



Environmental Impact Assessment Tenke Fungurume Project

Volume E: Appendices



March 2007



Tenke Fungurume Project

Tenke Fungurume Mining SARL

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VOLUME E: GENERAL APPENDICES

SECTION E1

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ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT
VOLUME E: GENERAL APPENDICES
SECTION E2

PUBLIC CONSULTATION AND DISCLOSURE PLAN

Submitted to:

Tenke Fungurume Mining S.A.R.L. (TFM)
Democratic Republic of the Congo

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1 PUBLIC CONSULTATION AND DISCLOSURE PLAN

1.1 INTRODUCTION

Tenke Fungurume Mining (TFM) is currently investigating the feasibility of mining and processing copper and cobalt ore in a concession area in the Katanga Province of the Democratic Republic of the Congo (DRC). The concession area is located northwest of Lubumbashi, between the towns of Tenke and Fungurume. The estimated life of the proposed project is more than 20 years.

The feasibility study (FS) was conducted to determine whether it would be environmentally, socially, technically and economically possible to mine the ore bodies in the concession area and construct a mineral processing plant to extract copper and cobalt from the ore. As part of the FS, TFM commissioned Golder Associates Ltd., a ground engineering and environmental consulting company, to conduct an environmental and social impact assessment (ESIA) in accordance with the Equator Principles and its applicable policies and guidelines. An overview of the project and ESIA process is provided in a Background Information Document as Appendix E3 to this ESIA.

This document outlines the public consultation and disclosure plan (PCDP) for the ESIA of the proposed TFM project. It reports on consultation and TFM engagement with stakeholders to date (March 2007). It also discusses ongoing engagement by TFM with its stakeholders.

The aim of the PCDP is to ensure that adequate and timely information is provided to project-affected persons and other stakeholders, that these groups are given sufficient opportunity to provide comment and raise issues, concerns and suggestions, and that these contributions influence project design and decisions.

Documents that have been prepared through implementation of the PCDP include the following:

- Appendix E3: Background information document (BID).
- Appendix E4: Scoping report.
- Appendix E5: Stakeholder database.
- Appendix E6: Issues and response report (IRR).
- Appendix E8: Terms of Reference (ToR).

1.1.1 Definitions

“The project”: A project to develop a copper/cobalt mine, processing plant and ancillary facilities in the Tenke Fungurume concession area in the Katanga Province.

“The Project Sponsor”: TFM is a joint company of Gécamines and Lundin Holdings Ltd. (now TF Holdings Ltd., TFHL) Phelps Dodge Corporation is, through its subsidiaries, the major shareholder of TFM.

“Stakeholders”: Persons who are affected by or can affect the outcome of the project. These can be affected communities, local organizations, non-governmental organizations (NGOs) and government authorities. Stakeholders can also include politicians, military authorities, commercial and industrial enterprises, labour unions, academics, religious groups, national social and environmental public sector agencies and the media. The specific stakeholders for the project will be identified as part of the process described in this document.

“Project-affected person (PAP)”: any person who, as a result of the implementation of the project, loses the legal or traditional right to own, use or otherwise benefit from a built structure, land (residential, agricultural, pasture or natural areas), annual or perennial crops and trees, or any other fixed or moveable asset, either in full or in part, temporarily or permanently.

1.1.2 International Requirements

The ESIA process is being conducted in compliance with the Equator Principles (EP) and its associated policies and guidelines, including those relevant to consultation, public participation and information disclosure. The EP require that consultation occurs throughout the life of a project. The two main phases of consultation during the preparation of an ESIA include:

- During scoping the ESIA before guidelines for the preparation of the ESIA are finalized.
- Once a draft ESIA report is available to be presented to, and discussed, with stakeholders.

In addition, the project sponsor is required to liaise and consult with project-affected persons, non-governmental organizations and other stakeholders, as necessary, on an ongoing basis, throughout project implementation, to address project-related issues that affect them.

1.2 STAKEHOLDER CATEGORIZATION AND IDENTIFICATION

Consultation took place with representatives or spokespeople of different sectors of society, rather than with every individual in the large project area. Nevertheless, special efforts were made to obtain the contributions of all people who may be affected directly by the proposed project, particularly marginalized groups like women and youth.

The current stakeholder database (Appendix E5) consists of almost 530 individuals and organizations representing a broad spectrum of all sectors of society from both within the project area and beyond its boundaries, including:

- Central government regulatory bodies directly involved in the project and their local representatives.
- Central government bodies with potential indirect involvement in the project, such as the departments of health, agriculture and education.
- Provincial / regional governments.
- Local government institutions and officials, including:
 - Mayors, the highest ranking government officials in a given district.
 - Local government technical departments supervised by the Mayor's office.
 - Chefs de Cité and Chefs de Poste, who are civil administrators of rural townships such as Fungurume and Tenke.
 - Chefs de Quartier, who are neighborhood representatives of the Chefs de Cité and Chefs de Poste offices.
 - Traditional village chiefs, who may be answerable both to government and customary authorities.
- People living near the project and all of its facilities, including people who use project-affected areas for subsistence activity or use water or other resources that may be affected by the project.
- People who may potentially be affected in their livelihoods by the project development, specifically local people who may have relied in part on revenues from informal mining on the concession.
- Community-based organizations like development committees and women's groups.

- Customary institutions, including:
 - “Chefs de Terre,” who manage land allocation in a given area under customary land tenure regime.
 - Other traditional chiefs, including traditional kings of tribal or ethnic groups, or Chefs de Groupement, who supervise several village populations.
- Donor organizations.
- Multilateral donor organizations, such as the World Bank and some United Nations agencies.
- Bilateral donor organizations with potential or actual involvement in the project area, such as United States Agency for International Development, Belgian Development Corporation and Coopération Technique Belge.
- Non-governmental organizations (NGOs) including DRC-based NGOs and other international NGOs not in the DRC but with a strong presence in Africa.
- Local universities and academic institutions including schools and missions where local academics can be mobilized to participate in consultation.
- Mining including informal mining organizations, Gécamines, the state-owned mining company, which is a partner in TFM, and other mining companies.
- Industrial businesses in the project area and Katanga province.
- Environmental and conservation organizations.
- TFM employees.
- Labor organizations.
- Media (print and broadcast).
- Researchers and consultants.

1.3 PUBLIC CONSULTATION AND DISCLOSURE PLAN

The ESIA study starts with a scoping phase, followed by an impact assessment phase with specialist studies to assess the potential negative and positive impacts of the project.

The sections below outline the PCDP for both these phases of the ESIA. Also included is the consultation program before the start of the ESIA process and the ongoing stakeholder consultation throughout project implementation.

1.3.1 Objectives

The overall objectives of the PCDP are as follows:

- Keep stakeholders informed on the project and its progress.
- Provide a forum for discussion on the ESIA, its scope and its initial conclusions.
- Obtain information from stakeholders that may affect the design of the proposed project by reducing potential impacts and/or maximizing project benefits.
- Provide a forum for ongoing consultation and liaison with stakeholders throughout the life of the project, to address project-related issues that affect them.

1.3.2 Stakeholder Engagement by TFM

TFM initiated contact with stakeholders in September 2005, when its mining convention with the DRC government was re-stated, so that constructive relationship-building with its stakeholders could begin at an early stage. Broadly, this took the form of government liaison, courtesy introductions to a range of NGOs and other stakeholders, and liaison with the community around the TFM camp in Fungurume, and the community in the concession area.

To this end, TFM appointed a community liaison officer (CLO), based at its TFM camp in Fungurume, and two local community liaison facilitators, all three of which are Congolese nationals. An important aspect of their work consisted of (and still does) liaison with project affected people (PAPs), in particular those with fields and crops damaged as a result of feasibility investigations (e.g., drilling). In all cases, prior permission for access was obtained, and compensation for damages was negotiated in accordance with a compensation policy developed by TFM and discussed with PAPs. These activities will continue as the study progresses and further damages to fields and crops may be necessary.

Furthermore, the TFM facilitators were and remain in constant contact with local communities in respect of casual labour being hired to assist feasibility study team members, or in road repair etc. Prior consultation with the Chief of the Mulumbu

Village resulted in the “tombola” (raffle) system being followed for hiring casual labour.

TFM facilitators and other TFM personnel also facilitated, and continue to do so, contact between local communities and NGOs for community development projects, such as an oxen acquisition program being offered by the Lukuba Mission. Mr. Francis Kalassa, the CLO, also pays regular visits to Chiefs in the concession area.

TFM also developed a code of conduct for feasibility and ESIA study team members to adhere to. In particular, the code of conduct focused on obtaining prior permission for access to land, and courteous interactions with local community people.

In addition, TFM has and will continue to conduct regulatory liaison. Senior personnel liaise with central and provincial government and the governor of the Katanga province, while the CLO conducts most of the regulatory liaison at a local level.

1.3.3 Consultation During the Environmental and Social Impact Assessment (ESIA) Scoping Phase

Extensive consultation with local communities in the concession area by members of the ESIA’s socio-economic assessment team took place beginning in November 2005 with the purpose of informing the communities of the proposed project and upcoming ESIA, and to gather baseline socio-economic information for the ESIA.

Initial consultation during the scoping phase of the ESIA, before the scoping document and terms of reference (ToR) for the ESIA were drafted, was conducted by the public participation team between February and March 2006.

Consultation on the outcome of the scoping phase of the ESIA, that is, after the TOR for the ESIA had been drafted, took place at the end of May and in early June 2006.

1.3.3.1 Objectives of Consultation During Scoping

The scoping phase of the ESIA focused on preparing a scoping report and detailed terms of reference for the technical studies. The consultation program during the scoping phase aimed to provide sufficient and accessible information to stakeholders in an objective manner to assist them to:

- Identifying issues of concern and provide suggestions for alternatives and enhanced benefits.
- Receiving contributions of local knowledge and experience.
- Verifying that their issues and concerns have been captured and considered.

1.3.3.2 Announcement of Opportunity to Comment

The opportunity to participate in the ESIA was widely announced in three languages (French, Swahili and English) in order to afford the broadest range of stakeholders the opportunity to comment, as shown in Tables 2.3-1, 2.3-2 and 2.3-3.

1.3.3.3 Obtaining Comments from Stakeholders

During scoping, stakeholders had several opportunities to comment on the proposed project and ESIA process. In addition to submitting comments in writing or by telephone, people could attend focus group meetings, one-on-one interviews, presentations and community meetings. These meetings were held between November 2005 and February 2006 by the socio-economic assessment team and between mid-February and March 2006 by the public participation team. Table 2.3-4 summarizes these opportunities.

Table 2.3-1 Project Announcement: Distribution of Invitation Letter, Background Information Document (BID) and Comment Sheet in French, Swahili and English

Method of Announcement and Distribution	Date	Number of Documents Distributed
Meetings held by the socio-economic assessment team in 36 rural villages and four urban and semi-urban villages in the TFM concession area.	November 2005 – early February 2006	verbal announcement
Visits by TFM shareholder representatives and the TFM Community Liaison Officer and Environment, Social and Community Development Programs Director to key NGO and donor organizations and village chiefs, to introduce the project and encourage their involvement in the ESIA.	mid-February 2006	about 20 printed copies
Printed copies distributed through personal contact during community visits, one-on-one interviews and focus group meetings with government officials, donor organizations, NGOs, business and other key stakeholders in the project area, all TFM workers at the TFM office in Lubumbashi and those at the TFM camp in Fungurume, including those who work off site. Additional copies left with stakeholders for further distribution to their colleagues and constituents.	mid-February to March 2006	400 English copies 1,000 French copies 300 Swahili copies
Making the documents available in public places in the project area for example, markets, clinics, schools, universities, academic institutions, train stations, police stations and community centers in Tenke, Fungurume, Lubumbashi, Kolwezi and leaving documents with community leaders in all the villages in the project area.	mid-February to March 2006	130 English copies 700 Swahili copies 1,250 French copies
By e-mail to individuals and organizations in the project area, in Africa and internationally.	mid-February 2006	200 English copies 200 French copies
Electronic forwarding of the BID and comment sheet by contact persons at NGOs, e.g., United Nations Office for Coordination of Humanitarian Affairs (UN OCHA) sent the BID to other NGOs and stakeholders.	mid-February to March 2006	about 100 English copies and 100 French copies
Making documents available in all three languages on ESIA consultant website (www.golder.co.za) and Project Sponsor website (www.phelpsdodge.com). Web-site address advertised.	from mid-February 2006	received about 40 responses from people that obtained documents from these websites.

Table 2.3-2 Advertisements to Announce Opportunity to Participate in the ESIA

Advertisements / Announcements	Date
<p>Newspapers: paid advertisements in 20 newspapers (local, regional and national) for example:</p> <ul style="list-style-type: none"> • La Concorde. • Trompette Lushoise. • Bora Express. • La Libre Opinion. • Mukuba. • Le Tribun du Peuple. • Le Cyclone. 	mid-February to March 2006
<p>Radio and Television Broadcasts of a simple message in French, Swahili and Lingala informing stakeholders of the intention to conduct an ESIA, opportunity to comment and contact details for submitting comment:</p> <ul style="list-style-type: none"> • Radio Mosaïque. • RCK Radio. • Radio Mwangaza. • Phoenix Radio. • Mwangaza TV. 	mid-February to March 2006

Table 2.3-3 Display of Initial Set of Posters in Three Languages to Announce the Opportunity to Become Involved in the ESIA, February and March 2006

Posters	Venues Where Posters were Displayed	Number of Poster Sets
<p>Laminated sets of three posters each explaining the project and ESIA process in simple language and photographs, and announcing the opportunity to become involved in the ESIA. Poster displays were erected in the concession area in February and March 2006.</p>	<ul style="list-style-type: none"> • local government offices in Kolwezi, Tenke, Fungurume. • some NGO offices in Lubumbashi e.g., PACT Congo. • University of Lubumbashi. • Mining Technical School, Kolwezi. • Lukotola Clinic. • Center Social Rural Kamalenge (Spanish Catholic mission), Lukotola. • public places such as clinics, train stations, markets, churches, schools, academic institutions, police stations and community centers in Tenke, Fungurume, Lubumbashi, Kolwezi, Likasi. • all rural and urban villages throughout the project area for e.g., Mulumbu, Amoni, Kiboko, Mwela Mpanda' Mpala, Nguba, Kilusonsa, Kwatebala, Kamunga Kitambo. • TFM camp, Fungurume. • TFM office, Lubumbashi. 	<p>50 Swahili 45 French 7 English</p>

Table 2.3-4 Initial Opportunities for Stakeholders to Comment During the Initial Stage of the Scoping Phase of the ESIA, November 2005 to March 2006

Opportunities	Dates	Number
Focus Group Meetings, Presentations, Community Meetings, Interviews		
Meetings in 36 rural and four urban and semi-urban villages throughout the study area, including areas subject to alternatives, conducted by the socio-economic assessment team.	November 2005 to February 2006	+/- 100
<ul style="list-style-type: none"> • Meetings in Lubumbashi with several key NGOs and donor organizations including: • World Vision-DRC. • United Methodist Committee of Relief (UMCOR). • United States Agency for International Development (USAID). • PACT Congo. • Mission Observation de UN for Congo (MONUC). • Caritas. • Médecins Sans Frontières (MSF). • Cooperation Technique Belge (CTB). • United Nations Office for Coordination of Humanitarian Affairs (UN OCHA). • l'Association laïque pour les bambins d'Afrique (ALBA). • World Health Organization, Congo (OMS). • International Foundation for Education and Self Help (IFESH) Congo. 	February 16-17, 2006	12
Meetings with the professors and students at the Sociology Department and Polytechnique Mining, University of Lubumbashi. This also served as capacity-building for students.	February 16-17, 2006	2
Verbal and visual briefings to some TFM workers at the office in Lubumbashi and at the TFM camp in Fungurume.	February 16 – 19, 2006	2
Meetings with local government officials in Tenke and Fungurume.	February 20, 2006	2
Multi-sectoral meetings in Tenke and Fungurume and poster presentations to small groups of people at schools, clinics and markets.	February 21, 2006	10
Meetings with government authorities, NGOs and the artisanal miners organization, SEASSCAM in Kolwezi.	March 14-15, 2006	6
Interviews with village chiefs and meetings and poster presentations in all the villages and most of the hamlets in the concession area.	between 18 February and 31 March 2006	40
One-on-one interviews with key stakeholders e.g., the King of Bayeke (Mwami des Bayeke et du Garengaze).	mid-March 2006	3
Total		177

Table E2.3-4 Initial Opportunities for Stakeholders to Comment During the Initial Stage of the Scoping Phase of the ESIA, November 2005 to March 2006 (continued)

Opportunities	Dates	Number
Focus Group Meetings, Presentations, Community Meetings, Interviews		
Consultation by Telephone		
Non-governmental organizations and donors based outside the DRC, including those from Africa that were involved in the World Bank Extractive Industries Review for Africa (2003) ¹ , and several mining companies in the DRC were telephoned to ensure that they had received the project documentation and to encourage their issues, comments and suggestions.	Throughout March 2006	
Written Comment		
Stakeholders with access to fax and e-mail facilities completed and returned comment sheets distributed with the BID or comment by e-mail to either the public participation office or the community liaison officer at the TFM camp in Fungurume. Others delivered their completed comment sheets by hand to the CLO at the TFM Camp in Fungurume, or the CLO collected completed comment sheets in the villages.	Mid-February to March 2006	+/- 500

1.3.4 Issues and Response Report

The issues and response report provides an ongoing record of stakeholder issues raised and comments provided throughout the public participation process. The report is separated into the disciplines required for conducting the impact assessments, as well as other subjects and responds to each group of issues (Appendix E6).

¹ World Bank Extractive Review for Africa. 2003.

1.3.5 Draft Scoping Report

A draft scoping report was compiled by the ESIA team, with the main purpose of defining the scope of the ESIA (Appendix E4). The draft scoping report included:

- The most recent description of the proposed project at the time the scoping report was prepared.
- The draft terms of reference for the ESIA specialist studies.
- The issues and response report described above.

The draft scoping report was available for public review for three weeks from Friday, May 26, 2006, to Friday, June 16, 2006.

The contents of the draft scoping report were communicated widely. This let stakeholders check that their contributions had been captured, understood and correctly interpreted. It also gave stakeholders a chance to raise further issues. The draft scoping report was communicated as follows:

- Display of 20 sets 19 posters in popular public areas, summarizing the key aspects of the report in simple language and illustrated with photographs, drawings and maps, throughout the concession area (see Table 2.3-5).
- Distribution of a summary draft scoping report, consisting of a reprint of the full set of posters (see Table 2.3-5).
- Distribution of the full text of the draft scoping report and issues and response report (see Table 2.3-5).
- E-mailing the reports to all stakeholders with e-mail access.
- Placing the reports on the consultants' and proponent's web sites.

All posters and reports were available in English, French and Swahili.

Stakeholders could comment on the reports in various ways, such as:

- Completing the comment sheets accompanying the reports.
- Submitting further comments by mail, e-mail, or telephone.
- Attending any of the 10 open houses convened during May 2006.
- One-on-one discussions with members of the ESIA team during the open houses.

Table 2.3-5 Venues Where Posters Were Displayed and Draft Scoping Reports Made Available for Public Comment, from May 26 2006

Venue ^(a)	Number of Poster Sets	Total Number of Full Draft Scoping Reports, Summary Reports and Issues and Response Reports Distributed
Cadastral Mining Office, Kolwezi	1 English 1 French	30 English 80 French 20 Swahili
Cadastral Mining Office, Lubumbashi	1 French	80 English 90 French 20 Swahili
Chef de Poste, Tenke	1 French	20 English 50 French 40 Swahili
Methodist Church, Tenke	1 Swahili	15 English 20 French 20 Swahili
Chef de Poste, Fungurume	1 French	30 English 50 French 40 Swahili
Methodist Church, Fungurume	1 Swahili	20 English 50 French 30 Swahili
Lukotola Mission	1 French 1 Swahili	30 English 50 French 20 Swahili
Eglise Pentecôtiste, Mulumbu Village	1 Swahili	10 English 50 French 60 Swahili
Nguba Village	1 Swahili	30 English 60 French 80 Swahili
Eglise Pentecôtiste, Kilosonsa Village	1 Swahili	30 English 40 French 60 Swahili
Mining Polytechnique, University of Lubumbashi	1 French	80 English 80 French 60 Swahili
Gécamines	1 French	5 English 5 French 5 Swahili
La Halle des Etoiles, Lubumbashi	1 English 1 Swahili	130 English 180 French 120 Swahili
TFM Office, Lubumbashi	1 English 1 French	80 English 100 French 40 Swahili
TFM Camp, Fungurume	1 English 1 French	80 English 120 French 100 Swahili

^(a) Most of these venues, the posters were retained by the venue owners for permanent display.

1.3.5.1 Open Houses to Enable Comment on the Draft Scoping Report

A series of public open houses was held between Sunday, May 28, and Thursday, June 1, 2006, to assist stakeholders with making comments on the draft scoping report. In addition to the public open houses, separate open houses were held in Kolwezi, Lubumbashi, Tenke and Fungurume for government officials and other key stakeholders who preferred to have separate meetings.

Aims of the Open Houses

The aims of the open houses were as follows:

- To inform stakeholders of the outcome of the scoping phase of the ESIA. It was important to communicate the most recent project description, the location alternatives for infrastructure, and information on the baseline information collection during scoping.
- To let stakeholders confirm that the issues, concerns and suggestions they had raised during the Scoping process to date, (i.e., between November 2005 and March 2006) had been captured correctly.
- To allow stakeholders to raise additional issues about the ESIA and pertaining to relationships between TFM and local communities.

Table 2.3-6 shows the dates, venues and times of the open houses as well as key participants, approximate number of attendees and total number of documents (full and summary draft scoping reports and issues and response reports) distributed.

Format of Open Houses

All open houses took the same format. Two or three sets of posters were displayed in French, Swahili or English. The posters consisted of the following broad topics:

- Company overview.
- Description of the proposed project, including a map showing alternatives for infrastructure.
- The ESIA Process.
- Issues and Responses.

Table 2.3-6 Open Houses to Comment on the Draft Scoping Report, May and June 2006

Date	Venue and Town	Times	Stakeholders Participating	Approximate Number of Attendees	Total Number of Documents Distributed
Sunday, May 28, 2006	Eglise Pentecôtiste, Mulumbu	10:00–14:00	Chief Kazadi Mulumbu, Chief Kyabondo, Chief Mwela Mpanda, Chief Mulumbu Kyansa, Chief Kasanga, Chief Muleji, Chief Salabwe, Chief Kamungu, Chief Mwanga Muteba and members of the Mulumbu, Amoni and Kiboko communities.	300	50 French 65 Swahili 14 English
Sunday, May 28, 2006	Eglise Pentecôtiste, Kilusonsa	10:00 – 14:00	Chief Lutanda and members of the Kilusonsa community.	150	50 French 40 Swahili 15 English
Monday, May 29, 2006	Eglise Orthodoxe , Tenke	10:00 – 14:00	Chief Mwela Mpanda, Chef de Poste, Tenke, Chef Agence National de Renseignement (ANR), Commandant de Police sous – Commissarate de Tenke, teachers and others.	30	30 French 20 Swahili 24 English
Monday, May 29, 2006	Eglise Méthodiste, Tenke	10:00 – 14:00	Community leaders, artisanal miners, Tenke Gare College and others.	300	150 French 50 Swahili 20 English
Tuesday, May 30, 2006	Eglise Méthodiste, Fungurume	09:00 – 12:00	Chief Nguba and his delegation, Chef de Cite, Fungurume and other government officials.	40	30 French 20 Swahili 15 English
Tuesday, 2006	Eglise Méthodiste, Fungurume	13:00 – 15:30	Chief Mpala's secretary, community leaders, students, media, and members of the community.	250	100 French 60 Swahili 25 English
Tuesday, May 30, 2006	Lukotola Mission, Fungurume	10:00 – 14:00	Chief Lukotola Eddie Antoine, Chief Lukotola Binza, Chief Lukotola Kasono, Chef Salambwe Mangi, Chief Sanka, Chief Kilundu Masumu, people from Lukotola Village; scholars of the Lukotola Mission station, community leaders.	250	80 French 60 Swahili 10 English
Wednesday, May 31, 2006	La Casa Degli Italiano, Lubumbashi	12:00 – 17:00	Mwami Munongo Mwenda Bantu, Princess Dominique, representative of the Governor of Katanga, President of Gécamines and delegation, professors from Lubumbashi University and members of the press.	50	50 French 30 Swahili 30 English
Wednesday, May 31, 2006	Hacienda Hotel, Kolwezi	13:00 – 16:00	Mainly government; Business and mining representatives. Two bodies representing artisanal miners, SEASCAM and EMAK.	20	20 French 10 Swahili 10 English
Thursday, June 1, 2006	La Halle des Etoiles, Lubumbashi	10:00 – 17:00	NGOs, business, professors and students from the University of Lubumbashi, members of the press, others.	300	180 French 80 Swahili 90 English

Each open house consisted of a series of group presentations and discussions around the poster displays, with groups ranging from 10 to 30 people. The language spoken was the language each group preferred. Group discussions and presentations were led by Golder and TFM facilitators, speaking either English, French or Swahili. Senior TFM personnel were present to respond to questions.

Documents for Comment

The ESIA documents for public comment were handed out to key members of the community after the group briefings. Key members of the community included chiefs and their secretaries, pastors, priests, teachers, health personnel and others. Community members were requested to read the texts to other people, and to assist those who wanted to comment to complete their comment sheets. At each venue, people were informed as to where they could take their comment sheets once completed.

At all meetings, most of which were attended by several hundred people, requests were made for additional documents and comment sheets to be made available. As a result, several hundred more documents and comment sheets (mainly French and Swahili) were delivered throughout the study area.

Stakeholders' Comments Raised at the Open Houses

The issues raised at the open houses were incorporated into the issues and response report.

1.3.5.2 Progress Feedback to Stakeholders

At the end of scoping, all stakeholders in the database received a personalized letter and the TFM CLO and facilitators visited communities to:

- Report on progress.
- Thank those who commented to date.
- Outline the next steps in the process.

1.3.6 Consultation on the Findings of the ESIA

Following the scoping phase, while the ESIA specialist studies were being conducted, stakeholders were kept informed of progress by email and personal contact by the TFM community liaison officer and facilitators. Consultation on the outcomes of the impact assessment phase, after the completion of the specialist studies, took place at the end of November and in early December 2006.

1.3.6.1 Draft ESIA Report

After the completion of the ESIA specialist studies, a draft ESIA report containing the findings of the completed specialist studies was compiled by the ESIA team. The report included the most recent description of the proposed project, the findings of most of the ESIA specialist studies with the exception of some additional work still being done on the groundwater and flora studies, the draft resettlement action plan, and the issues and response report described above. A period of three weeks was available for public review of the report (from Monday 27 November to Friday 15 December 2006). The contents of the draft ESIA report were widely communicated to enable stakeholders to comment on the findings of the specialist studies and to verify that their contributions have been considered in the ESIA studies, as follows:

- Display of a set of 15 posters, summarizing the key aspects of the ESIA report in simple language and illustrated by way of photographs, drawings and maps, throughout the concession area (see Table 2.3.-7 and Table 2.3-8).
- Distribution of a summary draft ESIA report, consisting of a reprint of the full set of posters (see Table 2.3.-7 and Table 2.3-8).
- Distribution of the Executive Summary of the draft ESIA report, summary resettlement action plan and the issues and response report (see Table 2.3.-7 and Table 2.3-8).
- Placing the reports on the consultants' and proponent's web sites.

The posters and summary draft ESIA report were available in English, French and Swahili. The Executive Summary of the draft ESIA report, summary resettlement action plan and issues and response report were available in English and French.

Stakeholders could comment on the reports in various ways, such as completing the comment sheets accompanying the reports, submitting further comments by mail, email, or telephone, by attending any of the 10 open houses convened in late November / early December 2006, or by way of one-on-one discussions with members of the ESIA team during the open houses.

1.3.6.2 Open Houses to Enable Comment on the Draft Findings of the ESIA

A series of public open houses was held between Tuesday 28 November and Sunday 3 December 2006 to assist stakeholders to comment on the draft ESIA findings. In addition to the public open houses, separate open houses were

convened in Kolwezi, Lubumbashi, Tenke and Fungurume for government officials and other key stakeholders, who preferred to have separate meetings.

Table 2.3-7 Venues Where Posters were Displayed and the Draft Findings of the ESIA were Made Available for Public Comment from 27 November to 15 December 2006

Venue	Number of Poster Sets	Total number of ESIA Executive Summaries, Summary ESIA Reports, Issues and Response Reports and Summary Resettlement Action Plans Distributed
Cadastral Mining Office, Kolwezi	1 French	20 English, 45 French, 20 Swahili
Cadastral Mining Office, Lubumbashi	1 French	20 English, 35 French, 20 Swahili
Chef de Poste, Tenke	1 French	15 English, 25 French, 20 Swahili
Ecole Uhora, Tenke	1 Swahili	10 English, 35 French, 20 Swahili
Cadastral Mining Office, Fungurume	1 French	10 English, 35 French, 25 Swahili
Ecole Mukombozi, Fungurume	1 Swahili	10 English, 25 French, 20 Swahili
Lukotola Mission	1 French 1 Swahili	20 English, 35 French, 20 Swahili
Eglise Pentecôtiste, Mulumbu Village	1 Swahili	5 English, 10 French, 35 Swahili
Nguba Village	1 Swahili	5 English, 10 French, 35 Swahili
Eglise Pentecôtiste, Kilosonsa Village	1 Swahili	5 English, 5 French, 35 Swahili
Mining Polytechnique, University of Lubumbashi	1 French	20 English, 30 French, 15 Swahili
Offices of the Governor of Katanga, Lubumbashi	1 French	20 English, 35 French, 15 Swahili
TFM Office (Main office), Lubumbashi	1 English 1 French	30 English, 20 French, 10 Swahili
TFM Camp, Fungurume	1 English 1 French	20 English, 20 French, 20 Swahili

Aims of the Open Houses

The aims of the open houses were as follows:

- To present to stakeholders the draft findings of the ESIA specialist studies.
- For stakeholders to comment on the draft findings of the ESIA.
- For stakeholders to verify that the issues, concerns and suggestions they had raised during the Scoping process, i.e. between November 2005 and June 2006, had been taken into consideration in the ESIA studies.

