




# Council on Ethics Government Pension Fund – Global

Annual report 2007





## Table of contents

Introduction	4
Overview of Recommendations 2007	6
The Council and the Secretariat	7
Mandate	8
List of Excluded Companies	10
Recommendations	
– DRD Gold Ltd.	12
– Vedanta Resources Plc. including its subsidiaries Sterlite Industries Ltd. and Madras Aluminium Company Ltd.	34
– Rheinmetall AG and Hanwha Corp.	72
– Rheinmetall AG	75
– GenCorp Inc.	78
– Serco Group Plc.	80
– Burma	82
The Ethical Guidelines for the Government Pension Fund – Global	87


## Introduction

The Council on Ethics for the Government Pension Fund – Global (formerly, the Government Petroleum Fund) was established by cabinet decision on 19 November, 2004, at the same time as the Fund's Ethical Guidelines were laid down. The Council on Ethics is an independent advisory body charged with submitting recommendations to the Ministry of Finance. Our mandate is to assess whether companies should be excluded from the Government Pension Fund – Global on the grounds of acts or omissions that are in conflict with the criteria of the Ethical Guidelines.

This Annual Report includes the six recommendations for 2007 made public by the Ministry of Finance as of 11 January, 2008. Two of the recommendations refer to companies where there is an unacceptable risk of contributing to severe environmental damage. In one of these recommendations the Council has found that there is also a risk of contributing to gross human rights violations. A South African mining company engaged in gold mining in Papua New Guinea has been excluded due to riverine tailings disposal at its mining operation, a practice that causes considerable and long-term negative environmental impact. A British metals and mining company, with operations mainly concentrated in India, has been excluded as we find that the company causes severe environmental damage and has been complicit in the abuse and forced displacement of tribal peoples. In this case, the Council has based its assessment on the investigation of four subsidiaries, finding that the uncovered violations, with regard to both the environment and human rights, have taken place at all these subsidiaries, repeatedly and over several years.

The remaining four recommendations are related to weapons screening. Three of these concern the exclusion of companies that produce key components for nuclear weapons and cluster munitions. The fourth recommendation revoked the exclusion of the company Rheinmetall AG since the Council on Ethics established that the company no longer produces cluster munitions or key components thereof.

The Council on Ethics receives a monthly report regarding companies that are accused of environmental damage, human rights violations, corruption, or other contraventions. This service is provided by an information supplier who conducts daily news searches on all companies within the Fund's portfolio. In 2007, the Council assessed some 80 companies. The period from which a case is examined, recommended for exclusion and made public may take several months. Part of the work done in 2007 will therefore only be published in next year's Annual Report. For a variety of reasons, most of the company assessments we make will not lead to a recommendation of exclusion – either because the Council does not deem the offences serious enough, or because it is not probable that the company's unacceptable practice will continue. Sometimes it has become apparent that the connection between a company and the violations it has been accused of complicity in is too weak. In other cases it has proven difficult to document the breaches. Companies that at first do not qualify for exclusion will, however, be reviewed if new information comes to light.



An issue of interest in the Autumn of 2007 was the dramatic situation in Burma. In this regard, the Ministry of Finance requested the Council on Ethics to give an account of cases pertaining to investments in companies with operations in Burma. Our letter of reply, which is included in this Annual Report, shows that over a longer period of time we have monitored several companies with operations in Burma. The Fund has no direct investments in Burmese companies, but several companies in the Fund's portfolio may be involved in activities in Burma. The Council's mandate indicates that the presence in, and the generation of revenue for oppressive states cannot, in itself, be sufficient for exclusion from the Fund. There must be a more direct link between the company's operations and the human rights violations in question. Based on our knowledge of Burma from previous and on-going studies, we assume that larger infrastructure projects in Burma imply a great risk of gross and systematic human rights violations related to such work. Since our mandate is to assess future risk of breaches of the Guidelines, it is not necessary to wait until the violations have occurred. In the letter to the Ministry of Finance, the Council therefore states that companies which enter into pipeline construction contracts in Burma may be excluded from the Fund as soon as such contracts are signed.

In 2007, the Ministry of Finance extended the Pension Fund's benchmark portfolio from some 2400 companies to 7000. The benchmark portfolio covers the same countries as before, but now also includes smaller listed companies, whereas it previously only included companies defined as large or medium-sized by the Fund's index supplier, FTSE.

During the year, the Council has initiated monitoring of the new benchmark portfolio in order to identify companies that produce weapons which should be screened out of the Fund. Such weapon manufacturers are not necessarily open about their product range and may be difficult to identify. We now have two suppliers providing this kind of monitoring service; this will contribute to ensuring a more reliable screening of the portfolio. As a result of the expansion of the benchmark portfolio, we have also renegotiated the agreement on news searches aimed at disclosing companies that are accused of environmental damage, human rights violations, corruption or other violations. The portfolio expansion will nevertheless represent a significant challenge to the Council in the time ahead. We need to both monitor and evaluate more companies, at the same time as access to information on the smaller companies could be difficult. This may imply that to a greater extent we will use regionally based consultants as well as more external experts in the assessment of individual cases.

More than three years have now passed since the Ethical Guidelines were adopted. The Ministry of Finance has therefore decided that the Guidelines shall be reviewed in the course of 2008 and will invite organisations and research institutions to offer their views on whether the Guidelines have worked and make proposals for improvements. In the Spring of 2009, the Ministry of Finance will present the result of the evaluation to the Storting (Parliament) in its annual report on the management of the Government Pension Fund.

During the past year, the Council has received many requests from journalists, organisations and individuals concerning both specific cases and the Council's activities in general. Several foreign pension funds have also had meetings with us, seeking information about the Guidelines and how we apply them. Our experience shows that there is a keen interest in our activities, both in Norway and abroad. The contact with various research institutions, non-governmental organisations, and media representatives are important to our work, and we look forward to valuable suggestions and opinions also in 2008.

Gro Nystuen   Andreas Føllesdal   Anne Lill Gade   Ola Mestad   Bjørn Østbø  
(Chair)

# Overview of Recommendations issued by the Council on Ethics in 2007

Made public as of  
11 January, 2008

**24.08.06 Recommendation on exclusion of DRD Gold Ltd.**

Recommendation on the exclusion of the South African mining company DRD Gold Ltd. on the grounds of severe environmental damage caused by the company's riverine tailings disposal from mining operations.  
*(Published 11 April, 2007)*

**15.05.07 Recommendation on exclusion of Vedanta Resources Plc.**

Recommendation on the exclusion of the British metals and mining company Vedanta Resources Ltd., including its subsidiaries Sterlite Industries Ltd. and Madras Aluminium Company Ltd., seeing as the companies cause severe environmental damage and contribute to human rights violations, including the abuse and forced displacement of tribal peoples.  
*(Published 6 November, 2007)*

**15.05.07 Recommendation on exclusion of Rheinmetall AG and Hanwha Corp.**

Recommendation on the exclusion of the German company Rheinmetall AG and the South Korean company Hanwha Corp. because they are believed to produce cluster munitions or key components thereof.  
*(Published 11 January, 2008)*

**15.09.07 Recommendation on revocation of exclusion of Rheinmetall AG**

Recommendation to revoke the exclusion of the German company Rheinmetall AG as the company after all does not produce cluster munitions or components thereof.  
*(Published 11 January, 2008)*

**15.11.07 Recommendation on exclusion of GenCorp Inc.**

Recommendation on the exclusion of the US company GenCorp Inc. because it manufactures key components for nuclear weapons.  
*(Published 11 January, 2008)*

**15.11.07 Recommendation on exclusion of Serco Group Plc.**

Recommendation on the exclusion of the British company Serco Group Plc. owing to the company's production of nuclear weapons.  
*(Published 11 January, 2008)*

The Ministry of Finance has accepted the Council's recommendations.

**11.10.07 Letter to the Ministry of Finance regarding companies with operations in Burma**



## Members of the Council and of the Secretariat

### The Council on Ethics

**Gro Nystuen** (Chair), dr. juris and Associate Professor at the Center for Human Rights, the University of Oslo

**Andreas Føllesdal** professor Ph.D. in Philosophy at the Center for Human Rights, the University of Oslo

**Anne Lill Gade** MSc in limnology (freshwater ecology), Programme Manager at Jotun AS.

**Ola Mestad** dr. juris and Professor at the Centre for European Law, University of Oslo

**Bjørn Østbø** economist HAE, Managing Director at First Securities ASA, Bergen.

### The Secretariat

The Council has a Secretariat that investigates and prepares cases for the Council.

The Secretariat has the following employees:

**Pia Rudolfsson Goyer** (cand. jur, LL.M)

**Hilde Jervan** (cand. agric)

**Eli Lund** (economist)

**Charlotte Hafstad Næsheim** (Master of Laws)

**Aslak Skancke** (graduate engineer)

**Kamil Zabielski** (M.Phil. human rights LL.M)

## Mandate for the Government Pension Fund – Global’s Council on Ethics

“In the Revised National Budget for 2004, the Ministry of Finance presented ethical guidelines for the Government Petroleum Fund (now the *Government Pension Fund – Global*). The Norwegian Parliament endorsed the guidelines in Budget Recommendation to the Storting No. 1 (2003-2004). The Ministry of Finance established the Guidelines which entered into force 1 December 2004.

The guidelines establish the following tasks for the Council on Ethics:  
The Council on Ethics shall consist of five members. The Council shall have its own secretariat. The Council shall submit an annual report on its activities to the Ministry of Finance.

Upon request of the Ministry of Finance, the Council issues recommendations on whether an investment may constitute a violation of Norway’s obligations under international law.

The Council shall issue recommendations on negative screening of one or several companies on the basis of production of weapons that through normal use may violate fundamental humanitarian principles. The Council shall issue recommendations on the exclusion of one or several companies from the investment universe because of acts or omissions that constitute an unacceptable risk that the Fund contributes to:

- Serious or systematic human rights violations, such as murder, torture, deprivation of liberty, forced labour, the worst forms of child labour and other forms of child exploitation
- Serious violations of individual rights in war and conflict
- Severe environmental damages
- Gross corruption
- Other particularly serious violations of fundamental ethical norms

The Council shall raise issues under this provision on its own initiative or at the request of the Ministry of Finance.

The Council is to gather the necessary information on an independent basis and ensure that the matter is elucidated as fully as possible before a recommendation concerning screening or exclusion from the investment universe is issued. The Council can request Norges Bank to provide information as to how specific companies are dealt with in the exercise of ownership rights. All enquiries to such companies shall be channelled through Norges Bank. If the Council is considering a recommendation to exclude, the draft recommendation, and the grounds for it, shall be submitted to the company for comment.





The Council shall review on a regular basis whether the grounds for exclusion still apply and can on receipt of new information recommend that the Ministry of Finance reverse the exclusion decision.

See the Revised National Budget for 2004 for an elaboration of the ethical guidelines and of the Council's tasks.

According to the ethical guidelines, the recommendations of the Council on Ethics and the decisions of the Ministry of Finance are made public. The Ministry may in special cases defer the date of publication if this is deemed necessary to assure due and proper disinvestment from a financial point of view. Against this background, and in regard to the Council's recommendations, the Ministry of Finance is the appropriate body to approve or reject requests to examine documents under the Freedom of Information Act.

The Ministry of Finance determines the Council members' and the secretaries' remuneration as well as the Council's budget. The Ministry of Finance shall be the contractual counterparty to any agreement the Council needs to enter into with other parties.

The Ministry of Finance may make additions to or changes in this mandate."

In accordance with a letter from the Ministry of Finance of 24 October 2005, the Council shall submit to the Ministry of Finance a letter with recommendations on fixed dates four times per year (15 February, 15 May, 15 August and 15 November). If the Ministry, on the basis of the recommendations by the Council, decides upon exclusion of companies, the Norwegian Central Bank shall have two entire months to dispose of any securities in the company held by the Fund. The Ministry will publish recommendations and decisions regarding any exclusion after the completion of such disposal.

# Companies the Ministry of Finance has decided to exclude from the Government Pension Fund – Global

## Cluster Weapons

- Alliant Techsystems Inc.
- General Dynamics Corp.
- Hanwha Corp.
- L3 Communications Holdings Inc.
- Lockheed Martin Corp.
- Poongsan Corp.
- Raytheon Co.
- Thales S.A.

## Nuclear Weapons

- BAE Systems Plc.
- Boeing Co.
- EADS Co., including its subsidiary
- EADS Finance B.V.
- Finmeccanica Sp. A.
- GenCorp Inc.
- Honeywell International Corp.
- Northrop Grumman Corp.
- Safran S.A.
- Serco Group Plc.
- United Technologies Corp.

## Anti Personell Landmines

- Singapore Technologies Engineering

## Human Rights

- Wal-Mart Stores Inc., including its subsidiary
- Wal-Mart de Mexico S.A. de CV.

## Environmental Damages

- Freeport McMoRan Copper & Gold Inc.
- DRD Gold Ltd.
- Vedanta Resources Ltd., including its subsidiaries
- Sterlite Industries Ltd. and
- Madras Aluminium Company Ltd.



## The Recommendations

## To the Ministry of Finance

Oslo, August 24, 2006  
(Published April 11, 2007)

# Recommendation on exclusion of DRD Gold Limited

## Contents

- 1 Introduction** 13
- 2 Sources** 13
- 3 The Council's considerations** 14
  - 3.1 The Council's mandate regarding severe environmental damage
  - 3.2 The Council's definition of "severe environmental damage"
- 4 About DRD Gold Limited** 14
- 5 Allegations concerning severe environmental damage** 15
  - 5.1 The Tolukuma mine, Papua New Guinea
    - 5.1.1 Riverine tailings disposal
    - 5.1.2 Acid rock drainage
    - 5.1.3 Environmental damage
    - 5.1.4 Social impact
    - 5.1.5 The company's response to the allegations
  - 5.2 Emperor Gold Mine, Vatukoula, Fiji
    - 5.2.1 Health and environmental damage associated with air pollution
    - 5.2.2 Pollution of rivers and drinking water
    - 5.2.3 The company's response
- 6 The Council's assessment** 25
  - 6.1 Conclusion
- 7 Recommendation** 28

## 1 Introduction

At a meeting on 4 October 2005 the Council on Ethics for the Government Pension Fund – Global resolved to assess whether the investment in the company DRD Gold Limited<sup>1</sup> may constitute a risk of the Fund contributing to severe environmental damage under point 4.4 of the Ethical Guidelines.

As of 31 December 2005 the Government Petroleum Fund, currently the Government Pension Fund – Global, held shares worth approximately NOK 6.5 million in the company, representing an ownership interest of 0.2 per cent.

DRD Gold has been accused of causing severe environmental damage and of contributing to serious health damage in connection with its mining operations in Papua New Guinea and Fiji.<sup>2</sup> In Papua New Guinea a natural river system is used for tailings disposal from DRD's Tolukuma mine. It has been substantiated that the company's activities generate considerable pollution, which in all probability causes extensive and lasting environmental damage to the riverine ecosystem as well as having far-reaching adverse effects on the local population's life and health. In Fiji the mining operation at Vatukoula produces significant air and water pollution. Here the company has been accused of inflicting serious and chronic health damage on the population.

In both countries the negative environmental impact caused by the company's activities has been known for many years, but the company has not implemented any appreciable measures to prevent or reduce this damage. Further details in this respect are discussed in Chapter 5.

In accordance with the Guidelines, point 4.5, the Council has contacted the company through Norges Bank, requesting comments on the aforementioned accusations and their foundation. The company has chosen not to respond to Norges Bank's inquiry.

In order to establish whether there is a risk of complicity in severe environmental damage, a direct link between the company's operations and the violations must be found. The Council takes as a basis that the damage must be significant, emphasizing whether it leads to irreversible or lasting effects and whether it has a negative impact on human life and health. Furthermore, the extent to which the company's actions or neglect have caused the environmental damage must also be assessed, including whether the damage is a result of violations of national law or international norms, and whether the company has failed to take adequate action in order to prevent or amend the damage. It must also be probable that the company's unacceptable practice will continue in the future. Based on an overall assessment, the Council finds that in the present case these conditions have been met.

The Council has reached the conclusion that the Ethical Guidelines, point 4.4, second clause, third bullet point, provide a basis for recommending the exclusion of DRD Gold Limited owing to an unacceptable risk of contributing to severe environmental damage.

## 2 Sources

The recommendation is based on several sources, including information made available by the company itself on its website and other publicly accessible data. Moreover, the Council has contacted and received information from local NGOs in Papua New Guinea and Fiji, as well as international organisations, especially Oxfam Australia. Regarding

the mine in Papua New Guinea, the Council has gained access to recent environmental studies conducted for Oxfam Australia in 2005/2006. Henceforth, the sources are listed in footnotes.

### 3 The Council's considerations

The Council shall assess whether the Government Pension Fund – Global may contribute to unethical actions through its ownership interest in the South African company DRD Gold.

#### 3.1 The Council's mandate regarding severe environmental damage

The Ethical Guidelines' point 4.4, second clause, third bullet point states: *"The Council shall issue recommendations on the exclusion of one or several companies from the investment universe because of acts or omissions that constitute an unacceptable risk of the Fund contributing to: Severe environmental damage."*

The Council will consider the question of exclusion of DRD Gold according to this rule.

The remaining alternatives listed in point 4.4 concerning violations of individuals' rights in situations of war and conflict; gross or systematic human rights violations; gross corruption; or violations of other ethical norms have not been assessed.

#### 3.2 The Council's definition of "severe environmental damage"

On 15 February 2006, the Council recommended that the mining company Freeport McMoRan Inc. should be excluded from the Fund due to an unacceptable risk of complicity in severe environmental damage. In the aforementioned recommendation the Council elaborated on the concept of severe environmental damage.<sup>3</sup>

The Council concludes that the Fund, through its ownership in companies, can be said to contribute to severe damage to the natural environment. The Council emphasizes that there must be a direct connection between the company's operations and the violations in question, and that, in principle, the Guidelines include existing and future violations. However, previous violations may give an indication of future conduct. Essentially though, there must be an unacceptable risk of future violations.

In each case, the Council will make an overall assessment of whether there is an unacceptable risk that the Fund may contribute to "severe environmental damage", stressing whether:

- The damage is significant.
- The damage causes irreversible or long-term effects.
- The damage has considerable negative consequences for human life and health.
- The damage is the result of violations of national law or international norms.
- The company has failed to act in order to prevent damage.
- The company has not implemented adequate measures to rectify the damage.
- It is probable that the company's unacceptable practice will continue.

### 4 About DRD Gold Limited

With headquarters in South Africa, DRD Gold Ltd is a mining company involved in mining operations in South Africa, Papua New Guinea, and Fiji.<sup>4</sup>

DRD currently operates 4 gold mines in South Africa, two of which are wholly owned by the company.<sup>5</sup> In Papua New Guinea and Fiji the mines are run by Australian-based Em-

peror Mines Limited,<sup>6</sup> in which DRD holds 88.3 percent of the shares.<sup>7</sup> Before the DRD takeover of Emperor in 2005, DRD owned and operated the Tolukuma gold mine and had a 20 percent stake in the Porgera gold mine,<sup>8</sup> both of which are located in Papua New Guinea. These assets have been bought by Emperor as part of the takeover.

Moreover, Emperor owns and operates the Vatukoula gold mine in Fiji. DRD's CEO Mark Wellesly-Wood was Emperor's managing director from 2004 to April 2006.<sup>9</sup> Three of DRD's directors also sit on Emperor's board,<sup>10</sup> wielding considerable influence over its operations.

In 2004–2005 DRD's annual production of gold amounted to 375,000 ounces.<sup>11</sup> DRD's share of the Porgera mine yielded 195,400 ounces (52 percent), the Tolukuma mine 76,300 ounces (20 percent), and the Vatukoula mine 104,000 ounces (28 percent).<sup>12</sup> Additionally, the Tolukuma mine produced 168,300 ounces of silver.

## 5 Allegations concerning severe environmental damage

The company is accused of causing severe environmental damage through its use of a natural river system for tailings transport and disposal from the Tolukuma mine. There are also allegations that the environmental damage has adversely affected local people's lives and health.<sup>13</sup>

Furthermore, accusations have been raised against the company regarding environmental and health damage wrought by the Vatukoula mine in Fiji through SO<sub>2</sub> emissions from the processing facility and discharge of heavy metals and chemicals into the Nasivi River, which is the local population's main drinking water source.

In the aforementioned cases, local communities, often via NGOs, have for many years expressed their concerns to the company about serious threats to the environment and human health, seemingly without receiving any satisfactory response to their inquiries. With regard to the Tolukuma and Vatukoula mines this has led local representatives to approach Oxfam Australia's Mining Ombudsman<sup>14</sup> requesting that the organisation plead their cause. In both instances, the Mining Ombudsman has chosen to pursue the matter further, publishing detailed case studies of the social and environmental impact of the mining activities.<sup>15</sup>

Other NGOs, such as the Australian Mineral Policy Institute<sup>16</sup> and local organisations including Environmental Watch Group Inc. (NEWG) and Centre for Environmental Research and Development, have also reported on the negative impacts of the company's mining operations in Papua New Guinea. In Fiji, the Citizen's Constitutional Forum (CCF),<sup>17</sup> among others, has voiced concern for the adverse health and social effects of the company's operations at Vatukoula. Strong allegations have also been levelled against the company regarding poor working conditions, low wages and deplorable security in the mines, which, according to the accusations, has caused many fatal accidents and injuries among the workers at Vatukoula. The Council has not investigated these claims any further.

### 5.1 The Tolukuma mine, Papua New Guinea

The Tolukuma mine is situated approximately 100 km north of Port Moresby in the Central Province of Papua New Guinea. US mining company Newmont obtained the mine in 1987, selling it to Dome Resources in 1993. DRD acquired Dome Resources in 2001<sup>18</sup>, and in 2005 the mine was sold to Emperor as part of DRD's restructuring.

Under the provisions of the Papua New Guinea Mining Act the authorities have granted a mining concession until 2012. This concession may be renewed for up to 10 years.<sup>19</sup>

Largely containing intact rainforest and around 25 percent of what is considered ecologically fragile forests, the mining area is located at an altitude of 1,500–1,750 m above sea level in steep mountainous terrain without road access. Close to the mine<sup>20</sup> is the Auga River, which flows into the Angabanga River, in turn reaching the sea some 100 km from the mine. The mine site covers 7.7 sq km, while the company's total exploration area is close to 10,000 sq km.<sup>21</sup> As there are no roads in the area, all transportation of employees, materials and equipment to and from Tolukuma is done by helicopter.

The mine produces gold and silver. Underground mining accounts for 90 percent of the output, whereas opencast extraction yields the remaining 10 percent. Open-pit production began in 1995, and underground mining in 1997. The company expects to increase production in the future.<sup>22</sup> The mine employs approximately 750 people.

The ore, which contains gold and silver, is trucked to the metallurgical plant where it is milled and treated.<sup>23</sup> First it is grinded into powder, and then it passes through a series of leach tanks containing sodium cyanide, where gold is dissolved from the ore. Activated carbon is added into the leach tanks to adsorb the gold-cyanide complexes. The carbon is then screened out, while the gold is eluted from the carbon and recovered by electrolysis.<sup>24</sup> After the gold has been extracted, the tailings (made up of finely ground ore, chemicals and water) are released directly into the Auga River<sup>25</sup> at a rate of 14,000 tons a month (168,000 tons a year). The mill has the capacity to process 18,000 tons of ore monthly.<sup>26</sup> Discharges have increased by nearly 70 percent since 2000, when DRD reported 100,000 tons of waste per year.<sup>27</sup> With full capacity utilisation the discharges will increase further.

According to the company's environmental reports, tailings and waste rock have been deposited in various waste rock dumps.<sup>28</sup> In the company's own environmental reports several deposits are mentioned - Saw Mill Waste Area, Karuka Waste Area, Gifunis Waste Area and Gulbadi Pit.<sup>29</sup> Currently, waste rock is disposed of by mine backfill.<sup>30</sup>

In 2003 the waste rock mass amounted to approximately 187,000 bcm<sup>31</sup>, and accumulated waste rock will reach some 2,400 million bcm (incl. 2003) during the mine's lifespan.<sup>32</sup> Run-off from the dumps also flows into the fluvial system, adding to river pollution.<sup>33</sup>

The Minister of Environment and Conservation granted permission for the mining operation in 1994.<sup>34</sup> In the approval document, the Minister draws attention to the downstream river system as an environmentally sensitive area, urging the company "to adopt a policy of continuous investigation/analysis and adoption of means and ways to contain mine waste on land rather than direct river discharge."<sup>35</sup> The Minister also points out that "Social impacts will become a combined effect of physical environmental change and the changed lifestyles of the people at project site ...and possibly including those living along the Angabanga River System. [...] It will be necessary to establish and maintain dialogue with the affected people."<sup>36</sup>

The approval contains 12 ministerial conditions. Condition 4 states: "The company shall conduct dumping of waste rock with dumping strategies in accordance with sound mining practices and shall endeavour to minimise total suspended solids (TSS) input to the river systems during the construction and operational phases of the project, and thereafter".<sup>37</sup>

The discharge permit itself specifies water quality criteria for the Auga river system,



including maximum levels of cyanide, ammonia and a series of heavy metals in the receiving river. It requires the company not to exceed these criteria at the compliance point, which is located 7 km from the discharge point.<sup>38</sup> In 2004 the government renewed the company's waste discharge permit for another 40 years.<sup>39</sup>

#### 5.1.1 Riverine tailings disposal

DRD releases the tailings into the Auga River through a pipeline. The Auga River flows into the Angabanga River, which, in turn, drains into the sea some 100 km from the discharge point (see figure 1).<sup>40</sup>

Figure 1  
The Auga-Angabanga  
river system<sup>44</sup>



#### *Sediments input*

The daily dumping of 430 tons of tailings generates a sizeable input of suspended solids to the river system. The company's own samples show that 7 km downstream of the discharge point total suspended solids (TSS) averaged 895 mg/l in 2003.<sup>41</sup> Independent testing of water turbidity<sup>42</sup> conducted in 2005 confirms that the whole river system from the discharge point to the coast contains considerable amounts of suspended materials. When compared with neighbouring rivers that have not been affected by such effluent, the Auga river system presents turbidity levels at least 250 times higher.<sup>43</sup>

Suspended solids are carried downstream by the river. Some sediment is deposited along the river bank in low-flow zones, and some runs into the sea.<sup>45</sup> To the Council's knowledge, no detailed analysis of the sediment load has been performed. However, the environmental assessment commissioned by DRD in 2000 states that the tailings discharge will leave significant amounts of sediment in the river system during the mine's lifespan.<sup>46</sup> The study adds that "the sediment load which is discharged (or escapes) from the project area remains visible to the mouth of the Angabanga River, a distance of about 95 km." In 2003 NGOs reported that "high levels of sediments also are evident at the mouth of the Angabanga River where it flows into Haruapaka Bay".<sup>47</sup>

In addition to the tailings discharge there is also substantial run-off from the waste dumps, a situation which contributes to the influx of sediments and heavy metals into the river (see also section 4.1.2). The company's own environmental reports confirm this.<sup>48</sup>

The discharge permit does not specify limits for suspended solids.<sup>49</sup> Even so the company claims to have taken steps to reduce the effluent into the river.<sup>50</sup> According to the company's environmental reports this has contributed to an annual decrease in discharges of 4,500 to 6,000 tons, depending on the production volume.<sup>51</sup> The company argues that it complies with the authorities' requirements and that it has government approval for riverine disposal.

#### *Heavy metals in tailings discharge*

The ore from the Tolukuma mine is characterized by high heavy metals content, thus tailings and drainage from deposit sites generate a significant supply of heavy metals to the environment, in particular mercury, cadmium, chromium, arsenic, nickel and lead.

As early as 1993, the environmental plan for the Tolukuma Gold Project anticipated that tailings and waste rock would contain high levels of several heavy metals,<sup>52</sup> something which was confirmed in an environmental assessment commissioned by the company in 2000: "*Discharged tailings have a very high total heavy metals content*".<sup>53</sup>

Heavy metals are environmentally hazardous substances, and emissions of these substances represent a major environmental problem. The company's own data from 2003 show the following *maximum concentrations* found in the tailings at the discharge point:

– Arsenic	80.7 mg/l
– Cadmium	0.13 mg/l
– Chromium	17.6 mg/l
– Copper	25.3 mg/l
– Lead	169 mg/l
– Mercury	0.11 mg/l
– Zinc	79 mg/l

The tailings contain high levels of arsenic and heavy metals, among which mercury, and lead cause particular concern, even if copper emissions also are high.<sup>54</sup> Besides their toxicity to many aquatic organisms, the metals may bioaccumulate in organisms and sediments. Annual estimates for 2003 suggest that the river system received approximately 205 kg of arsenic and 410 kg of lead.<sup>55</sup> Based on the fact that the mine has been in operation for 10 years and that the company's goal is to double its production by 2012,<sup>56</sup> the environment will have suffered the influx of considerable quantities of heavy metals during the mine's lifespan.

The government has approved riverine tailings disposal on the condition that the water quality in the Auga River does not exceed specified levels of cyanide, ammonia and certain heavy metals.<sup>57</sup> The company claims compliance with government water quality requirements,<sup>58</sup> substantiating this with annual mean monitoring results for various parameters.<sup>59</sup>

Notwithstanding, a review of the company's own reports for the period 1999–2003 (2001 is not included) shows that the company has repeatedly exceeded the limits set by the government for mercury, arsenic, lead and others.<sup>60</sup> The Council notes that the company bases its assessment of compliance with regulatory requirements on the mean result of

a series of samples taken throughout a whole year. However, the environmental permit states that the discharge of waste water “shall not cause the water quality to exceed the criteria” at the compliance point.<sup>61</sup> In the Council’s opinion the reference to annual mean values may give an erroneous impression. The average will conceal high concentrations in the discharge, which in a worst-case scenario might exterminate all life in a fluvial system, and, evidently, obscure the fact that the company does not comply with the requirements.

