo.110mb.com/index.htm>, May 25 2007 (retrieved June 12 2007) – other sources may have different numbers

⁵² Govt urged to assist mudflow victims. The Jakarta Post, 20 March 2007

⁵³ Drilling blamed for Java mud leak. BBC news, Jan 24 2007

estimated to have only magnitude 2 on Richter scale at the drilling site (the same effect as of a heavy truck passing over the area).⁵⁴

In March 2007, East Java Police chief Ins. Gen. Herman S. Sumawiredja said the police would not carry out investigation against PT Lapindo Brantas, arguing that it was a natural disaster.⁵⁵ However, East Java police will go ahead with their investigations to several employees of the company, including the company's general manager Imam P. Agustino. They are accused of negligence for not installing a required protective casing in a natural gas drilling well. The suspects will likely be charged under the Criminal Code for endangering the public. If guilty, they could face up to 15 years' jail. Management could also be accused of violating the 1997 Environment Management Law and the 2007 Water Resources Law, carrying an additional sentence of up to 18 years.⁵⁶

So far, no independent court has established once and for all whether the mudflow is a natural disaster or the result of a drilling accident. Indonesia's President Susilo Bambang Yudhoyono seems to be torn between two conflicting interests: the interests of the people and the interests of Lapindo Brantas Inc., which is a subsidiary of Energi Mega Persada, a company controlled by the Indonesian welfare minister Aburizal Bakrie.

So far, President Yudhoyono has ordered Lapindo to pay US\$ 435 million in compensation to victims and for efforts to halt the mud. But the government agreed to bear the cost of repairing or rebuilding infrastructure, which could run into billions of dollars. Nobody in the public knows for sure how that figure was arrived at, or if Lapindo has actually agreed to provide that amount of money. And there is no sign that infrastructure work in the area will get underway anytime soon, as the government has trouble securing approval from the House of Representatives for funds to finance the construction of major infrastructure submerged by the mudflow – legislators keep asking the government to demand Lapindo bear all the costs, including for rebuilding infrastructure. The government does not seem to have a clear-cut answer as to why it does not demand this of Lapindo.⁵⁷ President Yudhoyono is currently facing a motion by the House of Representatives, prepared by more than 200 legislators from major political parties, questioning the government's handling of the mudflow. The National Mandate Party who helped initiate the motion said lawmakers want a direct explanation from the President on why he could not press welfare minister Bakrie to at least take care of the 3,500 displaced families and pay compensation for 11 buried villages. No legislators from Yudhoyono's Democratic Party support the motion.⁵⁸ Some argue that legislators only put forward the motion because they are disappointed by recent reshuffles in the Cabinet.⁵⁹

Lapindo, meanwhile, continues to claim that the mudflow was not caused by its drilling.⁶⁰

⁵⁴ *Ibid.*

⁵⁵ East Java Police will not investigate Lapindo on mudflow, *The Jakarta Post*, March 20 2007

⁵⁶ A muddy future for Sidoarjo disaster, Stevie Emilia, *The Jakarta Post*. Review 2006

⁵⁷ Bring Lapindo to court, *Jakarta Post*, May 30 2007

⁵⁸ After Iran, SBY faces mudflow motion, *Jakarta Post*, June 08 2007

⁵⁹ Support for mudflow motion gets a big boost, *Jakarta Post* June 09 2007

⁶⁰ *Ibid.*

Dodging Responsibility

Energi Mega Persada

Energi Mega Persada and the Bakrie Group have repeatedly tried to deny that the mud flow was caused by the drilling activities of Lapindo Brantas. Instead, the earthquake of May 27 in Yogyakarta was blamed. Energi Mega Persada tried twice to sell its subsidiary Lapindo Brantas in an apparent attempt to dodge its liability:

- ▶ In September 2006 Energi Mega Persada proposed to sell Lapindo Brantas to Lyte Limited. This company - domicile unknown - is controlled by the Bakrie Group as well. The close relationship between buyer and seller was the reason for the Indonesian Capital Market Supervisory Agency (Baepem) to block the sale in the beginning of November 2006.⁶¹
- ▶ In November 2006 Energi Mega Persada announced it would sell Lapindo Brantas to the Freehold Group, a mysterious company registered in the British Virgin Islands, claiming that it is not related to the Bakrie Group. The Baepem also questioned this deal, and when it was revealed that Freehold Group is owned by an American businessman and friend of Aburizal Bakrie for 25 years, Freehold Group annulled the contract at the end of November 2006.⁶²