Table 2.3-8 shows the dates, venues and times of the open houses as well as key participants, approximate number of attendees and total number of documents (summary ESIA report, Executive Summary of ESIA report, summary resettlement action plan and issues and response report) distributed.

Table 2.3-8 Open Houses to Comment on the Draft Findings of the ESIA Held in November and December 2006

Date	Venue ^(a) and Town	Times	Stakeholders Participating	Approximate Number of Attendees	Total Number of Documents Distributed
Tuesday, 28 November 2006	Mess P2, Kolwezi	12:00 – 15:00	Mainly government; business and mining representatives; two bodies representing artisanal miners, SEASCAM and EMAK; Radio Mntoshi (RTM); Vodacom; Chef de Bureau des Mines; PNC Kolwezi.	50	38 French 15 Swahili 26 English
Thursday, 30 November 2006	Ecole Mukombozi, Fungurume (Government)	11:00 – 13:00	Chief Nguba and his delegation; Chef de Cite, Fungurume; Chef de poste ANR; Commandant Police; other government officials; Gecamines; pastor of Garenganze Church; pastor of Methodist Church, pastor of Catholique Church, pastor of Protestante Church and World Vision (Fungurume),	11	20 French 15 Swahili 5 English
Thursday, 30 November 2006	Ecole Mukombozi, Fungurume (Public)	13:00 – 16:00	Chief Mpala's secretary; community leaders; students; teachers; workers; and members of the community; COPEMECO; AFEOA; GCM Development Department.	89	130 French 80 Swahili 15 English
Thursday, 30 November 2006	Lukotola Mission, Fungurume	11:00 – 14:00	Chief Lukotola Eddie Antoine; Chief Lukotola Mwanza Katonga Placide; Chief Lukotola Emile; Chief Mwanza Katonga; Chief Lukotola Binza; Chief Lukotola Kasongo; Chef Salambwe Mangi; Chief Sanka; Chief Kilonda Masumu; Chief Kamungu; people from Lukotola Village; scholars of the Lukotola Mission station; and community leaders	80	110 French 30 Swahili 15 English
Friday, 1 December 2006	Ecole Uбора, Tenke (Government)	10:00 – 13:00	Chief Mwela Mpanda ; representative of the Chef de Cite, Tenke ; Chef ANR ; representative of the Chef de District Kabila ; Commandant de Police sous – Commissarate de Tenke ; ALBA (Tenke, Fungurume); Director of Ecole Uбора School; teachers; and others	15	25 French 20 Swahili 5 English
Friday, 1 December 2006	Ecole Uбора, Tenke (Public)	13:00 – 16:00	Community leaders; artisanal miners; Tenke Gare College; and others	250	185 French 70 Swahili 20 English
Saturday, 2 December 2006	Communante Helennique, Lubumbashi (Government)	13:00 – 17:00	Mwami Munongo Mwenda Bantu; Governor of Katanga; Gecamines representatives; professors from Lubumbashi University; members of the press; Chef de Mission ALBA; PACT Congo; UNICEF; Chief of Mines	25	80 French 10 Swahili 50 English
Saturday, 2 December 2006	Exilu 2006, Lubumbashi	11:00 – 17:00	NGOs; business; professors and students from the University of Lubumbashi; members of the press; others.	150	180 French 30 Swahili 80 English
Sunday, 3 December 2006	Eglise Pentecôtiste, Mulumbu	11:00 – 15:00	Representative of Chief Kazadi Mulumbu, Chief Kyabondo, Chief Mwela Mpande, Chief Mulumbu Kyansa, Chief Salabwe, Chief Kamungu Ntumba, and members of the Mulumbu, Amoni and Kiboko communities	130	80 French 70 Swahili 20 English
Sunday, 3 December 2006	Eglise Pentecôtiste, Kilusonsa	11:00 – 14:00	Representative of Chief Lutanda; Chief Postolo; Members of the Kilusonsa community	80	80 French 70 Swahili 20 English

^(a) At most of these venues, the posters were retained by the venue owners for permanent display.

Format of Open Houses

All open houses took the same format. Two or three sets of posters were displayed in French, Swahili or English. The posters consisted of the following broad topics:

- Company overview.
- Description of the proposed project, including a map showing the location of the project infrastructure.
- Employment and recruitment.
- Resettlement and compensation.
- Sustainability and community development.
- The ESIA process.
- Draft findings of the ESIA studies.

As with the previous open houses, each open house consisted of a series of group presentations and discussions of the ESIA findings around the poster displays, with groups ranging from 10 to 30 people, and the language spoken being that which the group preferred. Group discussions and presentations of the ESIA findings were led by both the consultants' and TFM's facilitators speaking either English, French or Swahili. Senior TFM personnel were present to respond to questions.

Documents for Comment

ESIA documents for public comment were handed out to key members of the community subsequent to group briefings. Key members of the community included chiefs, pastors, priests, teachers, health personnel and others that could read. Members of the ESIA team requested of these community members to read the texts to other people too and to assist those that wanted to comment to complete their comment sheets. At each venue, people were informed as to where they could take their comment sheets once completed.

Stakeholders' Comments Raised at the Open Houses

Comments provided by stakeholders during the open houses and public review period are reflected in the issues and response report, which will accompany the final ESIA report. All comments have been responded to by the ESIA team.

1.3.7 Decision-Making

A final ESIA report has been prepared, incorporating stakeholders' comments where appropriate.

Once TFM and the appropriate authorities have decided whether to go ahead with the project or not, all stakeholders will be informed either in writing or by personal visits by TFM's CLO and facilitators.

1.3.8 Ongoing Stakeholder Engagement by TFM

Apart from the dedicated CLO and two community facilitators employed by TFM, several other company personnel, notably the Community Development Officer and Environmental and Social Manager based in Lubumbashi will have ongoing engagement with stakeholders throughout the life of the project.

Initially, these personnel will communicate by way of personal visits, meetings, events, awareness materials and the media, in regard to the following:

- Recruitment policy, principles and procedures.
- Community development initiatives.
- Construction program and progress.
- Compensation for damages.
- Potentially, relocation of PAPs.

During the operational phase of the project, stakeholder engagement will be by the same methodologies, and will focus on project progress, monitoring results of environmental and social mitigation measures, and important project milestones.

1.4 TIMETABLE

March 2007

- Finalize ESIA.

First Half 2007

- Advise all stakeholders and local community of the TFM decision on the ESIA by way of letters and community visits.

1.5 RESOURCES AND RESPONSIBILITIES

Several members of the TFM project team and TFM's consultants will communicate with, liaise with and consult a wide range of stakeholders and government agencies (see Attachment E2-I).

1.5.1 Community Liaison Officer and assistants

TFM has opened a community liaison office within the existing local project office, assigned the responsibility of community liaison tasks to one identified officer, and has disclosed the assignment of this individual as community liaison officer (CLO) to local government officials, chiefs and the neighboring communities.

In addition, TFM has also appointed two local community liaison facilitators to assist the CLO in ongoing communication with communities, and to assist members of the ESIA and public consultation teams in contact with local communities. The CLO and assistants are Congolese, speak local languages and are familiar with local customs and culture.

1.6 REGISTRATION OF CONCERNS AND COMPLAINTS

TFM opened a register at the TFM camp in Fungurume to record and process any concerns and complaints related to the feasibility and ESIA processes and the project.

Every complaint received is recorded in the register, indicating date, name and contact details of the person that complained, nature of complaint, and follow-up action taken. After investigating a complaint, TFM provides feedback to the complainant. This register will be maintained for the life of the project.

1.7 REPORTING

1.7.1 Documentation of Meetings

Any meeting between TFM and stakeholders is documented, including compensation discussions.

1.7.2 Documentation of Stakeholder Contributions During the ESIA

All issues and comments received by stakeholders as part of the ESIA are captured in an issues and response report, as outlined earlier in this PCDP and provided in Appendix E6.

1.8 CONCLUSION

In conclusion, it can be stated that extensive public consultation on the proposed mining project has taken place to date. Consultation was conducted by both TFM personnel and the ESIA consultants. The issues and response report reflects the comments of numerous stakeholders, including government, NGOs and local communities, on the public consultation process.

Lastly, firm plans and resources are in place to continue with public participation following the ESIA, and for TFM to continue to engage with its stakeholders throughout the life of the project.

ATTACHMENT I
RESOURCES AND RESPONSIBILITIES

Table 1 Resources and Responsibilities

Team	Task Objectives	Geographic Scope	Methodologies	Stakeholders to be Consulted
public participation	<p>to provide sufficient and accessible information to a wide range of stakeholders to enable them to:</p> <ul style="list-style-type: none"> • contribute issues and local knowledge to the ESIA. • to verify that their contributions were recorded. • to comment on the findings of the EIA. • to be informed of the government record of decision. 	<ul style="list-style-type: none"> • national. • provincial. • district. • local. <p>higher-level community structures (village level consultation by socio-economic team)</p>	<ul style="list-style-type: none"> • background information document (BID), invitation letter, comment sheet, web. • newspaper and radio advertisements. • visual displays / posters. • individual/small-group meetings. • focus group meetings (either sectoral or issues based, included NGOs). • progress feedback letter/visits. • summary of draft scoping. • open houses (Tenke, Fungurume, Mulumbu, other). • progress feedback letter/visits. • summary of draft ESIA and issues / response report. • open houses (Tenke, Fungurume, Mulumbu, other). • progress feedback letter/visits. • record of decision letter. • community visits. 	<p>representatives of all relevant sectors of society in DRC excluding:</p> <ul style="list-style-type: none"> • high-level government consultation which will be done by Phelps Dodge Corporation. • village/individual level consultation which will be done by socio-economic team.
socio-economic team	<ul style="list-style-type: none"> • establish socio-economic baseline to identify negative and positive impacts and develop mitigation (demographics, monographics, livelihoods, health issues, services). • gather information for infectious diseases program. 	<ul style="list-style-type: none"> • villages and hamlets in the area between the towns of Tenke and Fungurume, as well as in the two towns. 	<ul style="list-style-type: none"> • household survey (individuals). • village surveys / profiles. • focus groups. • participatory rural appraisal. • key informant interviews. • town census of number of homes, services such as hospitals etc. 	<ul style="list-style-type: none"> • individual community members. • village chiefs and elders. • key village members e.g., women and youth. • local government (Chefs de post, etc.) • others.

Table 1 Resources and Responsibilities (continued)

Team	Task Objectives	Geographic Scope	Methodologies	Stakeholders to be Consulted
Relocation Action Plan (RAP) team	<ul style="list-style-type: none"> identify people to be resettled and resettlement host communities. recommend cut-off date for government endorsement. asset inventory including photographic per household. 	<ul style="list-style-type: none"> directly affected community members in project zone of influence. members of potential host communities. 	<ul style="list-style-type: none"> household survey (individuals). village surveys / profiles. focus groups. participatory rural appraisal. key informant interviews. asset inventory at household level. 	as above, focused on directly affected parties and host communities
TFM regulatory liaison	<ul style="list-style-type: none"> to establish regulatory requirements for feasibility study and ESIA. 	<ul style="list-style-type: none"> national. 	meetings mainly in Kinshasa with <ul style="list-style-type: none"> Ministry of Environment. Ministry of Mines. Ministry of Transport and Communications. Ministry of Agriculture. Ministry of Social Issues. Ministry of Planning. 	government at high level
TFM ongoing public communication and community liaison	<ul style="list-style-type: none"> to liaise with relevant stakeholders as part of ongoing public communication. 	<ul style="list-style-type: none"> internationally. nationally, provincially, district and local levels in DRC. community level in project zone of influence. 	<ul style="list-style-type: none"> ongoing public affairs activities (media liaison, brochures, other). appointment of community liaison officers (CLOs) in project area; ongoing community liaison via CLOs. 	<ul style="list-style-type: none"> international e.g.,shareholders, International Finance Corporation (IFC). all spheres of government in DRC. NGOs and other as part of ESIA pp process. local communities via CLOs.

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

VOLUME E: GENERAL APPENDICES

SECTION E3

**BACKGROUND INFORMATION
DOCUMENT**

Submitted to:

**Tenke Fungurume Mining S.A.R.L. (TFM)
Democratic Republic of the Congo**

March 2007

05-1334-035

Environmental and Social Impact Assessment for a proposed Copper and Cobalt Mining and Processing Project, Katanga Province, Democratic Republic of the Congo

Background information and invitation for stakeholders to comment
This document is available in French, Swahili and English

FIRST DOCUMENT FOR COMMENT FEBRUARY 2006 PURPOSE OF THIS DOCUMENT

This document provides stakeholders with the first opportunity to comment on a proposed copper and cobalt mining and processing project in the Katanga Province, Democratic Republic of Congo (DRC). It forms part of scoping for an Environmental and Social Impact Assessment (ESIA) for the proposed project. Further documents will be available at various stages of the ESIA process, for your information and comment.

The document provides stakeholders with initial information on the proposed project, the ESIA process that will be followed and the opportunities available for public consultation.

Stakeholders will have an opportunity to contribute issues of concern and suggestions for enhanced benefits, to verify that their contributions have been considered and to comment on the findings of the specialist assessments. The findings of the ESIA will be made available to the stakeholders and the DRC authorities.



YOUR COMMENT PLEASE BY FRIDAY, 10 MARCH 2006

Your comment will ensure that all relevant issues are evaluated by the ESIA, and that you receive further documents for comment. Either complete the enclosed reply sheet, write a letter, call or email:

ESIA PUBLIC PARTICIPATION OFFICE:

Ms Vassie Maharaj
Golder Associates Africa
P O Box 6001, Halfway House, 1685,
South Africa
Tel: +27 11 254 4806
Fax: +27 11 315 0317
Email: Hvmaharaj@golder.co.za

LOCAL CONTACT ADDRESS:

Mr Francis Kalasa
TFM Camp, Fungurume
Tel: 081.403 7450
Fax: 081.140 5132

All ESIA documents will also be available on the following websites:
[Hwww.golder.co.za](http://www.golder.co.za) and
<http://www.phelpsododge.com>

Phelps Dodge Corporation, an experienced United States-based mining and mineral processing company has recently (through a subsidiary) become the major shareholder in the Tenke Fungurume Mining S.A.R.L. (IDN 6-118-K30745D; NRC 7325) (TFM). TFM is investigating the feasibility of mining and processing copper and cobalt ore in a concession area in the Katanga Province of the Democratic Republic of the Congo (DRC). The concession area is located northwest of Lubumbashi, between the towns of Tenke and Fungurume.

A feasibility study is being done to determine whether it would be environmentally, socially, technically and economically feasible to mine the ore bodies in the concession area, and to construct a mineral processing plant to extract copper and cobalt from the ore. The current estimated life of the proposed project is more than 15 years. The copper and cobalt will be sold to local and international markets.

BACKGROUND

Both copper and cobalt are needed for many everyday uses. Copper is used to make electrical wire and other industrial products and for household plumbing. Cobalt is used extensively in the stainless steel and battery industries.

The Tenke Fungurume copper-cobalt ore deposits lie mainly between the towns of Fungurume and Tenke, in an area approximately 20 kilometers long, coming to the surface in many places. The exact size and tonnage of the overall mineral deposit is not presently known, but may be in the range of several hundred million tonnes.

TFM acquired the rights to mine the Tenke Fungurume copper-cobalt deposits by signing a Mining Convention with the DRC government. The Convention first became effective in November 1996 and was amended and restated in September 2005.

The Congolese company, la Générale des Carrières et des Mines (Gécamines), is a 17.5% shareholder in TFM, and Lundin Holdings Ltd. (LHL), a company from the Cayman Islands, owns 82.5% of TFM. A wholly owned subsidiary of Phelps Dodge Corporation (PDC) of the United States in turn owns 70% of LHL. PDC has mining and industrial operations on five continents, is one of the largest producers of copper in the world, and has a proven ability to develop mines and mineral processing facilities worldwide. It has one of the best safety records of any mining company in the world and maintains strict health, safety and environmental management systems at all its operations. It presently has 17 operations certified by the International Organization for Standardization (ISO) for environmental management. PDC is also known for ensuring that local communities benefit from its projects.

TFM will manage the proposed project. As part of the feasibility study. It will appoint independent consultants to conduct an ESIA in order to determine the environmental and social viability of the proposed project.

The ESIA will ensure that environmental and social consequences are considered. Its findings will enable TFM to make an informed decision on the environmental and social aspects of the project.

CONSULTANT CONTRACTED BY TFM TO DO THE ESIA

Golder Associates, an independent, internationally recognized company of geotechnical, environmental engineers and scientists, and public participation practitioners is leading the ESIA for the proposed project.

The Scoping phase of the ESIA will take place in February 2006 and will include public consultation to ensure that stakeholders' contributions are considered in the studies. The findings of the study will be available in the second half of 2006.

CHANGING INFORMATION

Different alternatives on the best options to properly design the project are under review. Stakeholders will be informed of further developments.

OVERVIEW OF THE PROPOSED MINING AND PROCESSING PROJECT

The proposed mining and processing project will involve mining the copper-cobalt ore deposits in the Tenke Fungurume concession area. TFM is investigating where the best place would be to start mining because there are many ore deposits in the concession area. These ore deposits (see Figure 1) include the following:

- Kwatebala
- Fungurume
- Goma
- Kavifwafwaulu (Fwala)
- Dipeta Syncline.

The closest major towns to the proposed project are Tenke and Fungurume. Most people living in the concession area are

unemployed and are engaged in subsistence farming. Some people work at the DRC railway company. The closest villages to the proposed project are shown in Figure 1.

The concession area lies in the upper Dipeta River catchment, with the Mafuya River to the north and the Dipeta River in the south.

As one of its goals, the project will be designed to minimize the resettlement of households. The project team will also evaluate the socio-economic impact of addressing informal mining within the concession area.

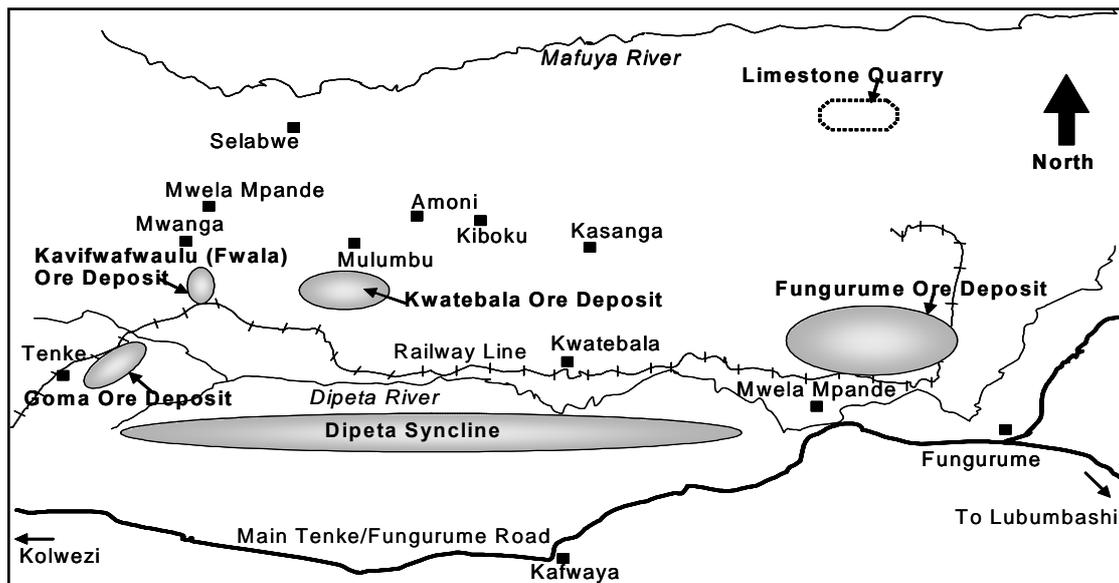


Figure 1: The main ore deposits (shaded) in the concession area in relation to the towns of Tenke and Fungurume, neighbouring villages, the limestone quarry, rivers and rail infrastructure.

COMPONENTS OF THE PROPOSED PROJECT

The proposed mining and processing project will include the following:

- An opencast mine
- A crusher
- A mineral processing plant for extracting the copper and cobalt
- Tailings disposal facility
- Waste rock stockpile (storage area).

MINING THE ORE

The copper and cobalt ore deposits extend about 100-150 metres above the surrounding landscape in some places. The upper ore portion of the deposit is weathered to form copper and cobalt oxides, which is the type of material that will be mined and processed. Mining will be by opencast method. The ore deposit on the hills above ground will be mined during the first few years of the mining operation, followed by the mining of the deeper oxide ore.

At greater depth, copper and cobalt sulfides are known to exist, but it is not planned to be mined or processed in this first phase of operations. The initial proposed opencast mine will be about 0.5 km wide, 2 km long and up to 200 meters deep.

Based on current estimates, which may change in the future, at

least 100,000 tonnes per month of ore will be mined. Mining is expected to start by 2008 and continue until at least 2023.

It is planned to develop the mine in stages. This document generally describes the first phase. Expansions of the project are expected to occur which will eventually involve mining within most of the concession and at increasing production rates.

The mine site will be rehabilitated for closure during and after mining is complete in an area.

Mining the ore will require blasting and the use of large vehicles.

PROCESSING THE ORE

The ore from the mine will be transported by large trucks along unpaved mine roads to the proposed on-site mineral processing plant. The plant is proposed to be located as close as possible to the mine and in an area where there are not many people living.

As shown in Figure 2, the mineral processing plant will use water, electricity, and other raw materials like lime and limestone to extract the copper and cobalt from the ore and to produce the final products, copper and cobalt intermediate.

The mineral processing plant will include a crusher, a sulphuric acid plant and an acid leach plant. It will be able to produce at least 40,000 tonnes per year of copper and also recover cobalt. Alternative analyses will be done to determine whether the cobalt will be recovered as pure metal or as an intermediate product.

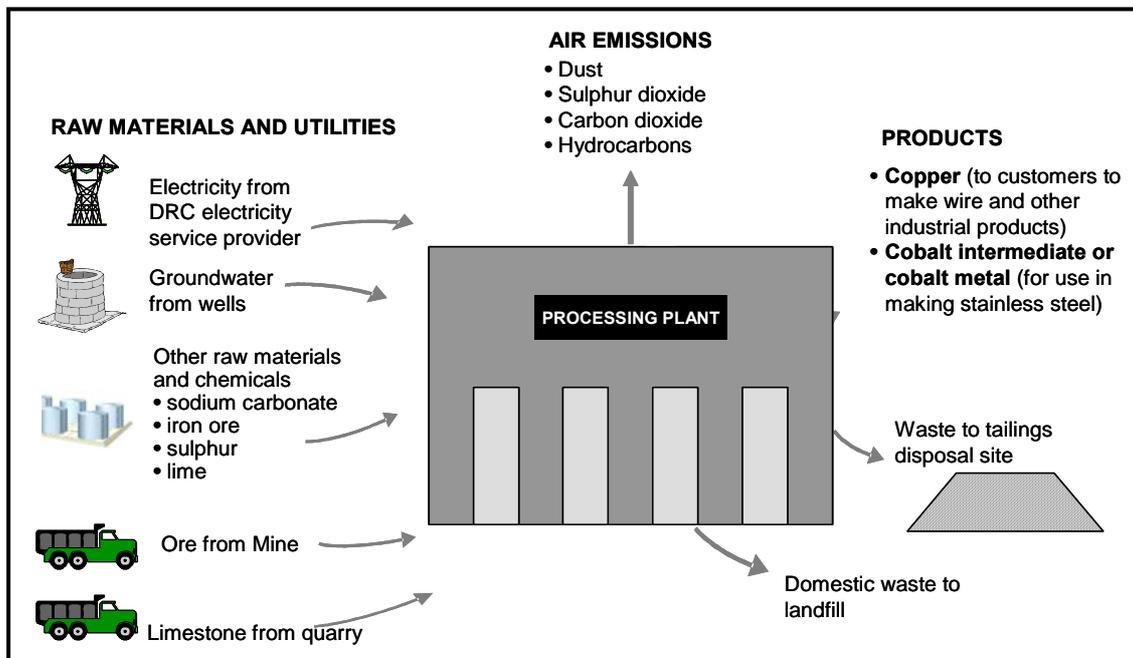


Figure 2: The mineral processing plant will use water, electricity, and other raw materials and chemicals to extract the copper and cobalt from the ore and to produce the final products, copper and cobalt intermediate.

WASTE AND EFFLUENT MANAGEMENT

Waste rock from the mining operation will be stored at a waste rock stockpile on the mine site, close to the mineral processing plant.

Waste from the mineral processing plant will be deposited on a tailings disposal facility also located close to the mineral processing plant. It is estimated that it will cover an area of about 120 hectares.

A landfill site will be constructed for domestic waste from the mine and mineral processing plant. The location of the site will be determined as part of the ESIA and project feasibility study.

Several alternatives for management of the waste (called tailings) from the processing plant are being investigated. The findings of the ESIA will help decide on the most appropriate method.

It is estimated that there will be at least 10 trucks carrying ore to the processing plant. It is likely that the tailings from the process will be transported by pipeline.

OTHER INFRASTRUCTURE

Other infrastructure that will be constructed may include:

- A sewage treatment plant
- Access roads from the mine to the plant and from the existing limestone quarry north of Fungurume to the mine and plant
- Water holding dam
- Stormwater controls
- Housing for labour
- Fencing and access control
- Power lines to the mine and plant.

WATER SUPPLY

Water supply for the proposed project is expected to be obtained from deep wells (groundwater) in the concession area. At least 200 cubic metres per hour of water will be required by the proposed mine and mineral processing plant for the first phase of the project. Options for recycling this water will be considered in the ESIA. It is expected that there is sufficient underground water to supply the mine and plant, but this will be confirmed in the ESIA.

ELECTRICITY

Electricity for the proposed project will come from the DRC electricity service provider (SNEL). The mineral processing plant will need at least 30 megawatts of electricity.

TRANSPORTATION OF RAW MATERIALS AND PRODUCTS

Ore from the mine will be transported in trucks by road to the processing plant. Other raw materials and chemicals required for processing the ore may be transported by either road or rail.

Potentially, a rail spur between the plant and the railway line will also be constructed. This is currently under investigation.

EMPLOYMENT, HEALTH AND SAFETY

Many of the jobs will require skilled labour, both during the construction of the processing plant and during operation. The company will strive to hire qualified local employees and will implement a training program to allow others to become qualified for jobs at the proposed facility.

The proposed mine and processing plant will employ about 600 people during operations and over 1400 during construction. The company will notify local community leaders as jobs become available and of the location of employment offices.

The company has indicated that it will continue to uphold the health and safety standards at the proposed mining development including those of the International Organization for Standardization for quality and environmental management. Both the mine and plant sites will be fenced to prevent danger to people and animals.

PROPOSED SCHEDULING

Should the project proceed as currently planned, key project dates are listed below:

- Late 2006:** Start construction of some roads, power lines, etc.
- Early 2007:** Start construction of the mineral processing plant and related structures
- Late 2007 - early 2008:** Start mining (early mining activities)
- Mid 2008:** Start up of processing plant.

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) PROCESS

The Environmental and Social Impact Assessment (ESIA) for the proposed project is being undertaken according to the Equator Principles and its applicable policies and guidelines.

The process to complete the ESIA through public participation and technical evaluation by specialists (as described below) is expected to be completed in 2006.

PUBLIC PARTICIPATION

Public participation offers stakeholders the opportunity to learn about the project and to raise issues they are concerned about and make suggestions for enhanced project benefits. These contributions will be evaluated by the technical specialists during the ESIA process. A proposed schedule for public participation is shown below:

February 2006

- Announcement of the project through this document and letter of invitation addressed personally to all identified stakeholders, distributed by email, personal contact, the print (newspapers and posters) and broadcast (local radio stations) media and the PDC and Golder websites
- Consultation with local government and communities in the area, NGOs and other stakeholders

March 2006

- Capture all comment in an Issues/Response Report
- Progress feedback to stakeholders
- Draft Scoping Report, including Terms of Reference for specialist studies and Issues/Response Report, made available for comment
- Community briefings and open houses to present Draft Scoping Report for comment

Second Half, 2006

- Draft Environmental and Social Impact Assessment (ESIA) Report with findings of specialist studies available for comment; Summary ESIA Report distributed to stakeholders
- Briefing meetings with local communities to present Draft ESIA Report and obtain comment
- Open houses to present draft findings of ESIA and obtain comment
- Finalise ESIA Report

Early 2007

- Advise stakeholders and local community of government decision

All documents for public comment will be available in French, Swahili and English. Meetings will be conducted mainly in French and Swahili.

PERMISSION TO WORK IN THE AREA

Local communities will see many members of the study team working in the area. Team members will try as much as possible to cause the least disturbance. Local leaders will be approached in advance for permission to work on their land.

Team members will carry identification cards and travel in vehicles marked with this project logo.

Etude environnementale
Usomi wa mazingira
Environmental Study

IDN 6-118-K30745D
NRC 7325

tfm

TECHNICAL EVALUATION AND POTENTIAL ISSUES FOR INVESTIGATION

Since 1998, environmental and social information has been collected by scientists working at the site. New information will now be collected by local and international scientists. Both old and new data will be used to provide an understanding of the environmental and social conditions in the area of Tenke Fungurume. This understanding, along with information provided by people potentially affected by the project, will help in the development of measures to avoid or reduce any negative impacts and enhance the positive impacts of the project. Some of the scientific studies that will be done are described below:

Groundwater and surface water: The project area is sub-tropical with an annual rainfall of 1184 mm. Many people in the area rely on water from shallow wells and streams, and may be concerned about the impacts of mining on their water supply and quality. A water specialist study will take these types of concerns into consideration.