Moreover, the government has based its requirements on the concentrations of dissolved metals in the water and not on total metal content.<sup>62</sup> In the environmental assessment from 2000, it is pointed out that the company would probably not have met the water quality guidelines if total metal content had been the basis.<sup>63</sup> PNG authorities have been criticised by NGOs for not setting guidelines that match international levels.<sup>64</sup>

In the whole river system stretching down to the sea the water quality is most likely affected by heavy metals. The survey from 2005 shows highest metal concentrations in the Auga River (which forms the upper part of the system). Yet, the effects are also visible in the Angabanga River, even if metal levels decrease significantly downstream,<sup>65</sup> mainly as a result of water dilution from the many tributaries flowing into the Angabanga River.<sup>66</sup>

Sediment samples collected from the river system in 2005 present high levels of arsenic and mercury in particular, but also of lead.<sup>67</sup> Arsenic and lead content is especially high in the Auga River and in the upper section of the Angabanga River, whereas mercury poses a problem in the river system as a whole.<sup>68</sup> These findings are in agreement with the company’s own sampling results, which show much higher levels of such metals, as well as of copper and zinc, in the Auga and Angabanga Rivers than in neighbouring river systems unaffected by mine waste.<sup>69</sup> Compared to American standards for sediment quality,<sup>70</sup> the metal concentration levels indicate a likelihood of adverse effects in aquatic organisms<sup>71</sup>

The sediments form a reserve of hazardous substances and are a potential source of extensive and lingering water contamination. The metals can be released over time and thus become more bioavailable to living organisms. This was also pointed out in the environmental assessment commissioned by the company in 2000, which says that “*this [discharged tailings] presents a pool of heavy metals which over time may become available for biological uptake by the Auga and Angabanga river system*”.<sup>72</sup> To the Council’s knowledge, no investigations have been conducted regarding the metal release rate from sediment to water.

In the company’s opinion, the heavy metals discharges do not represent any environmental hazard. A study performed by the company in 2004 concluded that “*the current mining regime was unlikely to cause any particulate metal issues along the river system*.”<sup>73</sup>

#### **5.1.2 Acid rock drainage**

Acid rock drainage is considered to be one of the most serious environmental problems connected with mining.<sup>74</sup> The environmental assessment commissioned by the company in 2000 found acid rock drainage from the waste rock dumps, stating that “*inspection of several seepage streams...clearly show evidence of acid generation and seepage*.” The report concludes that “*acid generation is a problem which is likely to increase as more sulfidic ore and less oxide ore is being generated*.”<sup>75</sup> This acid rock drainage contributes further to the influx of sediment and heavy metals into the Auga-Angabanga river system.<sup>76</sup>

The company acknowledges that acid rock drainage is taking place. According to information in its environmental reports, erosion occurs in the waste rock dumps. These are

drained by the Iwu and Illive Creeks that flow into the Auga River. Monitoring data for the creeks presented in the environmental reports show that the drainage is acidic, adding sediments and heavy metals to the river system.<sup>77</sup> According to the company's own assessment this suggests that the creek is affected by acid rock drainage.<sup>78</sup>

DRD's environmental reports show that the company routinely monitors the run-off from the waste rock dumps. However, there are no indications as to whether the company has adopted or is planning to adopt measures aimed at limiting the drainage, nor is there any information about the expected development of acid rock drainage in the future. To the Council's knowledge no analyses have been conducted on how the riverine ecosystems will be affected.

The company does not seem to have any short- or long-term strategy aimed at reducing the effects of acid rock drainage from the deposit sites.

### 5.1.3 Environmental damage

In addition to the physical impact caused by daily dumping of discharge into the river, the heavy metals content also has a bearing on the damage. According to the Council's knowledge hardly any systematic or scientific investigations have been carried out regarding the impact of the discharge on the riverine and estuarine ecosystems or the future threats this poses to the environment in the short and long run.

It is well known that riverine ecosystems are extremely vulnerable to the input of sediments in large quantities. Water quality samplings, including tests conducted by the company itself and independent surveys, clearly show that the Auga-Angabanga river system is heavily polluted. The contamination level in the Auga River is so high that, in all probability, most of the aquatic life has been destroyed. In the Angabanga River it is likely that fish and other aquatic organisms have been adversely affected through changes in species composition, population and damage to the whole river system's spawning areas as far as the coast.<sup>79</sup> Reduced abundance at lower trophic levels probably also leads to a decrease in fish stock.

The company's environmental report for 2003 contains a survey of the Angabanga River's aquatic fauna (the Auga is not included) and metal absorption in the fish.<sup>80</sup> This study presents a series of methodological weaknesses related to aspects such as the standardization of collection methods, the comparison of sample volumes and the assessment of reference values.<sup>81</sup> All in all, the results indicate relatively scarce populations of fish and prawn in the Angabanga River. The survey also reveals elevated levels of copper and lead, which may be caused by pollution (reference samples had lower levels).

Since 2001 the local population has reported on a dramatic reduction in the fish, prawn and eel stocks of the Auga River,<sup>82</sup> claiming that there is no longer any fish in the river. They also say that Angabanga fisheries have been so decimated that nobody fishes there any more.<sup>83</sup>

Local people have lately observed more frequent flooding of the Angabanga River and rapid changes to the river course which have put several villages in danger of flooding. The inhabitants attribute these changes to the large sediment influx into the river system.<sup>84</sup> Although the river also changed its course before mining started in the area, the large sediment input may increase the flood danger, particularly in places where the river flows slowly.

#### 5.1.4 Social impact

Four tribal groups live along the Auga and Angabanga Rivers.<sup>85</sup> Some estimates put the total population of the river system at some 5,000;<sup>86</sup> others suggest that 10,000-20,000 people have a traditional connection to the Auga-Angabanga river system.<sup>87</sup> The inhabitants are largely dependent on subsistence farming and fishing.

For local communities the riverine tailings disposal has resulted in the loss of an important source of drinking water, potential health problems related to the use of polluted water, as well as loss of food resources, bathing sites and cultural sites.<sup>88</sup>

According to the Mining Ombudsman's case report on the Tolukuma mine, several villages located within 7 km of the mine rely on the river for water and food, especially during the dry season.<sup>89</sup> It is not known how many communities continue to use the water, but it is reported that at least two villages depend on the Angabanga for their water supply.<sup>90</sup> A sampling of drinking water sources in 9 villages by the Angabanga River shows that in 3 of them, arsenic levels exceed WHO standards. High concentrations of lead were also detected in villages whose only drinking water source is the river.<sup>91</sup> According to scientific evidence, both arsenic and lead are environmentally hazardous substances that can inflict serious and chronic damage on human health and the environment. Among other effects, lead compounds may cause fetal harm, and arsenic has carcinogenic properties.

Local communities have voiced serious concerns about the contamination's health impact.<sup>92</sup> Two health surveys were conducted in 2003, but did not prove any direct link between the pollution and the inexplicable deaths and disease outbreaks reported in 2002.<sup>93</sup> To the Council's knowledge, no systematic investigations have been carried out in order to evaluate the long-term health hazards faced by the local population because of mine waste.

The environmental permit requires DRD to *"provide for adequate and reliable water supply facilities in all communities that rely on the Angabanga River as a source of drinking water during the dry season."*<sup>94</sup> The company has built several wells to provide the local population with drinking water; however, from what the Council has learnt, the wells are not being kept in good repair and so are not considered safe and reliable drinking water sources.<sup>95</sup> This gives reason to doubt whether DRD actually has fulfilled the conditions of the discharge permit.

The loss of fish means that local people no longer have access to an important food and protein source. This has forced them to change their diet, which at present comprises mainly of vegetables and fruit, as there is little game in the area. Villagers also complain that the pollution has affected the fruit and vegetable crops along the Auga and Angabanga Rivers. No investigations have been carried out to determine the causes of this. Along the Angabanga it is possible that silt deposition during floods affects soil productivity. While flooding is a common occurrence in the area, the silt now contains pollutants from the mine. This issue has not been further examined either.

#### 5.1.5 The company's response to the allegations

DRD Gold denies the accusations of negative repercussions from riverine tailings disposal on the environment and local communities, claiming that it has strengthened and revised its environmental management during recent years and that previous grievances have largely been addressed. *"Core to this policy is the integration of environmental manage-*

ment issues into the everyday business of running a mining Group. Needless to say, legal compliance and the adoption of best practice form the backbone of the policy.”<sup>96</sup> DRD maintains that riverine disposal is a safe and acceptable way of discharging waste from the Tolukuma mine.

Yet, according to the annual report for 2005, the company considers conventional tailings dam deposition to be an alternative once the mine becomes bigger, but it does not enter into any further details.<sup>97</sup> Moreover, the company claims to comply with all applicable government regulations boasting a comprehensive monitoring programme for discharge and the content of environmentally hazardous substances. The Council finds, however, that there is reason to doubt these assertions, with regard to both DRD’s compliance with water quality requirements and its obligations to provide safe drinking water to the population, as described above.

In response to allegations of pollution-related diseases among the population, the company refers to its health surveys as well as water quality and fish analyses, concluding that such a connection has not been substantiated.<sup>98</sup> In this context the Council would like to point out that the aforementioned health studies have been subject to severe criticism and do not represent a basis on which to draw conclusions regarding the long-term health effects of elevated arsenic and heavy metals levels in the water.

DRD recognizes that mercury emissions may represent a problem for the company: *“Due to the fact that ore mined at the Tolukuma Mine, and the surrounding land in general, is high in mercury, the potential does exist that levels of mercury discharged into the river system might expose the company to criminal liability under Papua New Guinea legislation.”*<sup>99</sup> However, the company claims not to be aware of any scientific studies which show that the discharge has adversely affected the health of neighbouring communities to the mine. The Council assumes this to be true, as such research has not been undertaken. On the other hand, the lack of studies cannot be used to support the argument that these health effects do not exist.

The company also points out that the villages downstream of the mine do not normally use the water from the Auga or the Angabanga for consumption *“as these communities rely on water from creeks, tributaries and strategically placed wells, many of which the company has provided.”*<sup>100</sup> As described above, the Council has been informed that this is not necessarily the case, since several villages are entirely dependent on the river as their water source.<sup>101</sup>

Based on the available information, the Council deems it highly probable that the pollution has caused severe adverse changes in the local population’s way of life, both with respect to drinking water, fish availability and food production.

## 5.2 Emperor Gold Mine, Vatukoula, Fiji<sup>102</sup>

Two mines dominate gold production in Fiji. Vatukoula, owned by Emperor Gold Mines,<sup>103</sup> is the biggest, with a yearly production of approximately 120,000 ounces.<sup>104</sup> DRD Gold controls 88.3 % of Emperor.<sup>105</sup>

The mine is located on the island of Vitu Levu, Fiji, some 380 km north of the capital Suva. According to the company, the mine is operated by labour intensive underground methods. Total ore extracted amounts to 500,000–600,000 tons a year.<sup>106</sup> The mine employs 2,200 workers and has been in operation since 1935.

Sulphides occur naturally in the ore. In order to remove the sulphur, the ore is roasted.

Through this process sulphur and heavy metals are released into the air.<sup>107</sup> The tailings are deposited in an artificial dam. For many years there have been reports that the tailings are seeping out of the dam and running into the Nasivi River.

Oxfam's Mining Ombudsman published a report on the Vatukoula mine in 2004, after receiving a request, in 2003, from the *Fiji Mine Workers Union and Citizens Constitutional Forum* to look into issues associated with health and security, workers' rights, the environment, and social consequences of the company's operations. At that stage a strike had been going on at the mine since 1991, with hundreds of workers refusing to work in protest against deplorable working conditions, many accidents and poor security in the mine, low wages, pollution from the mine, and highly unsatisfactory housing.<sup>108</sup> Emperor rejected negotiations with the workers and brought the case to court.<sup>109</sup> In 2004 a higher court issued an injunction declaring the strike illegal, but the workers lodged an appeal.<sup>110</sup> To the Council's knowledge, the conflict has still not been solved.

The Council has not evaluated the issues related to the strike itself, working conditions, or security, but focuses at present on the allegations that the mining operation causes considerable health and environmental damage to the local population. This is primarily linked to air pollution from the roasting process and deficient handling of tailings that contaminate the river and the drinking water. Information received by the Council reveals that the pollution has taken place over many years without prompting the company to undertake measures that would improve conditions for the local community.

#### **5.2.1 Health and environmental damage associated with air pollution**

Some 3,500 people live near the mine.<sup>111</sup> For many years the inhabitants have reported SO<sub>2</sub> emissions from the roasting process. The emissions occur intermittently, and local residents experience it as sulphur clouds. From what the Council has learnt, sulphur clouds appear on average twice a week, and sometimes more, depending on the way the wind blows. The population claims that these sulphur emissions have become more frequent and intense than before.<sup>112</sup> The emissions are also reported to regularly reach the local primary school.

According to the residents, sulphur clouds cause breathing difficulties as well as sore and irritated eyes, affecting the elderly, young children and asthmatics in particular.<sup>113</sup> Local doctors report that many babies develop respiratory problems from as early an age as 6 months. The population also claims that it is difficult to grow vegetables because of scorching. Moreover, they are concerned that the sulphur deposited on house roofs may seep into the water tanks installed to collect rainwater used for drinking.

It is common knowledge that concentrations of SO<sub>2</sub> in the air may cause severe respiratory disease, material damage (corrosion) and scorched vegetation.<sup>115</sup> These are the same effects as those described by the population at Vatukoula.

The company acknowledges the formation of sulphur clouds, alleging that particular weather conditions make the clouds reach ground level.<sup>116</sup> According to the annual report for 2005 the company has developed a "*SO<sub>2</sub> complaint and roaster shutdown strategy*".<sup>117</sup> The concrete implications of this are not explained in any detail, and the issue is given no further attention in the annual report or in the environmental policy review. In a letter to its shareholders dated May 2004, the company rejects the criticism raised by Oxfam<sup>118</sup>: "*Emperor ensures that emissions from the roaster stack meet all regulatory guidelines. Further, in accordance with the Environmental Management Plans, there has been a 50 % decrease in the addition of elemental sulphur into the roaster over the past three years through the utilisation of*

*new technology.*<sup>119</sup> According to information received by the Council, the local population does not see the measures allegedly adopted by the company as contributing to pollution reduction. On the contrary, they report on more frequent emissions than before.<sup>120</sup>

To the Council's knowledge, the authorities have not established any requirements regarding SO<sub>2</sub> emissions. There are also indications that emissions from the roaster contain particles and heavy metals,<sup>121</sup> but the company does not provide any information in this respect.

### 5.2.2 Pollution of rivers and drinking water

Information obtained by the Council shows that excessive spillage from the tailings dam into the Nasivi River is a common occurrence.<sup>122</sup> Local media have also given such accounts: *"Many rivers and creeks in areas surrounding Vatukoula [have] changed colour and lost all aquatic life because of the dumping of waste by EGM [Emperor Gold Mines]."*<sup>123</sup>

The company states that it has a monitoring programme for tailings disposal, water quality, and cyanide management. These reports are sent to the Department of Health, but are not accessible to the public. Consequently, there is no documentation available as to what substances are released into the river or how extensive the discharges are.

Previous investigations have described elevated levels of mercury and cadmium in the Nasivi River.<sup>124</sup> The company itself informs that tailings contain cyanide and arsenic. In 2003 Emperor's operations were also discussed by the Parliament, revealing that: *"Government inspections and reports have periodically confirmed water and atmospheric pollution at Vatukoula. There have been cyanide traces in fish and water declared unfit for human consumption."*<sup>125</sup> Local residents have contacted both the environmental authorities and the company to discuss water pollution, but have not received any response.<sup>126</sup>

Emperor supplies Vatukoula's population with drinking water from the Nasivi River. Without being filtered or purified, the water is conducted to residential areas. The Council has been informed that some 3,500 people are without access to clean drinking water and that most of them work for Emperor at the Vatukoula mine.<sup>127</sup> The company argues that it is not responsible for providing clean drinking water to the local population and that it cannot afford to offer water treatment.<sup>128</sup>

### 5.2.3 The company's response

Neither on its website nor in the annual report does the company address the accusations of environmental and health effects caused by the operation at Vatukoula. However, in a letter to its shareholders dated May 2004, written as a response to Oxfam's report on the mine, the company counters some of the allegations.

The company declares: *"Minimisation of its environmental impact is central to Emperor's operations. Emperor has developed a comprehensive Environmental Policy which is a public demonstration of its commitment to managing its operations in an environmentally responsible manner."*<sup>129</sup>

Furthermore, it announces that *"independent environmental audits of the company's operations have been conducted by internationally recognised companies. [...] Emperor's Environment Management System (EMS) conforms to ISO 14001 requirements and includes an Environment Management Plan and documented procedures for potential operational impacts of the mine."*<sup>130</sup> This involves *"an objective understanding of the operations' environmental aspects and their impacts"*, *"Objectives and Targets defining the environmental goals and the path towards achiev-*



ing them”, and “an environmental management system or programme defining how the objectives and targets are to be realized.”<sup>131</sup>

The company also claims to meet all regulatory requirements for atmospheric emissions, without specifying what standards it complies with. Concerning effluents, the company declares that these are monitored daily. The Council, however, does not know what environmental requirements the company is obliged to meet in this respect.

The company denies that it is responsible for contaminating the Nasivi River through unsatisfactory tailings disposal practices. A newspaper article in the Fiji Times reveals that the company executives do not understand the accusations “because they were very careful about protecting the environment.”<sup>132</sup>

## 6 The Council’s assessment

The Council’s task is to assess whether there is an unacceptable risk that the Fund through its ownership interest in DRD Gold may contribute to severe environmental damage, under the Guidelines, point 4.4, third bullet point, and in accordance with the interpretation of this provision presented in section 3.2 above.

Indisputably, the mining operation owned by DRD Gold is the cause of the environmental damage described in Chapter 4 of the present recommendation. The Council’s point of departure is that DRD Gold has exercised and still exercises considerable influence over the mining activities at Tolukuma and Vatukoula. In the Council’s view, the restructuring of the company does not alter this.

Based on available documentation the Council will assess whether the environmental damage caused by the company is so severe that it constitutes a violation of the Guidelines. The evaluation is linked to the summary in section 3.2.

The first element in the assessment refers to the *scale of the damage and to what extent it causes irreversible changes*. The Council finds it probable that the riverine disposal near Tolukuma mine may lead to considerable and lasting environmental damage (see section 5.1.1). Moreover, the Council also deems it likely that the acid rock drainage from the waste rock dump will represent an increasing and substantial environmental problem in the future (see section 5.1.2). The Council therefore takes as its point of departure that the scale of the damage from the operation at Tolukuma is considerable and that there is an unacceptable risk of the resultant environmental damage being long-term and irreversible.

The Council also considers there to be an unacceptable risk that the pollution from the mining operations at both Tolukuma and Vatukoula may have substantial effects on *human life and health*. At the Tolukuma mine the pollution seems to have significantly deteriorated people’s living conditions through the depletion of fish stocks that once were an important food source, loss of drinking water, and reduced harvests (see section 5.1.4). In the Council’s view, the worries local residents have for their future health seem relevant, given the high values of arsenic and heavy metals found in the discharge and which also are detectable in water and sediment.

Furthermore, the Council finds that there is a considerable risk of DRD Gold inflicting severe and chronic health ailments on the local population at Vatukoula through the emissions from the mining operation (see sections 5.2.1 and 5.2.2). Even if the Council

has not had access to concrete pollution level data, the reports from Oxfam Australia, numerous newspaper articles and information obtained by the Council from local NGOs in Fiji give a clear impression of a serious pollution situation, including both air and water, which has evolved over many years and may have a substantial and long-term impact on the environment as well as causing lasting health damage to the population.

The next element to be assessed is whether the company's practice violates *national law or international norms*. With regard to the mining operations in both Papua New Guinea and Fiji, DRD claims to comply with the authorities' environmental requirements. Nevertheless, one may question whether the company actually fulfils the conditions that the government has set for the operation at Tolukuma concerning discharge requirements and the obligation to provide safe water supply (see sections 5.1.1 and 5.1.4). To the Council's knowledge, in Fiji the company is not obliged to conform with any environmental requirements.

The Council would like to point out that the environmental requirements established by the authorities in these countries are either non-existent or significantly less rigorous than those applicable in, for example, Australia (Emperor's home country). Today Papua New Guinea and Indonesia are, as far as the Council knows, the only countries that allow riverine tailings disposal. The Council stresses that riverine disposal is internationally considered an unacceptable discharge method for mine waste, due to the environmental damage it provokes.<sup>133</sup> On these grounds the Council assesses DRD's practice in Papua New Guinea as clearly in breach of international norms.

The authorities, in both Papua New Guinea and Fiji, have done little to enforce environmental regulations. This means that the consequences for the company of non-compliance with rules are relatively minor. Lax environmental requirements and deficient enforcement contribute to further enhance the risk of severe environmental damage as there is no system in place to prompt the reduction of damage caused by mining operations.

Moreover, the Council shall assess whether *the company has failed to act in order to prevent damage, including whether the omission is planned*. In the Council's opinion it does not seem as if the company has adopted measures that contribute to mitigate the damage to the natural environment, neither in Papua New Guinea nor in Fiji, despite undoubtedly being aware of the health and environmental impact of the mining activities.

The environmental damage resulting from riverine tailings disposal has been known for more than 15 years, and DRD's own environmental assessment of the Tolukuma mine in 2000 confirms that environmental damage could be considerable. To the Council's knowledge, the company has not taken significant steps to limit the damage even with an increase in the discharge of more than 70 % since 2000.

The company's environmental reports from Tolukuma reveal that heavy metal run-off from the deposit sites may constitute a substantial environmental problem. DRD seems to have neglected this issue as well, and does not give an impression of having implemented measures to reduce the harmful effects. The Council finds that the environmental damage from the operation at Tolukuma and the company's failure to reduce the harmful effects represent, in themselves, an unacceptable risk of complicity in severe environmental damage and thus provide grounds for exclusion.

Furthermore, the Council deems the grounds for exclusion reinforced by the company's

omissions related to the Vatukoula mine. The allegations against the company of poor environmental conditions and health damage among local residents have been known and reiterated for many years, but, as far as the Council knows, this has not prompted the company to implement concrete measures aimed at remedying the situation.

It seems as if the company on the whole chooses not to present scientific data to substantiate its assertions that the mining operation causes no severe environmental or health damage. Some surveys have indeed been conducted regarding the Tolukuma mine, but these have faced severe criticism for methodological weaknesses and are not, in the Council's opinion, conducive to a systematic overview and assessment of the environmental or health damage linked to the discharge. The Council is also aware that two independent surveys of the environmental and health conditions at Vatukoula were performed in 1981 and 1995 without being made public.<sup>134</sup> In 1995 the company (Emperor) succeeded in taking legal action to stop the report from being released. The company provides no information that may throw light on the environmental and health effects of the operation.<sup>135</sup> In the Council's view, the lack of environmental measures and information contributes to increase the risk of the Fund's complicity in severe environmental damage.

The Council regards the company's practice in Papua New Guinea and Fiji as a demonstration that DRD Gold systematically and over many years has failed to take steps aimed at reducing or preventing environmental damage despite the company's awareness of the impact.

Finally, the Council must assess whether *the company's unacceptable practice may be expected to continue in the future*. The Tolukuma mine has an operating concession until 2012, with the possibility of a 10-year extension. DRD informs that it plans to double the production by 2012. In the annual report for 2005 the company states that alternatives to riverine disposal may be considered once the production increases.<sup>136</sup> However, the Council does not find any concrete indications that such alternatives actually are being planned.

In 2004 Fijian authorities granted another 21 years of operation at Vatukoula. According to the company's website, here, too, investments and production increases are being planned during the coming years, but there are no signs here either that steps will be taken to reduce the pollution from the mine.

The Council therefore concludes that the company's unacceptable practice in all probability will continue.

## 6.1 Conclusion

Based on the documentation it has had access to, the Council finds that the Fund's ownership interest in DRD Gold implies an unacceptable risk of complicity in extensive and irreversible damage to the natural environment. According to the Council's assessment the company's practice of riverine disposal is in breach of international norms, and the question may be raised whether the company violates national environmental regulations as well. The Council finds that the company for many years has been aware of the serious health and environmental damage its operations have caused, but despite this the company has failed to put any measures into effect aimed at reducing the damage. Considering the plans presented by the company regarding investments and production expansion, there is reason to believe that the company's unacceptable practice will continue in the future.

## 7 Recommendation

The Council will, after this assessment of the contents of the allegations against DRD Gold Ltd and in light of the Ethical Guidelines, point 4.4, recommend that the company be excluded from the investment universe of the Government Pension Fund – Global owing to an unacceptable risk of complicity in present or future severe environmental damage.

Gro Nystuen (Chair) sign	Andreas Føllesdal (sign.)	Anne Lill Gade (sign.)	Ola Mestad (sign.)	Bjørn Østbø (sign.)
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### Notes

- 1 Also referred to as DRD.
- 2 Having submitted its recommendation on 24 August 2006, the Council was later informed that DRD Gold, through its subsidiary Emeror Mines, on 5 December 2006 had decided to close the mine in Fiji. In the Council's view, this does not amount to a change in the basis for recommendation exclusion. On page 21 in the present recommendation the Council states that "the environmental damage from the operation at Tolukuma and the company's failure to reduce the harmful effects represent, in themselves, an unacceptable risk of complicity in severe environmental damage and thus provide grounds for exclusion."
- 3 The recommendation on exclusion of Freeport McMoRan Inc. is available at [www.etikkradet.no](http://www.etikkradet.no)
- 4 <http://www.drd.co.za/>
- 5 See footnote 4.
- 6 Henceforth referred to as Emperor.
- 7 <http://www.emperor.com.au/>
- 8 The Porgera gold mine is owned by Porgera Joint Venture, of which Barrick Gold is the operator and holder of 75 % of the shares, see <http://www.barrick.com/>. Porgera is the largest mine in Papua New Guinea. The tailings from the mine are dumped into the Porgera River. As is the case with the Tolukuma mine, the pollution from Porgera is associated with substantial discharge of sediments and heavy metals, particularly mercury, arsenic, lead and cadmium. DRD's share in Porgera generates approximately twice the revenue of the Tolukuma mine.
- 9 [http://www.emperor.com.au/news/EMP\\_CEO\\_Appointment\\_270406.pdf](http://www.emperor.com.au/news/EMP_CEO_Appointment_270406.pdf).
- 10 DRD Gold Form 10-K Filings to the Stock and Exchange Commission (SEC) 2004, p. 24; accessible at [http://secfilings.nasdaq.com/edgar\\_conv\\_html%2f2005%2fo4%2f29%2fo001156973-05-000583.html#FIS\\_COMPANY\\_INFORMATION](http://secfilings.nasdaq.com/edgar_conv_html%2f2005%2fo4%2f29%2fo001156973-05-000583.html#FIS_COMPANY_INFORMATION).
- 11 One ounce is the equivalent of 31.1 grams. DRD's production equalled approximately 10,630 kg of gold in the period between 30 June 2004 and 30 June 2005. <http://www.emperor.com.au/abouteml/Operations.html>.
- 12 The mines produced 5,540 kg, 2,160 kg and 2,950 kg of gold respectively. <http://www.emperor.com.au/abouteml/Operations.html>
- 13 Following various accidents in 2002, DRD Gold has also been accused of poor security when it comes to transportation and handling of hazardous material to and from Tolukuma. In 2002 4,000 litres of diesel was discharged because a helicopter en route to the mine had engine problems. In the same year another major accident occurred when a helicopter lost a ton of cyanide in the river valley of Yaloge, 20 km south of the mine. There were reports of considerable damage to the vegetation in the area as well as health damage and deaths among the local population. The company has also been blamed for failing to clean up satisfactorily. DRD claims to have improved its security procedures, and from what the Council has learnt there have not been reports of similar incidents after 2002. The Council has not investigated these circumstances any further.
- 14 The Mining Industry Ombudsman was set up by Oxfam Australia in 2000 to assist local and indigenous peoples who are adversely affected by the operations of Australian-based mining companies. More information available at <http://www.oxfam.org.au/campaigns/mining/ombudsman/>
- 15 See footnote 14.