When these two efforts had failed, Energi Mega Persada again mobilized its allies to deny it had caused the mud flow incident. In mid-December 2006, the Indonesian Association of National Oil & Gas Companies (Aspermigas) issued a statement stating that it had come to the conclusion there is a correlation between the Yogyakarta earthquake and the start of the mudflow.⁶³ A two day workshop organised by the Agency for the Assessment and Application of Technology (BPPT) came to the same conclusion in Mid-February 2007, calling it a "natural disaster".⁶⁴

Lapindo Brantas claimed that it is not guilty and that the compensation costs mentioned are too high: "Lapindo's total current assets won't be enough to cover the costs incurred as a consequence of the disaster".⁶⁵ In February 2007 Lapindo Brantas demanded that Medco Energi and Santos also take responsibility for the damage caused. Even though Santos and Medco were not directly involved in the day-to-day operations in the field, Lapindo Brantas claims to have consulted them about all drilling procedures. "Both Medco and Santos always received day-to-day reports on progress in the field. Even though they are not

Energi Mega Persada

PT Energi Mega Persada Tbk. is a small Indonesian oil and gas company established in 2001 with working interests in three Indonesian production sharing contracts (PSCs): Malacca Strait (Riau, 60.49%), Brantas (East Java, 50%) and Kangean (East Java, 100% - 50% to be sold). It belongs to the Bakrie Group, which is controlled by the Indonesian Bakrie family. The head of the family, Aburizal Bakrie, is at present is the Coordinating Minister for Social Welfare of Indonesia. There is widespread concern that Lapindo's high level political connections will prevent the company being prosecuted and punished for its role in the disaster.

At the end of 2006, Energi Mega Persada owned assets with a total value of US\$ 1,087 million. These assets were being financed mainly by banks (50%) and shareholders (19%). Banks with a high involvement are especially Credit Suisse (CH), Meryll Lynch & Co. (US) and the Fortis Group (NL), while the most important shareholders of Energi Mega Persada are two companies controlled by the Bakrie Group which together own 68.5% of its shares. Large outside shareholder is Fortis OBAM, an investment fund of Fortis Group (NL), which owned about 0.5% of the shares at the end of 2006.

* For more detailed information on the Financing of the Brantas PSC, please refer to Jan Willem van Gelder: "The financing of the three Brantas PSC companies", June 2007

⁶¹ The financing of the three Brantas PSC companies. Jan Willem van Gelder. June 2007

⁶² *Ibid.*

⁶³ Press release of the Association of National Oil & Gas Companies (Aspermigas), Jakarta, 14 December 2006.

⁶⁴ Mud disaster called natural, Alvin Darlanika Soedarjo, The Jakarta Post, 22 February 2007.

⁶⁵ Lapindo finds mudflow disaster costs, compensation too much, Indra Harsaputra, The Jakarta Post, 30 December 2006.

the operators, both firms had at least one of their officers on the ground."⁶⁶. In early March 2007, Lapindo Brantas claimed it could not begin paying compensation to affected residents due to incomplete land ownership documents.⁶⁷

Medco Energi Internasional

The other Indonesian oil company involved in the Brantas PSC is Medco Energi Internasional via its former subsidiary PT Medco E&P Brantas, which owns 32% share in the Brantas PSC. Medco Energi has always denied responsibility for the incident. According to Medco Energi it had reminded Lapindo Brantas during a technical meeting on 18 May 2006 to install a casing of around 25 centimeters in diameter at a depth of 2,590 meters to prevent any potential leakage of moving mud and mudflow from kicking to the surface, prior to drilling for limestone, as agreed to in the drilling program. If Medco Energi indeed made this

recommendation is uncertain as the report of this technical meeting, which took place before the incident, was written only after the incident.⁶⁸

In November 2006 Medco Energi started a procedure at an international arbitration court in New York, arguing that Lapindo Brantas violated their joint operation agreement for the Brantas PSC, and that Medco Energi should therefore be exempted from any obligation for compensation.⁶⁹

In March 2007 Medco Energi suddenly announced the sale of its subsidiary PT Medco E&P Brantas. The subsidiary is sold for only US\$ 100 to the Prakarsa Group from Indonesia, which also assumes all liabilities. But, according to its statement to the stock exchange, "the management of Medco Energi is still committed to support the victims of Sidoarjo".⁷⁰

It is not quite clear who is behind the Prakarsa Group, but Medco Energi's statement mentions Minarak Labuan Co. (Malaysia) as the financial guarantor of the Prakarsa Group. This company is owned by the Bakrie Group and it is therefore assumed that it is actually the Bakrie Group which has acquired Medco Energi's stake in the Brantas PSC to end the embarrassing arbitration court case with Medco Energi - which could reveal that Lapindo Brantas has indeed acted in "gross negligence" as Medco Energi claimed.⁷¹

Medco Energi Internasional

PT Medco Energi Internasional Tbk. is the largest privately-owned oil and gas company in Indonesia. The company's Indonesian operations span from Aceh to Papua, while Medco Energi is also active in the United States, Cambodia, Libya, Yemen and Oman. Medco Energi Internasional was founded in 1980 by Arifin Panigoro, who later became a leading politician in Indonesia, first in the Golkar party of ex-president Suharto and later in the PDI-P party of ex-president Megawati Soekarnoputri.