Air quality: Dust will be generated around the mine area, from the opencast activities, waste rock stockpiles, tailings disposal facility, crusher and mineral processing plant where the ore will be handled, processed or stockpiled, and from road transportation of the ore. There will also be gaseous emissions such as sulphur dioxide, carbon dioxide, vehicle exhaust fumes and hydrocarbons. An air quality study will be done to assess the potential impacts of the proposed project on the air quality and to design any necessary emissions control systems.

Noise and vibration: Blasting activities usually lead to public concerns over noise and vibration. Because there will be blasting in the opencast mine and noise generated in the crusher, these concerns will be considered in the specialist studies. The transportation of ore by road may also be another source of noise.

Plants and animals: The project area contains many different plant species, particularly on the ore deposits that extend above the surface. There are few animal species in the area. A specialist study will be done on how to minimize the impact of mining on plants and animals in the area.

Visual: Visual impacts may result from the opencast mining process and the mining infrastructure (mineral processing plant, tailings disposal facility and waste rock stockpile). Lights at night may also cause visual impacts. A study will be conducted to assess the visual impact of the proposed project on the surrounding environment.

Community development plan: Unemployment and issues related to chronic poverty are a source of concern in the region. Potential socio-economic benefits of the proposed project will be investigated to maximize benefits to the local community. At the same time, the influx of potential job seekers and the increase in general activities in the area may place pressure on existing community social structures, infrastructure and services. A socio-economic impact assessment will be conducted to assess potential positive and negative impacts of the proposed project on the local communities. The social impact study team will be assisted by members of the local community.

The findings of the specialist studies will be incorporated in the final design of the proposed project.

YOUR COMMENTS PLEASE

Your comments on the proposed project, including the public participation process and issues that need investigation, will help to focus the technical studies and help the authorities in their consideration of the environmental and social aspects of the proposed project.

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

VOLUME E: GENERAL APPENDICES

SECTION E4

SCOPING REPORT

Submitted to:

**Tenke Fungurume Mining S.A.R.L. (TFM)
Democratic Republic of the Congo**

March 2007

05-1334-035

**SCOPING REPORT
FOR COMMENT BY STAKEHOLDERS ON
THE ENVIRONMENTAL
AND SOCIAL IMPACT ASSESSMENT**

for the

**PROPOSED COPPER AND COBALT MINING
AND PROCESSING PROJECT,
KATANGA PROVINCE,
DEMOCRATIC REPUBLIC OF THE CONGO**

**Proponent: Tenke Fungurume Mining S.A.R.L.
(TFM)**

Originally Submitted: May 2006

Revised: August 2006

Final: March 2007

Note: The scoping report was prepared for the first phase of consultation.

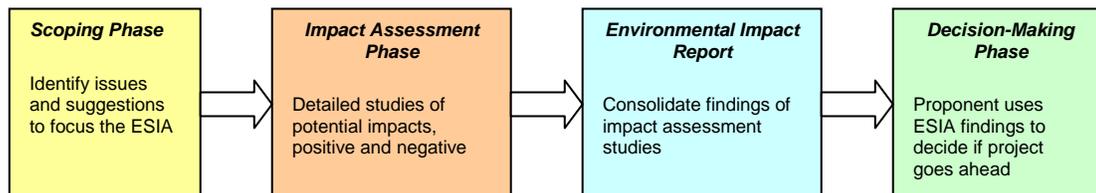
PURPOSE OF THIS DOCUMENT

Tenke Fungurume Mining S.A.R.L. (société à responsabilité limitée) (TFM) plans to mine and process copper and cobalt ore on a concession area northwest of Lubumbashi between Tenke and Fungurume in the Katanga Province. TFM intends to develop a mining project, using modern equipment and technology. A feasibility study is being prepared to determine whether it is environmentally, socially, technically and economically feasible to mine the ore bodies in the concession area, and to construct a mineral process plant to extract copper and cobalt from the ore.

To establish whether the proposed project is environmentally and socially feasible, an environmental and social impact assessment (ESIA) currently is being conducted by Golder Associates, an independent environmental consultant. The ESIA will, in consultation with stakeholders, evaluate the potential environmental and social impacts of the proposed project. The ESIA is being undertaken according to the Equator Principles and its applicable policies and guidelines.

The first phase of an ESIA is the scoping phase (see graphic below). This is the phase when public issues and concerns are identified so relevant issues can be evaluated by the ESIA technical specialists during the next ESIA phase (impact assessment).

ESIA CONSISTS OF SEVERAL PHASES



The main purpose of the draft scoping report is for stakeholders to verify that the issues they have raised to date have been captured and to raise any new issues not yet captured.

SUMMARY OF DRAFT SCOPING REPORT CONTENTS

The draft scoping report contains:

- An overview of the proposed project.
- An overview of the regulatory context and project approval process.
- An overview of the existing environment in the project area.

- The potential environmental issues and impacts that already have been identified.
- Aspects to be covered by specialist assessments that will be conducted during the ESIA impact assessment phase.

PUBLIC COMMENT ON THE DRAFT SCOPING REPORT

This draft scoping report is¹ available for review from May 26 to June 16, 2006.

The draft scoping report and/or its summary have been distributed to stakeholders on the mailing list and to everyone who requested a copy. It also has been distributed by personal contact and will be made available during meetings and open houses. In addition, the report will be available at the following places for public review:

Places Where the Draft Scoping Report is Available	
Tenke Fungurume mining office, Lubumbashi	Ms. Ida Efinda – 081 145 0469
Tenke Fungurume mining camp, Fungurume	Mr. Francis Kalassa – 099 700 0040 / 081 409 1839
Cadastral mining office, Kolwezi	Mrs. Mami Mayembe Nawej – 099 711 2773
Cadastral mining office, Lubumbashi	Mr. Norbet Mukaz Kaumb – 081 065 6429
Chef de Poste, Tenke	Mr. Mapassa – 081 214 7522
Chef de Poste, Fungurume	Mr. Francois Kapenda Lukeke – 081 453 1615
Lukotola mission	Father Antonio – 099 703 8246
Mulumbu Village Eglise Pentecôtiste	Pastor Mutombo Dilumuka – 081 406 8429
Nguba Village	Chef Nguba – 081 002 3546
Kilusonsa Village	Pastor Andre
University of Lubumbashi	Professor Kalaba – 099 704 1495

OPPORTUNITIES FOR PUBLIC COMMENT

The following methods are available to comment on the draft scoping report:

- Completing the comment sheet enclosed with the report.
- Additional written submissions.
- Comment by e-mail, fax or telephone.
- Comment during the open houses that will be held in Kolwezi, Lubumbashi, Tenke, Fungurume, Mulumbu Village, Lukotola Village, and Kilusonsa Village in late May and early June 2006.

¹ The present tense is used in this report even though these activities have been completed.

CONTACT ADDRESS FOR COMMENTS

Local Contact Address:

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Tel: 099.700 0040 / 081 409 1839, Fax: 081.261 2106, E-mail: fkalassa@yahoo.fr

Environmental and Social Impact Assessment Public Participation Office:

Ms. Vassie Maharaj
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P.O. Box 6001, Halfway House, 1685, South Africa
Tel: +27 11 254 4806, Fax: +27 11 315 0317, E-mail: vmaharaj@golder.co.za

Your comments are appreciated, and will help focus the specialist studies that will be conducted during the impact assessment phase of the ESIA. The findings of the ESIA will be available for comment in August 2006.

CHANGING INFORMATION

Various alternatives are under review for the best options to properly design the project. Stakeholders will be informed of further developments.

YOUR COMMENTS ARE IMPORTANT

Comment by stakeholders is important. Your comment will help to focus the specialist studies that will be conducted during the next phase of the ESIA.

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Attachment I	Issues And Response Report
Attachment II	Draft Environmental And Social Impact Assessment Terms Of Reference
Attachment III	Proposed Form Of ESIA Table Of Contents
Attachment IV	Comment Sheet On Draft Scoping Report

1 INTRODUCTION

Tenke Fungurume Mining S.A.R.L. (société à responsabilité limitée) (IDN 6-118-K30745D; NRC 7325) (TFM) is investigating the feasibility of mining and processing copper and cobalt ore in a concession area in the Katanga Province of the Democratic Republic of the Congo (DRC) (see Figure 1-1). Copper and cobalt are basic materials used worldwide in residential and commercial construction, electrical and electronics equipment, transportation, industrial machinery and consumer products. Currently, there is good market demand for copper and cobalt and TFM is enthusiastic about the project.

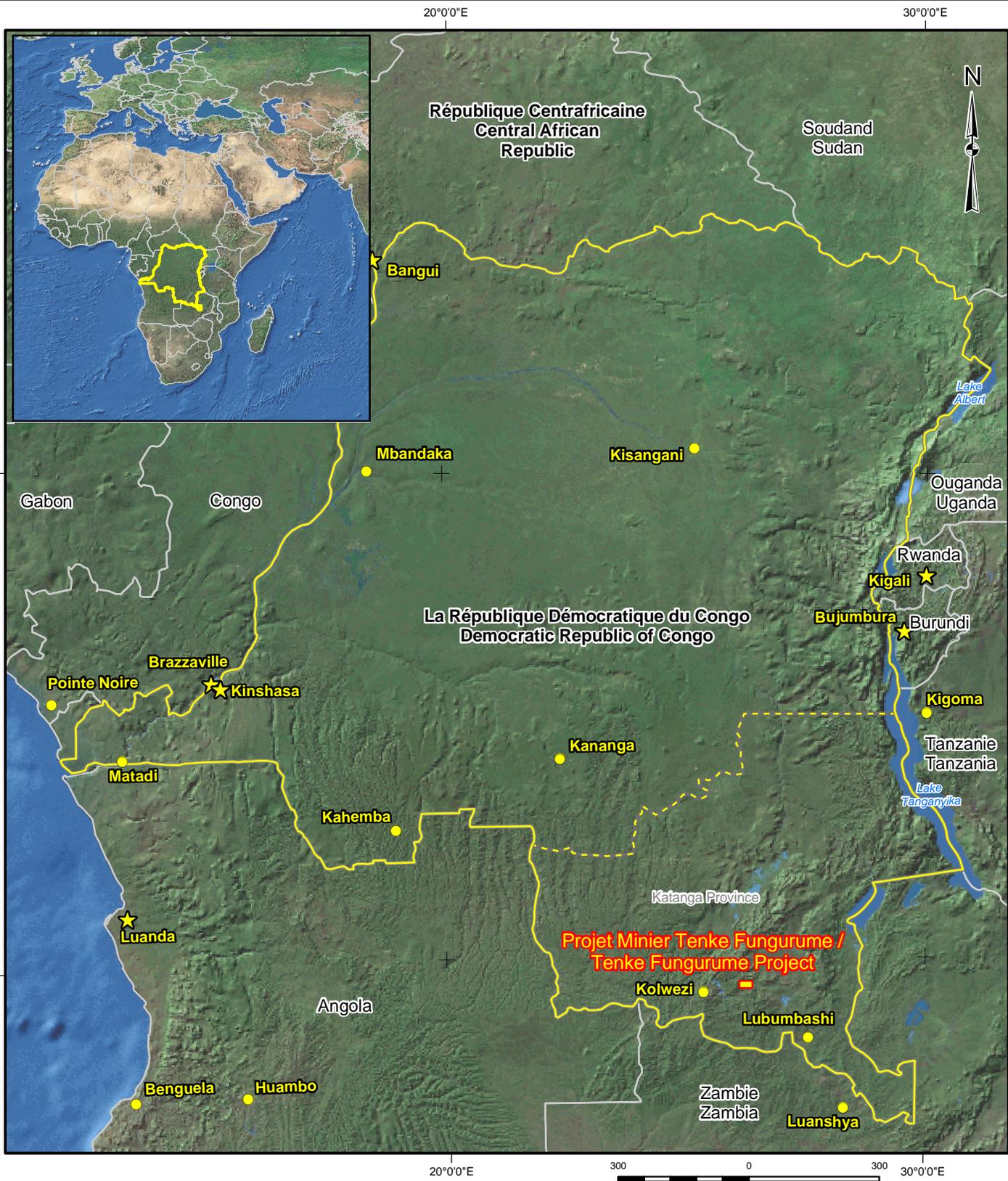
The concession area is located northwest of Lubumbashi, including the towns of Tenke and Fungurume. The Tenke Fungurume copper-cobalt ore deposits lie mainly between the towns of Fungurume and Tenke, in an area approximately 20 kilometers long, coming to the surface in many places. The exact size and tonnage of the overall mineral resource is not presently known, but may be in the range of several hundred million tonnes.

TFM proposes mining of the Kwatebala and Goma ore bodies² in the concession area, and constructing a mineral process plant to extract copper and cobalt from the ore (the TFM project). The current estimated life of the proposed project is more than 20 years. The nearest villages to the Kwatebala ore body are Mulumbu, Amoni and Kiboko. The Goma ore body is situated just outside the Tenke Gare side of Tenke.

An environmental and social impact assessment (ESIA) and a feasibility study (FS) are being prepared to determine whether it is environmentally, socially, technically and economically feasible to complete the project. Initial stakeholder consultation for the project was initiated in December 2005 and completed in March 2006.

This draft scoping report provides background information on the Phelps Dodge Corporation (PDC) and TFM; the regulations, policies and guidelines that will be followed during the ESIA process; existing conditions in the concession; the project components; alternatives being considered; the public participation process; and issues to be considered in the ESIA.

² Information distributed in February and March 2006 indicated that for the first 15 years the Kwatebala ore body will be mined, and that other deposits will be mined in later years. The TFM feasibility study team now has determined that the Goma ore body also will be mined by approximately the year 2022. Subsequently, the Fwaulu ore body was also included in the mine plan.



LÉGENDE / LEGEND

- ★ CAPITALE / CAPITAL
- GRANDE VILLE / MAJOR CITY
- ▭ KATANGA PROVINCE
- ▭ LA RÉPUBLIQUE DÉMOCRATIQUE DU CONGO / DEMOCRATIC REPUBLIC OF CONGO
- ▭ PROJET MINIER TENKE FUNGURUME / TENKE FUNGURUME PROJECT

RÉFÉRENCE / REFERENCE

Les images, l'emplacement des villes et les frontières nationales ont été obtenus sous licence de ESRI. Image data, city locations and country boundaries obtained from ESRI used under license. Projection: Mercator transverse. Système géodésique: WGS 84 Système de coordonnées: UTM Zone 35S Projection: Transverse Mercator Datum: WGS 84 Coordinate System: UTM Zone 35S

PROJET / PROJECT



PROJET MINIER TENKE FUNGURUME
TENKE FUNGURUME PROJECT
TENKE FUNGURUME MINING SARL

TITRE LOCALISATION DU PROJET MINIER TENKE FUNGURUME
(RÉPUBLIQUE DÉMOCRATIQUE DU CONGO) /
LOCATION OF THE TENKE FUNGURUME PROJECT
(DEMOCRATIC REPUBLIC OF THE CONGO)



N° projet / project no.	05-1334-035 9300	Echelle / Scale	Scale as Shown	REV. 0
DESSIN / DESIGN	GE	20 Mar. 2006		
SIG / GIS	CW	15 May 2006		
VERIFIE / CHECK	MR	17 May 2006		
APPROUVE / REVIEW	MR	17 May 2006		

FIGURE: 1-1

Appendices to this report include an issues and response report (Attachment I)³, the draft terms of reference (ToR), a set of tasks to be undertaken to complete the ESIA (Attachment II)⁴ and the proposed form of the ESIA table of contents (Attachment III)⁵. Attachment IV provides the comment sheet used for the consultation program.

Consultation on this draft scoping report will be undertaken in 2006 and input received from stakeholders will be used to finalize the report.

³ Updated for the ESIA and provided as Appendix E6.

⁴ Provided in ESIA as Appendix E8.

⁵ See table of contents for the ESIA.

2 COMPANY OVERVIEW

TFM acquired the rights to mine the Tenke Fungurume copper-cobalt deposits by signing a Mining Convention with the DRC government in November 1996. The convention governing the current TFM project is the Amended and Restated Mining Convention (ARMC) which was amended and restated on September 28, 2005, with an effective date of October 2005.

The state-owned Congolese company, La Générale des Carrières et des Mines (Gécamines), is a 17.5 percent shareholder in TFM, and Lundin Holdings Ltd. (LHL, now TF Holdings Ltd.), a company registered in Bermuda, owns 82.5 percent of TFM. A wholly owned subsidiary of Phelps Dodge Corporation (PDC) in turn owns 70 percent of LHL. PDC has mining and industrial operations on five continents, is one of the world's leading producers of copper, and has a proven ability to develop mines and mineral processing facilities worldwide. It has one of the best safety records of any mining company in the world and maintains strict health, safety and environmental management systems at all its operations. It presently has 18 operations certified under the International Organization for Standardization (ISO-14,001 guidelines) for environmental management. PDC is also known for making sure that local communities benefit from its projects.

TFM also has committed to work with the DRC government, local organizations and non-governmental organizations (NGOs), and in consultation with local people, to assist with community development projects in the area. TFM intends to support projects that can make a positive difference over a long period of time. TFM already has appointed a full-time community liaison officer based at the TFM camp in Fungurume, Mr. Francis Kalassa, as well as a full-time Community Development Coordinator based in Lubumbashi, Ms. Ida Efinda. This core staff will be supplemented by the efforts of DRC government, local organizations, and NGO staff with experience and skills appropriate to the project's community development objectives. The TFM project is actively supporting an education project for the concession area. Now in its design stage, the project will construct schools in both the Tenke and Fungurume urban areas, and provide targeted support to village schools among the rural communities.

TFM is committed to observing fundamental human rights and preserving the dignity of all individuals within its area of operations. TFM is developing a formal policy to assure that this commitment is carried out, using the concepts and procedures described in the Voluntary Principles on Security and Human Rights.

TFM is committed to financial transparency. All of its management and employees will receive anti-corruption training, and unlawful corruption or bribery are not tolerated.

3 PROJECT APPROVALS, PROCESS AND REGULATORY CONTEXT FOR THE ESIA

According to screening criteria used by international lending institutions, the size, duration and issues associated with the TFM project trigger the need for an ESIA. Key issues and the policy and legal approaches for addressing those issues determine the content of an ESIA. In the case of the TFM project, several policies and legal drivers shape the ESIA approach, including those of the international lending institutions, TFM, DRC national authorities, and the convention governing the project.

The reference to ‘international lending institutions’ in this document means a lender that supports the Equator Principles (EP)⁶. These voluntary principles require that mining companies provide approaches for responsible environmental and social stewardship. The EPs are a set of guidelines formally accepted by lenders with the goal of financing projects that promote responsible environmental stewardship and socially responsible development. The EPs incorporate by reference the environmental and social policies of the International Finance Corporation (IFC). These policies provide a convenient frame of reference for international lending institutions in their review of environmental and social risks of candidate projects, particularly those undertaken in developing countries. The EP formalize the requirement that projects with a total capital investment of \$50 million and greater comply with EP and component IFC environmental and social guidelines. TFM will develop and operate the project in compliance with the EP and their applicable IFC policies and guidelines.

TFM management and owners influence the ESIA scoping and preparation process in other ways as well: through specific regard to the concepts advanced by internal policy, as well as through broader concerns with worldwide public perception of how the TFM project is developed.

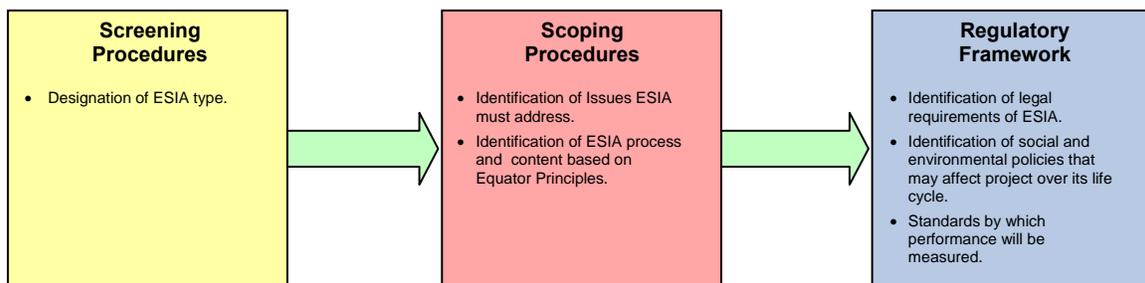
The term ‘national authorities’ refers to public entity stakeholders in the DRC. The DRC stakeholders include those required by the mining law governing the TFM project, Law No. 81-013, dated April 2, 1981 (1981 Mining Law), as well as additional stakeholders identified under other applicable laws by TFM.

⁶ The text of the report is left here as it was written in the original. However, note that the EP are derived from, but are not equivalent to, the IFC policies (performance standards on social and environmental sustainability). Lending institution will assess the project against these performance standards and their own policy requirements.

The convention governing the TFM project is the ARMC. The ARMC requires that TFM's activities be conducted in compliance with the laws in force on the date of the original mining convention dated November 30, 1996, primarily the 1981 Mining Law, as well as environmental standards internationally accepted as good mining practice. The ARMC further requires that TFM mitigate, by adequate measures, any damage which could be caused to the environment and to the public infrastructure used beyond normal industrial use, restore used sites, and develop a system for the management of certain used or residual water. A full compendium of applicable laws, regulations, and relevant international agreements pertaining to the TFM project will be prepared as part of the feasibility study.

These policy and legal drivers influence the ESIA approach and, in turn, the scope of the terms of reference (ToR) and work plan, at the following points in the ESIA development:

- Designation of ESIA type, as determined by screening procedures.
- Identification of specific issues that the ESIA must address, as determined through scoping procedures.
- ESIA process and content, as identified in various EP policies as well as legal requirements.
- The identification of what social and environmental policies will influence the project over its life cycle.
- The standards by which the project's performance will be measured.



These phases of ESIA development are summarized in the following sections.

3.1 SCREENING

The type of ESIA prepared is driven by the IFC screening process (which is, by and large, followed by other multi-lateral lending institutions), which uses A, B or C labels to denote relative degrees of environmental and social risk. Category A projects are those that have significant inherent potential for adverse environmental impacts such as irreversible loss of important natural habitats or involuntary resettlement. Category A projects require the most comprehensive ESIA approach. Large-scale surface mines such as the TFM project are classed as Category A.

3.2 SCOPING

Scoping of issues to be addressed in the ESIA is conducted early in the assessment process so that the appropriate baseline information is collected and the ESIA is focused on the relevant issues. The IFC's Operational Policy (OP) 4.01 (replaced by Performance Standard 1 in April 2006), as well as other operational policies and the supporting Guidance Notes and Good Practice Publications, will be followed for the TFM project ESIA. Issues raised by stakeholders and the ESIA study team during the scoping process have been captured in the issues and response report (Attachment I), and have been used to prepare the ToR for the ESIA.

3.3 ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT CONTENT

The content of an ESIA that is acceptable to participating EP lenders is described by OP 4.01. Further reference on the subject of ESIA content is provided in the IFC's Performance Standards that were finalized in early 2006.

The IFC suggests that Category A projects provide the following:

- A public consultation and disclosure plan.
- A scoping report, including the results of consultation during scoping.
- An ESIA, including an assessment of cumulative effects.
- A major hazard assessment.
- Environmental and social action plans.

A proposed table of contents for the ESIA is provided in Attachment III.

3.4 OVERARCHING POLICIES

Policy directives that will be examined in the ESIA include the IFC Performance Standards. The new Performance Standards cover many of the same thematic areas as the previous Safeguard Policies, but with a stronger emphasis on planning, monitoring and evaluation of results. For the ESIA process these IFC standards will drive scoping, consultation, and the preparation of environmental and social action plans.

3.5 NUMERIC STANDARDS

The ESIA process will include the development of environmental and social action plans. This process will use the overarching policies previously described, as well as the numeric standards for ambient, emission and effluent quality presented in the Pollution Prevention and Abatement Handbook, which is the reference document of the EP. Other local law and international standards, such as the World Health Organization water quality standards, also may be applicable. The ESIA team will review the potentially applicable numeric standards and make recommendations for use by the TFM project.

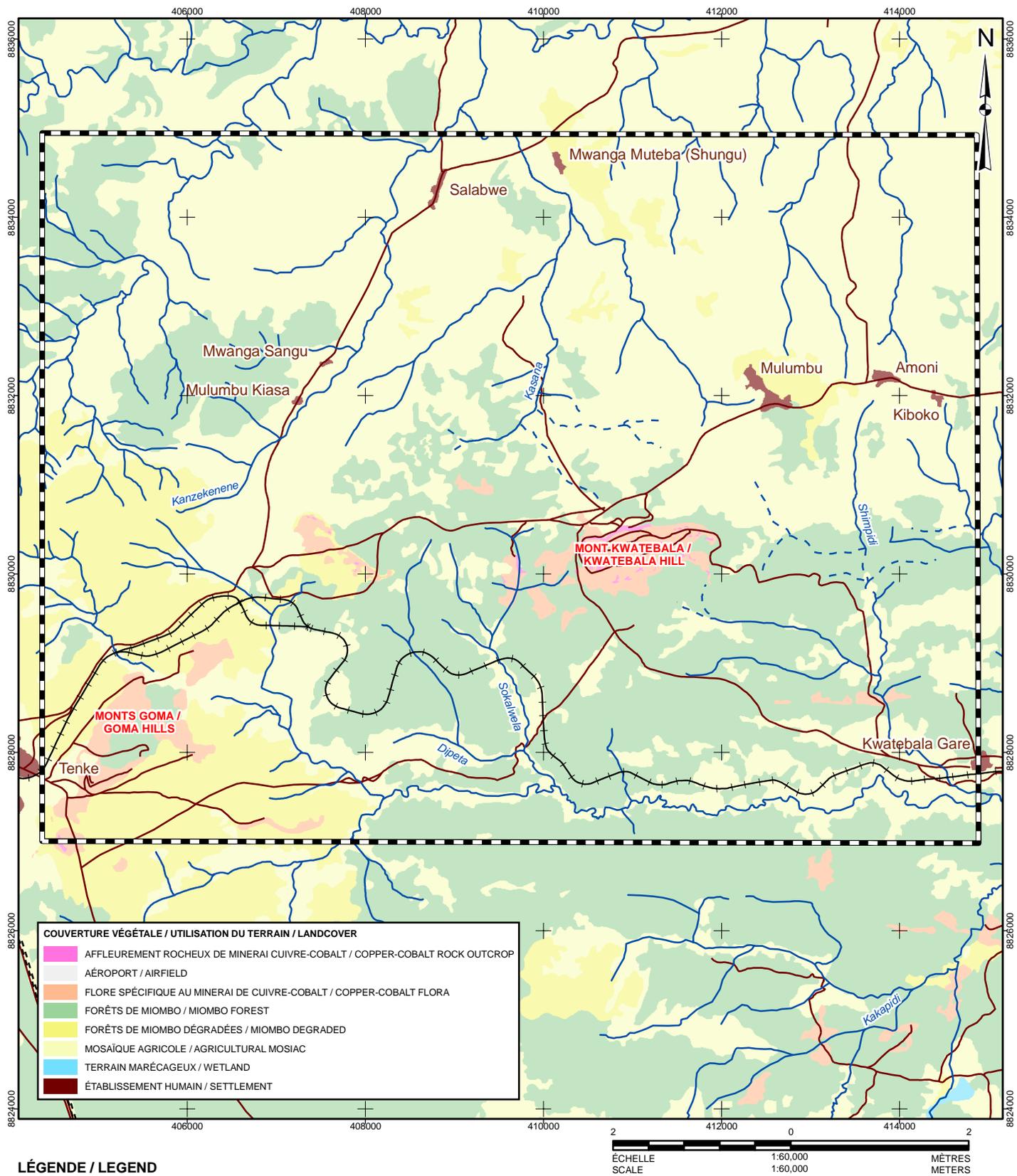
4 EXISTING CONDITIONS

This section of the report briefly describes the existing physical, biological and social conditions for the concession area in general and, where available, the Kwatebala and Goma hills area (the “study area”) in particular (Figure 4-1). The baseline conditions for the concession area were investigated in a series of studies conducted over 1997 and 1998. This information, in addition to supplemental information that is being collected during 2006, will be used to describe baseline conditions against which the potential effects of the project will be assessed.

4.1 PHYSICAL SETTING

4.1.1 Topography/Geomorphology

The topography of the concession is dominated by the north and south limbs of the Dipeta syncline, which trends and plunges towards the west and hosts the majority of the ore bodies. A bed of hard silicified dolomite lying between the main beds of the ore bodies has resisted erosion more than other lithologies, resulting in the formation of many hills along the dolomite outcrop that marks the limits of the syncline. The limbs of the syncline have been dissected by tributaries to the Dipeta and Mofia rivers, resulting in fairly steep relief. The mean elevation of the concession is 1,200 meters above mean sea level with several hills rising 200 to 300 meters above this level. The mineralized hills of the concession have been subjected to numerous trenching and drilling programs since the 1970s, and, more recently, the diggings of illegal miners (Photograph 4-1). Therefore the majority of the hills are not in pristine natural condition.