- 16 <http://www.mpi.org.au/>
- 17 <http://www.ccf.org.fj/artman/publish/>
- 18 DRD Gold Form 10-K Filings to the Stock and Exchange Commission (SEC) 2004, p. 75.
- 19 See footnote 18, p. 40.
- 20 A. & S.R. Tingay Pty. Ltd. 2006: Pollution from the Tolukuma Gold Mine in the Auga-Angabanga River System, Papua New Guinea, p. 4; on file with the Council.
- 21 DRD Gold Form 10-K Filings to the Stock and Exchange Commission (SEC) 2004, p. 74.
- 22 <http://www.drd.co.za>
- 23 See footnote 21, p. 76.
- 24 See footnote 20, pp. 4-5.
- 25 DRD Gold 2003: Response to accusations from Oxfam Australia's Mining Ombudsman, Annual Report 2003. Press release 18 September; available at [http://www.drd.co.za/Our\\_mines/display.asp](http://www.drd.co.za/Our_mines/display.asp)
- 26 DRD Gold Form 10-K Filings to the Stock and Exchange Commission (SEC) 2004, p. 76.
- 27 Oxfam Australia 2004: Mining Ombudsman case report: Tolukuma Gold Mine, p. 11; see <http://www.oxfam.org.au/campaigns/mining/ombudsman/2004/cases/tolukuma/index.html>
- 28 During the initial years, waste rock was deposited in the Eastern Waste Dump. Later it was dumped in what the company refers to as the Southern Area. Minproc 2000: Tolukuma Gold Mine, p. 15; on file with the Council.
- 29 Tolukuma Gold Mines Ltd. 2003: Annual Environmental Report 2002, p. 6, Tolukuma Gold Mines Ltd. 2004: Annual Environmental Report 2003, p. 7. The reports are on file with the Council.
- 30 See footnote 29.
- 31 Bcm, bank cubic meter, denotes one cubic metre of rock measured before it is drilled and blasted.
- 32 Tolukuma Gold Mines Ltd 2004: Annual Environmental Report 2003, p. 6; on file with the Council.
- 33 Minproc 2000: Tolukuma Gold Mine, section 5, p. 7; on file with the Council.
- 34 See footnote 33.
- 35 See footnote 33.
- 36 See footnote 33.
- 37 See footnote 33, Chapter 5, p. 9.
- 38 Environment (waste discharge) permit for Tolukuma Gold Mines Ltd, issued by the Director of Environment, PNG, on 26 April 2004; on file with the Council.
- 39 See footnote 38.
- 40 Tolukuma Gold Mines Ltd 2004: Annual Environmental Report 2003, p. 5; on file with the Council.
- 41 Tolukuma Gold Mines Ltd 2004: Annual Environmental Report 2003, table 7; on file with the Council. Suspended solids are particles floating ("in suspension") in the water.
- 42 Turbidity is a measure of water cloudiness/clarity, indicating the levels of suspended solids in the water. High turbidity is a sign of high solids levels. In this test, the turbidity is measured in NTU.
- 43 A. & S.R. Tingay Pty. Ltd. 2006: Pollution from the Tolukuma Gold Mine in the Auga-Angabanga River System, Papua New Guinea, pp. 13-15; on file with the Council. At the discharge point, measured levels have been 2,500 NTU, and at the compliance point 7 km downstream of the discharge point, the values are just above 1,000 NTU. Control samples taken in nearby river systems which do not receive tailings show a turbidity of 4.3 and 17 NTU. In the Angabanga River, the values range from 52.4 to 71.7 NTU. Control samples in nearby rivers that are not affected by discharge show levels of 11.1 NTU. The WHO has set the turbidity limit for drinking water at 1 NTU.
- 44 The figure is taken from A. & S.R. Tingay Pty. Ltd. 2006: Pollution from the Tolukuma Gold Mine in the Auga-Angabanga River System, Papua New Guinea, p. 4; on file with the Council.
- 45 See footnote 43. Tingay, p. 2, states that "sediment in the tailings discharge had been deposited on the beds and margins of the Auga and Angabanga Rivers as layers of light grey-brown silt." On file with the Council.
- 46 Minproc 2000: Tolukuma Gold Mine, p. 14; on file with the Council.
- 47 Koma, Matilda 2003: Water Quality in the Auga River, p. 5; on file with the Council.
- 48 Tolukuma Gold Mines Ltd: Annual Environmental Reports 1999-2003; on file with the Council.

- 49 In comparison, the US Effluent Guidelines establish a maximum limit of 20 mg/l, measured as a 30-day average, for suspended solids in discharge from similar mining operations. Effluent limitations representing the degree of reduction attainable by the application of the best practicable control technology (BPT) are available at <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=bae798d13b2970811ff7febd15c3d06&rgn=div8&view=text&node=40:29.0.1.1.16.10.5.3&idno=40>. The International Finance Corporation's draft guidelines for the mining industry suggest a TSS discharge limit of 50 mg/l; see [http://www.ifc.org/ifcext/enviro.nsf/AttachmentsByTitle/gui\\_draftmining/\\$FILE/PMM\\_Guidelines\\_DRAFT\\_019\\_Final+for+Comments\\_.pdf](http://www.ifc.org/ifcext/enviro.nsf/AttachmentsByTitle/gui_draftmining/$FILE/PMM_Guidelines_DRAFT_019_Final+for+Comments_.pdf)
- 50 DRD Tolukuma Gold Mine Ltd 2005: Tolukuma Times April 2005, Environmental Management at TGM; available at <http://www.drd.co.za/>
- 51 See footnote 48.
- 52 Arsenic, lead, mercury, nickel, copper, iron, zinc, antimony, bismuth, selenium, thallium and cadmium are mentioned specifically, so is sulphur. Tingay (2006) p. 5 refers to a report prepared by Natural Systems Research and David Ballach and Associates in 1993.
- 53 Minproc 2000: Tolukuma Gold Mine, Section 5, p. 5; on file with the Council.
- 54 Lead is acutely toxic to aquatic organisms and mammals. Even in low concentrations it produces chronic toxic effects in many organisms. Lead is bioaccumulated in fish and mammals. Lead absorption often occurs slowly and under long-term chronic exposure. The release of lead from organisms takes place over time. Even in small quantities, arsenic compounds can be both acutely and chronically toxic to many organisms, as well as carcinogenic. Mercury and lead can be highly toxic in concentrations only moderately above ambient levels. After being released they persist in the environment, circulating between air, water, soil and biota in various forms. By means of microbes, mercury can change into methylmercury, which concentrates up the food chain; see Norwegian Pollution Control Authority (SFT) at [http://www.miljostatus.no/templates/PageWithRightListing\\_2833.aspx](http://www.miljostatus.no/templates/PageWithRightListing_2833.aspx), and UNEP Global Mercury Assessment at <http://www.chem.unep.ch/>.
- 55 Tingay, Alan 2006: Communication with the Council; on file with the Council.
- 56 DRD Gold 2005: Annual Report 2005, p. 17; available at <http://www.drd.co.za/>
- 57 Environment (waste discharge) permit for Tolukuma Gold Mines Ltd, issued by the Director of Environment, PNG, 26 April 2004; on file with the Council.
- 58 The maximum levels set by the government are expressed in mg/l of dissolved metals as follows: Arsenic 0.05, Cadmium 0.01, Chromium 0.05, Copper 1, Lead 0.005, Mercury 0.0002, Nickel 1 and Zinc 5. In principle, water quality standards are created to protect aquatic life. When compared for example to Australian water quality standards, the PGN authorities permit much higher levels of cadmium, chromium and copper. The PGN maximum levels of arsenic and cadmium are also significantly higher than those established by WHO (or Australian) drinking water standards; see [http://www.who.int/water\\_sanitation\\_health/dwq/gdwq3/en/index.html](http://www.who.int/water_sanitation_health/dwq/gdwq3/en/index.html), and the ANZECC Water Quality guidelines. In keeping with the Norwegian government water quality classification, some PNG limits exceed levels which the Norwegian Pollution Control Authority (SFT) would classify as highly polluted water, see SFT Guidelines 97:04, environmental classification of freshwater, available at [www.sft.no](http://www.sft.no).
- 59 DRD Tolukuma Gold Mine Ltd 2004: Social Responsibility Report 2004, p. 20; available at <http://www.drd.co.za/>
- 60 A. & S.R. Tingay Pty. Ltd. 2006: Pollution from the Tolukuma Gold Mine in the Auga-Angabanga River System, Papua New Guinea, p 31; on file with the Council.
- 61 Environment (waste discharge) permit for Tolukuma Gold Mines Ltd, issued by the Director of Environment, PNG, on 26 April 2004, Condition 13; on file with the Council. The maximum levels are absolute and shall not be exceeded as from the compliance point 7 km downstream of the discharge point.
- 62 Dissolved metals represent the metal concentration in the water once the water has been filtered to remove solids. Dissolved metals are thus bioavailable. Total metal content is the sum of particle-bound and dissolved metals. Particulate metal may, however, turn into dissolved metal, depending on pH, organic and particulate material content in the water, the water's hardness, and other factors.
- 63 Minproc 2000: Tolukuma Gold Mine, section 5, p. 11; on file with the Council.
- 64 A. & S.R. Tingay Pty. Ltd. 2006: Pollution from the Tolukuma Gold Mine in the Auga-Angabanga River System, Papua New Guinea, p. 33; on file with the Council. Koma, Matilda 2003: Water Quality in the Auga River, p. 12; on file with the Council.

- 65 A. & S.R. Tingay Pty. Ltd. 2006: Pollution from the Tolukuma Gold Mine in the Auga-Angabanga River System, Papua New Guinea, p. 16.
- 66 Tingay, Alan 2006: Communication with the Council; on file with the Council.
- 67 Sediment samples from the most affected area of the river system show the following levels: Arsenic 400-490 mg/kg, mercury 68-275 mg/kg, and lead 170-233 mg/kg; see Tingay 2006 (see footnote 64), p. 41. The concentrations of arsenic and mercury are much higher than those classified by the Norwegian Pollution Control Authority as extremely polluted sediments (for mercury, this limit is 3 mg/kg).
- 68 A. & S.R. Tingay Pty. Ltd. 2006: Pollution from the Tolukuma Gold Mine in the Auga-Angabanga River System, Papua New Guinea, pp. 19-21; on file with the Council.
- 69 Tolukuma Gold Mines Ltd 2004: Annual Environmental Report 2003, table 3 in attachment 1; on file with the Council.
- 70 US National Oceanic and Atmospheric Administration (NOAA) Guidelines for Freshwater Sediments. These guidelines are a tool for evaluating whether a certain amount of toxic chemicals (level of toxicity) is likely to harm the ecosystem; available at [http://response.restoration.noaa.gov/topic\\_subtopic\\_entry.php?RECORD\\_KEY%28entry\\_subtopic\\_topic%29=entry\\_id,subtopic\\_id,topic\\_id&entry\\_id\(entry\\_subtopic\\_topic\)=88&subtopic\\_id\(entry\\_subtopic\\_topic\)=5&topic\\_id\(entry\\_subtopic\\_topic\)=2](http://response.restoration.noaa.gov/topic_subtopic_entry.php?RECORD_KEY%28entry_subtopic_topic%29=entry_id,subtopic_id,topic_id&entry_id(entry_subtopic_topic)=88&subtopic_id(entry_subtopic_topic)=5&topic_id(entry_subtopic_topic)=2)
- 71 See footnote 68, p. 30.
- 72 Minproc 2000: Tolukuma Gold Mine, Section 5, p. 5; on file with the Council; see also footnote 68.
- 73 DRD Tolukuma Gold Mine Ltd 2004: Social Responsibility Report 2004, p. 21; available at <http://www.drd.co.za/>
- 74 Copper, gold, silver and other precious metals are often found in sulphide rock. Acid rock drainage occurs when sulphide minerals enter into contact with both water and air (oxygen) forming sulphuric acid. In this process heavy metals that occur naturally in the ore may be mobilised, resulting in the formation of acidic water which contains heavy metals and, consequently, contaminates the ground water and river systems. Once this process has started, it is irreversible and may continue for centuries. The environmental damage is closely linked to the long-term aspect of the process, which may involve an almost uninterrupted discharge of heavy metals over many years with a devastating effect on river systems and ground water.
- 75 See footnote 72, Section 5, p. 19.
- 76 See footnote 72, Section 5 p. 19.
- 77 Tolukuma Gold Mines Ltd 2004: Annual Environmental Report 2003; on file with the Council. The average pH in Iwu Creek was 3.72 in 2003 (Table A6) and 4.13 in 2002. In 2003 the average pH in Illive Creek was 4.41, and in 2002 it was 5.61.
- 78 See footnote 77, p.15.
- 79 A. & S.R. Tingay Pty. Ltd. 2006: Pollution from the Tolukuma Gold Mine in the Auga-Angabanga River System, Papua New Guinea, pp. 27-28; on file with the Council.
- 80 Tolukuma Gold Mines Ltd 2004: Annual Environmental Report 2003, Aquatic Survey; on file with the Council.
- 81 Tingay, Alan 2005: Memorandum on Tolukuma Gold Mine Annual Environmental Reports; on file with the Council.
- 82 Oxfam Australia 2004: Mining Ombudsman's case report: Tolukuma Gold Mine, p. 13.
- 83 Tingay, Alan 2006: Communication with the Council; on file with the Council. According to interviews with the local population, the Fuyuge people (who live near the mine, see below) used to fish in the Auga River and invited neighbouring villagers to do so as well. This is no longer common practice.
- 84 Oxfam Australia Mining Ombudsman 2006: Communication with the Council; on file with the Council.
- 85 The Fuyuge inhabit the highlands near the mine; the Kuni live in the area where the Alabule River joins the Angabanga; the Mekeo have their home on the alluvial Angabanga plain; and the Roro communities occupy the coastal estuary. See footnote 83 and Koma, Matilda 2003: Water Quality in the Auga River, p. 2; on file with the Council.
- 86 See footnote 83.
- 87 Koma, Matilda 2003: Water Quality in the Auga River, p. 2; on file with the Council.
- 88 Oxfam Australia 2004: Mining Ombudsman case report: Tolukuma Gold Mine, p. 13.
- 89 See footnote 88, p. 15 and footnote 83. One example is the Fuyuge people, who used to move closer to the river in the dry season as other water sources became scarcer in their villages further up the valley slopes. They no longer do this, but depend solely on the other water sources both for consumption and washing.

- 90 A. & S.R. Tingay Pty. Ltd. 2006: Pollution from the Tolukuma Gold Mine in the Auga-Angabanga River System, Papua New Guinea, p 1; on file with the Council.
- 91 A. & S.R. Tingay Pty. Ltd. 2006: Arsenic and Selected Metal Levels in the Domestic Water Supplies of Mekeo Villages near the Angabanga River, Papua New Guinea, p. 1; on file with the Council.
- 92 Oxfam Australia Mining Ombudsman 2004: Annual Report 2004; available at <http://www.oxfam.org.au/campaigns/mining/ombudsman/2004/index.html>
- 93 PNG Central Province Division of Health (DOH) 2003: Environmental Health Investigation into the Allegations of Illness and Deaths relating to the use of the Auga-Angabanga River System; on file with the Council. James Cook University in Queensland and Angau Memorial Hospital in Lae 2003: An Investigation of Disease Outbreak in the Fane and Mekeo Areas of Central Province, Papua New Guinea (PNG), in Tolukuma Gold Mine Annual Environmental Report 2003. NGOs have criticised these studies for being based on a limited selection and having methodological flaws. The reports are on file with the Council.
- 94 Environment (waste discharge) permit for Tolukuma Gold Mines Ltd, issued by the Director of Environment, PNG, on 26 April 2004, Condition 2; on file with the Council.
- 95 A. & S.R. Tingay Pty. Ltd. 2006: Arsenic and Selected Metal Levels in the Domestic Water Supplies of Mekeo Villages near the Angabanga River, Papua New Guinea, p. 1; on file with the Council.
- 96 DRD Gold 2004: Annual Report 2004, p 17.
- 97 DRD Gold 2005: Annual Report 2005, p. 19.
- 98 DRD's response to Oxfam Australia 2003; see [http://www.drdgold.com/default.asp?PathId=our\\_mines/display.asp](http://www.drdgold.com/default.asp?PathId=our_mines/display.asp).
- 99 DRD Gold 2005: Annual Report 2005, p. 97.
- 100 See footnote 99.
- 101 A. & S.R. Tingay Pty. Ltd. 2006: Arsenic and Selected Metal Levels in the Domestic Water Supplies of Mekeo Villages near the Angabanga River, Papua New Guinea, p. 1; on file with the Council.
- 102 See footnote 2. DRD Gold, through its subsidiary Emperor Mines, on 5 December 2006 decided to close the mine in Fiji.
- 103 Henceforth referred to as Emperor.
- 104 The amount is equivalent to some 3,400 kg of gold per year.
- 105 <http://www.emperor.com.au/>
- 106 Emperor Mines Ltd. Annual Report 2004; available at <http://www.emperor.com.au/>
- 107 Simtars Queensland 2004: Ambient Air Quality Monitoring near Vatukoula Gold Smelter, for Emperor Gold Mining; on file with the Council.
- 108 Oxfam Australia 2004: Mining Ombudsman case report: Vatukoula Gold Mine; available at <http://www.oxfam.org.au/campaigns/mining/ombudsman/index.html>. The company provides housing, but is, according to Oxfam, the only company in Fiji allowed to make deductions of up to 25 per cent of employee wages for the cost of renting company housing and for any work-related costs. The latter includes protective clothing, insurance premiums, education, superannuation and health care. Housing conditions are reported to be very poor. The dilapidated dwellings made of corrugated iron and wood offer no bathroom or cooking facilities. Showers, toilets and taps are located outside and are generally shared by three or more houses. See also article in The Age, May 2 2004: Gold digging Emperor and his minor royalties; available at <http://www.theage.com.au/Articles/2004/05/01/1083224643894.html?from=storylhs#>
- 109 Article in The Age, May 2 2004: Gold digging Emperor and his minor royalties.
- 110 Poni Ravula, CCF 2006: Communication with the Council; on file with the Council
- 111 Mine workers and their families living in the following settlements at Vatukoula are adversely affected: Loloma, Loloma Rotuma, Matanagata, Newtown, Main Gate, Vunisina, Church Road and Narau barracks. They represent more than half the total workforce and counting their families, they make up around 90 per cent of an estimated population of approximately 4,000.
- 112 Oxfam Australia 2004: Mining Ombudsman case report: Vatukoula Gold Mine, Poni Ravula, (CCF) 2006: Communication with the Council; on file with the Council. The residents report that they have to run inside and close windows and doors when sulphur clouds reach ground level.
- 113 See footnotes 110 and 112.
- 114 Interviews undertaken by Oxfam Australia Mining Ombudsman in 2005; on file with the Council. Poni Ravula, (CCF) 2006: Communication with the Council; on file with the Council.



- 115 Much research has been carried out on the environmental and health effects of sulphur dioxide emissions, for example related to the issue of acid rain.
- 116 Oxfam Australia 2004: Mining Ombudsman case report: Vatukoula Gold Mine, p. 20.
- 117 Emperor Mines Ltd 2005: Annual Report 2005, p. 13.
- 118 Oxfam Australia 2004: Mining Ombudsman case report: Vatukoula Gold Mine.
- 119 Letter from Emperor to shareholders dated 11 May 2004; available at [http://www.emperor.com.au/news/EMP\\_Shareholder\\_Update\\_110504.pdf](http://www.emperor.com.au/news/EMP_Shareholder_Update_110504.pdf).
- 120 Ravula, Ponipate (CCF) 2006: Communication with the Council; on file with the Council.
- 121 Simtars Queensland 2004: Ambient Air Quality Monitoring near Vatukoula Gold Smelter, for Emperor Gold Mining; on file with the Council.
- 122 See footnote 120.
- 123 Article in the Fiji Times 24 August 2005: Gold Mine under Fire; on file with the Council
- 124 See footnote 123.
- 125 Parliament of Fiji, Parliamentary Debates, The Senate, Daily Hansard, 20 March 2003, by Senator Atu Emberson-Bain; available at <http://66.249.93.104/search?q=cache:6EjNEjxayLYJ:www.parliament.gov.fj/hansard/viewhansard.aspx%3FhansardID%3D63%26viewtype%3Dfull+ESCAP+vatukoula&hl=no&ct=clnk&cd=6>.
- 126 Oxfam Australia 2004, Mining Ombudsman's case report: Vatukoula Gold Mine, p. 19.
- 127 Ravula, Ponipate (CCF) 2006: Communication with the Council; on file with the Council.
- 128 See footnote 127.
- 129 Letter from Emperor to shareholders, 11 May 2004.
- 130 Emperor Mines Ltd 2005: Annual Report 2005, p. 12.
- 131 See footnote 129.
- 132 Fiji Times Online 28 August 2005: EGM denies pollution accusation; on file with the Council.
- 133 The World Bank no longer finances projects which make use of riverine tailings disposal. Neither does The International Finance Corporation accept this method unless specific discharge limits are observed, which in practice means that the effluent must be treated before being drained into water bodies. "The Extractive Industries Review" (EIR) from 2003 and the international project "Mining, Minerals and Sustainable Development" (MMSD) advise against riverine disposal because of the environmental damage it entails. EIR states: "Scientific evidence clearly demonstrates that this method of waste disposal causes severe damage to water bodies and surrounding environments... In practice, this technology is being phased out due to recognition of its negative consequences." The world's biggest mining company, BHP Billiton, has also declared that it will not use riverine disposal in new projects. Additionally, we refer to the Council's recommendation on the exclusion of Freeport McMoRan; available at [www.etikkradet.no](http://www.etikkradet.no).
- 134 In 1981 the UN's Economic and Social Commission for Asia and the Pacific prepared a report on the environmental situation in the Vatukoula area, describing environmental conditions as very grave and recommending that Emperor's concession in Vatukoula should be withdrawn. The report was never made public. In 1995 the so-called GP Lala Commission was appointed by the Fijian Parliament to investigate Emperor's mining activity at Vatukoula. The commission submitted the paper "Inquiry into the Vatukoula trade Dispute report (Parliamentary Paper no 38 of 1995, Suva, Fiji). The report was never discussed in Parliament because Emperor was granted a judicial ruling ordering the report not to be made public; see for example Oxfam 2004 (footnote 126) and the record of the parliamentary debate (footnote 125). Nevertheless, the report has been quoted in several contexts, one of the reasons being that it claims Vatukoula is a disaster and that no improvements have been made since the last time the authorities examined the case – 14 years ago.
- 136 According to the company, "regular environment audits and reviews to monitor performance" are carried out. The company claims to have a monitoring programme for daily sampling of effluent and water quality, including drinking water quality, but does not mention whether there is a similar programme for air emissions. Emperor's environmental policy is available at <http://www.emperor.com.au/abouteml/corporate.html#epolicy>.
- 137 DRD Gold 2005: Annual Report 2005, p. 19.

## To the Ministry of Finance

Oslo, May 15, 2007

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# Recommendation to exclude Vedanta Resources Plc.

## Contents

- 1 Introduction** 35
- 2 Sources** 36
- 3 The Council's considerations** 37
- 4 About Vedanta Resources** 38
- 5 Accusations of severe environmental damage and human rights violations** 39
  - 5.1 Sterlite Industries – Tuticorin
    - 5.1.1 The accusations against Sterlite's Tuticorin complex
    - 5.1.2 More details on the operation at Tuticorin
    - 5.1.3 Illegal production expansion
    - 5.1.4 Health and environmental damage
  - 5.2 Madras Aluminium Company Ltd (Malco)
    - 5.2.1 The accusations against Malco
    - 5.2.2 The refinery at Mettur Dam
    - 5.2.3 Environmental and health effects
  - 5.3 Bharat Aluminium Company
    - 5.3.1 Forced eviction of tribal peoples
  - 5.4 Vedanta Alumina Ltd
    - 5.4.1 Accusations against Vedanta Alumina
    - 5.4.2 Mining in the Niyamgiri Hills
    - 5.4.3 The refinery at Lanjigarh
    - 5.4.4 Misinformation and breaches of laws and procedures
    - 5.4.5 Expected environmental impact of the refinery
    - 5.4.6 Involvement in human rights violations
- 6 The company's response** 55
- 7 The Council's assessment** 56
  - 7.1 Severe environmental damage
  - 7.2 Human rights violations
  - 7.3 Conclusion
- 8 Recommendation** 61

## 1 Introduction

At a meeting on 2 October 2006 the Council on Ethics for the Government Pension Fund – Global decided to assess whether the investments in the company Vedanta Resources Plc. may imply a risk of the Fund contributing to unethical acts under the Ethical Guidelines, point 4.4.

As of 31 December 2006 the Government Pension Fund – Global held shares worth some NOK 81 million in the company, amounting to an ownership share of 0.16 per cent.

Vedanta Resources is a British metals and mining company. Its core business is linked to mining and production of copper, aluminium, and zinc in India. The company also has operations in Australia, Zambia and Armenia. Vedanta Resources is accused of having caused environmental damage and contributed to human and labour rights violations. Other accusations include repeated breaches of national environmental legislation, illegal production expansions, irresponsible handling of hazardous waste, violations against tribal peoples, deplorable wages, and dangerous working conditions in the mines and factories. The company is also criticized for being involved in bribery and corruption.

The Council has assessed the risk of the Fund, through its investment in Vedanta Resources, contributing to two breaches of the Ethical Guidelines – severe environmental damage and human rights violations. In this context, the Council has examined four Vedanta subsidiaries that operate in India: Sterlite Industries, Madras Aluminium Company, Bharat Aluminium Company, and Vedanta Alumina. Vedanta Resources holds a controlling interest in all these companies.

In accordance with the Guidelines, point 4.5, the Council has contacted Vedanta Resources through Norges Bank requesting the company to comment on the aforementioned accusations and their basis. A letter was written to the company on 15 March 2007 soliciting comments on the draft recommendation by 10 April. At the same time, the company was informed that the Council would recommend its exclusion on 15 May if the company did not respond to the Council's enquiry. Following a request from Vedanta on 2 April, the deadline was extended to 20 April. Being contacted again on 23 April, the company indicated that a reply would be sent within a few days. As of 15 May 2007, the company has not responded to the Council's enquiry.

In order to establish whether there is a risk of complicity in severe environmental damage, a direct link must exist between the company's operations and the violations. The Council takes as its point of departure that the environmental damage must be extensive. Great importance must be placed on whether the damage causes irreversible or long-term effects, and whether it has considerable negative impact on human life and health. Moreover, there should be an assessment of the extent to which the company's acts or omissions have caused the damage, including whether the damage is a result of violations of national legislation or international norms; whether the company has failed to act in order to prevent the damage, or failed to sufficiently make amends for the scope of the damage. There must also be a probability that the company's unacceptable practice will continue in the future.

The question of whether the company contributes to gross or systematic human rights violations is assessed on the basis of whether there is an actual link between the company's operations and the alleged offences, and whether these violations have been perpetrated with a view to serving the company's interests or facilitating operational conditions. The

company must have contributed to the violations or been aware of them, but been remiss about attempting to prevent them.

The Council finds that the allegations levelled at the company regarding environmental damage and complicity in human rights violations, including abuse and forced eviction of tribal peoples, are well founded. In the Council's view the company seems to be lacking the interest and will to do anything about the severe and lasting damage that its activities inflict on people and the environment. As described in Chapter 5, the violations against the environment and human rights that have been revealed are recurrent at all the subsidiaries subject to investigation and have taken place over many years. In the Council's view, they indicate a pattern in the company's practices where such violations are accepted and make up an established part of its business activities. Such a pattern of conduct constitutes an unacceptable risk that the company's unethical practices will continue in the future. After an overall assessment the Council finds that the criteria for severe environmental damage and gross or systematic human rights violations have been met in this case.

The Council has reached the conclusion that the Ethical Guidelines, point 4.4, second clause, provide a basis for recommending the exclusion from the Government Pension Fund – Global of the company Vedanta Resources Plc., as well as the individually listed subsidiaries Sterlite Industries Ltd. and Madras Aluminium Company Ltd., due to an unacceptable risk of complicity in present and future severe environmental damage and systematic human rights violations.

## 2 Sources

The Council on Ethics places great importance on substantiating the recommendations for exclusion with ample and varied source material. In this case the Council has drawn on surveys and investigations conducted or commissioned by Indian authorities, reports from national and international non-governmental organisations, articles in Indian and international newspapers, and documentaries.

The Council will make specific mention of the reports from the *Indian Supreme Court Monitoring Committee on Hazardous Wastes* and the *Indian Supreme Court's Central Empowered Committee*. Both committees are appointed by the Indian Supreme Court. The *Supreme Court Monitoring Committee on Hazardous Wastes (SCMC)* was created in November 2003 to monitor the implementation of the regulations on hazardous waste and a series of orders issued by the Indian Supreme Court since 1995. The SCMC is an expert committee on waste and the environment, which reports to the Indian Supreme Court four times a year.<sup>1</sup> The *Central Empowered Committee (CEC)* was established by the Supreme Court in May 2002 to investigate complaints relating to the *Indian Forest Conservation Act* and the *Environmental Protection Act*. The committee is made up of former judges and civil servants with special competence in the environmental field. The CEC shall give recommendations to the Supreme Court regarding violations of the law in specific cases. To date the CEC has submitted recommendations in 400 cases to the Supreme Court, all of which have been accepted.

In addition to this, the Council has commissioned its own reports and studies by external Norwegian, British, and Indian consultants. Representatives from the Council's secretariat have visited India and have had several meetings with local organisations and individuals who have in-depth knowledge of Vedanta's operations. Furthermore, the Council has gained access to letters and orders from Indian authorities to the company. The sources are referred to in footnotes throughout the document.

### 3 The Council's considerations

The Council has assessed whether the Government Pension Fund – Global, through its ownership in the British company Vedanta Resources Plc., runs the risk of contributing to unethical acts. In this context four Vedanta subsidiaries have been subject to the Council's survey: Sterlite Industries, Madras Aluminium Company, Bharat Aluminium Company, and Vedanta Alumina.

The Ethical Guidelines, point 4.4, second clause state:

*"The Council issues recommendations on the exclusion of one or more companies from the investment universe because of acts or omissions that constitute an unacceptable risk of the Fund contributing to*

- Gross or systematic human rights violations such as murder, torture, deprivation of liberty, forced labour, the worst forms of child labour and other exploitation of minors*
- Grave breaches of individual rights in war or conflict situations.*
- Severe environmental damage*
- Gross corruption*
- Other particularly serious violations of fundamental ethical norms"*

In particular, the Council has assessed whether Vedanta Resources causes *severe environmental damage*, but it has also evaluated the accusations of involvement in human rights violations. In previous recommendations the Council has elaborated on and exemplified these criteria.<sup>2</sup>

The Council must make a concrete assessment of what is to be considered *severe environmental damage* in each case, basing itself on an overall evaluation with particular emphasis on whether:

- *the damage is significant;*
- *the damage causes irreversible or long-term effects;*
- *the damage has considerable negative impact on human life and health;*
- *the damage is a result of violations of national laws or international norms;*
- *the company has neglected to act in order to prevent the damage;*
- *the company has not implemented adequate measures to rectify the damage;*
- *it is probable that the company's unacceptable practice will continue.*

Moreover, the Council has assessed whether the company contributes to *gross or systematic human rights violations*. This issue will be evaluated on the basis of whether there is an actual connection between the company's operations and the alleged violations, and whether the violations have been perpetrated with a view to serving the company's interests or facilitating its operational conditions. The company must either have contributed to the violations itself, or been aware of them without seeking to prevent them.