At the end of 2005, Medco Energi Internasional owned assets with a total value of US\$ 1,842 million. These assets were being financed mainly by bondholders (36%) and shareholders (29%). At present, the Panigoro family controls 50.7% of the shares via its holding company Encore International Ltd., which has received major bank loans from Credit Suisse (CH), Meryll Lynch & Co. (US) and the United Overseas Bank (Singapore). Major bonds issuances were managed by Credit Suisse (CH), Deutsche Bank (DE), Bank Mandiri (Indonesia), Standard Chartered Bank (UK), UBS (CH), United Overseas Bank (Singapore). Another bank with high involvement is the French Natixis, which has arranged loans together with other banks.

Medco Energi Internasional and its subsidiaries have several financing subsidiaries in the Netherlands, which are used for tax purposes, managed by the TMF Group, Fortis Intertrust Group (subsidiary of Fortis Bank) and Vreewijk Management.

* For more detailed information on the Financing of the Brantas PSC, please refer to Jan Willem van Gelder: "The financing of the three Brantas PSC companies", June 2007

⁶⁶ Energi calls on partners to share in mud costs, Andi Haswidi, The Jakarta Post, 1 February 2007.

⁶⁷ Govt urged to assist mudflow victims, The Jakarta Post, 20 March 2007; and Money delayed for mudflow victims, Indra Harsaputra, The Jakarta Post, 3 March 2007.

⁶⁸ Cleaning up the mess, Tempo Magazine No. 43/VI, Jakarta, 27 June 2006

⁶⁹ Medco Takes Lapindo Case to Arbitration, Yura Syahrul and Yuliawati, Tempo Interactive, Jakarta, 13 November 2006.

⁷⁰ Divestment of 100% Shares of PT Meco E&P Brantas, Release to the Jakarta Stock exchange of PT Medco Energi Internasional Tbk., Jakarta, 20 March 2007.

⁷¹ Medco sells stake in mudflow oil field, John Aglionby, Financial Times, London, 21 March 2007.

Santos

The third company involved, Santos from Australia, has given assurances that it will pay its share of the clean-up and compensation costs when a settlement is reached.⁷²

Santos

Santos is a major Australian oil and gas exploration and production company with interests and operations in every major Australian petroleum province and in Indonesia, Papua New Guinea, Vietnam, India, Kyrgyzstan, Egypt and the United States. Santos is Australia's largest domestic gas producer, supplying sales gas to all mainland Australian states and territories, ethane to Sydney, and oil and liquids to domestic and international customers.

At the end of 2006, Santos owned assets with a total value of US\$ 5,448 million. These assets were being financed mainly by shareholders (49%) and bondholders (20%). Important shareholders of Santos, either for their own account or on behalf of customers, are Barclays (UK) with 8.27% and Maple-Brown Abbott (AUS) with 5.04%. Banks involved through bonds or share issuances are mainly Meryll Lynch & Co. (US), Citigroup (US), ANZ (AUS) and Commonwealth Bank of Australia.

* For more detailed information on the Financing of the Brantas PSC, please refer to Jan Willem van Gelder: "The financing of the three Brantas PSC companies", June 2007

⁷² Energi calls on partners to share in mud costs, Andi Haswidi, The Jakarta Post, 1 February 2007.