COUVERTURE VÉGÉTALE / UTILISATION DU TERRAIN / LANDCOVER

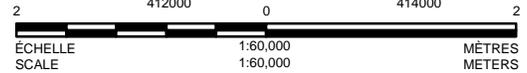
	AFFLEUREMENT ROCHEUX DE MINÉRAI CUIVRE-COBALT / COPPER-COBALT ROCK OUTCROP
	AÉROPORT / AIRFIELD
	FLORE SPÉCIFIQUE AU MINÉRAI DE CUIVRE-COBALT / COPPER-COBALT FLORA
	FORÊTS DE MIOMBO / MIOMBO FOREST
	FORÊTS DE MIOMBO DÉGRADÉES / MIOMBO DEGRADED
	MOSAÏQUE AGRICOLE / AGRICULTURAL MOSIAC
	TERRAIN MARÉCAGEUX / WETLAND
	ÉTABLISSEMENT HUMAIN / SETTLEMENT

LÉGENDE / LEGEND

- LIGNE DE TRANSPORT D'ÉNERGIE / POWERLINE
- RIVIÈRE / RIVER
- RIVIÈRE INTERMITTENTE / SEASONAL RIVER
- ROUTE / ROAD
- VOIE FERRÉE / RAILWAY
- SECTEUR LOCAL D'ÉTUDE / LOCAL STUDY AREA

RÉFÉRENCE / REFERENCE

Projection : Mercator transverse. Système géodésique : WGS 84 Système de coordonnées : UTM Zone 35S / Projection: Transverse Mercator Datum: WGS 84 Coordinate System: UTM Zone 35S



<p>PROJET / PROJECT</p> <p>PROJET MINIER TENKE FUNGURUME TENKE FUNGURUME PROJECT TENKE FUNGURUME MINING SARL</p>	
<p>TITRE / TITLE</p> <p>ZONE D'ÉTUDE LOCALE AUX ENVIRONS DES MONTS GOMA ET KWATEBALA / LOCAL STUDY AREA AROUND THE KWATEBALA AND GOMA HILLS</p>	
<p>N° projet / project no. 05-1334-035-9000</p> <p>DESIGN / DESIGN GJ 23 Feb. 2006</p> <p>SIG / GIS CW 15 May 2006</p> <p>VERIFIE / CHECK MR 17 May 2006</p> <p>APPROUVE / REVIEW MR 17 May 2006</p>	<p>Echelle telle qu'indiquée / Scale as Shown</p> <p>REV. 0</p> <p>FIGURE: 4-1</p>





Photograph 4-1 Illegal Mine Workings on Goma Hill

4.1.2 Geology

The geology of this area of Africa is described as a rigid block of pre-Cambrian basement rock, bounded to the north-west by the Upemba rift and to the south-east by the Lunangwa rift. The block is sub-divided by the Lufilian Arc. The portion of the Lufilian Arc within the DRC curves from Lubumbashi through Likasi and Fungurume to Kolwezi in the west and is host to most of the major copper deposits of the DRC. The Tenke Fungurume deposits lie in the northern sector of the belt of anticlines and synclines. The copper deposits are bedded in nature and are associated with the lower members of the Katanga system, overthrust onto the foreland of flat lying Kundelung (Upper Katanga) sediments. The principal structure of the concession is the Dipeta syncline, which trends and plunges in a westerly direction.

The deposits are divided into groups by geographical location, with the principal grouping being the Fungurume mineralized hills and the Tenke deposits. The copper and cobalt mineralization is mainly confined to two beds varying from 5 to 15 meters in thickness, separated by a hard silicified dolomite bed.

4.1.3 Soils

Soils within the study area are predominantly classed as “poor” because of their low organic content, low fertility and, in general, a lowered capacity to support agriculture. Included in this group are soils that contain high levels of metals and support metal-tolerant flora. Soils of a “medium” nature capable of supporting agriculture occur within the study area, and particularly to the northwest of the Kwatebala Hill, where lands are farmed for maize and beans by the residents of Mulumbu, Amoni and Kiboko. Alluvial soils are present along the lower reaches of the Dipeta River downstream of Fungurume; however, these soils occur outside of the Kwatebala-Goma area.

There are also poorly drained soils in the region but these also tend to occur south of the study area, most commonly near the Dipeta River. These soils are referred to as dambo, which represents bottom land and may be associated with areas without trees or meadow-type vegetation.

Some soils in the region are classed as ferralitic, which fall within the general category of poor soils. They have a reddish brown color, a silty clay texture, are compacted and occasionally occur with a gravely lateritic horizon. This lateritic horizon has a very low permeability value, similar to what is normally found in clays.

4.1.4 Visual Aesthetics

The hills in the study area are very visible, having steep profiles and lack of trees. The remainder of the mine area is characterized by wooded hills that are not (Photograph 4-2) significantly different in appearance from other landforms in the region. The Kwatebala and Goma hills are not visible from distances of over 10 kilometers as the general hilly topography cuts the lines of sight. Land has been cleared throughout the mine area for cultivation of maize and other crops. This is primarily focused around villages, areas of flat land and along river floodplains.



Photograph 4-2 View of Hill Near Tenke

4.1.5 Natural Risks

The area of the DRC where the project is located is subject to several possible natural risks, including high rainfall events which have the potential to trigger flooding, landslides and seismic events. Seismic events are generally mild in the area but have occurred up to a level of magnitude scale (M_s) = 7.2 in the region based on a 50-year database (Knight Piésold 1997).

4.1.6 Air Quality

Air quality varies with the season, reflecting variations in temperature, humidity and rainfall. During the dry season, any smoke and dust that arises lingers in the near-ground air layers and causes frequent hazes and reduced visibility. During the wet season, heavy rainfall quickly disperses smoke and dust, and maintains air quality. Burning of vegetation during the mid-to-late dry season generates considerable smoke and ash. Charcoal burning takes place throughout the year, and creates considerable, but localized, smoke. Most airborne dust is raised by the wind which increases as the land dries out throughout the dry season and peaks in September. Dust is also generated by traffic on the roads, including the main Likasi to Kolwezi road. This affects villages, vegetation and crops lying next to the roads, as well as pedestrians and other road users.

4.1.7 Noise

In Fungurume Village, 1997 data indicate that daytime noise levels varied broadly between 30 and 75 decibels with a maximum recorded level of 79 decibels. Noise levels peaked between 5 p.m. and 7:30 p.m., which corresponded to the shift change time of the Trabeco camp and the end of the working day. Nocturnal levels ranged broadly between 50 decibels and 20 decibels, the latter being an estimate since the levels dropped below the lower threshold of the equipment. Daytime noise levels were consistent at around 35 decibels, increasing to 45 to 50 decibels during the evening peak period.

In Tenke Village, daytime noise levels varied broadly between 30 and 65 decibels with a maximum recorded level of 75 decibels. There was an increase between 3 p.m. and 7:30 p.m., but was not as marked as that at Fungurume. Nocturnal levels were principally within the range of 20 to 60 decibels.

In Kwatebala Gare Village, daytime noise levels had a consistent minimum at around 48 decibels, and average periodic maxima of around 55 to 58 decibels. The narrow band between maxima and minima suggests a persistent, steady noise source or sources. Note that in the DRC, the nighttime guideline for noise is 40 decibels and the daytime guideline is 45 decibels. Monitoring for noise levels will be undertaken at Mulumbu in April 2006⁷. It is expected that noise levels in Mulumbu will be typical of rural villages in the study area.

4.1.8 Hydrogeology

Evidence from exploration drilling and uniform dry season surface water flows suggests that there is a substantial aquifer within the dolomite limestone strata of the Dipeta syncline, which forms part of the main geologic unit of the mineralized zone. Other sources of groundwater to the north and south of the central syncline may be disconnected to the Dipeta aquifer as evidenced by springs that emerge at higher elevations above the Dipeta River. The main Dipeta aquifer is believed to be a closed system such that it receives its inputs primarily from rainfall with some inflow from the south. The Dipeta aquifer is discharged where the Dipeta River leaves the basin near Fungurume. Groundwater quality north of Fungurume generally indicated good water quality that would meet WB drinking water standards and require only sterilization treatment. The water was of a calcium-magnesium bicarbonate type, which is a product of dolomite dissolution. Thirty to 70 mg/L of sulfate also were recorded, which may have originated from gypsum dissolution.

⁷ Completed as planned.

4.1.9 Surface Water Hydrology

The concession lies predominantly within the catchment of the Dikuluwe River, which is a tributary of the Lufira and hence of the Congo River. The tributaries of the Dikuluwe that drain from an elevated plateau to the north are the Dipeta, the Mofia, the Ninga and the Pande rivers, which run generally eastward. The Tshilongo River runs south from Tenke to join the Kando, which then flows to the Congo River near Kolwezi. The Kwatebala Hill is located on the watershed divide between the Mofia River to the north and the Dipeta River to the south. The Dipeta River runs in between the Goma Hills, disappears into the ground and surfaces again 500 meters further.

Surface flows appear to be closely related to the groundwater system. The maintenance of dry season and spring flows are entirely dependent upon groundwater storage. During the wet season, groundwater levels increase, resulting in increases to surface water baseflow as groundwater and spring flows increase. As rainfall intensity increases between October and February, direct surface runoff accounts for a larger portion of water in streams and rivers.

4.1.10 Water Quality

Surface waters are characterized as having high amounts of calcium, magnesium and bicarbonates, indicative of the amount of limestone prevalent in the study area. Significant concentrations of sulfate, manganese and arsenic also may indicate influences from the groundwater. Elevated concentrations of nitrate may be linked with sewage effluent disposed in the river systems. Concentrations of potassium, sodium, silicate and chloride were generally low in 1997/1998. Other commonly occurring trace metals included aluminum and zinc. Concentrations of iron were found to be localized. Results from samples taken at or near Kwatebala and Mwela Mpande found significant quantities of fecal coliform counts (50 to 250 counts per 100 milliliters) while results from the Dipeta River near Fungurume indicted excessively high levels which were too numerous to count.

4.1.11 Traffic

The location of Fungurume on the main road and railway between Kolwezi and Likasi provides local residents with frequent transportation. In 1997/1998, a total of about 10 buses per day traveled between Lubumbashi and Kolwezi on Mondays and Fridays. Additional buses traveled between Kolwezi, Lubumbashi and Likasi. Trucks passing by the main road also frequently pick up passengers. Traffic density was low through the concession on the Likasi-to-Kolwezi segment of the national highway, and was not the subject of detailed quantification during the previous study.

Traffic volumes are at their highest between 6 and 8 a.m., and between 5:30 and 7:30 p.m. From observations made by the ESIA team in 1997/1998 during travel on this road, it is estimated that average traffic density was about 400 vehicles per day, with peak density of around 35 vehicles per hour. Present (2006) traffic density on these roads is negligible.

4.2 BIOLOGICAL SETTING

4.2.1 Flora

The project region is dominated by an arable grassland matrix and interspersed with both large and small patches of closed and open miombo woodland that transition into savannah-type vegetation. Miombo woodland is a dry forest-savannah biome that covers a very large region in southern Africa, from Tanzania east to Angola, and south to Botswana and Mozambique. An important ecosystem due to the sheer size of its distribution, miombo woodland is also of conservation interest due to human pressure.

Within this matrix and patchwork of grassland and forest cover, pockets of more sensitive vegetation exist. A rare herbaceous flora exists among the dry copper-cobalt rocky outcrops, including species only known to occur locally (Photograph 4-3). This copper-cobalt flora is mainly composed of grasses and endemic herbaceous species found on copper-cobalt outcrops. Lichens that are potentially rare can be found on the larger rocks and boulders of some of these outcrops. Trees are largely absent from the outcrops primarily due to the dry and shallow soils found there. Wetlands occupy low-lying areas and are associated with sources of open water. Riparian vegetation borders the stream and river systems of the region.

4.2.2 Fauna

Although the DRC has more species of mammals than any other African country, indigenous large mammals are scarce in the miombo woodland. Almost all animals in the region are regarded as edible, and the general absence of wildlife in the region is most directly attributed to over-exploitation by the local population. Many wildlife habitats also have been degraded by clearing of land for charcoal production and for agriculture.



Photograph 4-3 Fern (*Cheilanthes*)



Photograph 4-4 Fish Sampling Program on the Dipeta River

4.2.3 Fish and Aquatic Habitats

People have regularly been observed fishing in the Dipeta River, although catches consisted largely of small specimens for personal consumption. Fish appear to be threatened for various reasons including habitat degradation and inappropriate fish-killing practices. Fish were captured in the Dipeta River during the previous baseline study. The yield was small and only 10 species of fish from eight families were found. Additional fish sampling was conducted in 2006 (Photograph 4-4).

4.2.4 Natural Habitats and Biodiversity

The DRC is the most biologically diverse country in Africa with at least 11,000 plant species, of which 29 percent are found only within the country. This is both the highest number of plant species and the second highest number of plants that are restricted to a single African country. There are four regional ‘centers’ of endemism (an area with at least 50 percent endemism and a minimum of 1,000 endemic species) partly present in the country. Reasons for the high endemism include the role of the landscape as a refuge for plants and animals during the most recent ice ages, as well as the wide range of altitudes, from lowland rain forest to montane forest and Afro-alpine communities which produce many habitat types.

The study area, including the copper-cobalt hills, is located within the Zambesian regional center of endemism extending from the south into the DRC and as far north as the Congo Basin (WWF 2001).

The miombo forest woodland supports more than 3,000 plant species, several hundred of which are likely endemic (Burgess et al. 2004).

The copper-cobalt flora is unique in that it contains an assemblage of plants that can tolerate high metal concentrations. Some 400 species are known to occur on the copper-cobalt hills in the general study region. At least 116 plant species are known to occur on Kwatebala Hill, with five species only occurring in the TFM area and one species only known for Kwatebala Hill.

4.2.5 Protected Areas

The International Union for the Conservation of Nature (IUCN) identifies two protected areas that are approximately 75 kilometers north and northeast of the Kwatebala Hill. These are Upemba National Park (1,000,000 hectares) and Kundelungu National Park (760,000 hectares). There is also a critical site for the conservation of the DRC’s dense forest to the west of the concession at

Kyamasumbu-Kolwezi, which currently has no protection and is unlikely to receive any in the future.

Three hunting reserves have been created between the two national parks, creating a contiguous protected area of over 2.4 million hectares. The Lufira Biosphere Reserve (14,700 hectares) bordering Upemba National Park is of interest for its water birds. The reserve is a seasonally inundated wetlands at the headwaters of the Congo River, bordered with a gallery forest. However, there are pressures on the area from overgrazing by cattle, tree felling for fuel and charcoal, filling of a lake with organic sediments, fishing by local populations and bush fires. There are no protected areas in the concession.

4.3 SOCIAL SETTING

4.3.1 Socio-economics

A census showed a total population of 26,636 people in the Tenke Fungurume region in 1997. Socio-economic baseline surveys conducted in 2005 to 2006 indicate a regional population of about 60,000 people⁸. There was an imbalance in adult and child numbers in the 1997 survey that, although perhaps somewhat skewed by survey methods, is also characteristic of high birth rates, high infant mortality and low life expectancy. National information indicates an infant mortality rate of 109 per 1,000 births and life expectancy of 46 and 49 for males and females, respectively. With 62 percent of the population being under 18, there are potentially high levels of population growth.

Seventy-seven percent of men and 40 percent of women in the Tenke Fungurume region have completed primary school. However, only 10 percent of men and 1 percent of women have completed secondary school. Villages within the concession rely mostly upon subsistence agriculture and charcoal production for survival. Few people described themselves as farmers, although most families rely on farming small-scale plots for survival. Illegal mining has been widespread in the past, but has been discouraged in the area of the concession. Medical facilities, equipment and practices in the Tenke Fungurume area are rudimentary. Similarly, there are no running water or sewage services, solid waste treatment facilities, or electricity. Transportation routes are primarily unpaved and in poor condition.

⁸ Population was more accurately estimated for the social baseline report in 2006 using number of households, average household size multipliers and a census. The study area population is estimated at 67,842.

4.3.2 Land Use

Land use within the concession area can be divided into the four categories: settlements; agriculture; transport corridors; and undisturbed areas, the latter being a relative term. Farming and agriculture near the project is generally on a small scale, with the exception of four larger-scale farms. Subsistence farming accounts for the vast majority of agriculture (Photograph 4-5). Shifting cultivation is practiced when there is enough land, although this is changing as population pressure increases.

Slash and burn agriculture is widely practiced in miombo woodland, particularly in wetter regions where woody biomass production is high. Charcoal burning is common in the area. Villagers will travel many kilometers to cut down trees for burning. Natural products are derived from the surrounding woodlands and grasslands, including fuel wood and charcoal, timber, thatching grass, fiber, mushrooms, honey, edible caterpillars and other animals, fish, organic inputs for fields, fodder for livestock, medicines and many other products.



Photograph 4-5 Farmland Near Mwela Pande

4.3.3 Cultural Resources

Worked stones can be found throughout the project site and ceramic shards and slag from prehistoric copper smelting can be found in some areas. The copper

smelting sites were found close to rivers, in particular. Trial trenches in 1997 yielded no pottery, but did find slag, pieces of burnt earth, fragments of pipes, and worked stones. The areas used for smelting are few in number and small in extent and do not appear to represent significant environmental liabilities. Identification of important areas, such as sacred sites, was conducted as part of the recent socio-economic surveys.

5 DESCRIPTION OF THE PROPOSED PROJECT

The proposed mining and processing project will involve the mining of copper-cobalt ore deposits in the TFM concession area, including the Kwatebala and Goma deposits (Figure 5-1). The project is described in this section.

5.1 BENEFITS OF THE PROJECT

The ore bodies within the TFM concession are rich in copper and cobalt. Extraction of these metals is expected to bring about great benefits to the local population, Katanga Province, the DRC and TFM shareholders. As an example, the project Convention, which sets the terms of investment for the project, requires that 0.3 percent of the net sales revenues of the project be used to establish a local agriculture and social investment fund. At the proposed mining rate⁹ of 100,000 tonnes per year of copper and 8,000 tonnes per year of cobalt, and considering a minimum mine life of 15 years¹⁰, it is expected that these and other royalties will be of great value to the DRC.

It is expected that mining will expand and continue beyond 15 years¹¹, depending upon the political and economic environment. Future expansion of the mine would include mining of the Fungurume and other deposits, with a possible eventual production of up to 400,000 tonnes per year of copper.

5.1.1 Employment and Recruitment

Approximately 1,400¹² jobs will be created during the two-year construction period, about 500 of which would be for local people. During operations, some 550 to 600 full-time jobs will be created, of which several hundred will be local positions, with the number increasing over time as the local workforce increases its capacity. Each direct job should create several indirect local jobs, significantly increasing local employment opportunities.

⁹ Since this report was prepared, the numbers have changed to 115,000 tonnes per year copper, 8,000 tonnes per year cobalt, and 2,000 tonnes per year of cobalt as hydroxide intermediate. Mining will occur for approximately 20 years.

¹⁰ Now 20 years.

¹¹ Now 20 years.

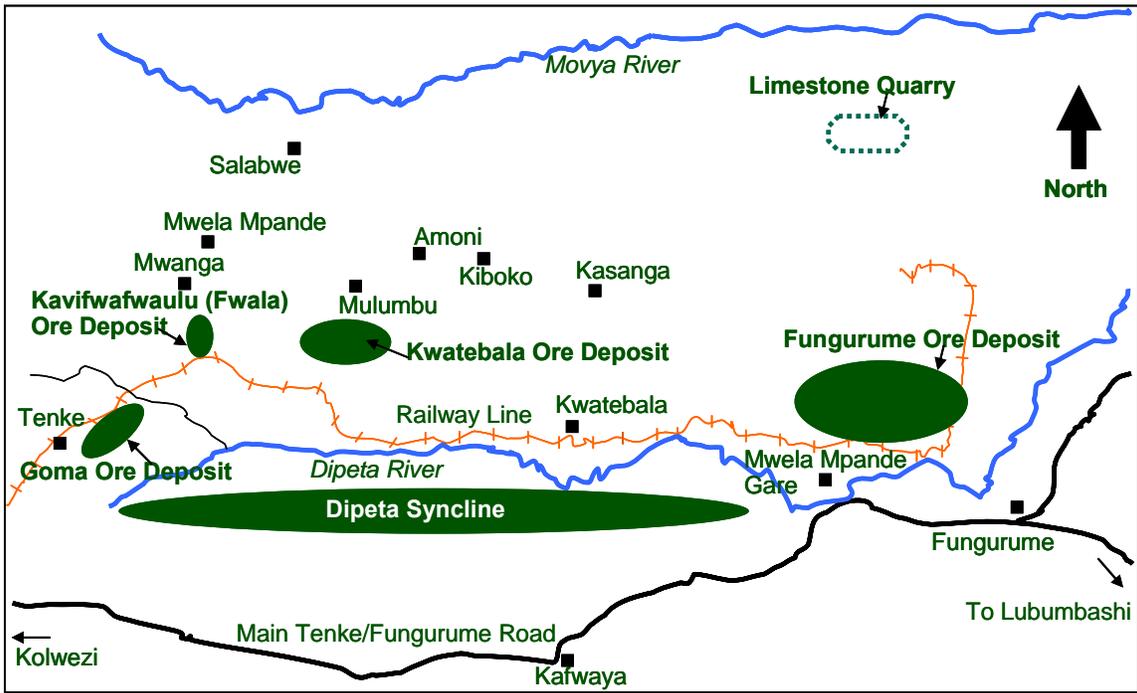
¹² The number of jobs changed to 2,000 for construction and 1,100 for operations.

5.1.2 Health and Safety

Phelps Dodge, the major shareholder in TFM, has one of the best health and safety records of all copper mining companies in the world. The mine will have a comprehensive health and safety policy.

TFM has a medical system called the Occupational Medicine Program that will be used to monitor and protect the health of its workers. There will be a medical facility on site in case a worker gets injured or sick on site. All workers will receive a medical exam when they start working and at regular intervals. TFM will be responsible for medical care for work-related injuries or sickness.

Figure 5-1 The Main Ore Deposits (Shaded) in the Concession Area in Relation to the Towns of Tenke and Fungurume



5.1.3 Resettlement

If any resettlement program is implemented,¹³ it will be prepared in close consultation with the community and in full compliance with the EP and DRC law. Likewise, any economic losses that do not result in resettlement of residences will be compensated according to the EP and DRC law. TFM has already implemented a compensation process for impacts to farm fields during the current phase of activity, including damage to crops caused by drilling.

If people are relocated, the company will help them to find new land, clear and establish new fields, and either build new houses for them or help them build their own new houses of the same or better value versus their existing house.

5.2 MINING METHODS

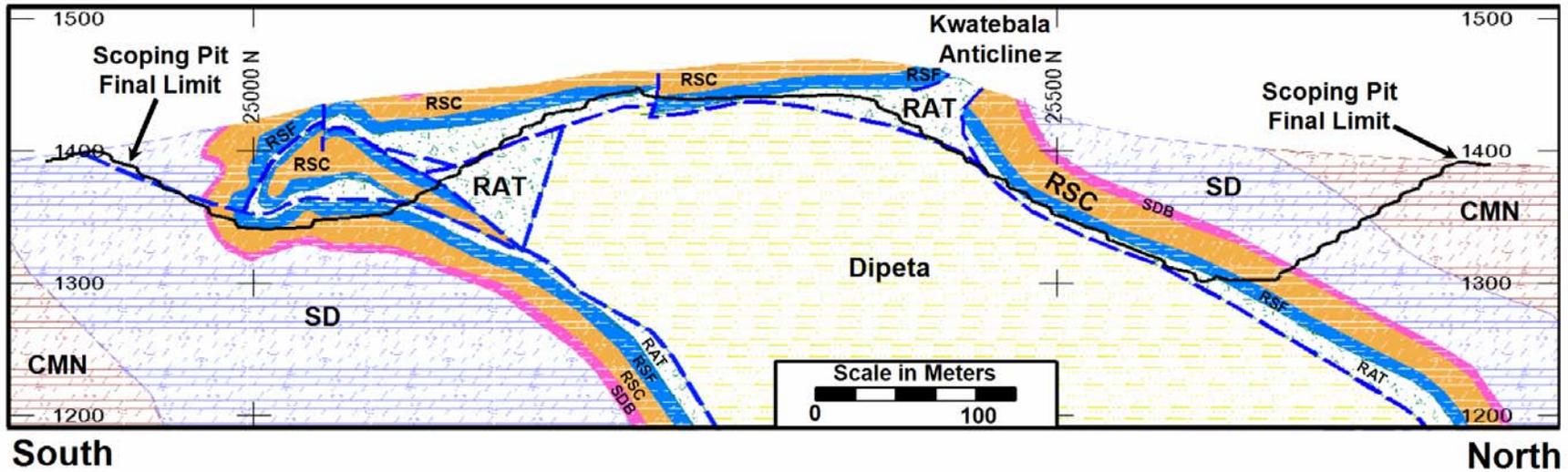
The Kwatebala and Goma hills (Figure 5-1) will be mined using an opencast (open pit) method. Following a construction period in 2007 and 2008, mining will begin at Kwatebala in 2008 and last approximately until at least 2023. The Goma ore body is expected to be developed beginning in 2022.¹⁴

Rock will be blasted with explosives so that it can be broken up and removed. Rock overlying the ore will be excavated by mechanized shovels and transported by truck to waste rock stockpile areas. The ore will then be excavated and transported by truck to the on-site mineral process plant. The Kwatebala pit will be excavated to the north and south of the Kwatebala Hill, with the northern pit being up to 130 meters deep and 2,000 meters long. A cross-section diagram of what the Kwatebala pit may look like is shown in Figure 5-2. The exact configuration of the pit will be confirmed during the feasibility study.

¹³ Resettlement has since been found to be necessary due to the potential effects of air and noise. Resettlement will be undertaken for the villages of Mulumbu, Kiboko and Amori. A resettlement action plan has been developed (Section D4.3).

¹⁴ The Fwaulu ore body has since been added to the mine plan.

Figure 5-2 Conceptual Cross-Section of the Kwatebala Pit



Legend:

- RAT = Roche argileuse talqueuse (Argillic Talcose Rocks)
- CMN = Calcaire minéralisé noir (Black Mineralized Limestone)
- SD = Schistes/argiles dolomitiques (Basal Dolomitic Shale)
- RSC = Roche siliceuse cellulaire claire (Light Silicic Cellular Rocks)

It is estimated that the Kwatebala pit contains 250 million tonnes of waste rock, 15 million tonnes of low-to mid-grade ore and 60 million tonnes of high-grade ore¹⁵. The Goma pit contains 18 million tonnes of ore and 113 million tonnes of waste rock. Only the oxide ore is proposed to be mined during the first years of mining. Oxide ore is generally closest to the surface and has less potential for generation of acid and leached metals. Radioactivity is not expected to be an issue for these pits but the ESIA team is analyzing the ore, water, soils and sediments to make sure.

5.3 PROCESS PLANT

The technology for extraction of copper and cobalt from oxide type minerals is well-established in Africa and throughout the world. TFM proposes to use standard methods that currently are being used in the DRC and Zambia. The process plant, however, will be designed using modern equipment and technologies and designed to meet or exceed the applicable environmental standards. The process plant will be located close to the Kwatebala pits and the alternative plant sites being considered are shown in Figure 5-3. The ore will be stockpiled near the plant and fed into a crusher that will grind the rock into a size small enough to extract the copper and cobalt.

Following crushing, the ore will be leached using acid in large tanks. This is a simple, well-proven technology. The solids will be separated from the liquids by counter-current decantation thickeners. Next, solvent extraction and electrowinning methods will be used to produce copper cathode. This technology is also very well understood and carried out extensively in the copper belt in neighboring Zambia (Photograph 5-1). An example of what copper cathode looks like is shown in Photograph 5-2.

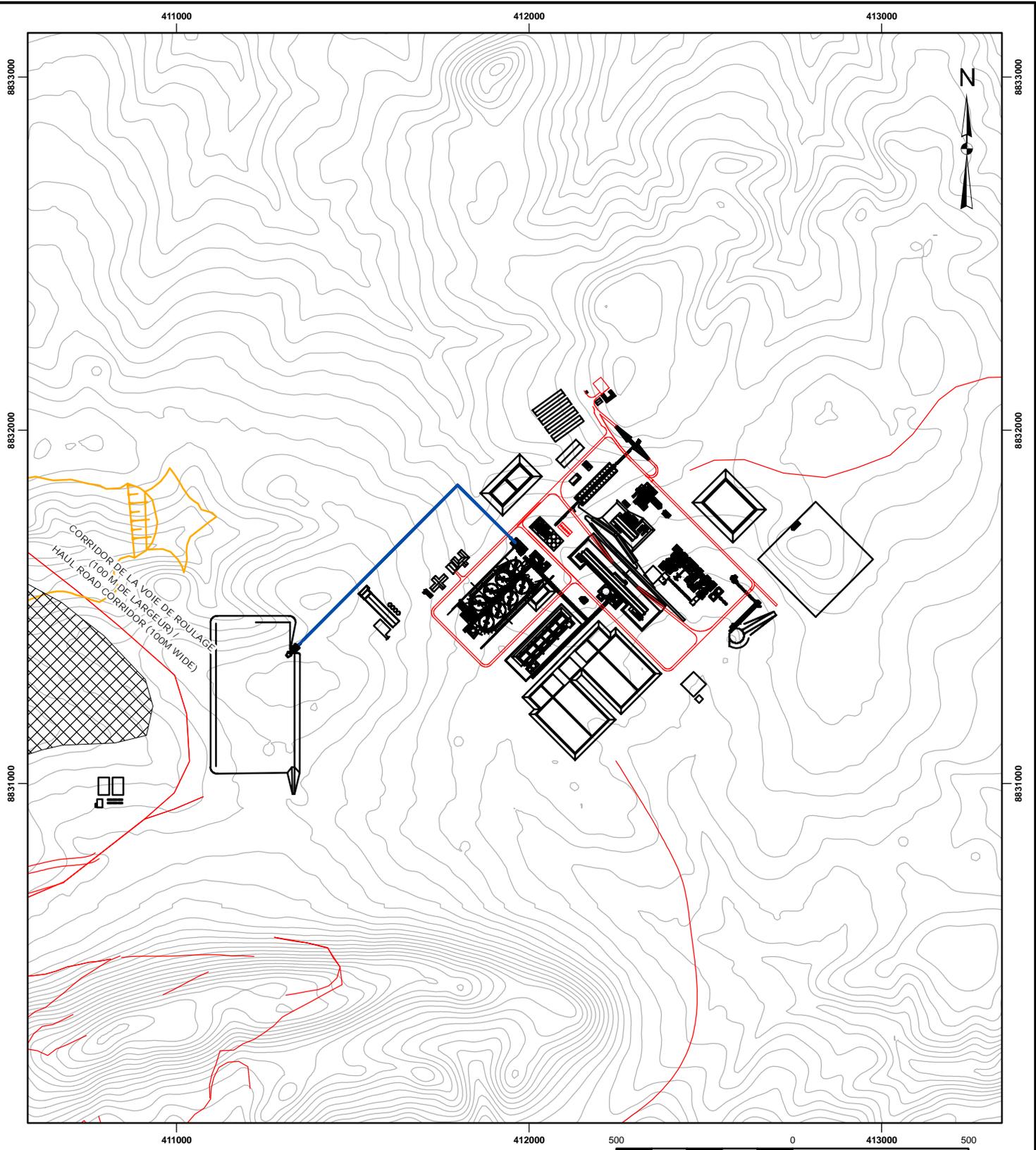
¹⁵ These numbers have since been updated, see Section A4 of the ESIA.