The Council would like to stress that *existing* and *future* violations are the ones covered by the Guidelines, both with regard to environmental damage and human rights abuses. This implies that one must assess whether there is a risk that the company's unacceptable practice will continue in the future. The company's previous actions may give an indication as to how it will behave in the future, and thus form a basis for the assessment of whether there is an *unacceptable risk* that unethical actions will occur henceforth. This also means that proof of future unethical actions is not required – it is sufficient to establish the existence of an unacceptable risk.

The concrete actions and omissions that Vedanta Resources is accused of will be assessed with reference to the elements above.

## 4 About Vedanta Resources

Vedanta Resources Plc.<sup>3</sup> is a British metals and mining company with operations in India, Zambia, Australia, and Armenia.<sup>4</sup> Its core business is linked to the mining and production of copper, aluminium, and zinc, but the company is also involved in gold and pig iron mining and production.

The company's main operations are located in India, (19 production sites in 6 states),<sup>5</sup> where the company holds significant market shares in aluminium (20 per cent), copper (40 per cent), and zinc (75 per cent).<sup>6</sup> In April 2007 the company acquired the controlling interest in the metals and mining company Sesa Goa (iron ore and pig iron). In addition to this, the company owns and runs, through subsidiaries, copper mines in Zambia and Australia<sup>7</sup>, as well as a gold mine in Armenia.<sup>8</sup>

### *Corporate structure*

During recent years Vedanta's corporate structure has been constantly changing.<sup>9</sup> Volcan Investments Ltd. is Vedanta Resources' holding company and currently owns 54 per cent of the company's shares.<sup>10</sup> Volcan is controlled "by persons related to the Executive Chairman, Mr Anil Agarwal."<sup>11</sup> According to the annual report for 2006 Vedanta has 18 subsidiaries, of which eight are involved in mining and metal production; see overview below.<sup>12</sup> Other sources reveal that Vedanta also is the principal shareholder in the mining companies Sterlite Gold (registered in Canada) and Sesa Goa.<sup>13</sup> All figures refer to 31 March 2006, with the exception of the companies Sterlite Gold and Sesa Goa.

Subsidiary	Ownership stake
Sterlite Industries Ltd.	76 %
Madras Aluminium Company Ltd. (MALCO, India)	80 %
Bharat Aluminium Co. Ltd. (BALCO, India)	40 %
Vedanta Alumina (India)	93 %
Hindustan Zinc Ltd. (HZL, India)	49 %
Konkola Copper Mines Plc. (KCM, Zambia)	51 %
Copper Mines of Tasmania Pty Ltd. (CMT, Australia)	76 %
Thalanga Copper Mines Pty Ltd. (TCM, Australia)	76 %
Sterlite Gold Ltd. (Canada)	80 %
Sesa Goa	51 %

The company informs that it intends to acquire outstanding stakes in several subsidiaries and to consolidate its ownership in the aluminium and copper operations. Vedanta has already exercised its option to buy the remaining shares in Balco from the Indian government.<sup>14</sup> The company also intends to acquire the outstanding shares in Hindustan Zinc, which will be available during 2007,<sup>15</sup> and is in the process of acquiring the remaining stake in Sterlite Gold.<sup>16</sup>

The Council is satisfied that Vedanta Resources, in its capacity as majority shareholder, exercises considerable influence over its subsidiaries.<sup>17</sup>

At the end of 2006, the Government Pension Fund – Global only held shares in Vedanta Resources. Nevertheless, the Council has deemed it right to also recommend exclusion of the subsidiaries Sterlite Industries and Madras Aluminium Company, which are listed on the stock exchange in India. The Council is not aware that Bharat Aluminium Company Ltd. and Vedanta Alumina Ltd are listed on the stock exchange. The Council has not performed a complete investigation of the Vedanta group.

## 5 Accusations of severe environmental damage and human rights violations

In several different contexts there have been allegations that Vedanta Resources has caused environmental damage and contributed to human rights and labour violations. With regard to its mining and industrial operations, the company has been accused of repeated breaches of national environmental legislation, illegal production expansions, irresponsible handling of hazardous waste, violations against tribal peoples, deplorable wages, and dangerous working conditions in the mines and factories. The company is also accused of being involved in bribery and corruption.

Many of the accusations have come to light in reports from non-governmental organisations such as the *Indian People's Tribunal on Environment and Human rights*<sup>18</sup> and the *India Resource Centre*.<sup>19</sup> International organisations and NGO networks such as the *India Committee of the Netherlands*,<sup>20</sup> *Social Watch*,<sup>21</sup> and *Mines and Communities*<sup>22</sup> have also reported on Vedanta's alleged violations and unacceptable practices. A number of these allegations have been examined and documented by subcommittees appointed by the Indian Supreme Court.<sup>23</sup>

The Council has assessed the following:

- allegations concerning severe environmental damage at the operations of Sterlite Industries, Malco, and Vedanta Alumina;
- accusations of violations and forced relocation of tribal peoples at Vedanta Alumina's operations in Orissa and Balco's bauxite mines.

### *Other serious accusations outside the scope of the Council's assessment*

The Council has made a note of, but has not examined in any further detail, the serious allegations against the company regarding dangerous working conditions and severe environmental damage in other parts of the company's operations, as well as corruption. Some of these accusations are briefly referred to below in order to give a more complete picture of the company's alleged contribution to violations.

Both at Sterlite Industries, Malco, and Balco accusations have been raised regarding dangerous working conditions. These are briefly described under the sections about each individual company, but have not been examined further.

Konkola Copper Mines in Zambia are accused of severe pollution and environmental damage. The last incident occurred in November 2006 after spills from the tailings leach plant contaminated drinking water for 50 000 people, many of whom are reported to lack other drinking water sources. The company is accused of repeatedly ignoring environmental requirements, as well as being criticized for faulty maintenance and a failure to implement measures aimed at discharge reduction and remediation.<sup>24</sup>

Accusations have also been levelled at Vedanta regarding corruption, fraud, forgery, manipulation of share prices, and insider trading which involves both the company's local management, the chairman Anil Agarwal, and Indian government officials. These allegations have been voiced by many, including journalists, writers, members of parliament, NGOs and the *Supreme Court's Central Empowered Committee*, a committee that reports to the Indian Supreme Court.<sup>25</sup> The situation may be illustrated by the fact that the Securities Exchange Board of India in 1998 denied Vedanta access to the capital market for two years because of insider trading and other offences.<sup>26</sup> According to Indian media, allegations have been made that the company has paid some USD 2.6 million to politicians,<sup>27</sup> and that *Orissa's Chief Minister*, Mr. Naveen Patnaik, has bestowed undue favours on the company and its projects in Orissa.<sup>28</sup> In its recommendation to the Supreme Court, the Central Empowered Committee indicates that the company, the Ministry of Environment and Forests, and the Orissa government are involved in this: *"The casual approach, the lackadaisical manner and the haste with which the entire issue of forests and environmental clearance for the alumina refinery project has been dealt with smacks of undue favour/leniency and does not inspire confidence with regard to the willingness and resolve of both the State Government and the MoEF to deal with such matters keeping in view the ultimate goal of national and public interest."*<sup>29</sup>

## 5.1 Sterlite Industries - Tuticorin

Sterlite Industries (India) Limited<sup>30</sup> is one of two major copper producers in India.<sup>31</sup> The production is divided between two units, Tuticorin and Silvassa. The first is located on the southern tip of India in Tamil Nadu state, featuring a smelter, a refinery, and copper rod plants. The other includes a refinery and copper rod plants in Western India, Gujarat state<sup>32</sup>. Receiving copper anode from the Tuticorin smelter 575 km further south, the Silvassa refinery processes it.<sup>33</sup> The Council's assessment refers to the Tuticorin complex.

### 5.1.1 The accusations against Sterlite's Tuticorin complex

In particular, Sterlite has been accused of irresponsible handling of hazardous waste, illegal production expansion, and repeated and severe violations of a series of environmental requirements. Allegedly, this has happened systematically and over many years. The company's hazardous waste management and illegal emissions are thought to have generated far-reaching pollution of soil, air, groundwater and drinking water, causing considerable environmental damage and adverse health effects in the local population.

Allegations of poor security at the plant causing several fatal accidents and injuries among the workers have also been made against the company. The Indian journalist Nityanand Jayaraman has reported that at least 139 people have been seriously injured and 13 have died as a result of accidents between 1996 and 2004.<sup>34</sup>

### 5.1.2 More details on the operation at Tuticorin

The smelter at Tuticorin is based on copper concentrate, which is imported from Sterlite's two Australian mines, among others.<sup>35</sup> Copper concentrate is the raw material for the production of copper matte. This, in turn, is refined into blister copper and then further processed into copper anode, copper cathode, and copper rods. The Tuticorin smelter has an annual production capacity of 300 000 tons of copper anode,<sup>36</sup> nearly 100 000 tons of copper cathode, and some 30 500 tons of copper rods.<sup>37</sup> Complementary facilities such as a phosphoric acid plant, a sulphuric acid plant, and a waste water treatment plant have also been built.<sup>38</sup>



### 5.1.3 Illegal production expansion

#### *Plant installation irregularities*

In 1997, the smelter at Tuticorin was brought on stream. The location conditions imposed by the *Tamil Nadu Pollution Control Board (TNPCB)*<sup>39</sup> included a minimum distance of 25 km from the *Gulf of Mannar National Park* and a 250-metre greenbelt to be established around the area as an air pollution and noise buffer.<sup>40</sup> The authorities later reduced this requirement to 25 metres.<sup>41</sup> Clearance was given for an annual production of 40 000 tons of *blister copper* (391 tons a day) and the daily emission of 1 060 tons of sulphuric acid.<sup>42</sup>

More recently, however, it has been confirmed that Sterlite never complied with the conditions prescribed by the authorities. The company did not create any greenbelt around the site,<sup>43</sup> the facilities were constructed inside the established 25-km zone from the national park, and the company disregarded a series of production conditions imposed on the plant, as described below.<sup>44</sup> Neither did it conduct an environmental impact assessment as prescribed by the law. The assessments that were made were later regarded as “*totally inadequate in addressing the issue of impact of pollution caused by the operation of the copper smelter.*”<sup>45</sup>

#### *Many accidents and poor waste management*

In 1997, after a series of accidents and gas leaks at the plant, the Madras High Court commissioned the *National Environmental Engineering Research Institute (NEERI)* to prepare a report on the environmental status at the plant.<sup>46</sup> The report revealed 15 violations of the environmental requirements, including grave breaches of the *Consents to Operate under the Air and Water Acts*. The findings also included faulty waste management, a lack of emergency plans in case of serious accidents, and the absence of production permits for phosphogypsum.<sup>47</sup> Moreover, high arsenic and other heavy metals content was found in the groundwater. The report concluded that the closure of the operations should be considered because the emissions from Sterlite’s plant represented a real threat to health, safety and the environment.<sup>48</sup> As a result, the court ordered the Tuticorin plant to close until the conditions had been investigated and put in order. The plant was shut down on 23 November 1998, but reopened a month later on an experimental basis.<sup>49</sup> In 1999, Sterlite was granted permission to resume full production at the plant despite a new investigation which showed that not all conditions had been met.<sup>50</sup>

#### *Violations of production conditions and environmental requirements*

In April 2002, Sterlite applied to the Tamil Nadu Pollution Control Board for permission to significantly increase the production at Tuticorin.<sup>51</sup> In April 2004, Sterlite was granted the first of three mandatory permits, a so-called *No Objection Certificate*.<sup>52</sup> The Pollution Control Board attached a number of conditions referring to issues such as the management and disposal of hazardous waste, designed to prevent runoff, groundwater contamination, and dust dispersion from the dumps. In addition to this, the company was required to eliminate an existing phosphogypsum stack and transfer the contents to a secured deposit site. There were also specific demands regarding the reduction of airborne emissions, such as dust, sulphur, and fluorides.<sup>53</sup>

On 21 September 2004, the *Supreme Court Monitoring Committee on Hazardous Waste (SCMC)*<sup>54</sup> inspected the facilities at Tuticorin noting that air emission requirements were not being observed and that hazardous waste management was unsatisfactory. The Committee voiced concerns over the environmental and health impact this may cause. “*The Committee was particularly concerned with the issues relating to the disposal of arsenic containing slag which is dumped in the factory premises and is in the range of several thousands of tonnes. In fact, there is a mountain of arsenic-bearing slag as also one of phospho-gypsum. Phospho-gypsum,*

*if not contained properly, occasionally becomes airborne and may cause severe respiratory disorders in the surrounding vulnerable population.”<sup>55</sup> During its visit the SCMC was informed that the company was about to triple its production at the plant. On the basis of the company’s failure to comply with important environmental requirements, the SCMC instructed the Tamil Nadu Pollution Control Board to appoint an Expert Committee whose mission was to conduct an environmental assessment of the plant and investigate whether Sterlite had proceeded with any illegal production expansion.<sup>56</sup>*

According to the Expert Committee, which inspected the plant in October 2004, Sterlite had constructed a new 300 000-ton copper anode smelter, a 127 000-ton refinery, a coal-fired power plant, a copper rod plant, and an oxygen plant, without having received the necessary environment and safety permits from the government.<sup>57</sup> Sterlite had not made an environmental impact assessment of the production expansion either, despite this being an explicit prerequisite of the clearance issued by the MoEF in 1995. The SCMC draws the following conclusion: *“Thus it can be seen from the Expert Committee Report that the Company has expanded the plant without consent from the Board and without environment clearance and that it has openly violated the provisions of the EIA [Environmental Impact Assessment] Notification and the Environment Protection Act, 1986,”* and continues: *“It appears that several conditions laid down both in the order of environment clearance issued in 1995 and the consent orders have not been complied with at all.”<sup>58</sup>*

The environmental audit also documented that the waste management at the plant was unsatisfactory, and that this probably has caused substantial contamination of soil and groundwater (see section 5.1.4). Notwithstanding, the Tamil Nadu Pollution Control Board granted consent for the expanded production in April 2005.<sup>59</sup> By then the Ministry of Environment and Forests had issued a post-facto environmental clearance to Sterlite, the day after the Supreme Court Monitoring Committee visited the plant in September 2004.<sup>60</sup>

The SCMC’s subcommittee inspected Sterlite’s unit again in May and July 2005. Once more it was established that Sterlite had not taken steps to improve waste management, and the Committee therefore recommended that the authorities should close down the plant until the company had met the environmental requirements.<sup>61</sup> Two months later the situation at the unit was still unchanged,<sup>62</sup> leading the SCMC to conclude that *“At the present moment the Sterlite unit at Tuticorin is completely in violation of the HW [hazardous waste] rules.”<sup>63</sup>* The SCMC stated that arsenic-containing waste was being stored in the open without protection or containment, and that environmentally hazardous substances were leaking into the groundwater. The Committee pointed out that the company had not even started moving the landfills and did not comply with the requirements for phosphogypsum deposits. On this background the SCMC repeated the recommendation that the Tamil Nadu Pollution Control Board should immediately proceed with the closure of Sterlite’s plant.<sup>64</sup> The Council is not aware that this has been done. An audit report from the Tamil Nadu Pollution Control Board of 28 February 2006 shows that the handling of hazardous waste and a number of other practices were still not in compliance with official regulations.<sup>65</sup>

Additionally, correspondence between the Tamil Nadu Pollution Control Board and Sterlite shows that the company repeatedly has been requested to perform environmental impact assessments and carry out health surveys of the population, etc.<sup>66</sup> To the Council’s knowledge, the company has yet to meet these requirements.

The question of the company's illegal operations was raised by a shareholder at Vedanta's annual meeting on 3 August 2005, but Vedanta's chairman, Mr. Anil Agarwal, made no reply.<sup>67</sup>

#### 5.1.4 Health and environmental damage

##### *Hazardous waste disposal*

According to Vedanta's annual report for 2006, a secure landfill was constructed that year at Sterlite's Tuticorin plant "in an attempt to improve hazardous waste management". The company does not specify what this implies or what kind of waste that will be deposited in the new landfill.<sup>68</sup>

Sterlite's unit at Tuticorin generates large quantities of hazardous waste (see Table 1), and the projected production expansion will further increase these volumes. According to Sterlite, the total amount of waste will increase from about 2 700 tons/day to 6 800 tons/day, of which 2 600 tons will be made up of phosphogypsum.<sup>69</sup>

Table 1  
Arsenic and heavy metals  
content in different types  
of waste from Sterlite's  
Tuticorin plant prior to the  
production increase<sup>70</sup>

	Amount tons/day	As (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cu (mg/kg)	Ni (mg/kg)	Cd (mg/kg)	Fluoride (mg/kg)
ISA-ESP Dust	16	2 971	25 151	22 734	304 000	82.7	5 322	
Converter ESP Dust	4	2 747	36 946	21 280	282 000	67.7	4 992	
Slag (RHF)	700	221	22.4	15.4	162.8	12.3	2.5	
Slag (SCF)	200	204.2	165.4	928.0	3 363	176.4	28.8	
ETP Cake	37	17 198	4 108	9 935	9 854	31.5	2 039	
Scrubber cake	50	432	67	52	404	220	11	
Lime grit (kalkstøv)	10	171	55.5	7.8	122	19		
Phosphogypsum	1 700	40.3	29.3	13.8	101	19		21 000

Slag from the smelter, waste from the treatment plant (ETP cake, scrubber cake) and the phosphoric acid plant (in the form of phosphogypsum) are deposited on site.<sup>71</sup> In principle, dust from the electrofilters (ISA and Converter ESP) is to be recycled as part of the process.<sup>72</sup> However, the TNPCB confirms that the dust is deposited.<sup>73</sup> To the Council's knowledge, it is also uncertain whether it is technically feasible to recycle all the dust from the electrofilters. This has proven to be a challenge in other smelters, partly because the dust is easily dispersible, making it physically difficult to return it to the melt before it is blown off.<sup>74</sup> Therefore, there is a risk that a part of this dust is also deposited.

According to the NEERI report 50–60 per cent of the phosphogypsum is sold to the cement industry. This seems to be a very high proportion. Phosphogypsum must be treated before it can be used as an additive in cement, and, as a comparison, only 1 per cent of the US annual production of phosphogypsum is reused for different purposes.<sup>75</sup> Internationally, the Council has not found sources that document such extensive use of phosphogypsum in cement production.

As illustrated in Table 1, waste from the various processes at the Tuticorin plant shows high concentrations of heavy metals, arsenic, and fluorides. According to Indian regulations it is therefore classified as hazardous waste.<sup>76</sup> With the exception of slag and lime grit, the waste fractions would also be considered hazardous waste under EU regulations.<sup>77</sup>

Arsenic, cadmium, and lead are considered hazardous substances with carcinogenic properties,<sup>78</sup> whereas fluoride may lead to fluorosis, a condition that affects bone structure and teeth. The arsenic, heavy metals and fluorides contained in the waste are readily soluble compounds. Groundwater samples taken under and in the vicinity of the deposit sites show elevated values of copper, chrome, lead, cadmium and arsenic.<sup>79</sup> The chloride and fluoride content is also too high when compared to Indian drinking water standards.<sup>80</sup> According to the NEERI's environmental audit, it is probable that the groundwater contamination is caused by leachate and runoff from the landfills.<sup>81</sup> *"In view of the above-mentioned design details and in absence of any leachate collection and removal system, the landfill system is likely to pose significant threat of leaching of various constituents from the contained wastes and contamination of groundwater."*<sup>82</sup>

The plant is situated in a densely populated area, and more than 250 000 people live less than 7 km from the site.<sup>83</sup> The environmental audit shows that most villages within an 8 km radius from the Sterlite plant use the groundwater as drinking water.<sup>84</sup> Pollution from the landfills has made the groundwater in the area unsuitable as drinking water, but due to a lack of alternatives the groundwater is still being used as a drinking water source by the local population. Hence, the contamination will constitute a significant risk of developing chronic diseases, especially in the long term. In the USA, the authorities regard phosphogypsum as a considerable health and environmental hazard due to the content of heavy metals and radioactive substances.<sup>85</sup> The Council has no information that gives grounds for an assessment of whether the radioactivity in the phosphogypsum produced by Sterlite poses a potential health problem.

The environmental audit shows that the plant site itself is also severely polluted. Ground samples present levels of arsenic which indicate that the whole site may be classified as hazardous waste according to Indian standards.<sup>86</sup> The SCMC points out that the arsenic and heavy metals content in the ground has increased significantly compared with previous surveys, and that the company should be required to rehabilitate the site.<sup>87</sup>

The health effects are aggravated by the fact that landfills and exposed ground are also sources of air pollution. Waste handling regulations prescribe that former and current deposit sites should be covered in order to prevent dust dispersion and harmful runoff.<sup>88</sup> Air pollution increases the population's exposure to hazardous substances, as well as contributing to the dispersal of pollutants across a larger area. This has also been expressed in a complaint from the inhabitants of nine villages to the authorities in Tamil Nadu: *"The above villages are heavily affected by the pollution of M/S Sterlite India Limited by the waste materials stored in that site about more than one million tonnes and the poisonous Sulphuric Acid Gas emitted during the production."*<sup>89</sup>

As mentioned earlier, the Indian government has ordered Sterlite to conduct health surveys in the area, but this does not seem to have been observed.<sup>90</sup> Consequently, there is no documentation to substantiate the actual occurrence of health damage. Nevertheless, on the basis of the aforementioned information on poisonous emissions and a lack of clean-up and containment, the Council finds that there is an unacceptable risk that the pollution harms, and will continue to harm, the local population.

## 5.2 Madras Aluminium Company Ltd (Malco)

The Madras Aluminium Company Ltd. (MALCO) was established in 1965. In 1995, the Sterlite group acquired the company,<sup>91</sup> and today Vedanta Resources is the principal shareholder with an ownership stake of 80 per cent.<sup>92</sup>

Malco is an integrated aluminium complex including captive bauxite mines (Yercaud and Kolli Hills), a refinery, a smelter and a coal-based power plant. The complex is located near Mettur Dam (in the state of Tamil Nadu), which is one of the biggest water reservoirs in Southern India (the Stanley Reservoir).<sup>93</sup> Encompassing an area of more than 60 sq. km, the mining operation uses trucks to carry the bauxite to the refinery. Transport routes run through densely populated villages, and the cargo generally remains uncovered.<sup>94</sup> The refinery has a production capacity of 80 000 tons of alumina, while the smelter's capacity is 40 000 tpa of aluminium.<sup>95</sup> In the aluminium production the smelter uses Söderberg technology.

### 5.2.1 The accusations against Malco

The accusations against Malco have centred on the disposal of red mud, which is a residue generated by bauxite refining. There have also been reports that Malco's mine, smelter, and power plant inflict considerable environmental impact and health burden on the local population, as well as repeated work accidents and hazardous working conditions.

In its assessment, the Council's pays particular attention to the disposal of red mud.

### 5.2.2 The refinery at Mettur Dam

Bauxite ore is mined as a raw material for alumina (aluminium oxide) production, which in turn is used to produce aluminium. The bauxite is washed, ground, and dissolved in a caustic solution under high pressure, producing alumina and red mud.<sup>96</sup> Consisting mainly of silicon oxide, iron, titanium, and calcium oxide, red mud is the residue from the process. It may also contain traces of arsenic, chromium, zinc, and cadmium.<sup>97</sup> As a result of the caustic washing, red mud is highly alkaline (pH of 13.2 or more).<sup>98</sup> It is a finely grained substance that turns powdery when dry.

During a visit to the Mettur plant in April/May 2005, the *Indian People's Tribunal on Environment and Human Rights* (IPT)<sup>99</sup> made the following observations regarding waste management: "On 29 April, 2005, the IPT panel visited a massive "Red Mud" dump on the banks of Stanley Reservoir. A thin bund separates the Red Mud dump from the Reservoir. According to locals, at the reservoir's high water mark, water comes up to the bund level. They say heavy rains can cause a breach in the embankment that would empty the entire dump into the reservoir." The report continues: "During its visit, the Panel observed that Red Mud, in the form of a viscous sludge, was being trucked and dumped atop the existing dump. Entire hillsides are covered and filled with Red Mud. The sun-dried red mud is churned up as super-fine powder by the trucks or any passing vehicle. The panel noted that none of the workers or the drivers handling the waste had any form of protective gear except their own handkerchiefs." The IPT also points out that the dump is unsecured and easily accessible from all sides.<sup>100</sup> Other surveys commissioned by the Council confirm such findings.<sup>101</sup>

According to Vedanta's annual report for 2006, Malco generates more than 136 000 tons of red mud a year.<sup>102</sup> In the same report, Vedanta conveys an impression of good waste management at the plant: "a pioneering initiative taken by Malco for red mud disposal has been welcomed by the pollution control authorities and is becoming recognised as a benchmark in the industry with other alumina manufacturers being advised to adopt this practice."<sup>103</sup> According to the company, all red mud produced after January 2006 is used as an additive in cement production.<sup>104</sup>

In order to use red mud as an additive in cement, it has to be neutralized or treated in some other way. The company does not provide any information as to how this is done. The Council has not found sources that substantiate such comprehensive use of red mud in cement production in any other place.

To the Council's knowledge, fresh red mud was dumped in the deposit sites as late as early April 2007.<sup>105</sup> Consequently, the Council finds reason to raise doubts about Vedanta's claims of good waste management. And even if the company no longer should dispose of red mud on site, the existing dumps will still represent a threat to the local population and the environment as long as they remain unsecured.

### 5.2.3 Environmental and health effects

#### *Red mud disposal*

There is a considerable risk that the disposal of red mud may contaminate the water reservoir and rivers that flow out of it if the embankment bursts. It is also likely that caustic soda leaks into the groundwater rendering it unsuitable as drinking water. Heavy rainfall may cause the sludge to leak and spill over the embankment, or make the embankment burst.<sup>106</sup> The risk increases proportionately with the filling level at the dump. *"The Red Mud dump is a disaster waiting to happen,"* according to the panel from the *Indian People's Tribunal*.<sup>107</sup>

The water reservoir is a drinking water source, and the population living downstream from the reservoir depends on it for farmland irrigation.

During summer, the dust blows from the red mud dump into residential areas. The dust contains potentially harmful substances such as silica and residues of caustic soda.<sup>108</sup> The hearing held by the IPT during its visit to Mettur includes the following statement: *"Red mud from Malco is dumped near our house, which is carried into our house by the wind. The odour is intense and causes a lot of breathing problems...All villages lining the Red Mud dump experience breathing distress during summers when Sooravali (whirl-wind) winds blows the dust into the villages."*<sup>109</sup> Moreover, the deposit site poses a safety risk. It has not been secured, and there are reports of many incidents with livestock entering the deposit site and suffering burns or being lost.<sup>110</sup> To the Council's knowledge, these losses have not been compensated for by Malco.<sup>111</sup>

The deposit site also seems to provide dangerous working conditions. Workers are not equipped with protection against the dust or the chemicals. During its visit, the IPT witnessed the following: *"The workers were covered from head to toe in a fine layer of Red Mud dust. None of them had any protective gear, although all had covered their noses and mouth with handkerchiefs or other pieces of cloth. Despite the caustic nature of the Red Mud, most of them were casually clad in ordinary shoes or even sandals."*<sup>112</sup> The Council is not aware that Malco has responded to the complaints from the local population or the allegations of poor working conditions.

The aforementioned reports indicate that red mud disposal as it is practiced at Malco's plant represents a risk of severe damage to the environment and to the health of workers and local residents. Moreover, the dust from the dumps will cause the pollution to disperse over an even larger area. This is not in compliance with international guidelines for red mud disposal, which prescribe the use of contained and secured deposit sites (with bottom and side lining), as well as regular water sprinkling of the facilities to avoid dust dispersion.<sup>113</sup> Long-term treatment may include neutralizing and covering the deposit sites with soil for planting.

*Other areas of MALCO's operation*

The company's mining activities, the pollution from its smelter and power plant, and the conditions workers are subject to have also been strongly criticized in light of their environmental and health impact.

Malco's bauxite ore is found in ridges, and the bauxite is mined by removing the crest of the ridge. Overburden and waste rock are mixed and dumped in the slopes rather than being used for land reclamation. This extraction method has significant adverse effects on the water balance in the area, threatening to dry out the plains below. Flora and fauna will suffer the effects of increased erosion risk. The local population describes how streams have dried up and farm land is being flooded in the rainy season, making agriculture difficult in the area.<sup>114</sup>

The smelting and refining of aluminium may cause considerable air pollution in the form of fluorides, PAH,<sup>115</sup> dust, SO<sub>2</sub>, and significant amounts of greenhouse gases. The emissions will depend on the processing technology, the operation of the plant, and the cleaning technology. Malco's smelter uses so-called Söderberg furnaces, which are generally more polluting than the process known as prebake.<sup>116</sup> In its CSR Report, Vedanta informs that Malco is in the process of implementing a cleaning facility to reduce the emissions of fluoride and is taking steps to reduce the amount of dust.<sup>117</sup>

Local residents, however, experience that the air pollution has deteriorated, that they are falling ill, and that the working conditions at the smelter are hazardous. Reports tell of unqualified and contract labour being used for dangerous tasks without training; high incidence of accidents and injuries; and workers becoming sick because of air pollution in the furnace halls.<sup>118</sup> Malco has also been accused of not paying compensation to workers who have been injured.

Furthermore, there are reports of considerable pollution from the coal-fired power plant and the handling of coal. The *Indian People's Tribunal on Environment and Human Rights* sums up its hearing in the local community thus: "Air pollution from the refinery/smelter complex, soot deposits from the Thermal power plant, and regular noise pollution (including explosions) in the Thermal power plant comprise the bulk of pollution-related complaints from the community."<sup>119</sup> The coal is transported by an open conveyor belt from the storage facility and into the power plant. The conveyor belt crosses residential areas, exposing people to a substantial amount of coal dust pollution.<sup>120</sup> In such circumstances, there is a risk of health ailments that may be related to soot and sulphur emissions (skin burns, respiratory diseases etc.).