The mudflow in US\$ dollars

US\$	
277 million	December 2006 estimation of compensation costs: In December 2006 the Indonesian president Yudhoyono said Lapindo Brantas will have to pay around US\$ 277 million in compensation to 6,000 families in four villages. ⁷³
422 million	March 2007 estimation of compensation costs: In March 2007, Yudhoyono said again that Lapindo should pay the compensation in cash for more than 13,000 families, based on new data provided by the National Team for the Lapindo Mudflow on March 22. ⁷⁴
144 million	December 2006 estimation of costs for stopping the flow: In December 2006 the Indonesian president Yudhoyono said that in addition to compensation, Lapindo Brantas also will have to spend some US\$ 144 million to stop the mud flow. ⁷⁵
330,800	February 2007 estimation of costs for stopping the flow: The costs for the concrete ball method of stopping the flow are estimated to be much lower than any other method at \$330,800. ⁷⁶
664,800	May 2007 estimate of costs for stopping the flow: The costs for the Japanese proposal to use a counter-weight technique
1.2 million	Loss to fisheries industry: The Marine Resources and Fisheries Ministry has estimated a financial loss of 10.9 billion rupiahs (US\$ 1.2 million) to the fisheries business in Tanggulangin and Porong subdistricts ⁷⁷
823 million	Total cost for repairing the damage (March 2007): At the beginning of march 2007, the government's estimate of the total costs had increased to Rp 7.6 trillion, more than half for compensation. ⁷⁸
435 million	Amount Lapindo is demanded to pay up: President Susilo Bambang Yudhoyono ordered PT Lapindo Brantas to pay US\$ 435 million to victims and for efforts to plug the mud flow (May 2007)
1,2 billion	Estimated personal wealth of Aburizal Bakrie: The American business magazine Forbes in September 2006 listed Aburizal Bakrie as the sixth-richest man in Indonesia, with an estimated personal wealth of US\$ 1.2 billion. ⁷⁹
22 million	Net profit of Energi Mega Persada (2006): In 2006 the company realised sales with a total value of Rp 1,647 billion (US\$ 181 million), resulting in a net profit of Rp 203 billion (US\$ 22 million). ⁸⁰
38.2 million	Net profit of Medco Energi Internasional (2006): Over the year 2006, Medco Energi Internasional realised sales with a total value of US\$ 792.4 million and a net profit of US\$ 38.2 million. ⁸¹
485 million	Net profit of Santos (2006): In 2006 the company realised annual sales of A\$ 2,769 million (US\$ 2,087 million), resulting in a net profit of A\$ 643 million (US\$ 485 million). ⁸²

⁷³ Lapindo told to start paying compensation next year, Indra Harsaputra, The Jakarta Post, 29 December 2006

⁷⁴ Lapindo again ordered to pay up, M. Taufiqurrahman, The Jakarta Post, April 05 2007; and Mudflow could cost govt Rp 7.6t, Alvin Darlanika Soedarjo and Urip Hudiono, The Jakarta Post, 6 March 2007.

⁷⁵ Lapindo told to start paying compensation next year, Indra Harsaputra, The Jakarta Post, 29 December 2006

⁷⁶ Concrete 'to stem Java mud flow'. BBC News, Feb 02 2007

⁷⁷ Lapindo mudflow causes loss of rp10.9 bln to fishery business. ANTARA News, 6 Sept 2006

⁷⁸ Mudflow could cost govt Rp 7.6t, Alvin Darlanika Soedarjo and Urip Hudiono, The Jakarta Post, 6 March 2007.

⁷⁹ Jan Willem van Gelder: "The financing of the three Brantas PSC companies", June 2007

⁸⁰ Ibd.

⁸¹ Ibd.

⁸² Ibd.

WHAT NGOS SAY

Lawsuit

On February 12, 2007, WALHI (Wahana Lingkungan Hidup Indonesia – Friends of the Earth Indonesia) filed a lawsuit against PT Lapindo Brantas, Energi Mega Persada and its' subsidiaries (Kalila and PAN Energy), Medco Energi, Santos, as well as against President Susilo Bambang Yudhoyono, the Indonesian Minister of Energy, the Indonesian Minister of Environmental Affairs and local officials.⁸³

WALHI is represented in this legal case by the Advocacy Team for Humanitarian Victims of the Sidoarjo Mudflow (TAKLUSI). The charge is on activities resulting environmental devastation, based on the environmental act no 23/1997 – giving environmental organizations the right to institute suits in the interests of environmental conservation – and strict liability principles. According to the lawsuit, the environmental destruction that has occurred includes:⁸⁴

- ▶ Damage to ecological functions in the mudflow-affected region because the mudflow was of such magnitude that it altered the landscape, river function, and even local ecosystem functions;
Inundation of villages in Porong, Jabon, Tanggulangin and surrounding districts with mud, which caused residential areas to become uninhabitable and resulted in the evacuation of more than 8,200 residents who currently remain refugees;
- ▶ Destruction of community-owned plantation and agricultural lands, including: 25.61 ha sugarcane plantations in Renokenongo, Jatirejo and Kedungcangkring; 172.39 ha paddy fields in Siring, Renokenongo, Jatirejo, Kedungbendo, Sentul, Besuki Jabon and Pejarakan Jabon;
- ▶ Destruction of facilities and infrastructure including: (a) damage to more than 1,500 houses/residences in Siring, Jatirejo, Renokenongo, Kedungbendo and Besuki villages; (b) damage to schools, offices, dozens of factories, places of worship, Porong District Military Headquarters; (c) damage to the electricity, telephone, gas and clean water networks; (d) damage to the Surabaya-Gempol toll road node; (e) disruption to the train route linking Jakarta, Sidoarjo, Malang and Surabaya;
- ▶ Death of thousands of poultry, dozens of goats, cattle and other animals; Cessation of factories' activities, their disablement due to inundation with mud, a forced halt in production and redundancy of thousands of workers, and loss of employment for thousands of workers.