Photograph 5-1 Electrowinning of Copper, Zambia



Photograph 5-2 Copper Cathode from a Zambian Copper Mine

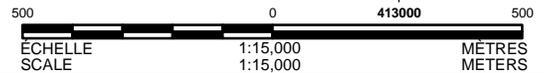


LÉGENDE / LEGEND

- CONVEYOR BELT / CEINTURE DE CONVOYEUR
- RWD
- COURBES DE NIVEAU / SURFACE CONTOURS
- ROUTE / ROAD
- USINE DE TRAITEMENT / PLANT SITE
- PARC À RÉSIDUS / TAILINGS SITE

RÉFÉRENCE / REFERENCE

Projection : Mercator transverse. Système géodésique : WGS 84 Système de coordonnées : UTM Zone 35S / Projection: Transverse Mercator Datum: WGS 84 Coordinate System: UTM Zone 35S



PROJET / PROJECT



PROJET MINIER TENKE FUNGURUME
TENKE FUNGURUME PROJECT
TENKE FUNGURUME MINING SARL

TITRE / TITLE

**PLAN D'AMÉNAGEMENT PROVISOIRE DU SITE DE L'USINE /
PROVISIONAL PLANT SITE LAYOUT**



N° projet / project no.	05-1334-035.9000	
DESSIN / DESIGN	MR	17 Apr. 2006
SIG / GIS	CW	16 May 2006
VÉRIFIÉ / CHECK	MR	17 May 2006
APPROUVÉ / REVIEW	MR	17 May 2006

Echelle telle qu'indiquée
Scale as Shown

REV. 0

FIGURE: 5-3

A separate process will be used to extract the cobalt. A liquid stream from the copper process will be taken to the cobalt circuit. There, impurities will be removed prior to further cobalt processing (either by a precipitation step or to cobalt metal by electrowinning). The project will produce either cobalt metal or cobalt hydroxide (38 percent cobalt), an intermediate product. Cobalt hydroxide was selected over other intermediate cobalt products in order to minimize environmental impacts (for example, if cobalt carbonate is considered then the process also generates sodium sulfate, which can create more difficult environmental management issues).

Cobalt can be shipped in a crude cobalt hydroxide form or as cobalt metal (known as 'cobalt rounds').

5.4 ACID PLANT

A sulfuric acid plant will be built for the generation of sulfuric acid and sulfur dioxide (SO₂). The sulfuric acid is used to leach copper and maintain spent electrolyte acid concentration for the solvent extraction stripping section. SO₂ is used in the leaching circuit for the recovery of cobalt, and is also diluted with air and used to precipitate manganese dioxide (MnO₂) in the manganese removal tanks. Waste heat from the acid plant is used to produce steam for various operations throughout the plant.

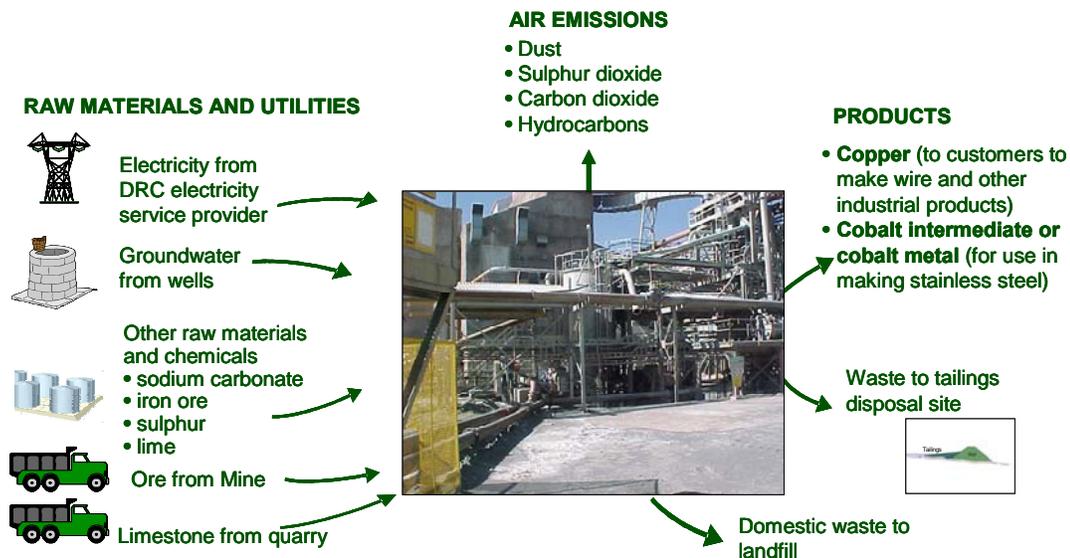
5.5 RAW MATERIALS AND WASTES

As shown in Figure 5-4, the mineral process plant will use water, electricity and other raw materials like lime, magnesium hydroxide and limestone to extract the copper and cobalt from the ore and to produce the final products. Power will be supplied by the state-owned utility. The main wastes from the plant will be tailings and air emissions. Most water used in the plant will be recycled. TFM is currently studying how to minimize the production of waste materials.

Tailings from the plant will be deposited in a tailings storage facility. This facility will be formed by damming a small valley and depositing tailings in it. A water reservoir also will be constructed to store excess water during portions of the year. The tailings storage facility eventually may cover an area of 300 hectares. A conceptual design of the facility is presented in Figure 5-5.

The dam wall will be fortified by placing waste rock on the down-slope side. This will prevent any accidental breaching or failure of the dam.

Figure 5-4 Process Plant Inputs and Outputs



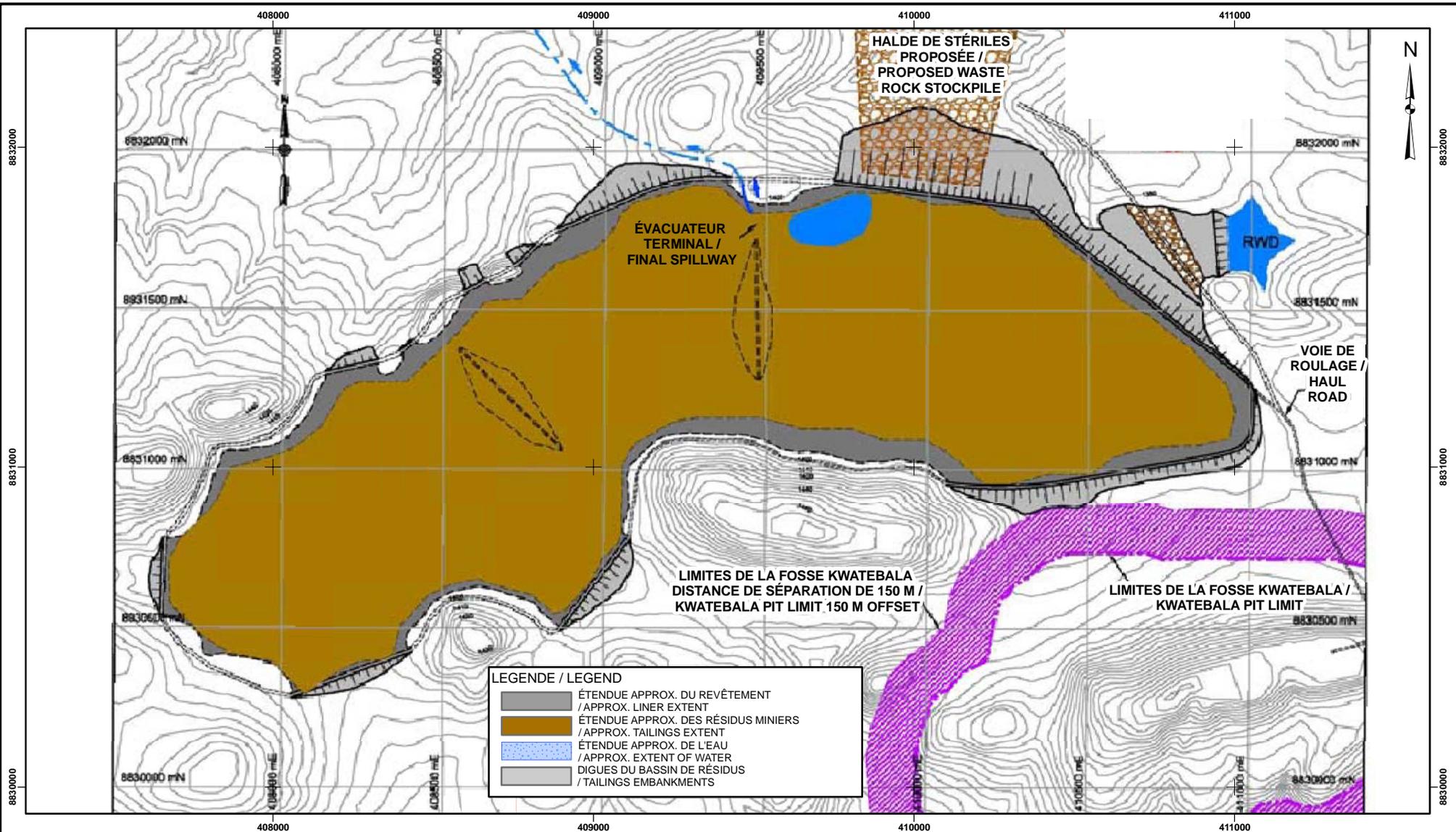
The tailings and process plant are being designed to not discharge effluent except in the most extreme rainfall conditions. Any discharged effluent is expected to meet drinking water or agricultural water quality standards. The ESIA specialists are conducting studies to determine the likely quality of this water and what downstream effects, if any, may occur during a storm water discharge.

5.6 OTHER INFRASTRUCTURE

During construction, some temporary housing will be required to house the construction workers. Similarly, during operations, workers will need housing in the local area. TFM expects to construct or arrange for suitable housing arrangements for their workers.

Further, it is expected that the mine operations may attract others to move into the local area. TFM will provide assistance to local authorities, specifically to plan for this additional population and to help provide some of the basic infrastructure that is needed. Growth centers will be built to allow for controlled growth of support services, such as market gardens and small business.

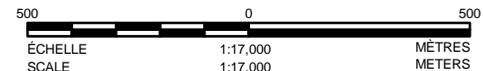
Other infrastructure that will be constructed include deep water wells, power line links from the DRC electrical grid to the mine and plant, a sewage treatment plant, access roads from the mine to the plant and from the existing limestone quarry north of Fungurume to the mine and plant, a water holding dam, stormwater controls, and fencing and access control facilities.



LEGENDE / LEGEND

	ÉTENDUE APPROX. DU REVÊTEMENT / APPROX. LINER EXTENT
	ÉTENDUE APPROX. DES RÉSIDUS MINERS / APPROX. TAILINGS EXTENT
	ÉTENDUE APPROX. DE L'EAU / APPROX. EXTENT OF WATER
	DIGUES DU BASSIN DE RÉSIDUS / TAILINGS EMBANKMENTS

LÉGENDE / LEGEND



RÉFÉRENCE / REFERENCE

Data provided by Phelps Dodge
 Projection : Mercator transverse. Système géodésique : WGS 84 Système de coordonnées : UTM Zone 35S
 Projection: Transverse Mercator Datum: WGS 84 Coordinate System: UTM Zone 35S

PROJET / PROJECT		PROJET MINIER TENKE FUNGURUME TENKE FUNGURUME PROJECT TENKE FUNGURUME MINING SARL	
TITRE / TITLE			
PLAN CONCEPTUEL DU PARC À RÉSIDUS / CONCEPTUAL TAILINGS FACILITY DESIGN			
	N° projet / project no.	05-1334-035	Échelle telle qu'indiquée / Scale as Shown
	DÉSSIN / DESIGN	MR 03 May 2006	
	SIG / GIS	CW 16 May 2006	
	VÉRIFIÉ / CHECK	MR 17 May 2006	
APPROUVÉ / REVIEW	MR 17 May 2006	FIGURE: 5-5	
			REV. 0

6 ALTERNATIVES BEING CONSIDERED

Consideration of alternatives for facility type and location is an important part of the studies that are under way. One of the first decisions made was to focus the project on the Kwatebala and Goma ore bodies and locate the plant and other facilities nearby to minimize haul and pumping distances and reduce the amount of land required for the development. Minimizing the relocation of people is also an important consideration. Another important consideration is to ensure that facilities will not be located where ore could be mined in the future. Due to potential mineralization, the majority of the Dipeta syncline, including lands to the south of the Kwatebala and Goma ore bodies, is not likely to be suitable as facility locations. Nonetheless, these areas have been evaluated as alternative facility sites, where such siting might offer environmental, social or economic advantages.

If any project infrastructure will be located on agricultural soils that are currently being farmed, TFM will determine whether it is appropriate to pay compensation to the farmer and help locate new fields. Meanwhile, residents should continue with their lives as always, because there is no certainty yet on where the mine infrastructure will be located.

To sustain a production of 100,000 tonnes per year of copper over 15 years, TFM plans to start mining the Kwatebala Hill and later, in around year 2022, the Goma hills. Together, these hills will be able to provide 100,000 tonnes per year of copper for 15 years. For this reason, mining of the Goma Hills now has been included in the ESIA investigations.¹⁶

Several different alternatives for the project were considered and stakeholder input on these choices has been sought. The alternatives studied included locations or routes for:

- Construction camp.
- Growth center that will house the operations camp and an area for local business to service the mine and its workforce.
- Process plant.
- Tailings facility.
- Main access road.

¹⁶ Currently, production is estimated as 115,000 tonnes per year of copper. Initiation of mining at Kwatebala, Goma and Fwaulu will be in 2007, 2017 and 2021, respectively. Active mining will last for 20+ years.

- Waste rock stockpiles.
- Means of transporting goods and products to and from the mine and plant.

The alternative locations for some of these facilities are shown in Figures 6-1 and 6-2, and the preferred alternatives in Figure 6-3. A structured and systematic process was conducted to compare each alternative from environmental, social and technical perspectives. Some of the key factors considered included:

Environmental

- Potential for impacts to groundwater or surface water.
- Effect on copper-cobalt vegetation and rare plant species.
- Impacts to aquatic life.
- Effects on biodiversity.

Social

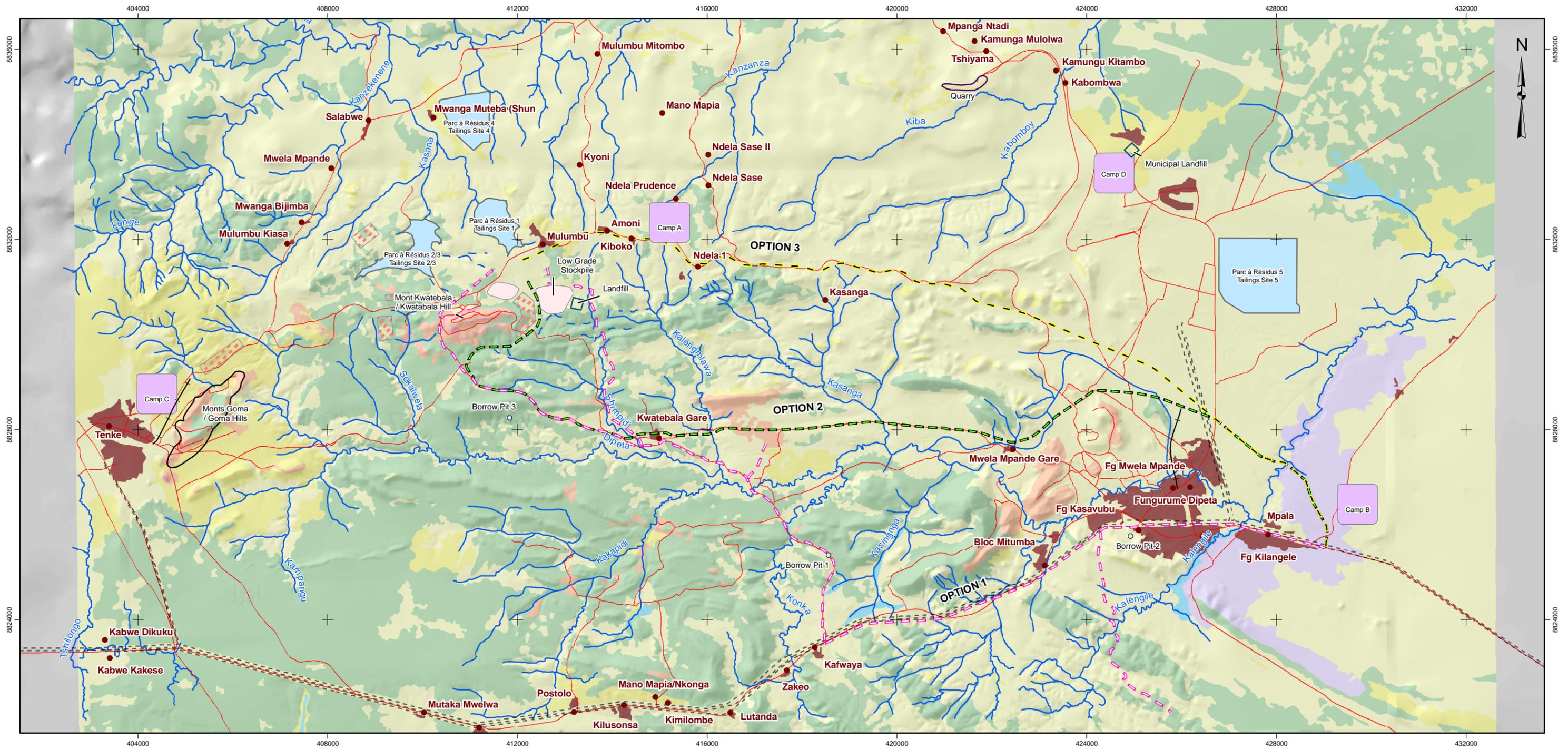
- Loss of assets, including farmland and residences.
- Reduced air quality.
- Public safety.
- Effects of noise and vibration.
- Equitable distribution of benefits to communities.

Technical

- Engineering feasibility.
- Amount of earth or rock moving or haulage required.
- Length of transport routes.

Tailings Storage Facility

The location for the tailings storage facility (Alternative 2/3) was selected based on suitable topography, proximity to the Kwatebala pit, and lack of ore bodies and villages within its footprint. A large portion of the land it will occupy is used for seasonal farming.



LÉGENDE / LEGEND

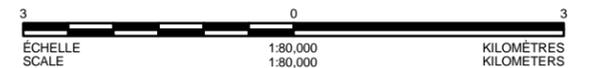
- VILLAGE
- LIGNE DE TRANSPORT D'ÉNERGIE / POWERLINE
- ROUTE / ROAD
- RIVIÈRE / RIVER
- - - RIVIÈRE INTERMITTENTE / SEASONAL RIVER
- + VOIE FERRÉE / RAILWAY SIDING
- OPTION DE ROUTE 1 / ROAD OPTION 1
- OPTION DE ROUTE 2 / ROAD OPTION 2
- OPTION DE ROUTE 3 / ROAD OPTION 3
- CARRIÈRE / QUARRY
- LANDFILL
- GOMA PIT
- BORROW PIT
- LOW GRADE STOCKPILE
- CAMP DE CONSTRUCTION / CONSTRUCTION CAMP
- PARC À RÉSIDUS / TAILINGS SITE
- PILE DE STOCKAGE - SOL / STOCK PILE - SOIL

COUVERTURE VÉGÉTALE / UTILISATION DU TERRAIN / LANDCOVER

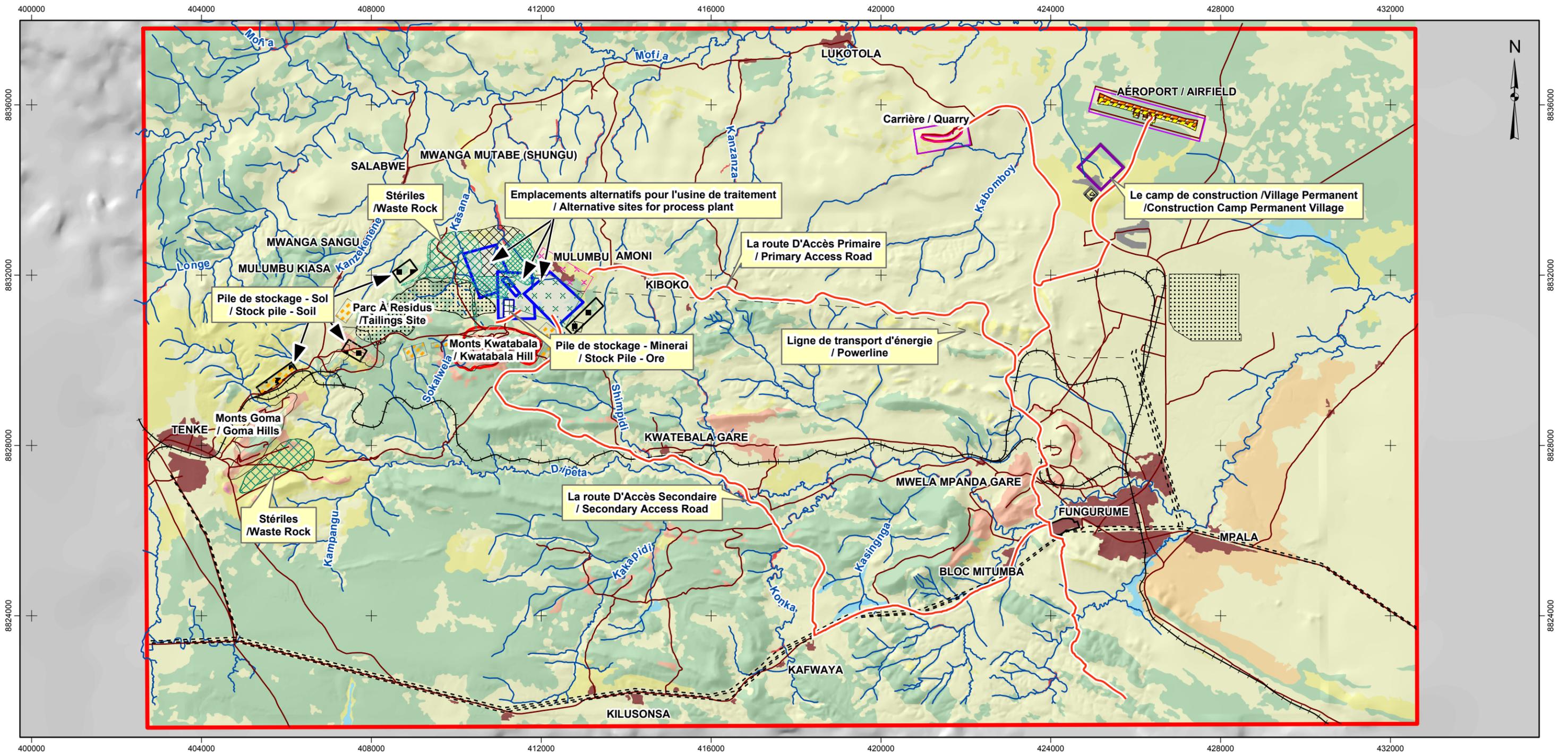
- AFFLEUREMENT ROCHEUX DE MINÉRAI CUIVRE-COBALT / COPPER-COBALT ROCK OUTCROP
- ANCIENNE JACHÈRE / OLD FALLOW FIELD
- AÉROPORT / AIRFIELD
- COPPER-COBALT STEPPE-SAVANNA
- MIOMBO WOODLAND
- MIOMBO WOODLAND DEGRADED
- MOSAÏQUE AGRICOLE / AGRICULTURAL MOSIAC
- TERRAIN MARÉCAGEUX / WETLAND
- ÉTABLISSEMENT HUMAIN / SETTLEMENT

RÉFÉRENCE / REFERENCE

Projection : Mercator transverse. Système géodésique : WGS 84 Système de coordonnées : UTM Zone 35S / Projection: Transverse Mercator Datum: WGS 84 Coordinate System: UTM Zone 35S



		PROJET / PROJECT PROJET MINIER TENKE FUNGURUME TENKE FUNGURUME PROJECT TENKE FUNGURUME MINING S.A.R.L.	
TITRE TITLE DIFFÉRENTES OPTIONS POUR LES INSTALLATIONS DU PROJET TFM / ALTERNATIVES FOR TFM PROJECT FACILITIES			
	N° PROJET / PROJECT NO. 05-1334-035 DESSIN / DESIGN MR 1 Feb. 2006 GIS / SIG LL 24 May 2006 VÉRIFIER / CHECK MR 17 May 2006 APPROUVER / REVIEW MR 17 May 2006	ÉCHELLE TELLE QU'INDIQUÉE SCALE AS SHOWN	REV. 0
FIGURE: 6-1			



LÉGENDE / LEGEND

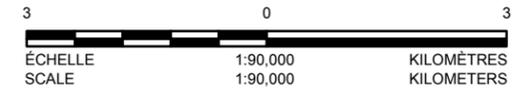
- LIGNE DE TRANSPORT D'ÉNERGIE / POWERLINE
- ROUTE / ROAD
- RIVIÈRE / RIVER
- - - RIVIÈRE INTERMITTENTE / SEASONAL RIVER
- ROUTE D'ACCÈS PRINCIPALE / MAIN ACCESS ROAD
- VOIE FERRÉE / RAILWAY
- OPTION DE USINE DE TRAITEMENT / PLANT SITE OPTION
- SECTEUR RÉGIONAL D'ÉTUDE / REGIONAL STUDY AREA
- CERCA / FENCE
- ADDITIONAL ACCOMMODATION UNITS AND HEALTH CLINIC
- AÉROPORT / AIRFIELD
- CARRIÈRE / QUARRY
- OPTION DE USINE DE TRAITEMENT / PLANT SITE OPTION
- PARC À RESIDUS / TAILINGS SITE
- PILE DE STOCKAGE - MINÉRAI / STOCK PILE - ORE
- PILE DE STOCKAGE - SOL / STOCK PILE - SOIL
- FOSSE / MINE PIT
- STÉRILES / WASTE ROCK
- VILLAGE PERMANENT / PERMANENT VILLAGE

COUVERTURE VÉGÉTALE / UTILISATION DU TERRAIN / LANDCOVER

- AFFLEUREMENT ROCHEUX DE MINÉRAI CUIVRE-COBALT / COPPER-COBALT ROCK OUTCROP
- STEPPE-SAVANE SUR SUBSTRAT CUPRO-COBALTIFÈRE / COPPER-COBALT STEPPE-SAVANNA
- FORÊT DE MIOMBO / MIOMBO WOODLAND
- FORÊT DE MIOMBO DÉGRADÉE / MIOMBO WOODLAND DEGRADED
- FORÊT GALERIE / GALLERY FOREST
- ZONE HUMIDE / WETLAND
- MOSAÏQUE AGRICOLE / AGRICULTURAL MOSAIC
- ANCIENNE JACHÈRE / OLD FALLOW FIELD
- AÉROPORT / AIRFIELD
- PERTURBATION / DISTURBANCE
- ÉTABLISSEMENT HUMAIN / SETTLEMENT

RÉFÉRENCE / REFERENCE

Projection : Mercator transverse. Système géodésique : WGS 84 Système de coordonnées : UTM Zone 35S / Projection: Transverse Mercator Datum: WGS 84 Coordinate System: UTM Zone 35S



PROJET / PROJECT		PROJET MINIER TENKE FUNGURUME TENKE FUNGURUME PROJECT TENKE FUNGURUME MINING SARL																					
TITRE TITLE		SOLUTIONS DE RECHANGE DE PREMIER CHOIX POUR LES INSTALLATIONS DU PROJET TFM / PREFERRED ALTERNATIVES FOR TFM PROJECT FACILITIES																					
 Golder Associates Calgary, Alberta		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>N° PROJET / PROJECT NO.</td> <td>05-1334-035</td> <td>ÉCHELLE TELLE QU'INDIQUÉE / SCALE AS SHOWN</td> <td>REV. 0</td> </tr> <tr> <td>DESSIN / DESIGN</td> <td>MR</td> <td>1 Feb. 2006</td> <td></td> </tr> <tr> <td>GIS / SIG</td> <td>CW</td> <td>27 Mar. 2007</td> <td></td> </tr> <tr> <td>VÉRIFIÉ / CHECK</td> <td>MR</td> <td>27 Mar. 2007</td> <td></td> </tr> <tr> <td>APPROUVÉ / REVIEW</td> <td>MR</td> <td>27 Mar. 2007</td> <td></td> </tr> </table>	N° PROJET / PROJECT NO.	05-1334-035	ÉCHELLE TELLE QU'INDIQUÉE / SCALE AS SHOWN	REV. 0	DESSIN / DESIGN	MR	1 Feb. 2006		GIS / SIG	CW	27 Mar. 2007		VÉRIFIÉ / CHECK	MR	27 Mar. 2007		APPROUVÉ / REVIEW	MR	27 Mar. 2007		FIGURE: 6-3
N° PROJET / PROJECT NO.	05-1334-035	ÉCHELLE TELLE QU'INDIQUÉE / SCALE AS SHOWN	REV. 0																				
DESSIN / DESIGN	MR	1 Feb. 2006																					
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VÉRIFIÉ / CHECK	MR	27 Mar. 2007																					
APPROUVÉ / REVIEW	MR	27 Mar. 2007																					

Waste Rock Disposal Areas

Locations for waste rock were limited due to the need for a relatively large disposal area close to the mine pit. All three options considered use of waste rock to build the tailings storage facility dam and to support this dam immediately downstream. The preferred location (Alternative 2) concentrates the waste rock disposal area into this area immediately downstream of the tailings storage facility.