### 5.3 Bharat Aluminium Company

Bharat Aluminium Co. Ltd. (BALCO), a formerly state owned company, was acquired by Sterlite Industries in 2001.<sup>121</sup>

BALCO operates the *Mainpat and Bodai-Daldali bauxite mines*, both located near Chhattisgarh. According to the company, Mainpat is currently the primary operative mine with a production of 565 300 tpa of bauxite in 2005-06.<sup>122</sup> The method of mining is open cast, and the excavated ore is sorted and trucked to the so-called Korba complex for further processing into aluminium and aluminium products.<sup>123</sup>

Accusations against the company include labour rights violations, intimidation and harassment of workers, as well as forced eviction of tribal peoples from their villages. Balco is criticised for deplorable wage conditions and, in part, for dangerous working

conditions at the Mainpat and Bodai-Daldali bauxite mines. Moreover, the company is accused of harassing striking workers and illegally cutting down 50 000 trees in connection with the expansion of the Korba project.<sup>124</sup>

The Council has centred its assessment on the accusation of forced eviction of tribal peoples.

### 5.3.1 Forced eviction of tribal peoples

In 2005, Vedanta carried out test drills for bauxite at Bodai-Daldali, in the Kawardha district of south-western Chhattisgarh, and by mid 2006 a new bauxite quarry was on stream. Bodai-Daldali is in the immediate vicinity of the Kanha National Park, one of the most renowned protected forest areas in India.<sup>125</sup> The company's lease area covers 20 sq. km. atop a plateau overlooking the national park. The plateau is and has been home to four so-called *Adivasi* (tribal) villages.

Concerning the mining operation, the company has been accused of having forcefully evicted tribal peoples without sufficient compensation to provide for their subsistence. In 2005 the villagers of Baigha were driven out of their homes without due legal process and relocated to an existing community on the plains.<sup>126</sup> The Baigha families were given housing built by Balco, but had to leave farmland, crops, and livestock behind. Apparently, they now have to survive on half of the area they once possessed.<sup>127</sup>

It has been reported that twenty families were forced to move from Bodai-Daldali between April and July 2005.<sup>128</sup> Chhattisgarh's Chief Minister, Ramon Singh, has in this respect stated that the families' living conditions are unacceptable, and that the mining operation has completely devastated their homes and livelihood. He has also said that the families should be given "*early and proper rehabilitation*" and "*sufficient and safe agricultural and housing land to compensate.*"<sup>129</sup>

After a visit to Bodai-Daldali in March 2006 the Indian filmmaker Vinod Raja confirmed that another 30 families had suffered the same fate and were living under similar difficult conditions.<sup>130</sup> These families were forced to leave the areas that originally belonged to them once the mining operation encroached on their farmland and village.

According to information the Council has been given access to, three out of four villages (Kesra, Sapnadar and Bareema) were destroyed by February 2007, while tribal people in another village (Kudaridih) had been, or were being, expelled.<sup>131</sup> Of the 112 individuals who lost their land, only 50 seem to have received compensation from the company, to the amount of 12 000 rupees (NOK 1680) per acre.<sup>132</sup>

The Council is aware that the *Samatha Judgement* of 1997,<sup>133</sup> pronounced by the Indian Supreme Court, establishes that *Adivasi* (tribal) areas, so-called *Schedule V* areas, cannot be transferred to private companies (see detailed discussion in section 5.4.6). It may seem as if Balco's refinery in Korba is situated inside such an area,<sup>134</sup> but it is unclear whether the tribal peoples have been evicted from a *Schedule V* area.

## 5.4 Vedanta Alumina Ltd.

Vedanta Alumina is currently building a new integrated aluminium complex in the state of Orissa, Eastern India. The operation includes the annual extraction of 3 million tons of bauxite from a mine in the Niyamgiri Hills; a 1-1.4 million tpa alumina refinery in Lanjigarh, at the foot of the Niyamgiri Hills; and a smelter of 250 000 tpa capacity at Brundamal, in the Jharsaguda district, some 350 km from the refinery.



The company has not yet received a mining licence, but tribal peoples living in the Niyamgiri Hills have been forcefully expelled from the area. The refinery is completed, and construction work on the smelter is under way, with production expected to start in the second half of 2009.<sup>135</sup>

The Council's assessment refers to the planned mining operation and the refinery.

The Council is also aware that Vedanta is accused of illegally having started construction work on the smelter at Brindamal, Jharsaguda, eliciting complaints to the Orissa State Pollution Control.<sup>136</sup> The Council has not given an account of this case, but notes that the Orissa State Pollution Board in a letter of 8 February has ordered the company to stop the construction of the smelter until a permission from the authorities has been given:

*"The Regional Officer, SPC Board, Sambalpur has reported that you have started civil construction and mechanical erection of power plant, smelter plant, and green anode plant with approach road without obtaining environmental clearance from MoEF, Govt. of India. You are therefore, directed to stop all construction activities till you obtain environmental clearance from MoEF, Govt. of India, New Delhi and report compliance."*<sup>137</sup> The Council is ignorant of whether the construction activities have come to a halt.

#### 5.4.1 Accusations against Vedanta Alumina

As regards the planned mining operation in the Niyamgiri Hills, Vedanta is accused of contributing to human rights violations, including forced evictions, threats and abuses against local residents. It is also criticized for breaking national laws and for misleading the authorities by providing false information so that the environmental clearance for the refinery was issued on a wrong basis. There are claims that the mining operation will cause severe and irreversible effects in an area of particular ecological value, and that the pollution and waste discharge from the refinery will damage the water supply and contaminate the area's drinking water sources.

In 2004/2005, the Central Empowered Committee (CEC), a committee appointed by India's Supreme Court, investigated the allegations from the local population and several NGOs by means of extensive hearings and reports. The CEC accounts form an important basis for the Council's assessment of this case.

#### 5.4.2 Mining in the Niyamgiri Hills

In 2003, Vedanta signed a Memorandum of Understanding with the Orissa state government regarding the construction of a refinery for alumina production, a coal-based power plant, and a mining development at Lanjigarh in the district of Kalahandi.<sup>138</sup>

The planned mining operation will be located in the north-western part of the Niyamgiri Hills, in South Orissa. The area belongs to the Eastern Ghats range and lies 65 km from Bhawanipatna city in Kalahandi district, Orissa.<sup>139</sup> The hill range is covered by 250 sq. km of forest,<sup>140</sup> and the proposed refinery and mining site will occupy 6.6 sq. km, of which the refinery itself claims some 60 000 sq. m. of forest.<sup>141</sup>

Vedanta plans to extract 3 million tpa of bauxite from the reserves, which have an expected lifespan of 23 years. Opencast mining is the proposed method.<sup>142</sup> The bauxite will be crushed and transported by a conveyor belt to the refinery at the foot of the hill.<sup>143</sup> It is expected that the mining will lower the topographic level by some 10 to 15 meters.<sup>144</sup>

The Niyamgiri Hills are home to several tribal peoples, among them the *Dongaria Kondh*.<sup>145</sup>

The mining project will imply that 102 families must be moved from the area. Some of these have already been relocated because of the construction work on the refinery (see section 5.4.6 for further details).<sup>146</sup> Vedanta has applied for permission to mine in the area, but so far this has not been granted.

*Potential environmental effects of the mining operation*

The Niyamgiri Hills form a biologically rich and diverse habitat, as well as being the catchment area for several water systems. Due to the area's biodiversity, the Orissa has proposed to preserve part of it as an elephant sanctuary.<sup>147</sup> The area is also the habitat of leopards, tigers, many bird species, and rare plants (including medicinal plants), among which several are endangered.<sup>148</sup>

Bauxite is a porous rock with great water retention capacity. The rock's water conserving properties makes it absorb the precipitation in the rainy season and slowly emit it during the whole year. Many perennial streams have their springs in the Niyamgiri Hills, constituting a permanent water source for a large area.<sup>149</sup>

The *Chief Conservator of Forests* at the MoEF's regional office in Bhubaneswar has inspected the planned mining site, stressing in his report a concern that the interventions may alter the inflow of precipitation and natural drainage systems.<sup>150</sup> The survey made by the *Wildlife Institute of India* also called attention to the danger that the mining operation may cause desiccation and reduce the flow to two of the larger rivers, the Vamsdhara and the Nagvalli.<sup>151</sup> These are two of South Orissa's main rivers and supply millions of people with drinking water and irrigation. Moreover, the assessment is that the groundwater resources most probably will be adversely affected both with regard to quantity and quality, and that there will be a risk of perennial streams drying up. The mining project will also cause increased erosion and pollution of the water systems, which in turn will deteriorate the water quality and have a negative impact on riverine habitats.<sup>152</sup> The *Wildlife Institute of India*, which has assessed the consequences of the mining operation, claims that: "the threats posed by the proposed project to this important ecosystem will lead to irreversible changes in the ecological characteristics of the area."<sup>153</sup>

### 5.4.3 The refinery at Lanjigarh

At the foot of the Niyamgiri Hills Vedanta is building a refinery for alumina production with an annual capacity of 1-1.4 million tons. The proximity to bauxite deposits has played an important part in the choice of location.<sup>154</sup> The production process will be the same as for Malco's plant, see section 5.2.2. A 75 MW coal-fired power plant will meet the energy demand of the mine and smelter.

In addition to alumina, the refinery will produce 2-3 million tons of red mud a year. To the Council's knowledge, there are plans for red mud disposal in artificial ponds located on the banks of the Vamsdhara River.<sup>155</sup> It is this aspect in particular that has drawn much criticism. In case of flooding, the deposit site may be inundated, or cracks may form in the embankment so that the waste flows into the river. Besides, heavy metals and chemicals may seep into the groundwater and affect the water quality across large areas.<sup>156</sup> Even if the waste is disposed of in dams, there is a risk that the dams may dry up in the summer season, causing the dust from the dumps to be spread by the wind in a similar way to what has been experienced at Malco's red mud deposit sites (see section 5.2.3).<sup>157</sup>

The refinery will consume considerable amounts of water, and the environmental impact assessment contemplated the Vamsdhara River as a water source.<sup>158</sup> More recently the

company has decided to draw water from another river, the Tel. The environmental consequences have not been evaluated, and according to the CEC the company provides misleading information and plays down the potential negative effects this may have.<sup>159</sup>

#### 5.4.4 Misinformation and breaches of laws and procedures

From the outset the mine and the refinery have been regarded as an integrated project, also by Vedanta, seeing as the location of the refinery in the vicinity of the bauxite mine is considered important to the project's profitability. Since the Niyamgiri Hills are home to several tribal peoples (see section 5.4.6) and because of the environmental implications described above, the mining project has encountered considerable local resistance. Vedanta is accused of having given misleading information to the authorities in order to increase the chances of gaining a mining licence. Other complaints include deliberate concealment of the fact that forest areas are also part of the refinery project and start-up of construction work before receiving the authorities' approval.<sup>160</sup>

The *Central Empowered Committee* has investigated the case, submitting a report and a recommendation to the Supreme Court regarding the project in September 2005, as well as a supplementary report in February 2006.<sup>161</sup> These reports have formed an important basis for the Council's assessment.

In 2003, Vedanta applied to the Ministry of Forests and Environment (MoEF) for an environmental clearance for the refinery. In its application the company provided wrongful information to the effect that the refinery would not require forest land. Thus Vedanta avoided having to apply for reallocation of forest land, which in turn is a prerequisite for the authorities' evaluation of the so-called *environmental clearance* for the project. The records show that the MoEF originally wished to consider the environmental clearances for the refinery and the mining operation at Niyamgiri jointly.<sup>162</sup> However, Vedanta argued that the project could not be treated as one unit, as it would take three years to build the refinery, but only one year to open the mine. On 22 September 2004, the company was granted the MoEF's environmental clearance for the construction of the refinery independently of the mining project. The approval establishes that the refinery will not require the use of forest land.<sup>163</sup>

However, the CEC's investigative report shows that Vedanta one month earlier, on 16 August 2004, while the application regarding an environmental clearance for the refinery was being processed, had submitted an application for reallocation of forest land to the Forest Department at the MoEF. From the application it appears that the company will have to use forest land for the construction of the refinery, including preservation areas.<sup>164</sup> This elicited the following declaration from the CEC: "*Thus though forest land was required for the project, the environmental clearance was sought stating that no forest land was required and during the pendency of the application for the environmental clearance, a proposal for the use of the forest land for the same project was submitted for seeking the approval under the FC [Forest Conservation] Act.*"<sup>165</sup>

Vedanta continued the construction of the refinery. In February 2005, the MoEF's Forest Department issued a so-called *show cause notice* to the company for violation of the Forest Conservation Act and for having cleared and levelled woodland. On 23 May 2005, the Ministry ordered the construction work at the refinery to stop. Vedanta then argued that the refinery could be built without using forest land after all, and that the MoEF's imposition was therefore not relevant.<sup>166</sup> The company then withdrew the application regarding use of forest land, something which the Ministry accepted after recommendations

from Orissa state authorities. At the same time the Ministry revoked the stop order given to the company. On this basis the CEC concluded: *“Apparently, the proposal for obtaining forest clearance has been withdrawn by M/s Vedanta to basically circumvent the ‘stop work’ order issued by the MoEF,”* and *“If the forestry clearance proposal itself had not been withdrawn by M/s Vedanta and the withdrawal not accepted by the MoEF, the work on the alumina refinery would necessarily have had to be stopped till the entire matter was examined by this Hon’ble Court.”*<sup>167</sup>

The CEC regards Vedanta’s procedure in this case as a grave breach of laws and regulations. Seeing as the company has provided inaccurate information about the project, the environmental clearance has been issued on the wrong basis. The Committee also points out that the clearance for the refinery and the mining project cannot be processed separately since the operation of the refinery is dependent on bauxite from the Niyamgiri Hills, concluding: *“By delinking the alumina refinery project from the mining component an undesirable and embarrassing situation has been allowed to happen (by the MoEF) where in the event of Niyamgiri Hills forest not being approved under the FC Act for mining lease, the entire expenditure of about Rs. 4000 crore on the alumina refinery project may become infructuous as the project is unviable in the absence of Niyamgiri Hills mines.”*<sup>168</sup>

In its report to the Supreme Court, the CEC therefore recommended that the environmental clearance for the refinery project be revoked and the mining operation at Niyamgiri banned.<sup>169</sup> The Supreme Court did not pronounce on the CEC recommendation, but referred the case to the MoEF for further analysis. The MoEF engaged the *Wildlife Institute of India* (WII) to examine the mining project’s expected impact on the biodiversity of the Niyamgiri Hills. The report was to be presented in court on 13 October 2006 with the Ministry’s recommendation to the Supreme Court, but during the session the MoEF requested a postponement.

The CEC prepared a new report on Vedanta, commissioned by the Supreme Court and submitted in January 2007, in which the conclusions of its previous report are confirmed and partially reinforced. The CEC concludes as follows: *“The expenditure incurred by the Company [Vedanta] on the refinery reveals the certainty of their expectation to get the clearance under the F.C. Act since they would be presenting a fait accompli situation before the concerned authorities and for this scenario M/s Vedanta alone are responsible. Such cavalier attitude towards the laws of the land needs to be discouraged.”*<sup>170</sup>

The Council does not know when the case will be heard by the Supreme Court. Even if the legal issues relating to the production permit have not been solved, Vedanta informs that the refinery is practically ready, and that test production has been initiated.<sup>171</sup>

#### **5.4.5 Expected environmental impact of the refinery**

It seems fairly clear that the proposed location of red mud deposit sites will imply a considerable risk of environmental and health damage, similarly to what has occurred at Malco’s plant. The company has attempted to bend laws and rules, it has provided misleading information regarding important parts of its operation, and the environmental impact assessment has not been satisfactorily elaborated. These factors contribute to an enhanced risk that the company will cause severe environmental and health damage.

#### **5.4.6 Involvement in human rights violations**

There are allegations that the company’s Lanjigarh/Niyamgiri project has had a very negative impact on the local population’s way of life. Families have been intimidated and threatened, tribal peoples have been forcefully evicted from protected areas, villages

have been destroyed, and some tribal peoples face the threat of extinction because of the displacement. Moreover, the company has been accused of involvement in local police actions against protesters who oppose the evictions.<sup>172</sup>

In connection with the preparations for the refinery four Adivasi villages in the area have already been levelled to the ground and the tribal peoples have been moved to new settlements.<sup>173</sup> There has been, and still is, considerable local opposition to the project.

According to the *Supreme Court Central Empowered Committee* (CEC) the land allocated to Vedanta in Orissa is part of a so-called *Schedule V* area.<sup>174</sup> This means that land cannot be transferred to private companies without the consent of the affected tribal peoples. According to the law, a "*Gram Sabha*"<sup>175</sup> (a village meeting) must be held, including all villages that will be affected by the mining project, in this case 12 villages and 5 000 inhabitants.<sup>176</sup> The approval from the *Gram Sabha* through a *No Objection Certificate* is necessary in order to validate the transfer of land.<sup>177</sup>

A *Gram Sabha* was held on 26 June 2002. According to the Indian human rights organisation *Samata*, not one of the 12 villages gave a written consent to the transfer of land to Vedanta. Despite this, it seems as if the *Gram Sabha* approved it.<sup>178</sup> It is unclear why this happened. In the period leading up to the village council, local meetings and demonstrations were staged to protest against the project.<sup>179</sup> Several organisations in the area think that the local population may have been intimidated and threatened to vote against their own interests. It has been reported that Indian authorities visited the area several times to persuade the local population to voluntarily give up land in return for promises of compensation,<sup>180</sup> and there have been accusations that the police, cooperating with security guards employed by Vedanta, were used to intimidate residents.<sup>181</sup>

The opposition against the project seems to have gained momentum after the *Gram Sabha*, and there have been reports that the local population during a demonstration against the project was physically attacked by gangs who allegedly are financed by Vedanta.<sup>182</sup> A fact-finding committee from the People's Union for Civil Liberties (PUCL) visited four villages in the project area two weeks after this occurrence and observed visible injuries on more than twenty people. Similar alleged assaults are referred to in the CEC's investigative report: "*many were beaten up by the employees of Vedanta.*"<sup>183</sup> "*An atmosphere of fear was created through the hired goons, the police and the administration,*" and "*many of the tribals were badly beaten up.*"<sup>184</sup> According to *Amnesty International*, which has conducted surveys in the area, the police tried to stop local residents from protesting.<sup>185</sup> *Amnesty* also claims that "*a large number of subsidiary criminal elements (around 100) from neighbouring towns such as Kesinga and Bhawanipatna operate in these areas using modern four-by-four cars (numbering 25) and intimidate local communities who dare to protest,*" and "*there have been numerous instances of strong surveillance, harassment and intimidation by these elements, who, it is alleged, act on behalf of Vedanta.*"<sup>186</sup>

#### *Displacement of tribal peoples and effects on their way of life*

In the CEC report on Vedanta's project from September 2005, the CEC states that the mining operation will lead to the forced displacement of 102 families.<sup>187</sup> It makes reference to, but does not assess, the serious allegations levelled at the company regarding "*the use of force for evacuating the tribals from their land, non-payment of compensation to the tribals who were traditionally using the Government land for cultivation etc. (by way of encroachment, for which the State Government stands committed to regularize), no land for the settlers, (and) emotional attachment of the tribals with their land etc.*"<sup>188</sup> According to *Amnesty*, "*life in the rehabilitation colony for them (103 displaced families) [means] living in the shadow of the company; from time*

to time, they have had restrictions on their freedom of movement and it is not easy for other local communities and media persons to freely interact with them. They are subject to full scale monitoring by the company which details several welfare measures for them.”<sup>189</sup> The CEC goes on to observe that this is denied by the government and the company, and that both parties claim the mining project will not have any negative impact on the tribal peoples.

It may seem as if the tribal peoples were not duly consulted with regard to the future use of their land.<sup>190</sup> The population was promised market price with an extra 30 per cent for their properties, new land in another village to those who would have to leave their homes, and work for those who had an education.<sup>191</sup> These promises have evidently not been honoured by the company. Even if the company provided some compensation to the displaced families by creating a rehabilitation colony, the CEC concluded that this would not be tantamount to a sustainable livelihood since no pastures or farmland or other possibilities of income generating activities were offered.<sup>192</sup> The rehabilitation colony has been criticized for placing tribal peoples in a community completely unsuitable to their way of life.<sup>193</sup> The CEC also criticised its location vis-à-vis the Niyamgiri Reserved Forest: “The location of the rehabilitation colony has been decided totally ignoring the interest of the conservation of forests. It is just a few meters away from the Niyamgiri Reserved Forest. Adverse impact of this colony and the labour force staying near the forest is already visible.”<sup>194</sup>

In the media Vedanta has denied allegations of wrongdoing, claiming that it has neither “alienated tribal land nor caused any damage to forests.”<sup>195</sup>

The area which will be encompassed by the mining operation is home to 8 000 members of the *Dongaria Kondh* tribe (living in around 90 settlements scattered across the whole area) and 2 000 members of the *Majhi Kondh* community (living in around 10 villages, mainly at the foot of the hills).<sup>196</sup> In a recent documentary that the Council has been given access to, some concrete examples are presented of how the company’s actions affect local tribes such as the *Dongaria Kondh*.<sup>197</sup> The film describes how four villages were razed by bulldozers to prepare for the construction of the refinery. It also shows how walls were erected to encircle the villagers’ houses, and how these walls have barred them access to land and forests, deprived the tribe of their livelihood and thus forced them to abandon their homes. The *Dongaria Kondh* explain that they will not be able to survive without hills and forests, emphasizing the spiritual attachment to the mountain as an important element of their culture. Through many generations they have protected the mountain and avoided any intervention because the mountain is sacred to the tribe. This is also one of the reasons why considerable ecological values worthy of preservation remain intact in the Niyamgiri Hills.

The Niyamgiri Hills constitute the only traditional home to the *Dongaria Kondh*, and it is doubtful whether the tribe will survive a mining operation in the area. According to *Amnesty International* there is a real danger that the tribal people’s rights to water (drinking water and irrigation), to free movement within the forest area, and to health will be significantly encroached upon by the mining operation. In the longer term, the tribe’s whole subsistence is threatened by destruction, with forced evictions resulting in the extinction of tribal culture. Amnesty’s warning is as follows: “This is likely to lead to a situation of forced evictions of persons belonging to the local communities, slow dispersal and eventual absorption by other communities.”<sup>198</sup>

As mentioned, tribal peoples in India who live within specified areas are protected by the Indian Constitution, as well as by national and state legislation. The so-called *Fifth Schedule* of the Indian Constitution<sup>199</sup> deals with the administration and control of sched-

uled areas and scheduled tribes. The provisions of the Constitution are designed to protect the tribal peoples (*Adivasi*) who live in these areas. In addition to the Constitution, both national and state laws give tribal peoples rights to land and natural resources in these areas. The *Fifth Schedule* applies to geographically defined areas in 9 Indian states: Andhra Pradesh, Jharkhand, Gujarat, Himachal Pradesh, Maharashtra, Madhya Pradesh, Chhattisgarh, Orissa, and Rajasthan.<sup>200</sup>

The landmark Supreme Court judgement *Samata v. State of Andhra Pradesh (AP)*<sup>201</sup> was pronounced in the Indian human rights organisation Samata's case against the Andhra Pradesh government, on behalf of tribal peoples who were victimized by the authorities' decision to give a private mining company the rights to mine their land. The court banned the transfer of land and concession of mining licences to non-tribal individuals/companies within Schedule 5 areas. The judgement states that the lease of land by the government to a private company in "Scheduled areas" is void: "...the transfer of the land in Scheduled areas by way of lease, for mining purposes in favour of non-tribals stands prohibited by para. 5 (2) (b) of the 5<sup>th</sup> Schedule read with Section 3 of the Regulation," and "... a transfer of mining leases to non-tribal natural persons or company, corporate aggregate or partnership firm etc., is unconstitutional, void and inoperative."<sup>202</sup>

The *Majhi Kondh*, *Kutia Kondh*, and *Dongaria Kondh* tribes live in the Niyamgiri Hills in Orissa, which are a *Schedule V* area. According to the CEC these communities are found within the acreage allocated to Vedanta. The transfer of this area to the company thus seems to be at odds with the Supreme Court judgment in the *Samata v. State of Andhra Pradesh (AP)* case.<sup>203</sup>

## 6 The company's response

The company has been informed of the basis for the accusations regarding environmental damage and involvement in human rights violations related to its operations in India. Through Norges Bank, the Council wrote to Vedanta Resources on 15 March 2007 requesting the company to comment on the draft recommendation by 10 April. At the same time the company was informed that the Council would issue a recommendation for exclusion on 15 May if the company did not respond to the Council's enquiry. At Vedanta's request, on 2 April the deadline was extended to 20 April. On 23 April the company was contacted once more, and it then indicated that a reply would be sent within a few days. As of 15 May the company has still not responded to the Council's enquiry.

Without offering any concrete details, Vedanta's website proclaims that the company conducts its business in an environmentally and socially responsible manner, based on the principles of sustainable development.<sup>204</sup> The problems it is facing with regard to the approval of industrial plants or the conflict with indigenous people and local communities receive no mention on the website, in annual reports or other company publications.

However, in the press Vedanta has commented that the mining operation in the Niyamgiri Hills has been put on hold, and that the company is awaiting the Indian government's approval.<sup>205</sup> In this context, the company claims that "there has been no forcible eviction and no single complaint has ever been filed suggesting any kind of forcible eviction from the settlement. All the people at Lanjigarh who have been displaced have been offered full rehabilitation, and compensation for purchased land has been paid out at twice the government rate."<sup>206</sup> The company also argues that "the new accommodation is close to plenty of grazing land where those who have animals are able to graze them."<sup>207</sup>

At Vedanta's 2006 shareholders meeting in London criticism from some shareholders that the annual report did not mention the protests against the Lanjigarh project elicited the following response from a company representative: *"As with all large development projects, there are controversies, but the company has experienced a limited amount of protests which are not disrupting the operational environment of the company."*<sup>208</sup>

## 7 The Council's assessment

Based on available documentation, the Council has assessed whether the environmental damage and the human rights violations that Vedanta Resources is being linked are inconsistent with the Ethical Guidelines, point 4.4.

The Council accepts as a fact that Vedanta Resources in its capacity as majority shareholder and chair of the board has exercised, and continues to exercise, considerable influence over the subsidiaries discussed in this report.

### 7.1 Severe environmental damage

The first element in the evaluation of whether the company causes severe environmental damage refers to the *scale of the damage and to what extent it has irreversible or long-term effects.*

In this respect the Council has investigated three Vedanta subsidiaries that operate in India, basing its assessment on the information provided in Chapter 5. On the whole, these companies generate considerable amounts of pollution and hazardous waste. At Sterlite's Tuticorin plant the Council finds it probable that the enormous quantities of hazardous waste, the unsecured deposit sites, and the poor waste management have led to substantial and long-term heavy metal contamination of soil and groundwater that will persist even if the production should cease. With regard to Malco's activities, the Council finds that the company's handling of red mud may cause severe environmental damage. There is a high risk that the unsecured red mud dumps will pollute an important drinking water source, as well as contaminating soil and groundwater. The Council considers there to be a significant risk that such environmental damage may also occur at the new aluminium refinery at Lanjigarh. The disposal of red mud here may cause severe and long-term contamination of groundwater and water systems in the area, a threat that is enhanced by the fact that no environmental impact assessment has been adequately performed. The Council takes into account that the risk of severe environmental damage also has been pointed out by the Supreme Court's *Central Empowered Committee*.

Moreover, the Council finds that the planned mining project in the Niyamgiri Hills may entail considerable negative and irreversible effects on the whole ecosystem of the area. In addition to this area's seemingly unique natural heritage values, the Council attaches importance to the serious consequences the mining operation may have on the water resources in the area. Some thirty rivers have their springs in these hills, two of which (the Vamsdhara and a major tributary to the Nagvalli) supply hundreds of thousands of people in South Orissa and Andhra Pradesh with drinking water and irrigation. Based on the available documentation, the Council finds it probable that the planned mining project may disrupt the water balance in the area and contribute to the drying up of many streams, thus degrading and even destroying the water supply for thousands of people.

Against this backdrop, the Council regards the environmental damage that already has occurred or that may occur as a result of Vedanta's activities as extensive, lasting, and partly irreversible.



The Council notes that all these companies belong to particularly polluting industries, where production technology, cleaning technology, waste management and environmental management systems and control are crucial in order to reduce the environmental impact. Even if the Council has not had access to information that documents all aspects of the companies' operations, it is common knowledge that for example the Söderberg process, used by Vedanta in its aluminium smelters, emits considerable quantities of environmentally hazardous and toxic substances, including carcinogenic agents and substances regulated by several international conventions.<sup>209</sup> The emissions of fluorides, greenhouse gases, sulphur, and the disposal of cathode waste are other important issues in aluminium production. Copper production also causes more kinds of health and environmental strains than those presently evaluated by the Council.

The Council has not received information as to how emissions and waste are managed at Vedanta's coal-fired power plant, which supplies power to the company's refineries and smelters. In addition to greenhouse gas emissions, coal-fired power plants are significant sources of heavy metals emissions, including mercury, and the disposal of fly ash may cause substantial environmental impact. Vedanta Resources does not provide much information on how the company deals with this. In sum, this means that the environmental and health damage (discussed below) caused by Vedanta may be more extensive than indicated by the information available to the Council's assessment.

In the Council's view, it has also been substantiated that the pollution from Vedanta's activities has had *considerable negative impact on human life and health*. The industrial plants are all located in densely populated areas, where the contamination of drinking water, dust and air pollution from Vedanta's refineries, smelters, power plants, and waste disposal sites expose the local population to large amounts of hazardous substances. The phosphogypsum dumps at Sterlite's Tuticorin plant, described in section 5.1.4, generate large amounts of dust containing heavy metals and radioactive substances. The workers and local residents inhale this dust. Similarly, heavy metals contaminate the area's groundwater. It is unfit for drinking, but the local population uses it anyway because they lack alternative sources. The Council also finds it probable that the smelter and the coal-fired power plant contribute to severe air pollution of the area. Both workers and local residents are therefore exposed to hazardous contamination from several sources and over a long period of time. In the Council's view, there is a significant risk that the company may inflict severe and, in part, chronic health ailments on the population. Furthermore, the Council regards the reprehensible handling of red mud at Malco's plant as constituting a significant health hazard. The dust from the dumps is strongly alkaline and contains heavy metals, arsenic, silica and other substances, which, when dispersed by the wind cause serious health effects among workers and local residents. This seems to be a pressing problem at Malco's operation today, and to the Council's knowledge, there is a risk that this will also become a serious issue at Vedanta Alumina's planned red mud dump in Orissa.