Demands to the responsible companies and the Indonesian government

WALHI (Friends of the Earth Indonesia) demands that Lapindo, EMP, Medco, and Santos be responsible with their own funds to rehabilitate the damage created by negligent drilling operation, and that oil and gas exploration in densely populated areas like East Java be reviewed in general. More than 20 exploration blocks have licences to operate in Java's crowded northern shore area and 13 million people live in sixteen of these blocks alone. WALHI wants the government to acknowledge that Indonesia has no mechanism to protect people in such areas.⁸⁵

⁸³ Indonesia watchdog sues over "mud volcano". ANTARA News, 12 Feb 2007.

⁸⁴ The Case of Lapindo, and the Failure of Legal Supremacy. WALHI website http://www.eng.walhi.or.id/kampanye/cemar/industri/061128_case_lapindo_cu/ (retrieved April 11 2007)

⁸⁵ East Java mudflow disaster. Down to Earth No. 71, November 2006 <http://dte.gn.apc.org/71mud.htm> (retrieved April 13 2007)

WALHI asks the Government of Indonesia to immediately:⁸⁶

- ▶ First, take steps to shutdown PT Lapindo Brantas Inc, by demanding full accountability for resolution of the hot mud problem.
- ▶ Second, PT Lapindo Brantas Inc./PT EMP must fully guarantee the livelihoods of victims and rehabilitation of environmental damage caused by the hot mud.
- ▶ Third, law enforcement agencies to be consistent in investigating PT Lapindo Brantas Inc. in relation to the environmental crime, including shareholders, and requesting explanations from associated parties such as the Ministry for Energy and Mineral Resources (ESDM) and BP Migas.
- ▶ Fourth, the President of Indonesia should take responsibility for ensuring the resolution of the hot mud problem via ESDM, the Director-General of Oil and Natural Gas, and BP Migas, and to do so without further burdening national or regional budgets.
- ▶ Fifth, to revise all legislation related to the exploration and exploitation of mineral resources, and make community safety and welfare and environmental safety and sustainability, the first and foremost priorities.
- ▶ Finally, to audit the exploration and exploitation of oil and natural gas in densely populated areas, and re-assess the suitability of such projects.

Demands to main financial stakeholders

Friends of the Earth International believes that not only the three companies involved in Lapindo Brantas, but also their main financial stakeholders bear a responsibility to adequately address the consequences of the mudflow. They should:

- ▶ Use their influence to ensure that all three companies assume their responsibility to take measures to stop the flow, repair the damage without causing more environmental or social costs, and compensate affected residents.
- ▶ Use their influence to ensure that all costs related to compensation and other measures are fully covered.
- ▶ Any possible new loans (Energi Mega Persada has announced it is seeking new loans to re-finance existing ones) and other financial services should be conditional on the companies taking their responsibility, making sure that proceeds are earmarked for compensation and restoration.
- ▶ While the full costs are not assessed yet, immediate payments should be made into a government-managed fund in order to provide relief for those affected without unnecessary delay.

Friends of the Earth International also calls on the investors to develop guidelines that make sure loans and other financial services are granted only to companies and projects that make community safety and welfare and environmental safety and sustainability first and foremost priorities. This implies that in general, investments should not be made in exploration and exploitation of oil and natural gas in densely populated areas such as East Java

⁸⁶ The Case of Lapindo, and the Failure of Legal Supremacy. WALHI website http://www.eng.walhi.or.id/kampanye/cemar/industri/061128_case_lapindo_cu/ (retrieved April 11 2007)



**Friends of
the Earth
International**

Friends of the Earth International The world's largest grassroots environmental network, uniting 70 national member groups and some 5,000 local activist groups on every continent. With approximately 1.5 million members and supporters around the world, we campaign on today's most urgent environmental and social issues. We challenge the current model of economic and corporate globalization, and promote solutions that will help to create environmentally sustainable and socially just societies.

Friends of the Earth Europe campaigns for sustainable and just societies and for the protection of the environment, unites more than 30 national organisations with thousands of local groups and is part of the world's largest grassroots environmental network, Friends of the Earth International.