Process Plant

The main factors in determining the location of the process plant were noise and air quality effects to Mulumbu Village, proximity to the pit and tailings storage facility, and lack of ore bodies within its footprint. Alternative 3 was selected initially, and then its location was moved to the northwest to reduce effects to Mulumbu (Figure 6-3). The location south of Kwatebala Hill was ruled out due to the potential for mineable ore, and the location to the north was discarded due to distance from the pit and elevation.

Main Access Road

The preferred access road will bypass Fungurume to the west and approach the mine site on its eastern edge (Figure 6-3). This route was selected to avoid adverse effects on villages and agricultural land and reduce overall length. The alignment is different from option 1 (Figure 6-1) because a route with a suitable grade was found to the east of the pit. This route has a large advantage because haul truck traffic from the mine will not have to cross paths with traffic on the main access road. Light traffic also will operate on option 3. These access routes may change as they are investigated further.

Construction Camp

The preferred location for the construction camp was determined to be north of Fungurume town, where a camp partially had been built in 1997/98. Workers will be transported by bus to the mine site. This area has been previously disturbed and thus has few flora or biodiversity concerns. While some of the land is used for agriculture, few people live within the area.

Growth Center

The evaluation of the growth center locations indicated that the preferred strategy was to target both the communities of Fungurume and Tenke. Immigration is predicted to be high in both areas and assistance in planning for it is needed. Therefore, TFM will provide assistance to local authorities to plan for this additional population and focus growth to the centers.

This strategy also directs the population growth away from the future mining areas. The preferred location at Fungurume is east of the town on lands having less capability for agriculture and few residents. A preferred location at Tenke has not yet been established.

Transport of Raw Materials and Products

Transport of raw materials and products will occur by a combination of rail and truck between the mine site and one or more ports. Richards Bay and Durban, South Africa currently are under considerations. A final location will be selected based on quality of infrastructure, security and cost.

7 PUBLIC PARTICIPATION PROCESS

The ESIA process is being conducted in compliance with the EP and its associated policies and guidelines, including those relevant to consultation, public participation and information disclosure. The EP require that consultation occur:

- During scoping for the ESIA, before guidelines for the preparation of the ESIA are finalized.
- A second time, when a draft ESIA report is available to be presented to, and discussed with, stakeholders.

7.1 OBJECTIVES OF PUBLIC PARTICIPATION

The public participation process is designed to provide sufficient and accessible information to interested and affected parties in an objective manner to assist them:

- During the scoping phase to:
 - Identify issues of concern and provide suggestions for alternatives and enhanced benefits.
 - Contribute local knowledge and experience.
 - Verify that their issues, comments and suggestions have been captured.
- During the impact assessment phase to:
 - Verify that their issues, comments and suggestions have been considered by the technical investigations.
 - Provide comment on the findings of the ESIA.

7.2 STAKEHOLDERS

“Stakeholders” are persons who are affected by, or can affect the outcome of, the project. These can be affected communities, local organizations, non-governmental organizations (NGOs) and government authorities. Stakeholders also can include politicians, military authorities, commercial and industrial enterprises, labor unions, academics, religious groups, national social and environmental public sector agencies and the media.

The current stakeholder database for the project consists of almost 470 individuals and organizations representing a broad spectrum of all sectors of society from both within the project area and, including:

- Central government regulatory bodies directly involved in the project and their local representatives.
- Central government bodies with potential indirect involvement in the project, such as the departments of health, agriculture and education.
- Provincial government.
- Local government institutions and officials, including:
 - Mayors, the highest ranking government officials in a given district.
 - Local government technical departments supervised by the Mayor’s office.
 - Chefs de Cité and Chefs de Poste, who are civil administrators of rural townships such as Fungurume and Tenke.
 - Chefs de Quartier, who are neighborhood representatives of the Chefs de Cité and Chefs de Poste offices.
 - Traditional village chiefs, who may be answerable both to government and customary authorities.
- People living near the project and all of its facilities, including people who use project-affected areas for subsistence activity or use water or other resources that may be affected by the project.
- People who may potentially be affected in their livelihoods by the project development, specifically local people who may have relied in part on revenues from illegal mining on the concession.
- Community-based organizations like development committees.
- Customary institutions, including:
 - “Chefs de Terre,” who manage land allocation in a given area under customary land tenure regime.
 - Other traditional chiefs, including traditional kings of tribal or ethnic groups, or Chefs de Groupement, who supervise several village populations.
- Donor organizations:
 - Multilateral donor organizations, such as the World Bank and some United Nations agencies.

- Bilateral donor organizations with potential or actual involvement in the project area, such as United States Agency for International Development, Belgian Development Corporation and Coopération Technique Belge.
- Non-governmental organizations currently involved in development activities in the project area or its neighborhood.
- Academic institutions in Lubumbashi, Likasi and Kolwezi, where local academics can be mobilized to participate in consultation.
- Gécamines, the state-owned mining company, which is a partner in TFM, and other mining companies and industrial businesses in the project area and Katanga Province.
- Environmental and conservation organizations.
- Labor organizations.
- Media (print and broadcast).

7.3 CONSULTATION DURING SCOPING PHASE

7.3.1 Announcement of Opportunity to Comment

The opportunity to participate in the ESIA was widely announced in three languages (French, Swahili and English) in order to afford the broadest range of stakeholders the opportunity to comment, as follows:

- Visits by Phelps Dodge representatives and the TFM community liaison officer and community development officer to key NGO and donor organizations and village chiefs in mid-February 2006, to introduce the project and encourage their involvement in the ESIA.
- Meetings held by the socio-economic assessment team in 36 rural villages and four urban and semi-urban villages in the TFM concession area.
- Several thousand (about 400 English, 2,000 French and 1,000 Swahili) printed copies of a Background Information Document (BID), and a comment sheet, were distributed through personal contact during focus group meetings, community briefings and one-on-one interviews between mid-February and March 2006 to stakeholders in the project area as a first step to announce the opportunity to comment. Documents also were distributed to all TFM workers at the TFM office in Lubumbashi and those at the TFM camp in Fungurume, including those

who work off-site. These documents also were left in several public places such as markets, train stations, schools and clinics. In addition, copies were left with stakeholders for further distribution to their colleagues and constituents.



Photograph 7-1 Villagers Reading Background Information Document

- Almost 200 individuals (in the project area, in Africa and internationally) received electronic versions of a letter of invitation to comment, a comment sheet and BID in English and French.
- Electronic forwarding of the BID and comment sheet by contact persons at NGOs, e.g., United Nations Office for Coordination of Humanitarian Affairs (UN OCHA) sent the BID to other NGOs and stakeholders.
- The documents were made available in all three languages on the following websites: www.golder.co.za and www.phelpsdodge.com.
- Paid advertisements in 20 newspapers (local, regional and national) for example, La Concorde, Trompette Lushoise, Bora Express, La Libre Opinion, Mukumba, Le Tribun du Peuple, and Le Cyclone, announcing the intention to conduct an ESIA and opportunity to comment.
- Radio broadcasts (on Mosaique, RCK, Mwangaza, Phoenix Radio) and television broadcasts (on Mwangaza TV) of a simple message in

French, Swahili and Lingala informing stakeholders of the intention to conduct an ESIA, opportunity to comment and contact details for submitting comment.

- One hundred (50 Swahili, 45 French and 5 English) laminated sets of three posters and photographs explaining the project in simple language and highlighting certain key messages were posted at selected public places that frequently are visited by local people such as government offices, clinics, train stations, markets, churches, schools, university and academic institutions and rural and urban villages throughout the concession area. Posters also were left at some NGO offices and at the TFM camp in Fungurume and office in Lubumbashi.



Photograph 7-2 Community Consultation in Mulumbu Village

7.3.2 Obtaining Comments From Stakeholders

During scoping, the following opportunities were made available for stakeholders to comment on the project:

7.3.2.1 Focus Group Meetings, Presentations and Community Meetings

Over 100 focus group meetings, one-on-one interviews, presentations and community meetings were held between November 2005 and February 2006 by

the socio-economic assessment team and between mid-February and March 2006 by the public consultation team.¹⁷ These include:

- Meetings in Lubumbashi with several key NGOs and donor organizations including World Vision-DRC, United Methodist Committee of Relief (UMCOR), United States Agency for International Development (PACT-DRC, USAID), Mission Observation de UN for Congo (MONUC), Caritas, Médecins Sans Frontières (MSF), Cooperation Technique Belge (CTB), United Nations Office for Coordination of Humanitarian Affairs (UN OCHA), l'Association laïque pour les bambins d'Afrique (ALBA), World Health Organization, Congo (OMS), International Foundation for Education and Self Help (IFESH) Congo.
- Presentations to and discussion with the professors and students at the Sociology Department and Polytechnique Mining at the University of Lubumbashi. This also served as a capacity-building exercise for the students.
- Verbal and visual briefings to some TFM workers at the office in Lubumbashi and at the TFM camp in Fungurume.
- Meetings with local government institutions and officials in Tenke and Fungurume.
- Multi-sectoral meetings in Tenke and Fungurume and poster presentations to small groups of people at schools, clinics and markets.
- Meetings with government authorities, NGOs and the artisanal miners organization, SEASSCAM in Kolwezi.
- Interviews with village chiefs and meetings and poster presentations in all the villages and most of the hamlets in the concession area.
- Meetings in 36 rural and four urban and semi-urban villages throughout the study area, including areas subject to alternatives, were conducted by the socio-economic assessment team, with issues, comments and suggestions gathered through this process included in the issues and response report (Attachment I).
- One-on-one interviews with key stakeholders like the King of Bayeke (Mwami des Bayeke et du Garengaze).

¹⁷ Since these meetings, additional consultation has included:

- Consultation on the draft scoping report in late May and early June 2006.
- Consultation on the results of the draft ESIA in late November and early December.

7.3.2.2 Consultation by Telephone

Non-governmental organizations and donors based outside the DRC, including those from Africa that were involved in the World Bank Extractive Industries Review for Africa (2003), and several mining companies in the DRC were telephoned during March 2006 to make sure that they received the project documentation and to solicit their issues, comments and suggestions.

7.3.3 Written Comment

Stakeholders accessible by electronic or postal means were able to complete and return comment sheets distributed with the BID or provide comment by e-mail to the public participation office or local contact person.

7.3.3.1 Regulatory Liaison

Regulatory liaison with DRC authorities was initiated and will continue through the ESIA process.

7.3.4 Issues and Response Report

All issues, comments and suggestions received from stakeholders to date are summarized in an issues and response report in Attachment I to this draft scoping report. This report constitutes an important component of the final scoping and ESIA reports, and will be an ongoing record of stakeholder issues raised throughout the process.

It is categorized into the disciplines required for conducting the impact assessments. The issues and response report also provides initial responses and an indication of how the issues will be or have been considered in the ESIA studies.

7.4 DRAFT SCOPING REPORT

On the basis of the initial consultation and in consideration of other technical requirements for the scoping stage, a draft scoping report (this document) has been compiled by the ESIA team. The report includes the draft ToR for the various technical studies and the issues and response report mentioned above.

A summary of the draft scoping report, written in simple language and illustrated by way of photographs, drawings and maps, also has been compiled and

translated into French and Swahili. In addition, posters summarizing the key aspects of the project description, alternatives, potential impacts and key issues have been produced for distribution throughout the project area.

7.4.1 Announcing Availability

The opportunity to comment on the draft scoping report was announced as follows:

- At focus group meetings, community visits and other meetings.
- By letter in May 2006, addressed personally to individuals and organizations on the database and distributed by e-mail and personal contact.
- Telephone calls to several stakeholders and stakeholder organizations.

7.4.2 Distribution

The draft scoping report and issues and response report (in French and English), summary of the draft scoping report (in French and Swahili) and posters are being distributed for comment as follows:

- Left in public places throughout the project area.
- E-mailed or distributed by personal contact to stakeholders.
- At the open houses (see below).
- Posted on the following websites: www.golder.co.za and www.phelpsdodge.com.

7.4.3 Public Review

The draft scoping report was available for public review for a three-week period, from 26 May – 16 June 2006.

Stakeholders can comment on the report by completing the comment sheet accompanying the report, submitting individual comments in writing, by e-mail or by telephone, or attending open houses

At the end of the comment period, new issues and new information generated as a result will be captured in the final scoping report. The report will be distributed to the authorities, key stakeholders and those who specifically request it.¹⁸

7.4.4 Open Houses

The purpose of the open houses is to assist stakeholders to comment on the draft scoping report and to add additional issues they consider appropriate. Public open houses will be held in Lubumbashi, Tenke, Fungurume, Mulumbu Village, Lukotola Village and Kilusonsa Village where the contents of the draft scoping report will be visually displayed and copies of the full and summary reports will be available. Small group discussions (in French, Swahili and English) around visual displays will be facilitated and comments recorded by community liaison assistants and members of the ESIA and public participation teams.

Separate open houses for government officials, community leaders and others were held in Kolwezi, Lubumbashi, Tenke and Fungurume.

All stakeholder comments on the draft scoping report will be recorded in and integrated with the issues and response report that will accompany the final scoping report as a record of consultation.

7.5 PROGRESS FEEDBACK TO STAKEHOLDERS

At the end of scoping, all stakeholders on the database will receive a personalized letter and the community liaison officer and assistants will visit communities to report on progress, to thank those who commented to date, and outline the next steps in the process.

7.6 CONSULTATION DURING BASELINE STUDIES

In the course of the ESIA baseline studies (water resources, ecology, socio-economics, cultural resources, etc.) meetings will be organized to inform communities and obtain their comments. Where certain works (drilling, for example) require temporarily occupying small parcels of land and/or standing crops, TFM will consider whether compensation should be paid according to reasonable rates established in cooperation with appropriate authorities and after the communities and affected owners/users have been duly informed and consulted.

¹⁸ Updated issues are provided in the Issues and Response Report, Appendix E6 to the ESIA.

7.7 CONSULTATION DURING THE IMPACT ASSESSMENT PHASE

Public participation during the impact assessment phase of the ESIA will revolve around a review of the findings of the environmental and social assessments. Stakeholders will be able to verify that their issues were considered in the investigations, and to comment on the findings and suggested mitigation measures for reducing negative impacts and enhancing positive ones. The findings will be presented in a draft ESIA report, a summary of the draft ESIA report (in French and Swahili) and accompanying specialist reports in August 2006.

8 ISSUES RAISED BY STAKEHOLDERS

This section presents a summary of the issues that have been identified relating to the TFM project. The issues have been identified by stakeholders, technical specialists and certain governmental authorities. A full record of the issues raised by stakeholders appears in the issues and response report (Attachment I).

8.1 PHYSICAL ISSUES

8.1.1 Topography/Geomorphology

- Changes in topography can affect visual aesthetics, erosion, land use and geomorphology.
- Landform processes such as erosion can affect facilities; site climate, underlying geology and structural features affect geomorphologic processes.

8.1.2 Geology

Mining may expose geologic formations, leading to changes in water quality following geochemical reactions.

8.1.3 Soils

The proposed open cast mining and associated activities would result in potential disturbance, erosion and removal of soils. Stakeholders are concerned about the loss of fertile agricultural soils and deterioration of soil quality through contamination from waste water and metals.

8.1.4 Visual Aesthetics

The potential visual impacts of the proposed new mining infrastructure (waste rock dump, process plant, tailings dam, etc.) dust and visible emissions may affect people living in nearby communities and those traveling along roads in the area. This potential impact is aesthetic and can affect quality of life of some local people. Some stakeholders have expressed concern that the removal of the Kwatebala Hill will alter the visual character of the area permanently.

8.1.5 Natural Risks

The area of the DRC in which the project is located is subject to several possible natural risks, including high rainfall events which have the potential to trigger flooding and landslides. Two kinds of issues must be considered in relation to natural risks:

- The damage that natural events may inflict on project developments.
- The secondary impacts on people and the environment that damage to project developments may cause.

8.1.6 Air Quality

Aspects of air quality that are important issues for the surrounding environment and people include:

- Mine fleet exhaust.
- Fugitive dust from mine traffic and ore/waste rock, open cast mining activities and tailings facilities.
- Gaseous emissions from the process plant that may cause respiratory diseases and other health impacts.
- Combustion emission.

8.1.7 Noise and Vibration

Noise is essentially unwanted sound. Issues relating to unwanted sound include effects on people and wildlife. In particular, dwellings, schools, churches and medical facilities in the concession are all considered to be noise-sensitive receptors. Occupational noise, which could result in health risks, will be dealt with in an occupational health and safety plan. Stakeholders in the nearby communities are particularly concerned about the noise that will be generated by the process plant and crusher.

Vibration generally consists of two components: airborne vibration and ground vibration. Airborne vibration also is referred to as low-frequency sound. These are sounds very low in pitch and not necessarily heard by the human ear even though the pressure wave (vibration) can often cause windows to rattle or physical sensations. Ground vibration consists of energy transferred through the ground, causing floors to vibrate and structural movements. These also can be felt through the feet. Both aspects of vibration may be important issues for

nearby populations. Local residents expressed concern over the effects of vibration from explosives used in the mine on their brick and clay houses as well as the impact on the Lubumbashi to Kolwezi railway line.

8.1.8 Hydrogeology

Local people use shallow groundwater wells to access water. Changes in hydrogeology, due to drawdown, water use, or impacts on groundwater quality, can affect such water users. Changes in groundwater levels and flows also can affect surface water hydrology. Stakeholders are worried that there will not be enough groundwater available to local communities once the mine starts. Others are concerned that water wells will be polluted by effluent from the mine and treatment plant.

8.1.9 Surface Water Hydrology

The major surface water uses in the concession include agricultural irrigation, bathing and laundry, potable consumption and use to sustain natural habitats and species. Surface waters also are used by some of the population as latrines and for washing of heterogenite ore at certain locations. All of these uses may be affected by changes in surface water volumes due to the project, which may occur due to alteration of watersheds, diversion or impoundment of water, project impacts on groundwater or direct consumption of surface water.

8.1.10 Water Quality

As described above, water is important to local residents for bathing, laundry and potable consumption. Changes in surface water quality would affect many of these water uses. The ESIA team considers that the project has the potential to affect surface and groundwater quality as a result of several activities, including:

- Site preparation and clearing.
- Diversion and disruption of natural drainage lines.
- Dewatering and subsequent decrease in flows.
- Disposal and stockpiling of waste rock and ore stockpiles.
- Ore processing activities.
- Waste water releases from water management ponds and tailings storage facility.
- Discharge of domestic waste water (treated sewage effluent).

- Accidental releases and spills.
- Site reclamation and closure activities.

Many of the above issues also were raised by stakeholders during consultation. The potential for toxic effects from the tailings facility was an issue raised often by stakeholders. Stakeholders are concerned that the quality of water would be affected by toxins from the tailings facility and effluent pollution from the treatment plant and mine. Heavy metal, especially lead pollution, is of particular concern. Others expressed concern that the removal of trees and vegetation near rivers will cause erosion, which in turn deteriorates water quality.

8.1.11 Traffic

Traffic-related effects can include:

- Increased traffic flows can cause disturbance from dust, noise and emissions to populations along the roadside, an impact that is stronger to the extent that traffic uses roads that are not paved.
- Increased traffic flows and any increases in speed associated with improvements to roads made in relation to the project imply an increase in accidents, to both people and to their animals.
- Traffic accidents involving transport of industrial goods risk contamination of land and water resources from spills.
- Any road construction or improvement will cause temporary delays to non-project traffic.
- Increased traffic flows can imply increased congestion, specifically in the town of Fungurume.
- Increased traffic on regional roads may contribute to what is likely to be project-induced migration of population to the concession area, specifically to the roadsides.

8.2 BIOLOGICAL ISSUES

8.2.1 Flora

Two main natural vegetation types occur in the mining area: miombo woodland and copper-cobalt flora. Of these, the copper-cobalt plant communities are highly significant, both because they are centers of endemism (i.e., plants that do

not occur elsewhere) of metal-tolerant plants and because they occur in the areas that are most likely to be impacted by the project.

Flora can be affected by:

- Direct loss through clearing.
- Indirect losses by change in hydrology or air quality.
- Introduction of non-native or weedy species.
- Increased destruction of vegetation and cutting down of trees as a result of more people moving into the area to be close to the mine.

Stakeholders pointed out that there may be medicinal plants on Kwatebala Hill and that the studies should consider the impact of the project on the loss of medicinal plants.

8.2.2 Fauna

Issues related to fauna include:

- Potential effects on locally endemic species associated with removal of copper-cobalt flora habitat.
- Habitat fragmentation and potential impacts on movement of wildlife.
- Direct and indirect effects on faunal habitats as a result of changes in hydrology and hydrogeology.
- Migration into the area as well as new or improved access in the concession and region which could result in further habitat loss or increased harvesting of bush meat and animal skins for trade or consumption.
- Habitat alterations and animal health effects linked to air or water emissions during operations.
- Interactions of wildlife with the mine and its operations (e.g., tailings facility, hazardous materials).
- Wildlife mortality due to increased traffic.
- Impact of noise on fauna.

Impacts to fauna could occur during all phases of the project.

8.2.3 Fish and Aquatic Habitats

Issues related to fish and aquatic habitats include:

- Effects related to habitat loss or alteration due to physical change.
- Direct and indirect effects on fish and aquatic habitats as a result of changes in hydrology and hydrogeology.
- Habitat fragmentation and potential impacts on movements of fish species.
- Effects related to immigration of people and overfishing.
- Habitat alterations and fish health effects linked to air or water emissions during operations.
- Potential effects of toxic pollution from the mining activities and associated waste materials on the aquatic ecology.

8.2.4 Natural Habitats and Biodiversity

Potential issues related to natural habitats and biodiversity are:

- Direct changes to rare or sensitive natural habitats.
- Changes in species diversity for flora, fauna, and fish and aquatic habitats.
- Loss of endemic species.
- Increase of indirect impacts to natural areas in the project region associated with in-migration of people.
- Positive effects related to opportunities to contribute to the conservation of protected areas and candidates for protection in the project region through targeted off-site mitigation activities and funding of conservation initiatives.

8.2.5 Protected Areas

- No protected areas occur within 75 kilometers of the concession. Air and water quality effects may be possible but these are unlikely.

8.3 SOCIAL ISSUES

8.3.1 Socio-economics

The following key issues have been identified based on our current understanding of the project start-up configuration, review of prior studies conducted in the project area, observations made during site reconnaissance trips, and communications with the local population undertaken in January 2006:

- Physical displacement of area residents from the active mining operations and required safety zones around the mine site.
- Effects from an influx of migrants to the area, anticipated as a public response to perceived economic opportunity, leading to several issues including the following:
 - Increased competition for agricultural land and other natural resources.
 - Inflation and resulting social tension due to economic disparities.
 - Increased social pathologies such as crime and prostitution.
 - Decreased access to existing services and infrastructure.
- Increased risk of sexually transmitted diseases including HIV/AIDS as a result of increased movement through the project area, especially from truck traffic.
- Economic marginalization of resident population if skilled labor and professional positions are assigned to a better-educated, healthier group of non-resident nationals.
- Security threats to TFM personnel posed by local people.
- Human rights issues.

Many stakeholders expressed the need for the project to improve the socio-economic conditions of the local people and the country as a whole. There are already high expectations in terms of employment and social development programs, with several people indicating that TFM's social development programs and recruitment policy should give preference to local people living closest to the proposed development. Numerous suggestions for potential social development programs were put forward, mostly related to agricultural support, improvement of road infrastructure, health facilities, education facilities, electricity and water supply and sanitation, housing, capacity building and skills development.

Many community members were concerned about how they would be compensated for their homes, land and crops if they are to be relocated.

8.3.2 Land Use

Land use issues may include:

- Loss of areas used for agriculture and gathering (e.g., wood collection or charcoal production) due to exclusion from active mining and safety zones at Kwatebala and Goma.
- Loss of other revenue sources as exclusion zones are established and enforced around Kwatebala, Goma and other mineralized areas of interest.

8.3.3 Cultural Resources

Issues generically associated with mining projects, such as the loss of cultural resources or traditional ways of life, can be mitigated. However, archeological remains, gravesites, historic sites and culturally significant places may be damaged, destroyed or placed off limits to the interested community by mine development. Stakeholders indicated that graves and gravesites are sacred and therefore must be respected. Local Chiefs must be informed and give their approval and, local culture must be honored if any graves are to be relocated.

8.3.4 Health and Safety

Stakeholders were concerned about the potential presence of radioactivity in the ore and subsequent effects to human health and safety. Some people expressed concern about the prevalence of respiratory illnesses in people living close to other mines and those currently working at mines.

Several plans will be developed for the project to address health and safety, including:

- Emergency and contingency response plan.
- Occupational health and safety management plan.

8.3.5 Waste Management

Issues related to proper disposal of sewage, tailings and wastewater were raised by stakeholders. Preparation of a solid waste management plan was recommended and will be completed.

9 TERMS OF REFERENCE, WORKPLAN, AND POTENTIAL MITIGATION

The draft ToR for the ESIA is provided in Attachment II and the draft table of contents in Attachment III. These will be used to guide the development of the ESIA.

The ESIA team and TFM have begun to look at ways to reduce the potential negative impacts and enhance the positive ones that the project may have on the environment and local communities. Table 9-1 provides an indication of some of the actions that could be undertaken. The issues and response report in Attachment I also outlines some of TFM's proposed actions. Full details on these and other actions will be provided in the ESIA.

Table 9-1 Potential Issues and Mitigation for the TFM Project

Discipline Category	Potential Impacts	Potential Mitigation
Physical	<p>Landscape and Soils</p> <p>Changes in the landscape and underlying geomorphology</p> <p>Geologic resource depletion</p> <p>Soil compaction</p> <p>Soil erosion</p> <p>Soil contamination and changes in salinity</p> <p>Changes in soil fertility</p>	<p>Design of waste rock stockpiles to match local topography</p> <p>Reclamation planning to restore sustainable biological communities or agriculture</p> <p>Salvage of topsoils that may be useful for reclamation</p> <p>Avoidance of large-scale soil compaction</p> <p>Control of soil erosion with vegetative ground cover and other temporary measures</p> <p>Adherence to an erosion and sediment control plan</p> <p>Amendments to increase the fertility of topsoils during reclamation</p>
	<p>Water</p> <p>Surface and groundwater volume changes due to changes in flow regimes, watersheds, groundwater drawdown and increased head at tailings facility</p> <p>Surface and groundwater quality changes due to metal leaching and transport, releases from containment ponds, seepage from tailings, effluent releases, treated sewage releases or accidental spills</p> <p>Effects of extreme natural events on the project, including exceedence of water containment capacity or slope failures</p> <p>Risk of dam failure during an extreme natural event</p>	<p>Minimize project footprint and diversion of streams</p> <p>Implementation of runoff and sediment control procedures during site clearing and preparation to minimize the migration of sediments to water bodies</p> <p>Interception/treatment of runoff from waste rock and ore storage areas</p> <p>Lined tailings facility and/or seepage management control</p> <p>Treatment of effluent, if needed</p> <p>Maximize recycling of process water</p> <p>Comprehensive environmental management plan to include hazardous materials handling requirements and spill response capability</p> <p>Emergency measures for prevention or cleanup of containment pond releases</p> <p>Establishment of a sustainable reclamation drainage plan and restoration of native plant communities at closure</p> <p>Build in precautionary design features in tailings dam; emergency planning to mitigate effects if a failure occurs</p>

Table 9-1 Potential Issues and Mitigation for the TFM Project (continued)

Discipline Category	Potential Impacts	Potential Mitigation
	<p>Air, Noise, Visual Aesthetics, Natural Risks</p> <p>Impacts to air quality due to mine fleet exhaust, emissions from facilities and fugitive dust</p> <p>Increase in noise at the site and along access routes</p> <p>Greenhouse gas emissions</p> <p>Changes in visual aesthetics due to removal of vegetation, alteration of landforms, releases of visible plumes and dust and infrastructure construction</p> <p>Odors of emissions and solid and liquid wastes</p> <p>Changes to visual aesthetics following construction of plant facilities and infrastructure and releases of visible emission plumes</p> <p>Impact of natural events such as flooding or seismic activity on the plant</p>	<p>Maintenance of air quality and noise levels within appropriate guidelines at receptor locations</p> <p>Fuel efficiency and greenhouse gas emission offsets</p> <p>Dust control measures</p> <p>Use of vehicles equipped with appropriate noise limiting devices</p> <p>Reclamation plan including recontouring of slopes and establishment of native vegetation cover</p> <p>Project design to manage and protect against extreme events</p> <p>Dewatering and consolidation of tailings, including evaluation of backfilling of pit to reduce long-term hazards</p> <p>Assessment of natural risks and contingency planning</p>
<p>Biological</p>	<p>Biodiversity, Flora, Fauna, Fish</p> <p>Direct effects on biodiversity including rare habitats and local endemic species, especially in copper-cobalt vegetation communities</p> <p>Indirect effects due to dust and improved access on rare habitats and local endemic species</p> <p>Effects on connectivity of habitat affecting movements of wildlife species</p> <p>Introduction of exotic species (terrestrial and aquatic)</p> <p>Changes in water flows or quality from the development during operations may affect adjacent plant communities</p> <p>Risk of dam failure during an extreme natural event, resulting in destruction of natural habitats in downstream areas (terrestrial and aquatic)</p> <p>Water quality changes in streams and wetlands, affecting fish and aquatic fauna</p> <p>Fish habitat degradation as a result of riparian deforestation</p> <p>Habitat alteration for aquatic biota due to alterations in hydrologic characteristics of drainage areas</p>	<p>Modification of footprint to minimize impacts</p> <p>Establishment of off-site natural areas to compensate for disturbed copper-cobalt flora communities</p> <p>Direct translocation of rare plants to off-site areas</p> <p>Dust control measures</p> <p>Monitoring and control of exotic species; use of native species for reclamation</p> <p>Minimize water-related effects to vegetation through maintenance of flows and treatment of effluent</p> <p>Build in design features in tailings dam; emergency planning to mitigate effects if a failure occurs</p> <p>Mitigate effects through site design and water management plan</p> <p>Water quality protection through runoff and sediment control</p> <p>Sediment control, protection of water quality, and site-specific mitigation at stream crossings</p>

Table 9-1 Potential Issues and Mitigation for the TFM Project (continued)

Discipline Category	Potential Impacts	Potential Mitigation
Social	<p>Public Health and Safety</p> <p>Water quality effects on human health due to impacts on drinking water and fish tissue chemical concentrations</p> <p>Air quality changes and effects on human health</p> <p>Public health risks (HIV/AIDS and other transmissible diseases)</p> <p>Public safety risks due to the presence of large imported workforces</p> <p>Traffic congestion on access roads and associated noise and emissions</p> <p>Threat to human health and safety due to real or perceived risks of dam failure</p>	<p>Water quality protection through runoff and sediment control</p> <p>Pollution control and development of operating management plans</p> <p>HIV/AIDS and transmissible disease programming, including public education</p> <p>Workforce codes of conduct and training</p> <p>Support for maintenance of road infrastructure used by the project</p> <p>Build in precautionary design features in tailings dam, as well as emergency planning; communication plan</p>
	<p>Livelihoods</p> <p>Loss or reduced access to natural resources</p> <p>Pressure on agricultural and grazing resources</p> <p>Reduced water quantity availability and changes in land capability for agriculture downstream of tailings dams</p> <p>Resettlement and loss of agricultural land, fruit trees and perennial crops</p> <p>Disruption to subsistence livelihood as people leave their land and try to re-establish themselves on new land</p>	<p>Co-operative forest management program</p> <p>Compensation and resettlement planning as appropriate</p> <p>Mitigate effects on land users, through site design and water management plan</p> <p>Comprehensive resettlement, if appropriate, and compensation program, following detailed consultation with local communities; assistance to develop agriculture in host areas</p> <p>Provision of a combination of compensation, replacement land, title, payment of all moving costs, and temporary income during the re-establishment phase</p>
	<p>Community Infrastructure</p> <p>Loss of immovable assets and community infrastructure</p> <p>Pressure on existing social and physical infrastructure</p> <p>Loss/alteration of historic resources and places of cultural importance</p> <p>Loss of communal resources</p> <p>Disruption of social networks and support systems</p> <p>Migration (temporary workers and infrastructure needs)</p>	<p>Replacement of community infrastructure, especially around areas of direct impact and in host communities</p> <p>Cooperative community development and infrastructure planning</p> <p>Avoidance; excavation and preservation of resource</p> <p>Replacement and/or enhanced communal resources</p> <p>Resettlement planning, if appropriate, to keep extended families and sub-communities together</p> <p>Planning for temporary workforce</p>

Table 9-1 Potential Issues and Mitigation for the TFM Project (continued)

Discipline Category	Potential Impacts	Potential Mitigation
	<p>Economic/Income Effects</p> <p>Inflation</p> <p>Income effects (increased inequality, competition for jobs, increased demands on disposable income)</p> <p>Loss of incomes at closure</p>	<p>Enhance community support systems/development</p> <p>Economic and social programming; proactive local employment and procurement; opportunities for training and employment with the project and assistance with business development</p> <p>Cooperative efforts with stakeholders during operations to plan for closure; reclamation planning designed to meet the needs of local stakeholders</p>
	<p>Cultural and Social Change</p> <p>Loss of traditional rights to the land, which are intimately related to history on the land</p> <p>Social conflict in host communities</p> <p>Cultural change (dissimilarity in age, gender, racial or ethnic composition)</p>	<p>Compensation for land and resource use; return to title holder at closure</p> <p>Dispute resolution mechanisms; community policing</p> <p>Comprehensive workforce management program; cultural awareness program for expatriate staff; community initiatives</p>

10 NEXT STEPS IN THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT PROCESS¹⁹

The ESIA is currently in the draft stage, where mitigation and impacts have been identified.