Despite considerable discharge of hazardous substances from Vedanta's operations, the Council is not aware that any systematic studies of the actual or potential health effects of the pollution have been carried out. Sterlite has been instructed to conduct such studies, but so far does not seem to have complied with the order. The pollution generated by hazardous substances and the processes used by Vedanta in copper and aluminium production, as well as potential health and environmental effects related to these, are, however, relatively extensively documented in relevant literature.<sup>210</sup> In Norway, and internationally, many of these substances are classified as hazardous because of their

adverse effects on the environment and human health. Taking this into consideration, as well as the available information on the company's activities, the Council finds that there is an unacceptable risk that Vedanta has inflicted, and will continue to inflict, serious and long-term health problems on the workers and local residents.

It is also evident that the mining operations have had far-reaching negative consequences for the people who used to live in the mining area. This issue is discussed specifically in section 5.4.6 on human rights violations.

The third element in the assessment is whether *the environmental damage is a result of violations of national laws international norms.*

As regards the subsidiaries Sterlite and Vedanta Alumina, the Council is satisfied that the companies repeatedly and in the course of many years have violated government requirements on hazardous waste management and discharge reductions as described in the sections 5.1.3 and 5.4.4. These infringements have been investigated several times and documented by, among others, two committees appointed by the Supreme Court. The Council takes as its point of departure that Sterlite has implemented large production expansions without the necessary permits and without an environmental impact assessment. This has contributed to the severe environmental damage described above. The Council also finds that Vedanta Alumina has deliberately provided misinformation to the authorities and evaded laws and procedures in order to guarantee clearance for the mining project and the construction of a new refinery in Orissa. Even if the mining licence has not been granted and the case is to be heard by the Indian Supreme Court, the company has chosen to go through with the construction work on the refinery. The Council would like to stress that the Supreme Court's *Central Empowered Committee* believes that the company has done this deliberately to prevent the authorities from withholding the mining licence.<sup>211</sup>

In this context, the Council also finds reason to point out that the Orissa state government has ordered Vedanta Alumina to stop the construction of a new power plant and an aluminium smelter at Jharsaguda because the company does not possess the necessary clearances (see section 5.3). The Council is also aware of the accusations levelled against Vedanta's subsidiary Konkola Copper Mines in Zambia regarding repeated and continued breaches of environmental requirements, which in November last year caused large-scale spills and severe drinking water contamination.<sup>212</sup> The Council has not analysed these incidents in any more detail, but finds, however, that they are part of a pattern where national legislation, procedures and requirements are systematically ignored. When regulations designed to protect people and the environment against harmful effects are systematically disregarded over a long period of time, the risk increases that severe environmental damage may occur. The gravity of the company's conduct is aggravated by the kind of activities Vedanta engages in – mining and production processes that without environmental and pollution control may generate considerable, long-term and irreversible effects on the environment and human life.

The Council has also assessed to what degree the company has *failed to act in order to prevent the damage or implement sufficient measures to reduce the extent of the damage.* In the Council's view, it is evident that the company has not done enough to prevent or reduce environmental damage, seeing as it is precisely the *lack* of such measures that are at the root of the environmental damage in question.

The last element in the Council's assessment is *whether it is probable that Vedanta's unacceptable practice will continue*. The violations analysed by the Council have taken place over many years and are still on-going. They occur not only in one company, but in all the companies that have been investigated. In the Council's opinion, this indicates a systematic practice, where breaches of the law and an indifference to the damage the activities inflict upon people and the environment seem to be an accepted and established element of Vedanta's corporate culture. The Council therefore finds that there is little reason to believe that the company's unacceptable practice will change in the future.

## 7.2 Human rights violations

In the Council's opinion, it is highly probable that Vedanta's mining operations in the states of Chhattisgarh and Orissa have led to the expulsion of local farmers, and, in particular, tribals, from their homes and land. This constitutes a serious violation of fundamental human rights.

To the Council's knowledge, these violations still occur and include evictions, destruction of homes and farmland, no prior consultation as prescribed by law, and harassment and oppression of villagers. Sections 5.3.1 and 5.4.6 above discuss how the company's operations have considerable negative effects on tribal peoples' culture, religion, and way of life. The tribal peoples living inside the planned mining area in Orissa depend on farmland and forest resources for their subsistence.<sup>213</sup> They have a strong cultural, spiritual, and economic attachment to their land and forest areas. If these are allocated to mining, the communities are in danger of losing their culture and livelihood. In the case of the *Dongaria Kondh*, it has been shown that the tribe will probably face extinction if Vedanta is granted clearance for the planned mining operation in the Niyamgiri Hills, Orissa.

The Council deems it important that the tribal land in Niyamgiri Hills seems, in principle, to be protected by the provisions of the Indian Constitution (Schedule V), and that a transfer of land to private companies in this case may be contrary to the law. This is also pointed out by the *Central Empowered Committee* in its report to the Supreme Court.

The Council regards the breaches of norms that have been revealed as serious human rights violations. The seriousness of the violations is aggravated by the fact that they have been perpetrated against vulnerable groups, tribal peoples in particular, whose identity, culture and livelihood are linked to their traditional land. The forced displacement may thus not only harm individuals, but cause whole cultures and communities to disintegrate.

Even if Vedanta has provided some compensation through offering housing and money, it is not, in the Council's view, likely that this is sufficient to compensate for the loss of land and livelihood. Research conducted on forced displacement shows that housing and money are not enough to avoid a significant deterioration of living standards and quality of life for persons and families that have been moved against their own will. According to the international project *Mining, Minerals and Sustainable Development* (MMSD),<sup>214</sup> there are a series of risk factors that contribute to impoverishment after the dislocation. Such risks include unemployment, homelessness, marginalisation, insecure food provision, loss of common land and resources, increased health risks, lack of social articulation, and loss of civil and political rights. If these risk factors are not mitigated or averted, they may lead to increased poverty or even generate more poverty. Tribal peoples, elderly people and women are considered particularly vulnerable in this context.<sup>215</sup>

The World Bank also calls attention to such circumstances, which form the basis of the bank's policy on "involuntary resettlement": *"Bank experience indicates that involuntary resettlement under development projects, if unmitigated, often gives rise to severe economic, social, and environmental risks: production systems are dismantled; people face impoverishment when their productive assets or income sources are lost; people are relocated to environments where their productive skills may be less applicable and the competition for resources greater; community institutions and social networks are weakened; kin groups are dispersed; and cultural identity, traditional authority, and the potential for mutual help are diminished or lost."*<sup>216</sup>

In the Council's opinion, long-term and irreversible impact on whole cultures and local communities, in addition to individual suffering, are the results of the human rights violations that have been committed. The company's compensation programme does not seem to prevent this, but, on the contrary, may contribute to further impoverish those who have been resettled against their will.

The question is to what extent Vedanta Resources has contributed to the aforementioned human rights violations. The Council finds that there is an indisputable *connection between the company's operations and the violations*. Undoubtedly, the forced resettlement of tribal peoples has taken place as a result of Vedanta's activities. The incidents in both Chhattisgarh and Orissa are linked to an on-going and planned mining operation as well as the construction of a new refinery that Vedanta subsidiaries are in charge of. The Council takes as its point of departure that there is a clear connection between Vedanta's operations and the violations.

The Council has also assessed whether the violations have been perpetrated *with a view to serving the company's interests or facilitating its operational conditions*. The Council accepts as a fact that the violations have occurred in connection with an expansion of Vedanta's activities, particularly mining. Vedanta claims that the company has committed no wrongs and has *"neither alienated tribal land nor caused any damage to forests."*<sup>217</sup> However, in this case the Council finds that the available documentation proves the opposite.

*What is the risk that these violations will also take place in the future?* To the Council's knowledge the violations are on-going, and there is a risk that they will be stepped up if the planned mining project in Orissa becomes a reality. The violations have taken place repeatedly and through various subsidiaries. In the Council's view, this may indicate a systematic pattern of behaviour on the part of the company. The Council has no indication that the company will carry out involuntary resettlements in a better way in the future, nor is there anything to indicate that the conflict between the tribal peoples and the company will diminish once the need for further expansion and new mines arises. Hence, the Council considers there to be an unacceptable risk that previous and on-going violations will continue in the future.

### 7.3 Conclusion

In this case, the Council has assessed the risk of the Fund contributing to both severe environmental damage and human rights violations by maintaining its investment in Vedanta Resources. In this respect the Council has investigated four of Vedanta's subsidiaries and found the accusations against the company of severe environmental damage and involvement in violations and forced dislocation of tribal peoples to be substantiated. In the Council's opinion, the company seems to lack interest in and willingness to do something about the serious and long-term damage that its operations inflict on people and the environment. The norm breaches that have been brought to light with regard to

the environment and human rights have taken place at all the investigated subsidiaries, repeatedly and over several years. In the Council's opinion, this indicates a pattern of behaviour where such violations are accepted and have become an integral part of corporate practice. This pattern represents an unacceptable risk that the company's unethical practice will continue in the future.

## 8 Recommendation

The Council will, after the assessment of the substance of the accusations against Vedanta Resources Ltd., in light of point 4.4 of the Ethical Guidelines, recommend that Vedanta Resources Ltd., as well as its subsidiaries Sterlite Industries Ltd. and Madras Aluminium Company Ltd., be excluded from the investment universe of the Government Pension Fund – Global due to an unacceptable risk of complicity in current and future severe environmental damage and systematic human rights violations.

Gro Nystuen  
(Chair)  
sign

Andreas Føllesdal  
(sign.)

Anne Lill Gade  
(sign.)

Ola Mestad  
(sign.)

Bjørn Østbø  
(sign.)

## Notes

- 1 <http://www.scmc.info/index.htm>
- 2 See recommendations regarding Total S.A., Wal-Mart Stores Inc., Freeport McMoRan Inc., and DRD Gold Ltd.; available at [www.etikkradet.no](http://www.etikkradet.no)
- 3 In the following also referred to as Vedanta.
- 4 <http://www.vedantaresources.com/background.htm>
- 5 Vedanta Resources 2007: Acquisition of Sesa Goa. Investor Presentation April 2007; available at [http://www.vedantaresources.com/uploads/Acquisition%20of%20SG\\_Final.pdf](http://www.vedantaresources.com/uploads/Acquisition%20of%20SG_Final.pdf)
- 6 IndiaInfoline, 10 Jan 2006, <http://www.indiaonline.com/meet/me1022.html>
- 7 <http://www.vedantaresources.com/operationssummary.htm>
- 8 <http://www.vedantaresources.com/uploads/SGD%20Tender%20Successful%20-%20Final%20press%20release%202%20Oct%202006.pdf>
- 9 The company's "complex structure" delayed the UK Financial Services Authority's (FSA) approval process prior to its listing on the London Stock Exchange in 2003.
- 10 <http://www.vedantaresources.com/corporategovernancereport.asp>
- 11 Vedanta Resources plc 2006: Annual Report 2006, p. 115. The other companies seem to be mainly holding and financial companies; available at <http://www.vedantaresources.com/uploads/Vedanta%202006%20Annual%20Report%20V1.pdf>
- 12 See footnote 11.
- 13 See footnote 5 and press release from Vedanta 10 April 2007; available at <http://www.sedar.com/DisplayCompanyDocuments.do?lang=EN&issuerNo=00002387>
- 14 Vedanta Resources plc, Preliminary Results for the Year Ended 31 March 2006, 01.06.06, p.21. The acquisition is only brought into effect once the government has approved the valuation of the company. [http://www.vedantaresources.com/uploads/Preliminary%20Results%202006\\_Final.pdf](http://www.vedantaresources.com/uploads/Preliminary%20Results%202006_Final.pdf)
- 15 See footnote 14.
- 16 Press release from the company on 10 April 2007, available at <http://www.sedar.com/DisplayCompanyDocuments.do?lang=EN&issuerNo=00002387>
- 17 Anil Agarwal and Navin Agarwal are chairmen of the boards of all Vedanta subsidiaries (with the exception of Sesa Goa as of 15 May 2007); see the respective company websites.
- 18 <http://www.iptindia.org/index.php>
- 19 <http://www.indiaresource.org/>
- 20 <http://www.indianet.nl/english.html>
- 21 <http://www.socialwatch.org/en/portada.htm>
- 22 <http://www.minesandcommunities.org/index.htm>
- 23 The Indian Supreme Court Monitoring Committee on Hazardous Waste Management and the Environmental Committee of the Indian Supreme Court; see Chapter 2.
- 24 Fraser, Alastair and John Lungu 2007: For Whom the Windfalls? Winners and Losers in the Privatization of Zambia's copper mines; available at <http://www.minewatchzambia.com/>. This case received ample coverage in the media, for instance in the Times of Zambia: KCM Pollutes Kafue River, <http://www.times.co.zm/news/viewnews.cgi?category=4&id=1162963634> and MineWeb: Konkola Copper pollution licenses to remain suspended. 15.11.06. [http://www.mineweb.net/whats\\_new/421669.htm](http://www.mineweb.net/whats_new/421669.htm)
- 25 See Chapter 2 in this recommendation.
- 26 Jayaraman, Nityanand 2005, "Vedanta Undermines Indian Communities"; available at <http://www.corpwatch.org/article.php?id=12783>
- 27 NewIndPress Bhubaneswar, 04.08.06, House of boil over Vedanta; available at <http://www.minesandcommunities.org/Action/press1181.htm>
- 28 The Indian Express, 05.08.06: 'Favouring' VAL: Government under fire; available at <http://www.minesandcommunities.org/Action/press1181.htm>. Vedanta Alumina's project in Orissa is described in further detail in section 5.4.
- 29 Central Empowered Committee 21.09.05: Report in IA no. 1324 regarding the alumina refinery plant being set up by m/s Vedanta Alumina Limited at Lanjigarh in Kalahandi district, Orissa, para 32; available at <http://www.indiaresource.org/issues/globalization/2005/CECSep2005cancellicense.html>

- 30 Hereinafter "Sterlite"; <http://sterlite-industries.com/index1.asp>. Sterlite Industries (India) Limited was acquired by the Agarwal family in 1986. Sterlite was listed on the Bombay Stock Exchange in 1988 and ON the National Stock Exchange in 2004; see <http://www.vedantaresources.com/corporatehistory.htm>
- 31 Sterlite has a market share of 42 per cent in India. With a market share of 44 per cent, Hindustan Copper Ltd is the other big player, see ICRA Sector Analysis 2005: The Indian Copper Industry; available at <http://icra.in/recentrel/Copper-200505.pdf>
- 32 <http://www.vedantaresources.com/coppersummary.htm>
- 33 <http://www.vedantaresources.com/copperexpansion.htm>
- 34 See footnote 26.
- 35 National Environment Engineering Research Institute (NEERI): Environmental Audit of M/s Sterlite Industries Ltd. Producing Copper Anodes, Sulphuric Acid and Phosphoric Acid at Tuticorin. March 2005, p. 6; on file with the Council.
- 36 Vedanta Resources plc 2006: Annual Report 2006, p. 6; available at <http://www.sterlite-industries.com/refining.aspx><http://www.vedantaresources.com/uploads/Vedanta%202006%20Annual%20Report%20V1.pdf>
- 37 See footnote 36, p. 121. In 2005-2006 the annual production of copper cathode and copper rod was 98 796 tons and 30 384 tons respectively.
- 38 See footnote 36, p. 121.
- 39 The Tamil Nadu Pollution Control Board (TNPCB) is the pollution authority in Tamil Nadu state; see <http://www.tnpcb.gov.in/>
- 40 Letter from the TNPCB to Sterlite Industries 01.08.1994: Regarding issue of NOC (No Objection Certificate); on file with the Council.
- 41 TNPCB 22.05.1995: Consent for the establishment of Sterlite, Order No 16; on file with the Council.
- 42 TNPCB 14.10.1996: Consent to Operate under the Water Act Order No 15481 and Consent to Operate under the Air Act Order No 11451; on file with the Council.
- 43 On its website Sterlite informs that a 25-metre greenbelt now has been established as part of the company's endeavours to protect and preserve the natural environment; see <http://sterlite-industries.com/csr.asp>. This is also confirmed in the TNPCB's inspection report of 28.02.06; on file with the Council.
- 44 NEERI 1998: Evaluation of Pollution Control and Environmental Protection Systems at M/s Sterlite Industries Limited, Tuticorin. Inspection Report. Hon'ble high Court Judicature at Madras, 17 November 1998, p. 22; on file with the Council
- 45 See footnote 44, p. 47.
- 46 See footnote 44 and, for example, <http://www.indiaresource.org/issues/globalization/2004/sterlite.html>
- 47 See footnote 44.
- 48 See footnote 44, p. 69.
- 49 TNPCB 2003: Note to consider the grant of No Objection Certificate for the Expansion Project of the unit of M/S Sterlite Industries, 29.01.2004, Item no. 199.1.10; on file with the Council.
- 50 Jayaraman, Nityanand 2007: Briefing note. Commissioned by the Council, on file with the Council.
- 51 Letter from the TNPCB to the Learned Advocate General of Tamilnadu 24.02.04: Sterlite Industries – Issue of NOC for expansion of copper smelter plant; on file with the Council. Sterlite applied for a permission to increase the production of copper anode from 391 to 900 tons/day, of phosphoric acid from 350 to 800 tons/day, of sulphuric acid from 1060 to 3150 tons/day, and to start the production of 875 tons of copper cathode per day; see footnote 53.
- 52 A company that wishes to start a new unit must first apply for a No Objection Certificate (NOC) from the local Pollution Control Board, and then for a Site Clearance from the Ministry of Environment and Forests (MoEF). If the company is granted these permissions, it may request a construction permit from the local Pollution Control Board (PCB), in this case the Tamil Nadu Pollution Control Board (TNPCB). The permit generally includes a series of conditions that the company has to comply with before or during the construction of the facilities. Once the facilities have been built, the company must apply for an operating permit from the state Pollution Control Board. This permit may also include a number of prerequisites.

- 53 Letter from the TNPCB to the Environment and Forests Department, Chennai 21.04.04: Regarding Grant of No Objection Certificate for Expansion of Sterlite Industries; on file with the Council.
- 54 See Chapter 2.
- 55 SCMC 2004: Report of the visit of the SCMC to Tamilnadu September 20-22,2004; available at <http://www.scmc.info/reports/tamilnadu/scmctamilnadu.htm>
- 56 See footnote 55. "The SCMC is also directing the TNPCB to make a detailed visit to the plant to ascertain whether the unit has already proceeded with the expansion of the project without prior permission from the appropriate authority(ies)."
- 57 Letter from SCMC to TNPCB, 02.05.05; available <http://www.scmc.info/communications/sterlite.htm>; see also <http://www.minesandcommunities.org/Action/press766.htm>
- 58 See footnote 57.
- 59 SCMC 2005: Report of SCMC Sub Committee's visit to Tamil Nadu during July 17-18, 2005. The consent was evidently given after pressure from the Ministry of Environment and Forests, MoEF: "TNPCB claims it received a written order from MoEF which directed it to grant consent to the unit for its expanded production"; available at [http://www.scmc.info/reports/tamilnadu/scmc\\_tamilnadu\\_third\\_report.htm](http://www.scmc.info/reports/tamilnadu/scmc_tamilnadu_third_report.htm)
- 60 Letter from the Ministry of Environment and Forests to Sterlite Industries 22.09.04: Environmental Clearance for the Expansion of Copper Smelter plant by M/s Sterlite Industries; on file with the Council. Based on the Expert Committee's report, the SPMC instructed the Tamil Nadu Pollution Control Board to send a so-called "show cause notice" to Sterlite "as to why prosecution should not be launched against it for large-scale violations of the provisions of these environment laws". A show cause notice is a judicial order demanding a party to appear before the court to explain why the court should not file a lawsuit against it. The legislation referred to is the Environment Protection Act 1986 and Rules, the provisions of the Water Act 1974, and the Air Act 1981; see <http://www.scmc.info/communications/sterlite.htm>. The Council is unaware of the outcome of this.
- 61 See footnote 59.
- 62 Letter from the TNPCB to Sterlite Industries 14.09.05: Issue of show cause notice under Section 25 of Water Act and Issue of Show cause notice under Section 21 of the Air Act; on file with the Council. During an audit on 12 September 2005 the inspectors from the TNPCB found that the waste was still being deposited in unsecured pits, and that no measures had been implemented to rehabilitate the ground which had been contaminated by arsenic. Environmental requirements regarding air emissions were not being complied with nor had the mandatory health examinations been carried out.
- 63 Letter from the SCMC to the TNPCB, 26.10.05; available at [http://www.scmc.info/reports/tamilnadu/scmc\\_sterlite.htm](http://www.scmc.info/reports/tamilnadu/scmc_sterlite.htm)
- 64 See footnote 63.
- 65 TNPCB 28.02.2006: Inspection Report for Renewal of Consent /Expansion for Sterlite Industries. Inspection conducted on 15.02.06; on file with the Council.
- 66 Conditions and correspondence on file with the Council.
- 67 Mines and Communities 2005: We call in on Vedanta at its AGM to find it hoisted by its own petards. London Calling August 7 2005; available at <http://www.minesandcommunities.org/Action/press700.htm>
- 68 Vedanta Resources plc 2006: Annual Report 2006, p. 34; available at <http://www.vedantaresources.com/uploads/Vedanta%202006%20Annual%20Report%20V1.pdf>
- 69 Sterlite Solid Waste Management Plan – Copper Smelter Expansion, not dated; on file with the Council.
- 70 National Environment Engineering Research Institute (NEERI): Environmental Audit of M/s Sterlite Industries Ltd. Producing Copper Anodes, Sulphuric Acid and Phosphoric Acid at Tuticorin. March 2005, Chapter 6.2 and Table 6.2; on file with the Council. The values in Table 6.2 for ETP cake, scrubber cake and phosphogypsum deviate from those stated in the text in Chapter 6.2. The Council has presented the values quoted from the text.
- 71 See footnote 70, Chapter 6.
- 72 See footnote 70, Chapter 6.
- 73 TNPCB 28.02.2006: Inspection Report for renewal of Consent /Expansion for Sterlite Industries. Inspection conducted on 15.02.06; on file with the Council.
- 74 Norconsult 2007: Health and environmental impact from the Tuticorin plant. Report commissioned by the Council; on file with the Council.



- 75 <http://www.epa.gov/radiation/neshaps/subpartr/other.htm>
- 76 Measured in dry weight, the concentration (mg/kg) of several heavy metals in the waste is higher than the Hazardous Waste Management and Handling Amendment Rules' Table 2 (HWM rules 2003 laid down by the Ministry of Environment and Forests). Table 1 in the HWM rules classifies the waste according to the production process, while Table 2 classifies it according to the heavy metals concentrations; available at: <http://www.cpcb.nic.in/Hazardous/HWRules-2003.doc>. See also Letter from the SCMC to the TNPCB, 26.10.05; available at [http://www.scmc.info/reports/tamilnadu/scmc\\_sterlite.htm](http://www.scmc.info/reports/tamilnadu/scmc_sterlite.htm)
- 77 See footnote 74. This assessment is based on the concentrations found in Sterlite's waste as quoted in Table 1 in the above section.
- 78 <http://www.epa.gov/regions5/superfund/ecology/html/toxprofiles.htm#as>
- 79 National Environment Engineering Research Institute (NEERI): Environmental Audit of M/s Sterlite Industries Ltd. Producing Copper Anodes, Sulphuric Acid and Phosphoric Acid at Tuticorin. March 2005; on file with the Council. 15 samples were taken for each substance. The following metal content ranges were measured in the groundwater, as mg/l. Indian drinking water standards in brackets: Copper 0.02-0.43 (0.05); Cadmium 0.01-0.05 (0.01); Chrome 0.01-0.16 (0.05); Lead 0.04-0.45 (0.1); Arsenic 0.02-0.8 (0.05).
- 80 See footnote 79, p. 55.
- 81 See footnote 79, p. 93.
- 82 See footnote 79, p. 93.
- 83 Jayaraman, Nityanand 2007: Briefing note. Commissioned by the Council; on file with the Council.
- 84 See footnote 79, p. 54.
- 85 <http://www.epa.gov/radiation/neshaps/subpartr/more.htm>
- 86 National Environment Engineering Research Institute (NEERI): Environmental Audit of M/s Sterlite Industries Ltd. Producing Copper Anodes, Sulphuric Acid and Phosphoric Acid at Tuticorin, March 2005; on file with the Council, Table 6.2, and Hazardous Waste Rules; see footnote 76.
- 87 Letter from the SCMC to the TNPCB, 26.10.05; available at [http://www.scmc.info/reports/tamilnadu/scmc\\_sterlite.htm](http://www.scmc.info/reports/tamilnadu/scmc_sterlite.htm)
- 88 TNPCB 28.02.2006: Inspection Report for Renewal of Consent /Expansion for Sterlite Industries. Inspection conducted on 15.02.06; on file with the Council, and communication with Jayaraman, Nityanand 23.04.07; on file with the Council.
- 89 Letter from Therkuverapandiapuram, Melavittan, Madathur Village Welfare Association to the Chief Election Commissioner of India, New Delhi, dated 22.03.06 and forwarded to the TNPCB on 10.04.06: Pollution created by M/s Sterlite India Limited by the waste materials; on file with the Council.
- 90 TNPCB 28.02.2006: Inspection Report for renewal of Consent /Expansion for Sterlite Industries. Inspection conducted on 15.02.06; on file with the Council.
- 91 [http://www.malco-india.com/ass\\_loc.asp](http://www.malco-india.com/ass_loc.asp)
- 92 <http://www.vedantaresources.com/groupstructure.htm>
- 93 <http://www.malco-india.com/mining.asp>
- 94 Moody, Roger 2006: Report on Malco and field trip to Mettur Dam. Report commissioned by the Council; on file with the Council.
- 95 <http://www.malco-india.com>. Two to three tons of bauxite are required to produce one ton of alumina, while two tons of alumina yield one ton of aluminium.
- 96 <http://www.malco-india.com/refining.asp> and <http://www.world-aluminium.org/>
- 97 <http://www.world-aluminium.org/environment/challenges/residue.html>, <http://www.cdc.gov/niosh/topics/silica/#Hazard>.
- 98 <http://www.azom.com/details.asp?ArticleID=2071>
- 99 The Indian People's Tribunal on Environment and Human Rights (IPT), <http://www.iptindia.org/>, is a non-governmental organisation that investigates cases related to the environment and human rights. It was founded in 1993 "to conduct fair and credible investigations focusing on issues concerning human rights and environmental justice... [Positioned] as an alternative People's Court that gives voice to the struggles of grass-root organizations and affected communities." The IPT acts through a network of judges, lawyers, human rights activists, and NGOs in order to assist local movements in bringing their issues to a national and international level.

- 100 Indian People's Tribunal on Environment and Human Rights (ITP.) 2005: The Indian People's Tribunal Report. On Environmental and Human Rights Violations by Chemplast Sanmar and MALCO Industries at Mettur, Tamil Nadu. July 2005, p. 21; available at <http://www.iptindia.org/pdf/Mettur.pdf>.
- 101 Moody, Roger 2006: Report on Malco and field trip to Mettur Dam, p. 3; on file with the Council. Field surveys from 2005 show that the red mud is dumped less than 10 m from the reservoir's high water mark, separated by a narrow embankment.
- 102 Vedanta Resources plc. 2006: Annual Report 2006, p. 33; [http://www.vedantaresources.com/uploads/Sustainable%20Development%20Report\(1\).pdf](http://www.vedantaresources.com/uploads/Sustainable%20Development%20Report(1).pdf)
- 103 See footnote 102, p. 34.
- 104 See footnote 102, p. 34.
- 105 An Indian journalist who visited the plant in April 2007 noted that red mud was still being disposed of in the dumps. Communication with Nityanand Jayaraman; on file with the Council.
- 106 Indian People's Tribunal on Environment and Human Rights (ITP): The Indian People's Tribunal Report. On Environmental and Human Rights Violations by Chemplast Sanmar and MALCO Industries at Mettur, Tamil Nadu. July 2005, p. 21. <http://www.iptindia.org/pdf/Mettur.pdf>
- 107 See footnote 106, p 25. The report also refers to previous ruptures in Malco's waste pits: "On 18 March, 2004, there were heavy rains, and at night, the MALCO compound wall breached and water from the factory entered Jeeva Nagar and a lot of people's houses were washed away. They promised compensation and underground drainage. Till date, the company has not delivered on its promise."
- 108 Red mud contains, among other things, significant quantities of iron, aluminium and silica, and may also contain residues of heavy metals such as arsenic, cadmium, chrome and lead. The inhalation of silica dust over time may lead to the development of silicosis, which is a chronic lung disease; lung cancer; and other severe respiratory conditions; see for example <http://www.cdc.gov/niosh/topics/silica/#Hazard>. Depending on the bauxite's composition, heavy metals such as arsenic, chrome, and cadmium may represent health hazards. See for example USEPA, Office of Solid Waste 1990: Report To Congress On Special Wastes From Mineral Processing; available at <http://www.epa.gov/epaoswer/other/mineral/chapter3.pdf>
- 109 The Indian People's Tribunal on Environment and Human Rights (ITP) 2005: The Indian People's Tribunal Report. On Environmental and Human Rights Violations by Chemplast Sanmar and MALCO Industries at Mettur, Tamil Nadu. July 2005, p. 21. <http://www.iptindia.org/pdf/Mettur.pdf>
- 110 See footnote 109, p. 28.
- 111 The accusations against MALCO stem from various sources. In December 2005, the West Gonur Farmers Welfare Association lodged complaints regarding pollution and loss of livestock on behalf of 80 farmers. In a letter dated 6 January 2006, the Ministry of Environment and Forests (MoEF) asked MALCO to respond to the accusations. On 11 January 2006 the West Gonur Farmers Welfare Association presented a new complaint to the authorities, reiterating the claim that red mud dumping has caused considerable pollution and death of livestock in the areas of Desai Nagar, Thengalvarai, and Thippampatti; available at [http://www.sipcotcuddalore.com/pr\\_110106.html](http://www.sipcotcuddalore.com/pr_110106.html). The Council is not aware that MALCO has replied to the MoEF's enquiry.
- 112 See footnote 106, p. 22-23.
- 113 World Bank 1998: Pollution Prevention and Abatement Handbook; available at [http://www.wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&siteName=WDS&entityID=000094946\\_99040905052283](http://www.wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&siteName=WDS&entityID=000094946_99040905052283)
- 114 Nostromo Research and the India Resource Centre 2005: Vedanta Resources plc Counter Report 2005: Ravages through India, p. 10.; available at <http://www.indiaresource.org/issues/globalization/2005/RavagesThroughIndia28.pdf>
- 115 PAH, polyaromatic hydrocarbons, are compounds formed by all incomplete combustion of organic material. They are classified as toxic and carcinogenic substances, and are regulated by the OSPAR Convention of 1992 and the 1998 UN-ECE Protocol on Persistent Organic Pollutants; see for example [http://www.unece.org/env/lrtap/pops\\_h1.htm](http://www.unece.org/env/lrtap/pops_h1.htm) and [http://www.miljostatus.no/templates/pagewide\\_\\_\\_\\_2828.aspx](http://www.miljostatus.no/templates/pagewide____2828.aspx)
- 116 Prebake technology is considered the best available technology. As a result of PAH and other emission requirements from the Norwegian Pollution Control Authority (SFT), the Söderberg furnaces at Norsk Hydro's plant in Årdal are being phased out.