It also summarizes the issues identified through December 2006. The draft ESIA will be the focus of the upcoming consultation program in late 2006.

Following a comment period, the issues raised by stakeholders, together with those of technical specialists and regulatory authorities, will be captured in the final ESIA report.

In this way, the issues of stakeholders will assist to drive the ESIA process.

September 2006: Posting of draft English ESIA report and draft French summary ESIA report.

November 2006: Open houses and community meetings.

November 2006: Comments provided by stakeholders during the public review period will be reflected in an updated issues and response report (with responses by the ESIA project team), which will accompany the final ESIA report. The final ESIA report will be updated to incorporate stakeholders' comments, where appropriate, and lodged with the DRC authorities.

Early 2007: All stakeholders will be informed (in writing and by community visits) of the status of the ESIA.

¹⁹ This section has been modified to reflect the current (February 2007) status of the ESIA process.

11 REFERENCES

Burgess, N., J D'Amico Hales, E. Underwood, E. Dinerstein, D. Olson, I. Itoua, J. Schipper, T. Ricketts and K. Newman. 2004. Terrestrial Ecoregions of Africa and Madagascar: A Conservation Assessment. Island Press, Washington, DC. 501 pp.

Knight Piesold. 1997. Tenke Mine Seismic Risk Analysis.

Leteinturier, B., A.J.M. Baker and F. Malaisse. 1999. Early Stages of Natural Revegetation of Metalliferous Mine Workings in South Central Africa: a Preliminary Survey. *Biotechnol. Agron. Soc. Environ.* 3: 28-41.

World Bank Extractive Industries Review. 2003. Website: <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTOGMC>

WWF (World Wildlife Fund). 2001. Angolan Miombo Woodlands. Website: http://www.worldwildlife.org/wildworld/profiles/terrestrial/at/at0701_full.html [accessed April 7, 2006].

12 ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ALBA	Association laïque pour les bambins d’Afrique
ARD	acid rock drainage
ARMC	Amended and Restated Mining Convention
BID	Background Information Document
CadnaA	computer aided noise abatement model
CMN	Calcaire Mineralise Noir (Black Mineralized Limestone)
Co	cobalt
CTB	Coopération Technique Belge
dB(A)	‘A’ weighted decibels
DRC	Democratic Republic of the Congo
e.g.	for example
EPA	Environmental Protection Agency
EP	Equator Principles
ESIA	environmental and social impact assessment
FS	feasibility study
Gécamines	La Générale des Carrières et des Mines
ha	hectares
HIV	Human Immunodeficiency Virus
I&APs	interested and affected parties
i.e.	that is
IFC	International Finance Corporation
IFESH	International Foundation for Education and Self Help
ISO	International Organization for Standardization
IUCN	International Union for the Conservation of Nature
km	kilometers
LHL	Lundin Holdings Ltd.
m	meters
mamsl	meters above mean sea level
mbgl	meters below ground level
mg/L	milligrams per liter
ML	metals leaching
mL	milliliter
MnO ₂	manganese dioxide
MONUC	Mission Observation de UN for Congo

Ms	magnitude scale
MSF	Médecins Sans Frontières
NGO	non-governmental organization
OMS	World Health Organization Congo
OP	Operational Policy
PDC	Phelps Dodge Corporation
RAT	Roche Argileuse Talqueuse (Argillic Talcose Rocks)
RSA	regional study area
S.A.R.L.	société à responsabilité limitée
SD	Schistes/Argiles Dolomitiques (Basal Dolomitic Shale)
SEASSCAM	organization of artisanal miners, Kolwezi
SO ₂	sulfur dioxide
t/a	tonnes per annum
TFM	Tenke Fungurume Mining
ToR	terms of reference
UMCOR	United Methodist Committee of Relief
UN OCHA	United Nations Office for Coordination of Humanitarian Affairs
US EPA	United States Environmental Protection Agency
USAID	United States Agency for International Development
WHO	World Health Organization
WWF	World Wildlife Fund

13 GLOSSARY

acute effect	Acute effect refers to a stimulus severe enough to rapidly induce an effect.
ambient	The conditions surrounding an organism or area.
anticline	In structural geology, an anticline is a fold that is convex to the youngest beds. On a geologic map, anticlines are usually recognized by a sequence of rock layers that are progressively older toward the center of the fold.
aquifer	A permeable body of rock or soil that stays and transmits groundwater in sufficient quantity to supply wells.
attenuation	Reduction in the volume or intensity of sound.
biodiversity	Quantity of plant and animal species found in a given environment.
cadastral office	Agencies that maintain cadastral survey and historical data on lands patented, along with information on the mineral estate, resource conditions, and permits or leases.
capacity building	Actions that improve non-profit effectiveness. The concept of capacity building in non-profits is similar to the concept of organizational development, organizational effectiveness and/or organizational performance management in for-profits. Capacity building efforts can include a broad range of approaches, e.g., granting operating funds, granting management development funds, providing training and development sessions, providing coaching, supporting collaboration with other nonprofits, etc.
cathode	A cathode is the electrode at which electrons go into a cell, tube or diode, whether driven externally or internally.
Chef de Cité	Civil administrators of rural townships.
Chef de Groupement	Traditional authorities who supervise several village populations.
Chef de Poste	Civil administrators of rural townships.
Chef de Quartier	Neighborhood representatives of Chefs de posts or Chefs de cité.
Chef de Terre	Traditional authorities who manage land allocation under a customary land tenure regime.
chronic effect	An effect marked by long duration or frequent recurrence.
climate	A measure of the long-term averages, i.e., normal, of key atmospheric variables such as temperature, precipitation and wind.
concession area	The area within which TFM has the mining rights.
continuous cast copper rod	Continuous cast copper rod is the key material used in the manufacturing of wire and cable products.

copper cathode	Electrolytically refined copper is produced in the form of copper cathodes of 99.9 percent purity which may be shipped as melting stock to mills or foundries. Cathodes also may be cast into wire rod, billets, cakes or ingots, generally, as pure copper or alloyed with other metals.
copper-cobalt flora	Plant communities of the copper/cobalt mineralized outcrops in Katanga Province. Different plant communities are controlled by the nature of the substratum and its chemical composition. These communities in the study area are important because they include some plants unknown from other mineralized areas in Katanga.
dB(A)	A decibel value which has been A-weighted, or filtered, to match the response of the human ear.
decibel (db)	A logarithmic scale for sound corresponding to a multiple of 10 of the threshold of hearing. Decibels for sound levels in air are referenced to an atmospheric pressure of 20 μ Pa.
dambo	Seasonally or permanently wet grassy valleys, depressions or seepage zones on slopes.
drawdown	In open pit mining, drawdown is the lowering of the hydraulic head in an aquifer, due to pumping groundwater from the pit.
effluent	Effluent is an outflowing of water from a man-made structure such as a process plant or tailings facility.
electrowinning	Also called electrorefining or electroextraction, it is the electrodeposition of metals from their ores that have been put in solution or liquefied.
endangered species	A species facing imminent extinction or extirpation (no longer occurring in the country).
endemic species	Species which are restricted to a particular region and occur nowhere else.
Equator Principles	An industry approach for determining, assessing and managing environmental and social risk in project development.
evapotranspiration	Loss of water from the soil, both by evaporation from the soil surface and by transpiration from the leaves of the plants growing on it.
extinct	An organism (plant or animal) that is no longer alive or in existence.
fecal coliform	Bacteria that do not require, but can use, oxygen. Their presence in the water supply indicates recent contamination by human or animal feces.
fugitive emissions	A substance (gas, liquid or solid) discharged into the air from any source except those from stacks and vents. Typical sources include gaseous leakage from valves, flanges, drains, volatilization from ponds and lagoons, and open doors and windows. Typical particulate sources include bulk storage areas, open conveyors, construction areas or plant roads.

geomorphology	The scientific discipline concerned with the description and classification of the Earth's topographic features.
greenhouse gases	Greenhouse gases (GHG) are gaseous components of the atmosphere that contribute to the greenhouse effect. The major natural greenhouse gases are water vapor, which causes about 36-70 percent of the greenhouse effect on Earth (not including clouds); carbon dioxide, which causes between 9 to 26 percent; and ozone, which causes between 3 to 7 percent. Minor greenhouse gases include, but are not limited to: methane, nitrous oxide, sulfur hexafluoride, and chlorofluorocarbons.
groundwater	Water that occurs below the surface of the Earth, where it occupies spaces in soils or geologic strata.
Human Immunodeficiency Virus (HIV)	Retrovirus that causes AIDS.
key indicator species	Biological indicator species are unique environmental indicators as they offer a signal of the biological condition in a ecosystem. Using those bioindicators as an early warning of pollution or degradation in an ecosystem can help sustain critical resources. Key indicator species are actually groups or types of biological resources that can be used to assess environmental condition.
listed species	Species (plants or animals) usually listed by international or national organizations on their status of rarity.
macro-invertebrates	An invertebrate animal (animal without a backbone) large enough to be seen without magnification.
miombo woodland	Miombo is a type of deciduous woodland which covers a vast area of southern Africa.
mitigation	To cause to become less harsh or hostile.
open cast mining	A method of extracting rock or minerals from the earth by their removal from an open pit or borrow. The term is used to differentiate this form of mining from extractive methods that require tunneling into the earth.
ore	Aggregate of economically important minerals that is sufficiently rich to separate for a profit.
periphyton	Organisms (as some algae) that live attached to underwater surfaces.
reach (stream)	A reach in a stream is a section of the stream that has similar physical characteristics.
riparian	Relating to or located on the bank of a natural watercourse (as a river).
supernatant	Supernatant is the liquid, containing soluble compounds, that is left behind after a mixture is centrifuged or precipitated.
syncline	A trough of stratified rock in which the beds dip toward each other from either side.

tailings	Residue separated in the preparation of various products (as grain or ores).
visual aesthetics	Different types of construction introduced to a landscape may cause adverse effects to the landscape and surrounding properties in a variety of ways, including visually. Adverse visual effects can be caused by a change in aesthetic values or by obstruction of views.

ATTACHMENT I
ISSUES AND RESPONSE REPORT

(SEE APPENDIX E6)

ATTACHMENT II

**DRAFT ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT TERMS OF
REFERENCE**

(SEE APPENDIX E8)

ATTACHMENT III

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PROPOSED FORM OF ESIA TABLE OF CONTENTS

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- Hydrogeology
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- Surface Water and Sediment Quality
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- Major Hazards

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- Fauna
- Fish and Aquatic Habitat
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ATTACHMENT IV
COMMENT SHEET ON DRAFT SCOPING REPORT

Environmental and Social Impact Assessment (ESIA) for a Proposed Copper and Cobalt Mining and Processing Project in Katanga Province, Democratic Republic of the Congo

COMMENT SHEET ON DRAFT SCOPING REPORT

Please complete and return by Friday, June 16 2006 to:

Local Contact

or

ESIA Public

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TITLE
INITIALS
ORGANISATION
ADDRESS
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FIRST NAME
SURNAME
POSTAL CODE
FAX NO
E-MAIL

COMMENTS (Please use separate pages if necessary)

1. Have your questions, concerns, issues and suggestions been captured in this Draft Scoping Report? If not, please indicate below.

2. Of the issues already covered, do you wish to add additional aspects that have not yet been mentioned?

3. Any other comments you may have.

We thank you for your comments.

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT
VOLUME E: GENERAL APPENDICES
SECTION E5

STAKEHOLDER DATABASE

Submitted to:

Tenke Fungurume Mining S.A.R.L. (TFM)
Democratic Republic of the Congo

March 2007

05-1334-035

Full Stakeholder Database

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
-	-	-	Caritas Democratic Republic of the Congo	Kinshasa	Democratic Republic of the Congo
-	-	-	Action Against Hunger	New York	United States of America
-	-	-	Amnesty International	New York	United States of America
-	-	-	Center for International Conflict Resolution (CICR)	New York	United States of America
-	-	-	CMC Lubumbashi	Lubumbashi	Democratic Republic of the Congo
-	-	-	Food and Agriculture Organization – (FAO)	Accra	Ghana
-	-	-	Food for the Hungry	Phoenix	United States of America
-	-	-	Foundation for International Community Assistant (FINCA)	Washington DC	United States of America
-	-	-	International Monetary Fund (IFM)	Washington DC	United States of America
-	-	-	Multilateral Investment Guarantee Agency (MIGA)	Washington DC	United States of America
-	-	-	Muroahi Institute	Kolwezi	Democratic Republic of the Congo
-	-	-	Overseas Private Investment Corporation (OPIC)	Washington DC	United States of America
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Full Stakeholder Database (continued)

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
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Mr.	Richard	Arkutu	International Finance Corporation (IFC)	Washington DC	United States of America
Mr.		Assumani	Gécamines	Lubumbashi	Democratic Republic of the Congo
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Mr.	Trinite	Banza	Union Nationale des Travailleurs du Congo (UNTC)	Lubumbashi	Democratic Republic of the Congo
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Mr.	Peter	Bell	CARE USA	Atlanta	United States of America
Mr.	Kamanola	Bemonol	Agri	Mpala Village	Democratic Republic of the Congo
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Ms.	Emly	Bild	Global Witness Publishing Inc	London	United Kingdom
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Full Stakeholder Database (continued)

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Full Stakeholder Database (continued)

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Full Stakeholder Database (continued)

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Full Stakeholder Database (continued)

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Full Stakeholder Database (continued)

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Full Stakeholder Database (continued)

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Mr.	Victor	Kaleng - a Mbumb	Bureau Diocésain pour le Développement (BDD)	Kolwezi	Democratic Republic of the Congo
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Mr.	Flory	Kalumbua-Nsenga	University of Lubumbashi	Lubumbashi	Democratic Republic of the Congo
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Mr.	Jea-Piane	Kalunga	Maçon	Lubumbashi	Democratic Republic of the Congo

Full Stakeholder Database (continued)

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
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Mr.	Jacques	Kanyembo	Agence Nationale de Renseignement (ANR)	Kolwezi	Democratic Republic of the Congo
Chief	Martin	Kapapa		Kwatebala Village	Democratic Republic of the Congo
Mr.	Daniel	Kapend	Artisanal Miners of Katanga (EMAK)	Lubumbashi	Democratic Republic of the Congo
Mr.	Francois	Kapenda-Lureka	Chef de Cité Fungurume	Fungurume	Democratic Republic of the Congo
Mr.	Laurel	Kapesa	United States Agency for International Development (USAID)	Kinshasa	Democratic Republic of the Congo
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Mr.	Samba	Kaputo	National Security Advisor	Lubumbashi	Democratic Republic of the Congo

Full Stakeholder Database (continued)

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
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Full Stakeholder Database (continued)

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Full Stakeholder Database (continued)

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
Mr.	Marcel	Kimpoto		Lubumbashi	Democratic Republic of the Congo
Mr.	Balt	Kinenkinda	Ceramiste	Lubumbashi	Democratic Republic of the Congo
Mr.	Jerome	Kitambo		Kamunga Kitambo Village	Democratic Republic of the Congo
Mr.	Luhembe	Kitenge	Office des Douanes et Accises (Customs and Excise) (OFIDA)	Lubumbashi	Democratic Republic of the Congo
Mr.	Gilbert	Kitungua-Mboya	Chef de bloc Munongo	Lubumbashi	Democratic Republic of the Congo
Mr.	David	Kitwa		Lubumbashi	Democratic Republic of the Congo
Mr.	Edgar	Kivu	B S G D	Lubumbashi	Democratic Republic of the Congo
Mr.	Christian	Kiwanuka	Gécamines/HST	Lubumbashi	Democratic Republic of the Congo
Mr.	Kevin	Kockott	International Belting and Marketing	Celcourt	South Africa
Mr.	Tito	Kodiaga	Environmental Sans Frontiers (ESF) Consultants	Nairobi	Kenya
Mme.	Belinda	Kofwumbu Mujinga	Bureau Diocésain pour le Développement (BDD)	Kolwezi	Democratic Republic of the Congo
Mme.	Chantal	Kon Kayombo	Caritas/Katanga	Lubumbashi	Democratic Republic of the Congo
Mr.	Boniface	Konde Muwela	Association Socio-Culturelle Lwanzo Lwa Mikuba	Lubumbashi	Democratic Republic of the Congo
Ms.	Nelly	Konkuba wa Mangi	Mangombo Institute Tenke	Likasi	Democratic Republic of the Congo
Dr.	Kwame	Koranteng	World Wildlife Foundation	Nairobi	Kenya
Mr.	Jacques	Kot-Kapend		Lubumbashi	Democratic Republic of the Congo
Mr.	Aziz	Kumbi	Ministère de la Santé	Kinshasa	Democratic Republic of the Congo

Full Stakeholder Database (continued)

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
Mr.	Jean-Claude	Kunda-Bwanga	SAESSCAM	Kolwezi	Democratic Republic of the Congo
Mr.	Paulin	Kusemwa	SAESSCAM	Kolwezi	Democratic Republic of the Congo
Mr.	Didier	Kuwena-Katunga	Secrétarie de Promotion Deuxième Graduat	Lubumbashi	Democratic Republic of the Congo
Mr.	Jose	Kwabita	SAESSCAM	Kolwezi	Democratic Republic of the Congo
Mr.	Guzo	Kweni	DRC Embassy Ndola	Ndola	Zambia
Chief		Kyabondo		Kyabondo Village	Democratic Republic of the Congo
Mr.	Mutombo	Kyamosa	Autorite e regulation des Communications	Kinshasa	Democratic Republic of the Congo
Chief	Mulumbu	Kyansa		Kyansa Village	Democratic Republic of the Congo
Mr.	Godefroid	Kyembe-Mukanda Bantu	Secrétaire Administratif - Fungurume	Fungurume	Democratic Republic of the Congo
Mr.	Guylain	Kyenge	Office of the Governor of Katanga	Lubumbashi	Democratic Republic of the Congo
Mr.	Boniface	Kyungu	Administration Publique (Mines)	Kolwezi	Democratic Republic of the Congo
Mr.	Gilbert	Kyungu-Shimbi	Eglise/New Jerusalem Church	Lubumbashi	Democratic Republic of the Congo
Mr.	Serge	Kyungu-Simbi	University of Lubumbashi	Lubumbashi	Democratic Republic of the Congo
Mr.	Yves	Laplume	Radio Okapi	Kinshasa	Democratic Republic of the Congo
Mr.	Robert	Lavallier	Anvil Mining	Lubumbashi	Democratic Republic of the Congo
Mr.	Maz	Lenge		Tenke	Democratic Republic of the Congo

Full Stakeholder Database (continued)

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
Mr.	Steve	Lenge-Njenge-Kiseba		Lubumbashi	Democratic Republic of the Congo
Mr.	Gabin	Lex		Lubumbashi	Democratic Republic of the Congo
Mr.	Tunntu	Lissu	Lawyers' Environmental Action Team (LEAT)	Dar es Salaam	Tanzania
Mr.	Kashiki	Longo	Chef de quartier	Nguba Village	Democratic Republic of the Congo
Mr.	Jeff	Lubadi	Federation Nationale de Theartre (FENATH-Katanga)	Lubumbashi	Democratic Republic of the Congo
Mr.	Jean	Lue-Roy	First Quantum	Lubumbashi	Democratic Republic of the Congo
Prof.	Kahumba	Lufunda	University of Lubumbashi	Lubumbashi	Democratic Republic of the Congo
Mr.	Chislain	Lufunga Mboka	Police B R G S	Lubumbashi	Democratic Republic of the Congo
Mr.	Rose	Lukano	Mwangaza Radio and Television	Lubumbashi	Democratic Republic of the Congo
Mr.	Mukoko-Jean	Lukinga	ANR (Agence Nationale de Renseignement)	Kolwezi	Democratic Republic of the Congo
Chief	Binza	Lukotola		Lukotola Village	Democratic Republic of the Congo
Chief	Eddie-Antoine	Lukotola		Lukotola Village	Democratic Republic of the Congo
Chief	Kasono	Lukotola		Lukotola Village	Democratic Republic of the Congo
Mr.	Kamate	Lukundu	Ministère de l'Education	Kinshasa	Democratic Republic of the Congo
Mr.	Mulobe	Lukwesa	Institution Scolaire Secondaire Catholique Nangombo	Tenke	Democratic Republic of the Congo
Mr.	Raymond	Lumbuenamo	World Wildlife Foundation	Kinshasa	Democratic Republic of the Congo

Full Stakeholder Database (continued)

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
Mr.	Maloba	Lumpungu	Eveil du Matin Journal	Lubumbashi	Democratic Republic of the Congo
Mr.	Patient	Lungala-Kavinga	Prépolytechnique, Chef de Promotion	Lubumbashi	Democratic Republic of the Congo
Mr.	Juvénal	Lungange	Caritas-Congo	Lubumbashi	Democratic Republic of the Congo
Mr.	Christian	Lusakweno	Top Congo Radio	Lubumbashi	Democratic Republic of the Congo
Mr.	Aldophe	Lusato		Tenke	Democratic Republic of the Congo
Chief	Edmund	Lutanda		Lutanda Village	Democratic Republic of the Congo
Mr.	Ilunga	Lwanza	SNCC	Kolwezi	Democratic Republic of the Congo
Mr.	Abel	M'budi		Lubumbashi	Democratic Republic of the Congo
Mr.	Bene	M'Poko	Ambassade de la Republique Democratique do Congo	Arcadia	South Africa
Mr.	Bouny Baba	Mabamba	Le Tribune du Perle	Lubumbashi	Democratic Republic of the Congo
Ms.	Maia	Majikiza	SRK Consulting	Northlands	South Africa
Mr.	Kenneth	Makali	Vodacom	Lubumbashi	Democratic Republic of the Congo
Mr.	Floribert	Makunko		Lubumbashi	Democratic Republic of the Congo
Mr.	Pierre	Malenge-Ntita-K	University of Lubumbashi	Lubumbashi	Democratic Republic of the Congo
Mr.	Pascal	Maloba	Presse	Lubumbashi	Democratic Republic of the Congo
Mr.	Abdon	Maloba	Tourisme	Fungurume	Democratic Republic of the Congo

Full Stakeholder Database (continued)

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
Mr.	Jean	Maluena Kahingi	S/COMP	Tenke	Democratic Republic of the Congo
Mr.	Tasinda	Malumba	Garantie Sociale des Travailleurs (GST)	Lubumbashi	Democratic Republic of the Congo
Mr.	Jean	Malwena	Police Nationale	Tenke	Democratic Republic of the Congo
Mr.	Jean-Pierre	Malwena	SAESSCAM	Kolwezi	Democratic Republic of the Congo
Mr.	Sabin	Mande	ONG Youth Work Protector	Lubumbashi	Democratic Republic of the Congo
Mr.	Raoel	Manga	Agence Nationale de Renseignement (ANR) Kolwezi Airport	Kolwezi	Democratic Republic of the Congo
Mr.	Raphaella	Manyonga	AFEOA	Lubumbashi	Democratic Republic of the Congo
Mr.	Serge	Mapam-Imwer	Premier Grade Chimie Industrielle, Chef de Promotion	Lubumbashi	Democratic Republic of the Congo
Chief	Denis	Mapanga Salama		Mwela Mpande Village	Democratic Republic of the Congo
Mr.	Jean Jacques	Mapas	Chef de Poste Tenke	Tenke	Democratic Republic of the Congo
Mr.	Aaron	Marshall	United Methodist Committee of Relief (UMCOR)	Lubumbashi	Democratic Republic of the Congo
Chief	Kibutu	Masamba Polycarpe		Kasanga Village	Democratic Republic of the Congo
Mr.	Timothee	Masambu	Association de Famirles Pour (AFEOA)	Lubumbashi	Democratic Republic of the Congo
Mme.	Helene	Masangu	BUMI	Lubumbashi	Democratic Republic of the Congo
Mr.	Zac	Mashala	Ruashi Holdings (PTY) Ltd	Johannesburg	South Africa
Chief	Kilondu	Masumu		Lukotola Village	Democratic Republic of the Congo

Full Stakeholder Database (continued)

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
Mr.		Mauro	DGM Kolwezi	Kolwezi	Democratic Republic of the Congo
Mme.	Mamie	Mayembe-Makej	Service des Mines	Lubumbashi	Democratic Republic of the Congo
Mme.	Mamie	Mayembe-Nawey	Administration Publique (Mines)	Kolwezi	Democratic Republic of the Congo
Mr.	Martin	Mayumba		Lubumbashi	Democratic Republic of the Congo
Mme.	Mamie	Mbemba-Nguz		Fungurume	Democratic Republic of the Congo
Mr.	Paul	Mboyo	Commandant Police des Mines	Lubumbashi	Democratic Republic of the Congo
Mr.	Junior	Mbuya-Thom'o	University of Lubumbashi	Lubumbashi	Democratic Republic of the Congo
Mr.	Mapassa	Mbuyi wa Kilwa	Chef de Poste Tenke	Tenke	Democratic Republic of the Congo
Mr.	Jean-Francois	Mbuyi Lwambiyi Kalenga	University of Lubumbashi	Lubumbashi	Democratic Republic of the Congo
Mme.	Thérèse	Mbwaya	Caritas-Congo	Lubumbashi	Democratic Republic of the Congo
Mr.	Landry	Mbwesela		Lubumbashi	Democratic Republic of the Congo
Ms.	Joellen	McGann	International Foundation for Education and Self Help (IFESH)	Lubumbashi	Democratic Republic of the Congo
Ms.	Beatrice	Mchome	East Africa Resource Group	Dar es Salaam	Tanzania
Mr.	Ben	Mellor	Extractive Industries Transparency Initiative (EITI)	London	United Kingdom
Mr.	Yabidi	Mignon		Lubumbashi	Democratic Republic of the Congo
Mr.	Norman	Mlambo	Africa Institute of South Africa (AISA)	Pretoria	South Africa
Mr.	Malimbi-Sikubazi	Moïse		Tenke	Democratic Republic of the Congo

Full Stakeholder Database (continued)