- 117 Vedanta Resources plc 2005: Delivery and Growth. Sustainable Development Report, p. 37; available at [http://www.vedantaresources.com/uploads/Sustainable%20Development%20Report\(1\).pdf](http://www.vedantaresources.com/uploads/Sustainable%20Development%20Report(1).pdf)
- 118 Indian People's Tribunal on Environment and Human Rights (ITP) 2005: The Indian People's Tribunal Report. On Environmental and Human Rights Violations by Chemplast Sanmar and MALCO Industries at Mettur, Tamil Nadu. July 2005, p. 22; available at <http://www.iptindia.org/pdf/Mettur.pdf>
- 119 See footnote 118.
- 120 See footnote 118. As the panel observed: "They complained of coal dust from the conveyor belt overhead. One provision store vendor showed us items such as toothpaste, soaps, and detergent packets from his shop. They were all covered in soot. Another young boy brought us the cloth they had used to filter the water that morning. It had a thick layer of soot and silt on it. People say the soot inside houses causes cracked feet."
- 121 <http://www.balcoindia.com/history.asp>
- 122 <http://www.balcoindia.com/mining.asp>
- 123 <http://www.balcoindia.com/mining.asp> The refinery has a yearly production capacity of 200 000 tons of alumina, which is a raw material in the subsequent production of aluminium. Aluminium is produced at two smelters with both Söderberg and prebake technology. The production capacity is 350 000 tpa of aluminium; see [http://www.balcoindia.com/ass\\_loc.asp](http://www.balcoindia.com/ass_loc.asp). In the Korba complex there are also four rolling mills, three pig casting machines, and a coal-fired power plant with a capacity of 819 MW; see <http://www.balcoindia.com/history.asp>
- 124 Nostromo Research and the India Resource Centre, "Vedanta Resources plc Counter Report 2005: Ravages through India," p. 9; available at <http://www.indiaresource.org/issues/globalization/2005/RavagesThroughIndia28.pdf>. At the Mainpat mine representatives from India Resource Centre and Nostromo Research met "around 30 tribal workers, un-helmeted, clad in shirts and sarees under the blazing sun, as lateritic overburden was blasted." The workers said that on a good day male workers could earn around 60 rupees (approx. 8 NOK) delivering one ton of ore by hand power, while women earned a little less. The workers complained that the company does not provide any kind of health care. When accidents occur the workers themselves have to arrange for transport of the injured worker to medical facilities. The workers live in purpose-built settlements near the opencast mine without access to electricity or satisfactory water supply. They are also afflicted by the hazardous dust and pollution that blow into their homes from the mining operation.
- 125 <http://www.indianwildlifeportal.com/national-parks/kanha-national-park.html>
- 126 Nostromo Research and the India Resource Centre 2005: Vedanta Resources plc Counter Report 2005: Ravages through India, p. 10. "They had to leave behind their crops of maize, oil seed, gram and mustard, abandoning their cows, buffalos and goats, and are apparently now trying to survive on half the acreage they once possessed"; available at <http://www.indiaresource.org/issues/globalization/2005/RavagesThroughIndia28.pdf>
- 127 See footnote 126.
- 128 Moody, Roger 2006: BALCO Report, p. 4. Commissioned by the Council; on file with the Council.
- 129 See footnote 128.
- 130 See footnote 128. Vinod Raja has made several documentaries on tribal peoples in India, and is associated with environmental and human rights movements.
- 131 Correspondence between the Council and an Indian freelance journalist who made investigations in the area in January-February 2007; on file with the Council.
- 132 See footnote 131.
- 133 In its judgement, the Supreme Court declared "as void and impermissible all transfer of land belonging to the State of Andhra Pradesh at any time in the past or present in "Scheduled areas" to non-tribals and all mining leases or prospecting licenses when so ever granted by the concerned State Government in such areas to non-tribals"; see [http://www.agragamee.org/discussion\\_appeal.htm](http://www.agragamee.org/discussion_appeal.htm)
- 134 Overseas Development Institute, UK, [www.odi.org.uk/Livelihoodoptions/forum/sched-areas/about/schdVareas.htm](http://www.odi.org.uk/Livelihoodoptions/forum/sched-areas/about/schdVareas.htm)
- 135 Vedanta Resources Plc 2007: Production Results for the Fourth Quarter and Full Year Ended 31 March 2007, press release; available at [http://www.vedantaresources.com/uploads/2007%20and%20Q4%20Production%20Release\\_Final.pdf](http://www.vedantaresources.com/uploads/2007%20and%20Q4%20Production%20Release_Final.pdf)
- 136 Mines and Communities 2006: Another Vedanta Violation Claimed. 30.07.06; available at <http://www.minesandcommunities.org/Action/press1175.htm>

- 137 Letter from the State Pollution Control Board, Orissa to Vedanta Alumina, of 08.02.07, re Public Complaint regarding Construction Activities of M/s Vedanta Alumina Ltd. at Jharsuguda. On file with the Council.
- 138 The Central Empowered Committee (CEC) 2005: Report in IA no. 1324 regarding the alumina refinery plant being set up by m/s Vedanta Alumina Limited at Lanjigarh in Kalahandi district, Orissa, 21.09.05, p.7 and p. 50. "The agreement signed between the Orissa Mining Corporation (OMC) and M/s Vedanta for establishment of a joint venture company for bauxite mining from Niyamgiri Hills, Lanjigarh and another mine provides that though the mining lease will be in the name of the OMC and it will be responsible for securing and complying with all the statutory approvals and legal requirements, M/s Vedanta will be de facto managing the mines and will be the principal beneficiary on payment of development charges, royalty and other statutory dues"; available at <http://www.indiaresource.org/issues/globalization/2005/CECSep2005cancellicense.html>
- 139 Environmental Protection Group, Orissa: A Brief Report on Ecological and Biodiversity Importance of Niyamgiri Hill and Implications of Bauxite Mining; available at <http://www.freewebs.com/epgorissa/niyamgiri.pdf>
- 140 Wildlife Institute of India (WII): Studies on impact of proposed Lanjigarh bauxite mining on biodiversity including wildlife and its habitat. Commissioned by the Ministry of Environment and Forests (MoEF); available at: <http://www.freewebs.com/epgorissa/WII%20Report%20on%20Niyamgiri.pdf>
- 141 See footnote 138, p. 1 and footnote 140
- 142 See footnote 139.
- 143 The Hindu Business Line, 08.08.06: A struggle to save Niyamgiri forest. <http://www.thehindubusinessline.com/2004/08/08/stories/2004080801141600.htm>
- 144 See footnote 140.
- 145 See footnote 140.
- 146 CEC 2005: Report in IA no. 1324 regarding the alumina refinery plant being set up by m/s Vedanta Alumina Limited at Lanjigarh in Kalahandi district, Orissa 21.09.05, p.1; available at <http://www.indiaresource.org/issues/globalization/2005/CECSep2005cancellicense.html>
- 147 Wildlife Institute of India (WII): Studies on impact of proposed Lanjigarh bauxite mining on biodiversity including wildlife and its habitat, Chapter 4; available at: <http://www.freewebs.com/epgorissa/WII%20Report%20on%20Niyamgiri.pdf>; see footnote 138, p. 10.
- 148 See footnotes 147 and footnote 139, pp. 7-10. The vegetation consists of more than 300 plant species, including some 50 medicinal plants. Six of the plant species are on the World Conservation Union's (IUCN) Red List. The area also harbours plant species that will represent an important genetic resource for the development of hybrids of current cultivated varieties.
- 149 CEC 20 2005: Report in IA no. 1324 regarding the alumina refinery plant being set up by m/s Vedanta Alumina Limited at Lanjigarh in Kalahandi district, Orissa 21.09.05, p. 22. The springs of 36 water systems are located within the proposed mining area, available at <http://www.indiaresource.org/issues/globalization/2005/CECSep2005cancellicense.html>
- 150 Referred to in WII's report; see footnote 147, p. 7.
- 151 See footnote 147, p. 18.
- 152 See footnote 149, p. 22, and footnote 147.
- 153 See footnote 147, chapter 5.5.
- 154 See footnote 149, section 25.
- 155 Mines and Communities 2006: Vedanta at Centre of Many Storms, 05.05.06; available at <http://www.minesandcommunities.org/Action/press1181.htm>. A sketch map from the Rapid Environmental Impact Assessment of the project shows that red mud dumps are planned along the river banks and, in part, will be situated on both sides.
- 156 CEC 2005: Report in IA no. 1324 regarding the alumina refinery plant being set up by m/s Vedanta Alumina Limited at Lanjigarh in Kalahandi district, Orissa, 21.09.05, p. 4, available at <http://www.indiaresource.org/issues/globalization/2005/CECSep2005cancellicense.html>
- 157 Communication with the Environmental Protection Group (EPG) Orissa 11.09.06; on file with the Council.
- 158 Environmental Protection Group, Orissa: A Brief Report on Ecological and Biodiversity Importance of Niyamgiri Hill and Implications of Bauxite Mining, p. 6; available at <http://www.freewebs.com/epgorissa/niyamgiri.pdf>

- 159 See footnote 156, p. 23. The river is a major drinking water and irrigation source for hundreds of thousands of people in the downstream Bolangir district. According to the CEC the consequences of tapping 30,000 m<sup>3</sup> water per day have not yet been assessed. There is a risk that it may reduce the water flow significantly.
- 160 See footnote 156, p. 1. The allegations were voiced by the Wildlife Society of Orissa and the Academy of Mountains, and presented to the CEC.
- 161 See footnote 156, as well as CEC 2007: Supplementary Report in IA no. 1324 and 1474 regarding the Alumina Refinery Plant being set up by M/S Vedanta Alumina Limited; on file with the Council.
- 162 CEC 2005 20: Report in IA no. 1324 regarding the alumina refinery plant being set up by m/s Vedanta Alumina Limited at Lanjigarh in Kalahandi district, Orissa, 21.09.05, p. 17, available at <http://www.indiaresource.org/issues/globalization/2005/CECSep2005cancellicense.html>
- 163 See footnote 162, p.17.
- 164 See footnote 162, p. 41-41. "On 16.8.2004 a proposal for allowing the use of 58.943 ha. forest land, consisting of 28.943 acre of "Gramya Jungle Jogya" land and 30 ha. of reserve forest, was moved under the FC Act through the State Government to the MoEF. Out of the above, 26.123 ha. forest land was required for the refinery, 25.82 ha. for the mine access road and the balance 7.0 ha. was required for the construction of the conveyor belt for the transportation of the mineral from the mine site to the plant."
- 165 See footnote 162, p. 42.
- 166 See footnote 162, p. 19.
- 167 See footnote 162, p. 48
- 168 See footnote 162, p. 53. 1 Indian crore is the equivalent of 10 million, 1 Indian rupee is approx. NOK 0.14. The sum in question amounts to some NOK 5,6 billion.
- 169 See footnote 162, p. 24.
- 170 CEC 2007: Supplementary Report in no. 1324 and 1474 Regarding the Alumina Refinery Plant being set up by M/S Vedanta Alumina Limited; on file with the Council.
- 171 Vedanta Resources Plc 2007: Production Results for the Fourth Quarter and Full Year Ended 31 March 2007, press release; available at [http://www.vedantaresources.com/uploads/Q22007%20and%20Q4%20Production%20Release\\_Final.pdf](http://www.vedantaresources.com/uploads/Q22007%20and%20Q4%20Production%20Release_Final.pdf)
- 172 Moody, Roger 2006: Vedanta Alumina and the Orissa Maelstrom, commissioned by the Council; on file with the Council.
- 173 Environmental Protection Group Orissa 2005: Niyamgiri under threat; on file with the Council.
- 174 The Indian Constitution grants certain rights to tribal peoples who live within specified geographical areas in India. The so-called "Fifth Schedule" of the Constitution contains provisions regarding the administration and control of these areas (scheduled areas and scheduled tribes), and is designed to protect the Adivasi, tribal peoples, who live in these areas; see [http://www.mmpindia.org/Fifth\\_Schedule.htm](http://www.mmpindia.org/Fifth_Schedule.htm)
- 175 Article 243 (B) of the Indian Constitution defines the Gram Sabha as an official organ at village level consisting of persons included in the electoral rolls of the villages in a district (Panchyat). According to article 243 (A) the Gram Sabha may "exercise such powers and perform such functions of the village level as the Legislature of a State may, by law, provide"; full text available at <http://www.orissa.gov.in/panchayat/73rd%20Amendment.pdf>; see also footnote 177.
- 176 Samata 2003: A Study on Process of Acquisition of Land for Development of Mining Industry in Schedule-V Areas with a Focus on Violations of PESA in Light of the Mining and the Industrialisation Process in the Schedule-V Areas, p. 90; on file with the Council. The twelve villages affected by the mining project are: Kinnari, Kopaguda, Bellamba, Boringpoddar, Turiguda, Bundel, Borohota, Ottadwar, Bondoguda, Sindbahal, Basantpoda, and Jaganathpur.
- 177 To stimulate a greater degree of participation, enhancing tribal peoples' self-government in the development of their lands, the so-called "Panchayatraj Extension to Scheduled Areas (PESA) Act" was passed in 1996. Among other provisions, the law gives the "Gram Sabha" authority to administer and control its own resources, including land, water, forests and minerals, as well as functional powers and responsibility to ensure tribal peoples' participation in the development of their areas in accordance with their own culture and traditional rights to natural resources. The law can be accessed at <http://www.odi.org.uk/Livelihoodoptions/forum/sched-areas/about/PanchayatsExtAct.htm>
- 178 See footnote 176.

- 179 See footnote 180, p. 4. At a local meeting held 16 June 2002 none of the villages signed the resolution proposal presented in favour of the mining project, and four days before the “Gram Sabha” nearly one thousand people were gathered at the local customs office to hand over a protest note against the project to Orissa’s Chief Minister Naveen Patnaik.
- 180 Moody, Roger 2006: Vedanta Alumina and the Orissa Maelstrom. Report commissioned by the Council; on file with the Council.
- 181 Samata 2003: A Study on Process of Acquisition of Land for Development of Mining Industry in Schedule-V Areas with a Focus on Violations of PESA in Light of the Mining and the *Industrialisation Process in the Schedule-V Areas*, p. 90; on file with the Council.
- 182 People’s Union for Civil Liberties-Rayagada & Bhubaneswar Units 2003: A fact-finding report on physical attack on the villagers agitating against their displacement due to the proposed Sterlite Alumina Project in Lanjigarh Block of Kalahandi district. According to the People’s Union for Civil Liberties (PUCL), an Indian human rights organisation, 250 unarmed persons, including 150 women and children, were physically attacked while they were demonstrating outside the Lanjigarh police station in an attempt to release an imprisoned opponent of the project. The villagers claimed that the attackers were members of a “youth club”, Yubak Sangha, which is known to be financed by Vedanta; see <http://www.pucl.org/Topics/Industries-envirn-resettlement/2003/sterlite.htm>
- 183 The Central Empowered Committee (CEC) 2005: Report in IA no. 1324 regarding the alumina refinery plant being set up by m/s Vedanta Alumina Limited at Lanjigarh in Kalahandi district, Orissa, 21.09.05, para. 3, section XV(i), available at <http://www.indiaresource.org/issues/globalization/2005/CEC-Sep2005cancellicense.html>
- 184 See footnote 183. The report continues: “After being forcibly removed, they (the tribals) were kept under watch and ward by the armed guards of Vedanta and no outsider was allowed to meet them. They were effectively being kept as prisoners.”
- 185 Communication between the Council and Mr. Ramesh Gopalakrishnan, Researcher, South Asia team, Amnesty International. His field surveys will be presented in a report on companies and human rights violations in the aluminium and steel industry in Orissa, India. The report will be publicised by Amnesty International in July-August 2007. Among other findings, the report describes Vedanta and violations against tribal peoples in Orissa, India.
- 186 See footnote 185.
- 187 See footnote 183, CEC p. 1.
- 188 See footnote 183, para. 2.
- 189 See footnote 183, para. 30 (xxiv).
- 190 Samata 2003: A Study on Process of Acquisition of Land for Development of Mining Industry in Schedule-V Areas with a Focus on Violations of PESA in Light of the Mining and the *Industrialisation Process in the Schedule-V Areas*, p. 90; on file with the Council. Environmental Protection Group Orissa 2005: Niyamgiri under threat; on file with the Council.
- 191 See footnote 190.
- 192 CEC 2004: Site report of the fact-finding committee of CEC regarding its visits to Orissa from 18th-23rd December 2004; on file with the Council. “The Rehabilitation Package for the displaced persons given by the user agency is not in the interest of sustainable livelihood of the local communities as no land has been given for grazing purposes, raising agricultural crops and carrying out income generating activities, etc. The location of the rehabilitation colony has been decided totally ignoring the interest of conservation of forests. It is just few meters away from the Niyamgiri Reserved Forest. Adverse impact of this colony and the labour force staying near the forest is already visible. The team saw four stumps of freshly cut sal trees in Niyamgiri forests.” Findings of the Team, para. iii.
- 193 Barriaux, Marianne 2006: Tribal activists carry Indian mining protest to London, *The Guardian*, 3 August 2006; available at <http://business.guardian.co.uk/story/0,,1835903,00.html>.
- 194 See footnote 193.
- 195 Prophan, Peter 2006: Indian villages pay high price as commodity boom comes to rural Orissa, *The Independent*, 4 August 2006; available at <http://news.independent.co.uk/world/asia/article1212783.ece>
- 196 Communication between the Council and Mr. Ramesh Gopalakrishnan, Researcher, South Asia team, Amnesty International, see footnote 185. The numbers are based on field surveys in the area in November 2006.
- 197 Amarendra Samarendra 2005: *Earth Worm: Company Man*, Chapt. 7-8, documentary; on file with the Council.

- 198 See footnote 196.
- 199 Government of India, Ministry of Law and Justice; [http://lawmin.nic.in/legislative/1-6%20Sch.%20\(185-218\).doc](http://lawmin.nic.in/legislative/1-6%20Sch.%20(185-218).doc)
- 200 Fifth Schedule; available at [http://www.mmpindia.org/Fifth\\_Schedule.htm](http://www.mmpindia.org/Fifth_Schedule.htm)
- 201 Excerpts form the site report of the CEC's fact-finding committee regarding its visits to Orissa from 18-23 December 2004, as marked by Attorney at Law Ritwik Dutta, counsel of Academy for Mountain Environics, p. 1; on file with the Council. The unabridged judgement in *Samata v. State of Andhra Pradesh*, (K. Ramaswamy, S. Saghir Ahmad, G.B. Pattanaik JJ), 11.07.1997 is available at <http://www.mmpindia.org/samatha%20vs%20AP.htm>
- 202 *Samata v. State of Andhra Pradesh*, para. 94 -131, quote from para. 115 and 117. The Court based its judgment on the following national and state laws: PESA Act of 1996, Indian Constitution [73rd Amendment] Act, 1992 clause (m) (iii), para 5 (2) (b) of the 5th Schedule, Andhra Pradesh Scheduled Area Land Transfer Regulation (1 of 1959), as amended by Regulation II of 1970 (the 'Regulation'), the Mining Act (67 of 1957), the Forest Conservation Act, 1980 (for short, the 'FC Act') and the Environment Protection Act, (the "EP Act"); available at <http://www.mmpindia.org/samatha%20vs%20AP.htm>
- 203 See footnote 201.
- 204 Vedanta Resources plc 2005: Delivery and Growth. Sustainable Development Report 2005, p. 2: [http://www.vedantaresources.com/uploads/Sustainable%20Development%20Report\(1\).pdf](http://www.vedantaresources.com/uploads/Sustainable%20Development%20Report(1).pdf)
- 205 Popham, Peter 2006: Indian villagers pay a high price as commodity boom comes to rural Orissa, *The Independent*, 4 August, 2006, available at <http://news.independent.co.uk/world/asia/article1212783.ece>
- 206 See footnote 205.
- 207 See footnote 205.
- 208 Barriaux, Marianne 2006: Tribal activists carry Indian mining protest to London, *The Guardian*, 3 August 2006, available at <http://business.guardian.co.uk/story/0,,1835903,00.html>
- 209 This applies to e.g. benz(o)pyrene and polycyclic aromatic hydrocarbons, PAH. Both are carcinogenic and classified as hazardous substances. See footnote 205.
- 210 See for example the European Commission 2001: Integrated Pollution Prevention and Control (IPPC) Reference Document on Best Available Techniques in the Non Ferrous Metals Industries. December 2001- available at <http://ec.europa.eu/environment/ippc/index.htm>
- 211 CEC 2007 rapport: Supplementary Report in no. 1324 and 1474 Regarding the Alumina Refinery Plant being set up by M/S Vedanta Alumina Limited, p. 16; on file with the Council.
- 212 See footnote 24, <http://www.minewatchzambia.com/>
- 213 The Central Empowered Committee (CEC). 21.09.05: Report in IA no. 1324 regarding the alumina refinery plant being set up by m/s Vedanta Alumina Limited at *Lanjigarh in Kalahandi district, Orissa*, para. 3, section Xvi, available at <http://www.indiaresource.org/issues/globalization/2005/CECSep2005cancellicense.html>
- 214 "Mining, Minerals and Sustainable Development (MMSD) was an independent two-year process of consultation and research with the objective of understanding how to maximise the contribution of the mining and minerals sector to sustainable development at the global, national, regional and local levels. MMSD was a project of the International Institute for Environment and Development (IIED) commissioned by the World Business Council for Sustainable Development (WBCSD)". Information and reports available at <http://www.iied.org/mmsd/>
- 215 Downing, Theodore 2002: *Avoiding Poverty: Mining-Induced Displacement and Resettlement*, April 2002, no 58; available at [http://www.iied.org/mmsd/mmsd\\_pdfs/058\\_downing.pdf](http://www.iied.org/mmsd/mmsd_pdfs/058_downing.pdf)
- 216 World Bank Operational Manual – Involuntary resettlement; available at <http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/EXTPOLICIES/EXTOPMANUAL/0,,contentMDK:20064610~pagePK:64141683~piPK:64141620~theSitePK:502184,00.html>
- 217 Popham, Peter 2006: Indian villages pay high price as commodity boom comes to rural Orissa, *The Independent*, 4 August 2006, available at <http://news.independent.co.uk/world/asia/article1212783.ece>

## To the Ministry of Finance

Oslo, May 15, 2007  
(Published January 11, 2008)

# Recommendation on exclusion of Rheinmetall AG and Hanwha Corp.

## 1 Background

Point 4.4 of the Ethical Guidelines for the Government Pension Fund – Global, states the following: *“The Council shall issue recommendations on negative screening of one or several companies on the basis of production of weapons that through their normal use may violate fundamental humanitarian principles.”* In the Government White Paper on Ethical Guidelines (NOU 22: 2003), and through the subsequent discussion of the Guidelines in the Storting (Parliament), cluster munitions were considered as falling within this category of weapons.

Based on the above, the Council, on June 16<sup>th</sup>, 2005, issued its first recommendation on exclusion from the Fund of companies that produce cluster munitions.<sup>1</sup> A further recommendation was issued on September 6<sup>th</sup>, 2006.<sup>2</sup>

The Council has information that two companies in the Fund’s portfolio produce cluster munitions. The Fund’s investments in these companies should be suspended in order to avoid inconsistency with the Fund’s ethical guidelines.

## 2 The Fund’s investments in Rheinmetall AG and Hanwha Corporation

The Government Pension Fund – Global owns bonds issued by the German company Rheinmetall AG and shares in the South Korean company Hanwha Corporation. The value of these investments were, as of December 31st, 2006, NOK 81 million and NOK 7,5 million, respectively.

### 2.1 Further on cluster munitions produced by Rheinmetall AG

In 2006, the Norwegian Defence Research Establishment (FFI) conducted tests of two types of artillery delivered cargo ammunition. These were denoted DM 642 and DM 662 and respectively contained 63 and 49 bomblets.<sup>3</sup> Such ammunition is a form of cluster munitions which has previously given grounds for exclusion of companies from the Fund.

In an e-mail from April 10<sup>th</sup>, 2007, FFI confirmed to the Council’s secretariat that the main producer of these munitions was the company Rheinmetall AG.

At the Council’s request, Norges Bank has written to the company in order to inquire whether the company produces cluster or cargo munitions, and specifically whether the company still produces artillery delivered cargo munitions. The company did not respond to the letter from Norges Bank and subsequent attempts to get in contact with the company were without result.



## 2.2 Further on cluster munitions produced by Hanwha Corporation

The South Korean company Hanwha Corporation produces various forms of military equipment, among these are different types of munitions. On the company's website a picture and description of a so-called "Scattering Bomb" is given.<sup>4</sup>

The term "scattering bomb" is not a commonly used designation for weapons. From its context it must be assumed that the "scattering" refers to bomblets which are scattered over the target area, which is characteristic of cluster munitions. In the company's description of the weapon, it is stated that its intended use is to "destroy massed enemy positions," which is the most common usage of cluster munitions. A picture of the weapon seems to show a canister which is filled with a large number of submunitions. Although the Council has been unable to find further information on this weapon, it seems obvious that this is a category of cluster munition that has previously led to exclusion of companies from the Fund.

Furthermore, in the Jane's Missiles and Rockets database, there is description and pictures of the weapon from the February 2007 IDEX Arms Exhibition in Abu Dhabi, UAE. It is described that Hanwha Corporation has on exhibit a "lightweight 70 mm MLRS-system" with associated cluster munitions.

At the Council's request, Norges Bank has written to the company in order to inquire whether the company produces cluster munitions, and specifically to clarify whether the "Scattering Bomb" is a cluster weapon.

The company responded to the enquiry on May 7<sup>th</sup>, 2007, and clarified the following:

*"Hanwha Corporation was officially designated as a defense contractor in 1974. Since then, it has specialized in munitions, whose production process has been under strict government control and all of which have been supplied only to the Korean government. Hanwha Corporation has manufactured MLRS and 2,75" MPSM<sup>5</sup>, which can be classified as cluster/cargo munitions and has also produced KCBU-58B in the past. However, we have developed and supplied such items in cooperation with the government's initiative for self-defense, not for any other unethical purpose."*

By this, the company acknowledges its production of aerial and artillery delivered cluster munitions.

## 3 Recommendation

Based on the above, the Council presumes that Rheinmetall AG produces artillery delivered cluster munitions.

The Council also presumes that Hanwha Corporation produces both aerial and artillery delivered cluster munitions.

The Council recommends exclusion of the companies Rheinmetall AG and Hanwha Corporation from the investment universe of the Government Pension Fund – Global. This recommendation is based on Point 4.4 of the Fund's Ethical Guidelines which prescribes exclusion of companies on the basis of production of weapons that through their normal use may violate fundamental humanitarian principles.

Gro Nystuen (Chair) sign	Andreas Føllesdal (sign.)	Anne Lill Gade (sign.)	Ola Mestad (sign.)	Bjørn Østbø (sign.)
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## Notes

- 1 Recommendation issued June 16th, 2005: <http://www.regjeringen.no/pages/1661742/Tilr%C3%A5dning%20klasev%C3%A5pen%20eng%2015%20juni%202005.pdf>
- 2 Recommendation issued September 6th, 2006:  
<http://www.regjeringen.no/pages/1784693/Poongsan,%20Unofficial%20English%20translation.pdf>
- 3 See [http://www.mil.no/multimedia/archive/00090/cargo-ammunition\\_90494a.pdf](http://www.mil.no/multimedia/archive/00090/cargo-ammunition_90494a.pdf)
- 4 See [http://english.hanwhacorp.co.kr/pdtt/exp/def\\_pdt/he/index.asp](http://english.hanwhacorp.co.kr/pdtt/exp/def_pdt/he/index.asp)
- 5 Caliber 2,75" is the same as 70 mm.

## To the Ministry of Finance

Oslo, September 5, 2007  
(Published January 11, 2008)

# Recommendation to revoke the exclusion of Rheinmetall AG

## 1 Introduction

The Council on Ethics for the Government Pension Fund – Global submitted a recommendation on May 15<sup>th</sup>, 2007, on exclusion from the Fund of the companies Hanwha Corporation and Rheinmetall AG because of production of cluster munitions.

After the recommendation was submitted, new information has been received pertaining to the company Rheinmetall AG, included a response from to company to the Council's enquiry.

Based on the new information, the Council no longer considers the grounds to exclude the company Rheinmetall AG to be valid.

## 2 Background

### 2.1 Response from the company

Norges Bank wrote to the company on behalf of the Council on April 12<sup>th</sup>, 2007, with a request to clarify whether the company produced cluster- or cargo munitions and / or bomblets for such munitions, e.g. 155 mm artillery delivered cargo ammunition.

Norges Bank received, after repeated attempts to get information, a response from the company on June 5<sup>th</sup>, 2007, i.e. after the recommendation of exclusion had been submitted. The company writes, i.a.: *“Characteristic for cluster munition is the lack of capability for autonomous targeting and the usually high number of unexploded ordnance devices after the strike, which stands in the focus of public criticism. Cluster ammunition and / or sub-ammunitions for such ordnance, bombs and cluster bombs do not belong to those goods, which are developed, produced or assembled by Rheinmetall nor any of our subsidiaries.”*

The Council considered that this reply did not entirely rule out the possibility of production of all forms of cluster munitions, and it was therefore decided to approach the company again with enquiries pertaining to specific munitions systems.

After repeated enquiries, by both e-mail and telephone, the Council received a reply from the company on June 28<sup>th</sup>, 2007, in which it is stated: *“You asked whether Rheinmetall currently produces 155 mm artillery shells DM 632 / DM 642 / DM 652 or DM 662. We can clarify that Rheinmetall does not produce these artillery shells.”*

## 2.2 Statement from the German government

Germany's production and use of cluster munitions has been the subject for debate in the German national assembly. During a hearing in the Deutscher Bundestag on May 15th, 2007, a representative of the German government answered questions pertaining to production of cluster munitions, and stated that the company Rheinmetall is the producer of the bomblet which is designated "DM 1383". It is further stated that DM 1383 is a bomblet used in the cluster munitions designated DM 642 and DM 662.<sup>1</sup>

## 2.3 The company's product catalogue

The Council has in June 2007 received a copy of a product catalogue which representatives of Rheinmetall AG distributed at the February 2007 IDEX Arms Exhibition in Bahrain. In this catalogue, cluster munitions designated as "155 mm bomblet projectile", which corresponds to so-called cargo ammunition, is described in text and picture. The munitions are not designated by a specific name. The catalogue stated the following on the munitions: "*Status: In serial production*".

Based on this information, a new enquiry was made to the company on June 29<sup>th</sup>, 2007, requesting an explanation for this description of the company's products.

## 2.4 Further clarification from the company

In an e-mail to the Council's secretariat on August 28<sup>th</sup>, 2007, the company offers further clarifications.

Firstly, the company states that the above mentioned product catalogue is no longer in use, nor did it correctly reflect the current status of the cargo munitions previously:

*"This refers to a product guide, which is not distributed by Rheinmetall any more and which did not correctly show the present status for this ammunition. We regret that you received a misleading impression of our product range by this brochure."*

The company also maintains that it does not produce any form of cluster munitions or components of cluster munitions. Even the type of cluster munitions which currently are approved by German authorities, with self-destruct mechanisms and dud rates of less than 1 percent in tests, have not been produced by the company since 2001/2002, and there are no future plans for such production.

## 3 The Council's assessments

After the Council's recommendation to exclude the company Rheinmetall AG was submitted on May 15<sup>th</sup>, 2007, new information has been presented regarding the company's production of cluster munitions. This information has to some extent been conflicting, and it has been necessary to contact the company several times in order to seek clarification. In particular, the company's own product catalogue and the statement from the German government have clearly indicated that the company in fact produces cluster munitions.

However, the Council finds the information provided by the company on August 28<sup>th</sup>, 2007, credible and is satisfied that the company no longer produces cluster munitions or components for cluster munitions that may warrant exclusion from the Fund. The Council therefore finds that the grounds for recommending exclusion of Rheinmetall AG from the Fund's investment universe are no longer valid.

Should the Council in the future find that the company does again produce cluster munitions, the Council will consider recommending exclusion of the company.

Gro Nystuen (Chair) sign	Andreas Føllesdal (sign.)	Anne Lill Gade (sign.)	Ola Mestad (sign.)	Bjørn Østbø (sign.)
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## Notes

- 1 See response to question 4: "Hersteller für die Submunition DM 1383 ist die Firma Rheinmetall."  
<http://dip.bundestag.de/btd/16/053/1605357.pdf>

## To the Ministry of Finance

Oslo, November 15, 2007

(Published January 11, 2008)

# Recommendation on exclusion of GenCorp Inc.

## 1 Background

The Council on Ethics recommends that the company GenCorp Inc. be excluded from the investment universe of the Government Pension Fund – Global because the company is assumed to be involved in the production of nuclear weapons.

Point 4.4 of the Ethical Guidelines for the Government Pension Fund – Global, states the following: *“The Council shall issue recommendations on negative screening of one or several companies on the basis of production of weapons that through their normal use may violate fundamental humanitarian principles.”* In the Government White Paper on Ethical Guidelines (NOU 22: 2003), and through the subsequent discussion of the Guidelines in the Storting (Parliament), production of key components of nuclear weapons were considered as falling within this category of weapons.

The Government Pension Fund – Global owned neither stocks nor bonds issued by GenCorp Inc. at the end of 2006, but investments in the company have been made in the course of 2007.

The Council, on September 19th, 2005, issued its first recommendation on exclusion from the Fund of companies that produce nuclear weapons.<sup>1</sup> This recommendation provided for a closer description of nuclear weapons, as well as a description of which weapons' components fall within the Fund's guidelines. The Council considers, i.a., that development and production of missiles which have no function other than to deliver nuclear warheads, to fall within the Fund's guidelines. Likewise, the Council considers that companies involved in development and production of propulsion systems for nuclear missiles should be excluded from the Fund.

## 2 Further details on GenCorp's production of key components of nuclear weapons

GenCorp's fully owned subsidiary, Aerojet, produces propulsion systems for missiles that have no function other than to deliver nuclear warheads. According to information on the company's website, it produces propulsion systems for the Trident III and the D5 Trident missiles: *“Aerojet currently produces solid and liquid propulsion systems for both the Air Force Minuteman III and the Navy D5 Trident missile systems.”*<sup>2</sup>

At the Council's request, Norges Bank has written to the company in order to inquire whether the company produces cluster munitions. The company was asked to clarify whether:

*"Gencorp Inc, or any of its subsidiaries, manufactures, assembles or in any other way produces:*  
 – *components for nuclear weapons or their means of delivery, e.g. propulsion systems for strategic nuclear ballistic missiles,*  
 and/or  
 – *cluster munitions or components for cluster munitions, e.g. submunitions for such weapons."*

The company did not respond to the letter from Norges Bank.

The Council on Ethics assumes that the information provided on the company's website is accurate and thus concludes that the company is involved in the production of key components of nuclear weapons.

### 3 Recommendation

The Council recommends exclusion of the company GenCorp Inc. from the investment universe of the Government Pension Fund – Global. This recommendation is based on Point 4.4 of the Fund's Ethical Guidelines which prescribes exclusion of companies *"on the basis of production of weapons that through their normal use may violate fundamental humanitarian principles"*.

Gro Nystuen (Chair) sign	Andreas Føllesdal (sign.)	Anne Lill Gade (sign.)	Ola Mestad (sign.)	Bjørn Østbø (sign.)
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### Notes

- 1 Recommendation given September 19, 2005: <http://www.regjeringen.no/pages/1661428/Tilrading%20kjernevåpen%20engelsk%2019%20sept%202005.pdf>
- 2 See <http://www.aerojet.com/capabilities/strategic.php>

## To the Ministry of Finance

Oslo, November 15, 2007  
(Published January 11, 2008)

# Recommendation on exclusion of Serco Group Plc.

## 1 Background

The Council on Ethics recommends that the company Serco Group Plc. be excluded from the investment universe of the Government Pension Fund – Global because the company is deemed to be involved in the production of nuclear weapons.

Point 4.4 of the Ethical Guidelines for the Government Pension Fund – Global, states the following: *“The Council shall issue recommendations on negative screening of one or several companies on the basis of production of weapons that through their normal use may violate fundamental humanitarian principles.”* In the Government White Paper on Ethical Guidelines (NOU 22: 2003), and through the subsequent discussion of the Guidelines in the Storting (Parliament), production of key components of nuclear weapons were considered as falling within this category of weapons.

The Government Pension Fund – Global owned neither stocks nor bonds issued by Serco Group Plc. at the end of 2006, investments in the company have been made in the course of 2007.

The Council, on September 19<sup>th</sup>, 2005, issued its first recommendation on exclusion from the Fund of companies that produce nuclear weapons.<sup>1</sup> This recommendation provided for a closer description of nuclear weapons, as well as a description of which weapons’ components fall within the Fund’s guidelines.

## 2 Further details on Serco Group’s role in the development and production of nuclear weapons

According to information on the company’s website, Serco Group Plc. (“Serco”) is a partner in the company AWE Management limited (AWEML), which is the operating company to the British Atomic Weapons Establishment (AWE). AWE is a government owned company which produces and maintains the UK’s nuclear weapons.

On Serco’s website, this activity is described as follows: *“AWE, the Atomic Weapons Establishment, provides the warheads for the United Kingdom nuclear deterrent. AWE is managed by AWE Management Ltd, (AWEML) a consortium of Serco, Lockheed Martin and BNFL who operate a 25 year contract to maintain and deliver the national stockpile on behalf of the UK Government.”*<sup>2</sup>



In a press release issued on January 22<sup>nd</sup>, 2003, it is made clear that AWEML is organised as a joint venture where three partners have equal ownership: *“AWEML is a joint venture company owned equally by Serco, Lockheed Martin Corporation (“Lockheed Martin”) and British Nuclear Fuels Plc (“BNFL”).”*<sup>3</sup>

In a press release from Serco and Lockheed Martin UK, dated July 16th, 2007, it is made clear that BNFL has withdrawn from AEML, and that AWEML is now operated in a partnership consisting of Serco and Lockheed Martin UK: *“As the remaining shareholders in AWE Management Limited (AWEML), we welcome BNFL’s announcement on the disposal of its shareholding in AWEML, which will end the current uncertainty on this matter and further the long-term interests of AWE.”*<sup>4</sup>

At the Council’s request, Norges Bank has written to Serco in order to inquire whether the company *“or any of its subsidiaries, is involved in the development, testing, production, assembly or maintainance of components made for nuclear weapons.”*

In a letter dated November 13th, 2007, the company responds, i.a.: *“Serco has a joint venture with Lockheed Martin and BNFL to operate the UK’s Atomic Weapons Establishment (AWE) on behalf of the Ministry of Defence. AWE’s role is to support and maintain the UK’s nuclear deterrent. Serco does not make the decision whether or not the UK should have a nuclear deterrent. That is a matter for the Government to decide.”*

In its letter Serco confirms its involvement, through AWE, in the maintenance of the UK’s nuclear weapons.

The company Lockheed Martin has already been excluded from the Fund’s investment universe because of its involvement in the production of cluster weapons. It remains somewhat unclear whether BNFL is still involved in AWE. BNFL is a government owned company and is not in the Fund’s investment universe. Therefore, the role of BNFL in AWE has no bearing on this recommendation.

### 3 Recommendation

The Council recommends exclusion of the company Serco Group Plc. from the investment universe of the Government Pension Fund – Global. This recommendation is based on Point 4.4 of the Fund’s Ethical Guidelines which prescribes exclusion of companies *“on the basis of production of weapons that through their normal use may violate fundamental humanitarian principles”*.

Gro Nystuen (Chair) sign	Andreas Føllesdal (sign.)	Anne Lill Gade (sign.)	Ola Mestad (sign.)	Bjørn Østbø (sign.)
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#### Notes

- 1 Recommendation given September 19, 2005: <http://www.regjeringen.no/pages/1661428/Tilrådn-ing%20kjernevåpen%20engelsk%2019%20sept%202005.pdf>
- 2 See [http://www.serco.com/assurance/defence/nuclear\\_weapons/index.asp](http://www.serco.com/assurance/defence/nuclear_weapons/index.asp)
- 3 See [http://www.serco.com/media/pressreleases/2003/001\\_2003.asp](http://www.serco.com/media/pressreleases/2003/001_2003.asp)
- 4 See <http://www.serco.co.uk/text/media/pressreleases/2007/aweshareholding.asp>

## Letter to the Ministry of Finance

Oslo, October 11th, 2007

# Council on Ethics' assessment of companies with operations in Burma

We hereby refer to the letter from the Ministry of Finance, dated September 28th 2007, requesting an account of the work carried out by the Council on Ethics regarding investments in companies with operations in Burma.

Recommendations on exclusion of companies pursuant to the Government Pension Fund's Ethical Guidelines are based on two fundamental prerequisites as outlined in the guidelines' preparatory work: First, there must be a connection between the company's operations and the relevant violations. Second, there must be an unacceptable risk for the company, and thus also, for the Fund, of contributing to future violations.<sup>1</sup>

The Council thus assumes that the fact that a company has operations in states controlled by repressive regimes does not, in itself, constitute sufficient grounds to exclude a company from the Fund. Even though it can be inferred that the presence of a company generates revenues for the repressive regime and thereby contributes to uphold it, such a connection between a company and the state's unethical actions would not, in itself, be sufficient to exclude a company from the Fund. This applies regardless of where companies operate, including in Burma.

The Ethical Guidelines' preparatory work states that the objective to be achieved by excluding companies is to avoid the Fund's contribution to grave unethical actions. It is beyond the Council's mandate to assess whether the exclusion of companies could have additional effects, such as improvement of the political situation in a state.

The Fund's Ethical Guidelines pertain, *inter alia*, to the production of weapons which through normal use may violate fundamental humanitarian principles. In the guidelines' preparatory work, an exhaustive list of the type of weapons that fall under this category is provided. When applying the weapons criteria it is in any case *present* and *future* production which is considered. Sales of arms in general, including to repressive regimes, fall outside the scope of the Ethical guidelines.

Regarding the Fund's investment in companies with operations in Burma, the Council notes that there are no direct investments in Burmese companies. However, the Council is aware of at least 20 companies in the Fund's portfolio which have, or are in negotiations to have, operations of some extent in Burma. The majority of these companies belong to the energy, mining, oil and gas, hydroelectric power, telecommunications, banking, pharmaceutical and hotel sectors. The companies are listed on, among others, the South Korean, Thai, Singaporean and French stock markets.

In 2005, the Council considered whether to recommend the exclusion of the company Total SA from the Fund, and decided not to recommend exclusion of the company because of its contribution to human rights violations in connection with the construction of a gas pipeline in Burma.<sup>2</sup>

The Council on Ethics did consider it likely that Total SA had contributed to the violations of human rights which took place in direct relation to the clearing of pipeline routes for a gas pipeline in the period 1995-98. The main reason why it was recommended not to exclude the company was that the human rights violations that could be associated with the company had taken place in the past. The Council did not find that there were on-going violations or that there was an unacceptable risk that the company would contribute to future violations. The Council is not aware of any changes in the premises that led to this conclusion.

In the assessment of Total in 2005, the Council regarded, as general point of departure, that the risk of grave human rights violations in connection with construction of infrastructure in Burma is considerable. The situation has hardly improved since then. Grave human rights violations such as forced displacement of people and extensive use of forced labour can be expected. This is particularly the case in the first stages of large construction projects, when preparations are made for constructions, areas are cleared and roads are built. Even though it is the Burmese authorities and not the companies who principally commit the violations, it is likely to be a connection between the violations and the companies' operations, in the sense that the violations take place to facilitate for companies' future operations.

Several companies in the Fund have engaged in negotiations regarding the construction of oil and gas pipelines from Burma to India, China and Thailand. A number of alternative projects have been discussed between the Burmese authorities and different groups of companies. Since the Council of Ethics is particularly aware of the risk of violations of human rights in connection with large construction projects in Burma, it has especially surveyed the possible role of companies in the Fund in similar, new projects.

With this in mind, the Council has obtained information from the concerned companies as well as from different organisations. The Council's secretariat has also temporarily employed a staff member who, in February this year, was in the border areas between Burma and Thailand to gather information on the human rights situation related to construction projects. Also, during a visit to India in February, the secretariat sought to clarify the status of the cooperation between India and Burma for the construction of a gas pipeline. Research on this and other issues continues; in October of this year the secretariat will meet with Burmese citizens in exile, various organisations and the Norwegian embassy in Bangkok to gather additional information.

Among the companies looked into by the Council is the South Korean company Daewoo International Corp. In the autumn of 2006, Norges Bank wrote to the company and requested information pertaining to Daewoo's possible role in the construction of a gas pipeline between Burma and India. The company responded in January of this year and clarified that the company's operations related to this have been limited to exploration activities only, that no decision has been made, or contract entered into regarding the landing and transportation of natural gas, and that on the company's part, no efforts have been made to construct gas pipelines onshore in Burma. Moreover, the Council has learned of an alleged conflict between the company and the Burmese authorities, whereby, according to the information obtained, Burmese authorities now would rather sell the gas from these fields to China instead of India.

There are indications that, on a political level, Burma has entered into agreements to sell gas to China and it is thus to be expected that construction of gas pipelines between the two countries may take place. There are several companies in the Fund that could play a role in such a construction project, among these is the Chinese company Petrochina Co. Ltd. To the Council's knowledge, however, no contracts have yet been signed between Burmese authorities and companies in the Fund on construction of onshore pipelines in Burma. The Council monitors the development in this area closely.

If companies in the Fund's portfolio were to enter into contract agreements regarding the construction of such pipelines, the Council may recommend the exclusion of these companies already from the time of entering into the agreements. Because such undertakings would most likely involve an unacceptable risk of contributing to human rights violations, it is not considered necessary to wait until the violations actually take place.

On the subject of the company Daewoo's involvement in the construction of an arms factory in Burma, the Council is aware of an on-going criminal trial in South Korea, where 14 executives from seven South Korean companies are indicted for illegal sale of production equipment and technology to Burmese authorities. These deliveries have been used to establish a factory which produces artillery shells in Burma. Among the indicted are employees from the companies Daewoo International Corp. and Doosan Infracore Co Ltd. (previously Daewoo Heavy Industries & Machinery Ltd.), both of which are in the Fund's portfolio.

South Korean law prohibits the export of military equipment and technology to Burma. Notwithstanding this, according to the indictment, employees of Daewoo in 2002 entered into a contract with Burmese arms industry to deliver weapon technology. The deliveries continued through 2005. It is somewhat unclear what the role of the companies has been in this; the payment for the deliveries have been transferred to the private accounts of the indicted and not to corporate accounts, and part of the indictment concerns sale of stolen technology. On the other hand, it is possible that Daewoo may have had an interest in the illegal transfers, as far as this may have contributed to facilitate Daewoo being rewarded contracts for production of natural gas in Burma.

Sale of technology and equipment for production of artillery shells generally falls outside the specific weapons criteria of the Fund's Ethical Guidelines. If, however, a company violates national law by illegally selling weapon technology to a suppressive regime, this may be viewed as a serious violation of fundamental ethical norms, and thus fall inside the last section of the Fund's ethical guidelines (*"Exclusion of companies from the investment universe where there is considered to be an unacceptable risk of contributing to: (...) Other particularly serious violations of fundamental ethical norms"*). But also when considering exclusion of companies on this basis, it is the unacceptable risk of contributing to future violations that has to be regarded.

In this case, the Council notes that the alleged illegal acts have already taken place, that the scheme was foiled before the deliveries were completed and that the deliveries then ceased immediately. The Council has no reason to assume that any of the involved companies will resume illegal transfers of weapon technology to Burma, especially considering the possible consequences facing the indicted. Based on this, the Council finds no reason to assess that there is an unacceptable risk of the implicated companies of contributing to future breaches of fundamental ethical norms.

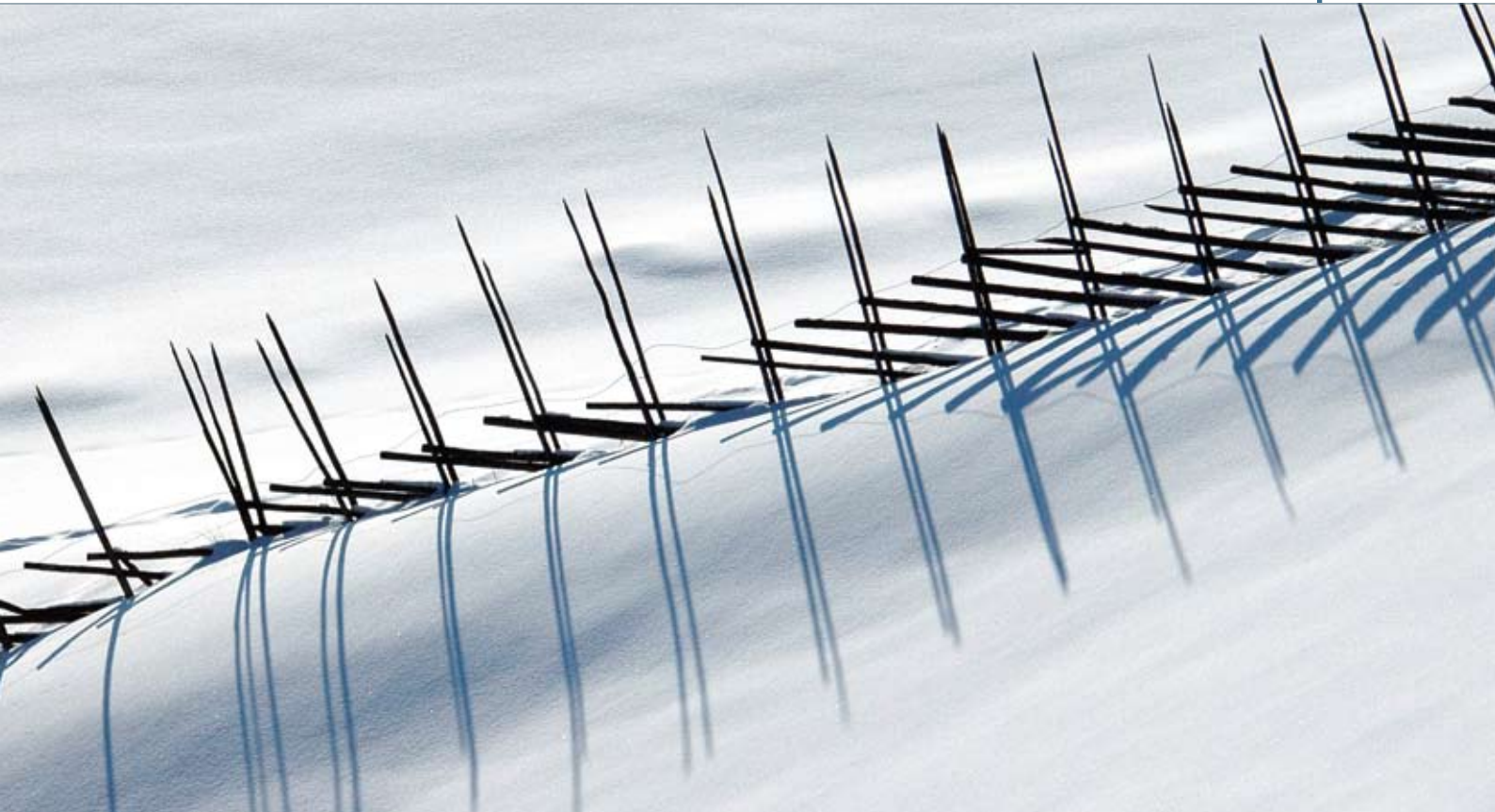
The Council has reason to believe that companies in the Fund's portfolio may be involved in construction of hydroelectric power plants in Burma. Such projects have previously been known to lead to forced displacement of people and to forced labour. Also, the Council is informed that mining companies in the Fund's portfolio may have operations in Burma. It must be assumed that conditions related to mining in Burma can be severe, both in terms of environmental aspects, working conditions and effects on livelihood for the population in proximity of the mines. Nor can it be ruled out that forced labour is used, either in the mining operations themselves or when clearing areas for new mines. The Council's work on information gathering on these topics continues.

Regards,  
Gro Nystuen,  
Chair,  
Council on Ethics,  
Government Pension Fund – Global

## Notes

- 1 See <http://www.regjeringen.no/en/dep/fin/Selected-topics/andre/Ethical-Guidelines-for-the-Government-Pension-Fund---Global-/The-Graver-Committee---documents/Report-on-ethical-guidelines.html?id=420232&epslanguage=EN-GB>
- 2 See <http://www.regjeringen.no/pages/1662906/oversettelse%20T%204%20jan%2006.pdf>





## Ethical Guidelines for the Government Pension Fund – Global

*This translation is for information purposes only. Legal authenticity remains with the original Norwegian version.*

# Ethical Guidelines

## Norwegian Government Pension Fund – Global

**Issued 22 December 2005 pursuant to regulation on the Management of the Government pension Fund – Global, former regulation on the Management of the Government Petroleum Fund issued 19 November 2004.**

### **1 Basis**

The ethical guidelines for the Government Pension Fund – Global are based on two premises:

- The Government Pension Fund – Global is an instrument for ensuring that a reasonable portion of the country's petroleum wealth benefits future generations. The financial wealth must be managed so as to generate a sound return in the long term, which is contingent on sustainable development in the economic, environmental and social sense. The financial interests of the Fund shall be consolidated by using the Fund's ownership interests to promote such sustainable development.
- The Government Pension Fund – Global should not make investments which constitute an unacceptable risk that the Fund may contribute to unethical acts or omissions, such as violations of fundamental humanitarian principles, serious violations of human rights, gross corruption or severe environmental damages.

### **2 Mechanisms**

The ethical basis for the Government Pension Fund – Global shall be promoted through the following three measures:

- Exercise of ownership rights in order to promote long-term financial returns based on the UN Global Compact and the OECD Guidelines for Corporate Governance and for Multinational Enterprises.
- Negative screening of companies from the investment universe that either themselves, or through entities they control, produce weapons that through normal use may violate fundamental humanitarian principles.
- Exclusion of companies from the investment universe where there is considered to be an unacceptable risk of contributing to:
  - Serious or systematic human rights violations, such as murder, torture, deprivation of liberty, forced labour, the worst forms of child labour and other child exploitation
  - Grave breaches of individual rights in situations of war or conflict
  - Severe environmental damages
  - Gross corruption
  - Other particularly serious violations of fundamental ethical norms



### **3 The exercise of ownership rights**

- 3.1** The overall objective of Norges Bank's exercise of ownership rights for the Government Pension Fund – Global is to safeguard the Fund's financial interests. The exercise of ownership rights shall be based on a long-term horizon for the Fund's investments and broad investment diversification in the markets that are included in the investment universe. The exercise of ownership rights shall primarily be based on the UN's Global Compact and the OECD Guidelines for Corporate Governance and for Multinational Enterprises. Norges Bank's internal guidelines for the exercise of ownership rights shall stipulate how these principles are integrated in the ownership strategy.
- 3.2** Norges Bank shall report on its exercise of ownership rights in connection with its ordinary annual reporting. An account shall be provided of how the Bank has acted as owner representative – including a description of the work to promote special interests relating to the long-term horizon and diversification of investments in accordance with Sections 3.1.
- 3.3** Norges Bank may delegate the exercise of ownership rights to external managers in accordance with these guidelines.

### **4 Negative screening and exclusion**

- 4.1** The Ministry of Finance shall, based on recommendations of the Council on Ethics for the Government Pension Fund – Global, make decisions on negative screening and exclusion of companies from the investment universe.
- The recommendations and decisions shall be made public. The Ministry may, in certain cases, postpone the time of public disclosure if this is deemed necessary in order to ensure a financially sound implementation of the exclusion of the company concerned.
- 4.2** The Council on Ethics for the Government Pension Fund – Global shall consist of five members. The Council shall have its own secretariat. The Council shall submit an annual report on its activities to the Ministry of Finance.
- 4.3** Upon request of the Ministry of Finance, the Council issues recommendations on whether an investment may constitute a violation of Norway's obligations under international law.
- 4.4** The Council shall issue recommendations on negative screening of one or several companies on the basis of production of weapons that through normal use may violate fundamental humanitarian principles. The Council shall issue recommendations on the exclusion of one or several companies from the investment universe because of acts or omissions that constitute an unacceptable risk that the Fund contributes to:
- Serious or systematic human rights violations, such as murder, torture, deprivation of liberty, forced labour, the worst forms of child labour and other forms of child exploitation
  - Grave breaches of individual rights in situations of war or conflict
  - Severe environmental damages
  - Gross corruption
  - Other particularly serious violations of fundamental ethical norms

The Council shall raise issues under this provision on its own initiative or at the request of the Ministry of Finance.

**4.5** The Council shall gather all necessary information at its own discretion and shall ensure that the matter is documented as fully as possible before making a recommendation regarding negative screening or exclusion from the investment universe. The Council may request Norges Bank to provide information as to how specific companies are dealt with in the exercise of ownership rights. Enquiries to such companies shall be channelled through Norges Bank. If the Council is considering recommending exclusion of a company, the company in question shall receive the draft recommendation and the reasons for it, for comment.

**4.6** The Council shall review on a regular basis whether the reasons for exclusion still apply and may against the background of new information recommend that the Ministry of Finance reverse a decision to exclude a company.

**4.7** Norges Bank shall receive immediate notification of the decisions made by the Ministry of Finance in connection with the Council's recommendations. The Ministry of Finance may request that Norges Bank inform the companies concerned of the decisions taken by the Ministry and the reasons for the decision.





**Photo** Gammel skigard på dyrket snøbelagt mark, lange skygger fra gjerdestolpene.

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