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
Mr.	Paul-Moïse	Moma-Kyungu	Secrétaire Cité - Fungurume	Fungurume	Democratic Republic of the Congo
Prof.	Emil	Mota-Ndongo	University of Lubumbashi	Lubumbashi	Democratic Republic of the Congo
Chief		Motaka		Motaka li Village	Democratic Republic of the Congo
Mr.	Randolph	Mouton	Social Impact Assessment and Policy Analysis Corporation	Windhoek	Namibia
Chief		Mpala		Mpala Village	Democratic Republic of the Congo
Chief	Mwela	Mpanda		Mwela Mpanda Village	Democratic Republic of the Congo
Dr.	Bosenge Louis	Mpia	World Health Organisation (OMS)	Lubumbashi	Democratic Republic of the Congo
Mr.		Mpungwe	Department des mines (Kolwezi)	Kolwezi	Democratic Republic of the Congo
Mr.	Robert	Muanza-Dikamba	University of Lubumbashi	Lubumbashi	Democratic Republic of the Congo
Mme.	Hortensia	Mubamba		Lubumbashi	Democratic Republic of the Congo
Mr.	Richard	Mubonga		Lubumbashi	Democratic Republic of the Congo
Mr.	Teddy	Mucail	Presse	Lubumbashi	Democratic Republic of the Congo
Mr.	Laurent	Muchaila-Muanda		Fungurume	Democratic Republic of the Congo
Mr.	Patrick	Mudekereza	Halle des Etoile Magazone Nzenze	Lubumbashi	Democratic Republic of the Congo
Mr.	Nyembue	Mudingo	Carte Blanche	Lubumbashi	Democratic Republic of the Congo

Full Stakeholder Database (continued)

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
Mr.	Pascal	Muhindu Songe	CAMI / Env Minier	Fungurume	Democratic Republic of the Congo
Mr.	Kakoka	Muibo-F	Greffier Préposé	Tenke	Democratic Republic of the Congo
Madame	Kabera	Mujijima Bora	Division de la Famille	Lubumbashi	Democratic Republic of the Congo
Mme.	Therésè	Mujinga-Itamba	Bureau Diocésain pour le Développement (BDD)	Kolwezi	Democratic Republic of the Congo
Mr.	Banza	Mukala-Hanga	Hotel Karavia et DFI	Lubumbashi	Democratic Republic of the Congo
Mr.	Samy	Mukanza	Societe Civile du Katanga	Lubumbashi	Democratic Republic of the Congo
Mr.	King de Kang	Mukasa-Ngweji		Fungurume	Democratic Republic of the Congo
Mr.	Robert	Mukaz Kaumb	Mines Department (Katanga)	Lubumbashi	Democratic Republic of the Congo
Mr.	Francis	Mukebo	Institut Mangombo	Tenke	Democratic Republic of the Congo
Mr.	Ernest	Mukekwa	SAESSCAM	Kolwezi	Democratic Republic of the Congo
Prof.	Adelard	Mukekwa-Kafuku		Tenke	Democratic Republic of the Congo
Mr.	Mazabula	Mukembe	University of Lubumbashi	Lubumbashi	Democratic Republic of the Congo
Mr.	David-Albert	Mukogay-Kalej	University of Lubumbashi	Lubumbashi	Democratic Republic of the Congo
Mr.	Didier	Mukosha	SAESSCAM	Kolwezi	Democratic Republic of the Congo
Mr.	Michael	Mulaj-Tshibang	Prépolytechnique	Lubumbashi	Democratic Republic of the Congo

Full Stakeholder Database (continued)

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
Chief		Muleji		Mulumbu Village	Democratic Republic of the Congo
Mr.	Johnny	Muleka-Kyona	Chef de Promotion Premier Grade Métallurgie	Lubumbashi	Democratic Republic of the Congo
Mr.	Charles	Mulenda Lubangi	Gécamines/HST	Lubumbashi	Democratic Republic of the Congo
Mr.	Camil	Mulimbi	Etudianten Droit	Lubumbashi	Democratic Republic of the Congo
Mr.	Jean-Claude	Mulolwa	A S B L Foundation - Maisha	Lubumbashi	Democratic Republic of the Congo
Mr.	Prosper	Mulongo	Caritas/Katanga	Lubumbashi	Democratic Republic of the Congo
Mr.	Elie	Muluba-Giongega	Haute Autorite des Medias	Lubumbashi	Democratic Republic of the Congo
Chief	Kazadi	Mulumbu		Mulumbu Village	Democratic Republic of the Congo
Pastor	Theodore	Mulunda	New Methodist Church	Kinshasa-Gombe	Democratic Republic of the Congo
Mr.	Bernard	Mumba	Du Journal le Reseau	Lubumbashi	Democratic Republic of the Congo
Mr.	Marcel	Mumba	Presse	Lubumbashi	Democratic Republic of the Congo
Prof.	Chaba	Mumba	University of Lubumbashi	Lubumbashi	Democratic Republic of the Congo
Mr.	Rosy	Mumboi	SAESSCAM	Kolwezi	Democratic Republic of the Congo
Mr.	Simon	Munga	Caritas/Katanga	Lubumbashi	Democratic Republic of the Congo
Mr.	Kinga	Munkinkwe	Gécamines	Lubumbashi	Democratic Republic of the Congo

Full Stakeholder Database (continued)

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
Chief	Mwenda-Bantu	Munongo-Godefroid	Mwami des Bayeke et du Garengaze	Bayeke	Democratic Republic of the Congo
Mr.	Zakarie	Munyumba	ANR (Agence Nationale de Renseignement) Kolwezi	Kolwezi	Democratic Republic of the Congo
Prof.	Rukudzo	Murapa	Africa University	Mutare	Zimbabwe
Mlle.	Althea	Musah	United States Agency for International Development (USAID)	Lubumbashi	Democratic Republic of the Congo
Mr.	Placide	Musonga-Chibamb	University of Lubumbashi	Lubumbashi	Democratic Republic of the Congo
Mr.	Francis	Mussebo wa Museka	Mangombo Institute Tenke	Tenke Gare	Democratic Republic of the Congo
Mr.	Robert-Tshime	Musunga	SAESSCAM	Kolwezi	Democratic Republic of the Congo
Prof.	Kalaba	Mutabusha	University of Lubumbashi	Lubumbashi	Democratic Republic of the Congo
Chief	Mwanga	Muteba		Mulumbu Village	Democratic Republic of the Congo
Mr.	Jean-Pierre	Muteba	Nouvelle Dynamique Syndicale	Lubumbashi	Democratic Republic of the Congo
Mr.	Thon	Muteba-Ilunga	Chef de Promotion Toutes Sections	Lubumbashi	Democratic Republic of the Congo
Mr.	Maithe	Mutenke	RECONFORT	Lubumbashi	Democratic Republic of the Congo
Mr.	Charles	Mutewo	Chombo Chetu	Lubumbashi	Democratic Republic of the Congo
Mr.	George	Mutombo-Chineyi	Environnement C.N et Conservation de la Nature	Lubumbashi	Democratic Republic of the Congo
Mr.	Bernard	Mutonkole-Kiyaboyabo	UNPC	Kolwezi	Democratic Republic of the Congo
Mr.	Kasongo	Mutshaila	World Vision	Lubumbashi	Democratic Republic of the Congo

Full Stakeholder Database (continued)

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
Mr.	Jean-Claude	Muyambo	Muyambo Associates	Lubumbashi	Democratic Republic of the Congo
Mr.	Olivier	Muyumba	Agence Nationale de Renseignement (ANR)	Kolwezi	Democratic Republic of the Congo
Mr.	Honore	Muyumba Mpiana	Direction General of Migration	Lubumbashi	Democratic Republic of the Congo
Mr.	Eva	Mwakasa	Ministère des Transports et des Communications	Kinshasa	Democratic Republic of the Congo
Mr.	Odon	Mwamba	La Grogne Presse	Lubumbashi	Democratic Republic of the Congo
Mr.	Mujunga	Mwandu	Préfet de Etudes	Lubumbashi	Democratic Republic of the Congo
Mr.	André	Mwawok	Administration Publique (Mines)	Kolwezi	Democratic Republic of the Congo
Chief	Leonard	Mwela Mpande Kasongo		Mwela Mpande Village	Democratic Republic of the Congo
Mr.	Mathieu	Mwelwa	Agence Nationale de Renseignement (ANR)	Kolwezi	Democratic Republic of the Congo
Mr.	Valentin	Mwente	Police SNCC	Tenke	Democratic Republic of the Congo
Mr.	Honore	Mwenzé	University of Lubumbashi	Lubumbashi	Democratic Republic of the Congo
Mr.	Jerome	Mwepu	UNPC	Kolwezi	Democratic Republic of the Congo
Mr.	Pathy	Mwepu-Kitenge	Chef de Promotion Grade 2 Mines	Lubumbashi	Democratic Republic of the Congo
Mr.	Evrard	Mwilambwe		Lubumbashi	Democratic Republic of the Congo
Mm.	Yav	Nanou		Lubumbashi	Democratic Republic of the Congo

Full Stakeholder Database (continued)

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
Mlle.	Carine	Ndayi		Lubumbashi	Democratic Republic of the Congo
Mr.	Thierry	Ndol-a-Makund	Deligue' Adjoint de la Promotion	Lubumbashi	Democratic Republic of the Congo
Ms.		Neway	Service Urbain de Mines	Kolwezi	Democratic Republic of the Congo
Mr.	Didier	Ngandu-Muteba		Lubumbashi	Democratic Republic of the Congo
Prof.	Mulumbati	Ngasha	University of Lubumbashi	Lubumbashi	Democratic Republic of the Congo
Mr.	Richard	Ngenda-Banka	University of Lubumbashi	Lubumbashi	Democratic Republic of the Congo
Mr.	Richard	Ngoie	Institut Nuru Pour Enfants Eveugles	Lubumbashi	Democratic Republic of the Congo
Mr.	Dassain	Ngoie	SAESSCAM	Kolwezi	Democratic Republic of the Congo
Mr.	Patrice	Ngola		Lubumbashi	Democratic Republic of the Congo
Mr.	Patrick	Ngola		Lubumbashi	Democratic Republic of the Congo
Mr.	Sebat	Ngole	MED-VET	Lubumbashi	Democratic Republic of the Congo
Mr.	Reagen	Ngole wa Kumbwa	De'legve' des Endiants en Polytechnique	Lubumbashi	Democratic Republic of the Congo
Colonel	Masiala	Ngoma	National Police	Lubumbashi	Democratic Republic of the Congo
Mr.	Jeannot	Ngombe	Radio Reveil Afrika	Lubumbashi	Democratic Republic of the Congo
Prof.	Michel	Ngongo	University of Lubumbashi	Lubumbashi	Democratic Republic of the Congo

Full Stakeholder Database (continued)

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
Mr.	Kasongo	Ngoy		Lubumbashi	Democratic Republic of the Congo
Mr.	Kisula	Ngoy		Lubumbashi	Democratic Republic of the Congo
Mr.	Kabula	Ngoy	Mangombo Institute	Tenke	Democratic Republic of the Congo
Dr.	Huges	Ngoy	Mulolo Medical Center	Kolwezi	Democratic Republic of the Congo
Dr.	Ararsene	Ngoy	Mulolo Medical Center	Kolwezi	Democratic Republic of the Congo
Mr.	Nouffiun	Ngoy Kayombo	J Le Lushois	Lubumbashi	Democratic Republic of the Congo
Mr.	Peter	Ngoy-Kaodi	Action Against Human Rights Abuses (ACIDH)	Lubumbashi	Democratic Republic of the Congo
Mr.	Richard	Ngoy-Kitangala	Caritas-Congo	Lubumbashi	Democratic Republic of the Congo
Mr.	Adulin	Ngoy-Musand	Gécamines/HST	Lubumbashi	Democratic Republic of the Congo
Mr.	Tridon	Ngoy-Mwilambwe	SANTE	Kolwezi	Democratic Republic of the Congo
Chief		Nguba		Nguba Village	Democratic Republic of the Congo
Mr.	Benoit	Nienhaus	Katongola Farming Company (GRELKA)	Lubumbashi	Democratic Republic of the Congo
Mr.	Dede	Nina		Lubumbashi	Democratic Republic of the Congo
Prof.	Steven	Njuguna	SPARVS Agency Limited	Lumuru	Kenya
Mr.	Alphonse Devos	Nkashama	Quiproquo / Journal	Lubumbashi	Democratic Republic of the Congo
Major		Nkulu	FAE Kolwezi	Kolwezi	Democratic Republic of the Congo

Full Stakeholder Database (continued)

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
Mr.	Gauthier	Nkulu-Kilumba		Kolwezi	Democratic Republic of the Congo
Mr.	Rene	Nolevaux	KOL	Lubumbashi	Democratic Republic of the Congo
Mr.	Jeannot	Nomba Kitwa	University of Lubumbashi	Lubumbashi	Democratic Republic of the Congo
Mr.	Valenpin	Nsenga	Ministère de l'Agriculture et de l'Herage	Kinshasa	Democratic Republic of the Congo
Mr.		Nsenga	Police Kolwezi	Kolwezi	Democratic Republic of the Congo
Mr.	John	Nsenga Longo		Lubumbashi	Democratic Republic of the Congo
Mr.	Papy	Numbi-Bubele	University of Lubumbashi	Lubumbashi	Democratic Republic of the Congo
Mr.	Banza	Nyanga	SAESSCAM	Kolwezi	Democratic Republic of the Congo
Mr.	Godlive	Nyemba	RTA	Lubumbashi	Democratic Republic of the Congo
Mm.	Mamy	Nyembo	Journal Les Immortels	Lubumbashi	Democratic Republic of the Congo
Mr.	Jacques	Nyembo-Kibeya	Radio Television Nationale Congolaise	Lubumbashi	Democratic Republic of the Congo
Prof.	Fulgence	Nyembo-Mateleka	Mangombo Institute Tenke	Tenke	Democratic Republic of the Congo
Mr.	Kibambe	Nyembwe	Agency Congolaise de Presse (ACP)	Kolwezi	Democratic Republic of the Congo
Mr.	Kalenga	Nyingika-S	Eglise - Kimbangui, Stedeteuke (Macon)	Lubumbashi	Democratic Republic of the Congo
Ms.	Karen	O'Donnell	United States Agency for International Development (USAID)	Washington DC	United States of America

Full Stakeholder Database (continued)

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
Mr.	Mike	O'Sullivan	Anvil Mining (Congo) Ltd	Lubumbashi	Democratic Republic of the Congo
Mr.	Auguy	Okese-Ohale	Médecin Généraliste	Fungurume	Democratic Republic of the Congo
Mr.	Laurent	Otete	Ministry of Social Issues	Kinshasa	Democratic Republic of the Congo
Mr.	Duncan	Oyaro	Environmentalistes Sans Frontieres	Nairobi	Kenya
Mr.	Moïse	Panga	Mujofi Connect	Lubumbashi	Democratic Republic of the Congo
Mr.	Mike	Parker	COMISA sprl (Filiale de First Quantum Minerals)	Lubumbashi	Democratic Republic of the Congo
Mr.	Tobias	Poesel	Geo Quest SPRL	Kolwezi	Democratic Republic of the Congo
Mr.	Ted	Pollett	Environmental and Social Development Department	Washington DC	United States of America
Mr.	Germain	Punengwe	D G N	Lubumbashi	Democratic Republic of the Congo
Dr.	Lile	Rabibisoa	PACT-Congo	Lubumbashi	Democratic Republic of the Congo
Mr.	Billy	Rautenbach	Congo Cobalt Corporation	Likasi	Democratic Republic of the Congo
Mr.	Thomas	Rogers	African Mineral (Barbados) Ltd	Lubumbashi	Democratic Republic of the Congo
Mr.	Christian	Roy	PACT Congo	Lubumbashi	Democratic Republic of the Congo
Ms.	Sarah	Ruck	Environmental and Social Development Department	Washington DC	United States of America
Mr.	Asungu	Sa Itela	SNEL (National Electricity Company)	Lubumbashi	Democratic Republic of the Congo
Mr.	Fortunato	Saidi Mpelo	SODAF-ONG	Lubumbashi	Democratic Republic of the Congo
Chief	Mangi	Salambwe		Lukotola Village	Democratic Republic of the Congo

Full Stakeholder Database (continued)

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
Mr.	Gabriele	Salmi	Association Laïque, pour les Bambins en ' Afrique (ALBA)	Lubumbashi	Democratic Republic of the Congo
Mr.	Luc	Samba	Administration Publique (Mines)	Kolwezi	Democratic Republic of the Congo
Mr.	Gloire	Sambul-Nfumwash	Procureur de la Republique	Lubumbashi	Democratic Republic of the Congo
Mr.	Joe	Sanduku	CRONG	Lubumbashi	Democratic Republic of the Congo
Mr.	Mordochee	Sangu Koji	Economiste de Formation	Lubumbashi	Democratic Republic of the Congo
Mr.	Mao	Sangwa		Lubumbashi	Democratic Republic of the Congo
Chief		Sanka		Lukotola Village	Democratic Republic of the Congo
Mr.	Jaco	Scheepers	Kirana Exporters	Birchleigh	South Africa
Mr.	Stansilas	Sebagenzi	Gécamines	Likasi	Democratic Republic of the Congo
Mr.		Segadeas	De Moura Enterprises	Kolwezi	Democratic Republic of the Congo
Mr.	Mbwalala-Jean	Semilwo	World Health Organisation (Congo) (OMS)	Lubumbashi	Democratic Republic of the Congo
Mr.	Steven	Sharp	International Foundation for Education and Self Help (IFESH)	Kinshasa-Gombe	Democratic Republic of the Congo
Mr.	Joel	Shin	The Scowcroft Group	Washington DC	United States of America
Mr.	Virgi	Shiraz	Chemaf Mining	Lubumbashi	Democratic Republic of the Congo
Mr.	Max	Siasia	Department for International Development (DFID)	Kinshasa	Democratic Republic of the Congo
Mr.	Mymy	Simbi	Top Cling	Lubumbashi	Democratic Republic of the Congo
Dr.	Alex	Sofianos	MetaChemica	Pretoria	South Africa

Full Stakeholder Database (continued)

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
Mr.	Songa	Songa		Lubumbashi	Democratic Republic of the Congo
Mr.	Paul	Sorcin	Le Generale des Carrieres et des Mines (Gécamines)	Lubumbashi	Democratic Republic of the Congo
Mr.	Sylvian	Spagnut	R P M Aداstra Affiliate	Kolwezi	Democratic Republic of the Congo
Mr.	Andrew	Spivey	First Quantum Mining (Anvil Mining)	Ndola	Zambia
Mr.	Cristian	Strickler	Phelps Dodge Corporation	Phoenix	United States of America
Mr.	Serge	Sumba	Lukotola Clinic	Lukotola Village	Democratic Republic of the Congo
Mr.	Alexis	Takizala	Mbuyu, Musafiri, Takizala and Nsenga Associates	Lubumbashi	Democratic Republic of the Congo
Mr.	Emmanuel	Tambwe-Kilela	University of Lubumbashi	Lubumbashi	Democratic Republic of the Congo
Dr.	Leonard	Tapsoba	World Health Organization – (WHO)	Brazzaville	Democratic Republic of the Congo
Mr.	Peter	Tarr	Southern African Institute for Environmental Assessment (SAIEA)	Windhoek	Namibia
Mr.	Jacques	Tata Nkulu	(Agence Nationale de Renseignement) Kolwezi ANR	Kolwezi	Democratic Republic of the Congo
		The Manager	Human Rights Watch	New York	United States of America
Mr.	Bemba	Theophile	Ministère de l'Intérieur (Home Affairs)	Kinshasa	Democratic Republic of the Congo
Mr.	Louis	Thole Tshigudu	Dir./ Contributions	Lubumbashi	Democratic Republic of the Congo
Mr.	John	Tibasima	Ministère de l'Urbanisme et de l'Habitat	Kinshasa	Democratic Republic of the Congo
Mr.	Eliane	Tsailobo		Lubumbashi	Democratic Republic of the Congo
Mr.	Adhemand	Tshibab Muteb	(Agence Nationale de Renseignement) ANR	Tenke	Democratic Republic of the Congo

Full Stakeholder Database (continued)

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
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Mr.	Grevisse	Tshibanda	Enseigmont Au Secondaire	Lubumbashi	Democratic Republic of the Congo
Mr.	Robert Aaron	Tshibang Mwamba	National Adjount Youth Work Protector	Lubumbashi	Democratic Republic of the Congo
Mr.	Paul	Tshibangu	La Press Ectrite La Verite	Lubumbashi	Democratic Republic of the Congo
Mr.	Jean	Tshibangu	SAESSCAM	Kolwezi	Democratic Republic of the Congo
Mr.	Christophe	Tshibinda-Koji	Chef de Promotion Adjont, G2 Chimie Industrielle,	Lubumbashi	Democratic Republic of the Congo
Ms.	G.	Tshilombo Tshibinda		Lubumbashi	Democratic Republic of the Congo
Mr.	Jean-Jacques	Tshimanga-Kalonji	University of Lubumbashi	Lubumbashi	Democratic Republic of the Congo
Dr.	Robert	Tshimpula	University of Lubumbashi	Lubumbashi	Democratic Republic of the Congo
Mr.	Kashinda	Tshiongo	RTNC/ Katanga	Lubumbashi	Democratic Republic of the Congo
Mr.	Hubert	Tshisakwa	Association for the Defence of Human Rights (ASADHO)	Lubumbashi	Democratic Republic of the Congo
Mr.	Marie-Etienne	Tumba Blanchard	Maison Amani Pour Filles Aban Donne	Lubumbashi	Democratic Republic of the Congo
Mr.	Bill	Turner	First Quantum Mining (Anvil Mining)	Lubumbashi	Democratic Republic of the Congo
Mr.	J.	va der Schueren	Radio Katanga	Aalst	Democratic Republic of the Congo
Mr.	Makenda	Voka	L' Observateur	Kinshasa	Democratic Republic of the Congo

Full Stakeholder Database (continued)

Mr. / Ms.	First Name	Last Name	Company	City / Town / Village	Country
Mr.	Kongolo	Wa Dila	FEC Lubumbashi	Lubumbashi	Democratic Republic of the Congo
Mr.	Ilunga-Jean Bptiste	wa Ilunga	Moniteur-Agricole	Tenke	Democratic Republic of the Congo
Mr.	Gotthard	Walser	World Bank	Washington DC	United States of America
Mr.	Marc	Walu		Lubumbashi	Democratic Republic of the Congo
Mr.	Alexi	Wanado	Ministry of Planning	Kinshasa	Democratic Republic of the Congo
Mr.	Matthew	Wazenga	SOS Congo	Lubumbashi	Democratic Republic of the Congo
Mr.	David	Wege	Birdlife International	Cambridge	United Kingdom
Mr.	Angoy	Wemalowa	Le Pari Congolias	Lubumbashi	Democratic Republic of the Congo
Mr.	Jeff	Whisenant	PACT	Washington DC	United States of America
Mr.	Mwant	Yav		Arund Village	Democratic Republic of the Congo
Mr.	Mukambe	Yav	Noteble de Mwela Mpande	Mwela Mpande Village	Democratic Republic of the Congo
Mr.	Bernard	Yumembudi Piango	OCC	Lubumbashi	Democratic Republic of the Congo
Mr.	Kongolo	Zeng	Gécamines	Lubumbashi	Democratic Republic of the Congo
Mr.		Zongwe	Gécamines	Lubumbashi	Democratic Republic of the Congo

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

VOLUME E: GENERAL APPENDICES

SECTION E6

ISSUES AND RESPONSE REPORT

Submitted to:

**Tenke Fungurume Mining S.A.R.L. (TFM)
Democratic Republic of the Congo**

March 2007

05-1334-035

Golder Associates

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR A PROPOSED
COPPER AND COBALT MINING AND PROCESSING PROJECT IN THE KATANGA
PROVINCE, DEMOCRATIC REPUBLIC OF THE CONGO**

**ISSUES AND RESPONSE REPORT
ACCOMPANYING THE DRAFT ENVIRONMENTAL AND SOCIAL
IMPACT ASSESSMENT REPORT
MARCH 2007**

This document records the issues of concern, suggestions for enhanced benefits and other comments contributed by stakeholders on the Environmental and Social Impact Assessment (ESIA) for the proposed Tenke Fungurume Mining (TFM) copper and cobalt mining and processing project in the Democratic Republic of the Congo (DRC).

The comments have been categorized and responded to in the body of this report according to the following topic areas:

- Need and desirability of the proposed project
- Air quality
- Water (surface and groundwater)
- Waste management and soils
- Noise and vibrations
- Visual aspects
- Fauna and flora
- Safety and health
- Infrastructure and transport
- Environmental management, monitoring and rehabilitation
- Socio-economic issues
- Informal mining
- Company conduct and policy
- Environmental and social impact assessment
- Suggestions for community development projects

The draft findings of the ESIA and the Issues and Response Report were made available for public review for three weeks, from Nov. 27 to Dec. 15, 2006. All comments on the draft findings have been incorporated into this Issues and Response Report, and responded to.

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ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
1 NEED AND DESIRABILITY OF THE PROPOSED PROJECT		
<p>Many stakeholders indicated they welcomed the project. They believe the project will bring the following benefits:</p> <ul style="list-style-type: none"> • Financial benefits to local communities such as employment, services, clinics, schools and support for agricultural practice. • Development of secondary industries and businesses. • Modernization of area and improvement in living standards. • Capacity building for local government, non-governmental organizations (NGOs) and communities. <p>Some stakeholders also were concerned, however, about the high expectations that exist amongst local communities, and have pointed out that TFM cannot satisfy all expectations.</p> <p>Others say that TFM must ensure that it takes people's issues and suggestions into consideration and keeps the promises it makes in terms of benefits to communities.</p>	<p>Chief Gerome Kitambo, Kamunga Kitambo Village; Mr. Gabriele Salmi, ALBA, Lubumbashi; Mulumbu Community meeting on top of Kwatebala Hill; Meeting at Department of Sociology, University of Lubumbashi, Professor Gabriel Kalaba Mutabwisha and students; Mr. Gloire Sumbul Nfumwash, Procureur de la Republique, Kolwezi; Magistrate Mr. John Kadima wa Kadima, Kolwezi; Masirika Muhiwi Bienvenu, Rural Social Center, Kamalenge-Lukotola; Nkulu Mukata, Lukotola village; Mutombo Kasongo Bernardk, Rural Social Center, Kamalenge-Lukotola; Kalenga Wa Kayaba Paul, Development Committee-Lukotola; Lumbwe Kasuba Nday, Crop Grower; Christian Ilunga Kabuya; Ms. Joellen McGann, IFESH, Lubumbashi; Simba Kalumba Pascal, Chemical Engineer; Kahang Mwaku Kashal, ABC Fungurume; Sefu Selemani, Radio-Télé TAMTAM; Professor Emile Mota, Department of Economics, University of Lubumbashi; Mr. Aaron Marshall, United Methodist Committee on Relief (UMCOR), Lubumbashi; Kazadi Malemo Mwasapa Pierrot, CDH (Human Rights Center), Nguba; Lumbwe Kasuba Nday, Crop Grower; André Kaseya Kafwana, Arts and Culture, Tenke; Ms. Magda Gonzalez, MUNOC (Mission Observation de UN for Congo), Lubumbashi; Chief Mulumbu, Mulumbu Village; Kashimbo Mwanza Jean, Mangombo Institute, Tenke Gare; Kabuge Kabuge, Tenke; Jon Dibwe Kasongo, Mwanga Kakunta; Mussebo Wa Museka Francis, Mangombo Institute, Tenke; Malomba Mulenda Alphonse, Driver, Nguba Kanga Mission; Kahang Mwaku Kashal, ABC Fungurume; Meeting with Chief Mwela Mpande; Chief Lutanda, Lutanda Village; Dr. Gilbert Ilunga, Dean: Faculty of Management and Administration, Africa University, Zimbabwe; Mbuyu Lulu Elise, Tenke; Mbuyi Tshibasus Theodore, Nguba Village; Kazadi Malemo Mwasapa ; Nguba Village; Mwanga Sangu, Mulumbu Village; Mwanga Bijimba, Mulumbu Village; Kashala Mujala, Mulumbu Village; Kalunga Mambwe Arthur, Mulumbu Village</p>	<p>TFM, its major shareholder Phelps Dodge, and its other shareholders are pleased that local communities and other stakeholders welcome and support the project.</p> <p>TFM intends to develop a modern mining project, using modern mining equipment and technology. The company will abide by the terms of its Mining Convention, applicable laws of the DRC, and international standards and principles, such as the Equator Principles. These principles require that mining companies provide approaches for responsible environmental and social stewardship.</p> <p>TFM also commits to work with the DRC government, local organizations and NGOs, and in consultation with local people, to assist with community development projects in the area. TFM intends to support projects that can make positive differences over a long period of time. Therefore, TFM will collaborate with local organizations that understand local culture, conditions and circumstances.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>Concerns were expressed by many stakeholders that the project may never get off the ground, or that the studies are taking too long.</p> <p>Many say they are eager to see both the start of the project and the resulting benefits as soon as possible. However, some stakeholders stated that so far all they hear is TFM's promises, and they want TFM to start the project and demonstrate its promises.</p> <p>Some stakeholders said that the project seems well prepared and suitable for the area, but careful management will be required to make sure that TFM does not suffer the same fate as Gecamines. If successful, they said, this project even may help revive Gecamines.</p>	<p>Mr. Paulin Katshongo, Mayor of Kolwezi; Chief Postolo, Postolo Village; Meeting with Services des Mines, Kolwezi; André Kaseya Kafwana, Arts and Culture, Tenke; John Yav Mbumb, Veterinarian, Tenke; Meeting at Mutaka Mwelwa Village; Saytond Lusak Nestor, Marché Kabila, Kabila Central Market; Dimitrios Kazembe Wa Nkulu, Teacher, Institut Technique Commercial; Billy Kamwasha Mwanga K; Meeting at Mutaka II Village; Ngoy Kabula, Mangombo Institute, Tenke; Meeting at Ndela Sase 2 Village; Multi-sectoral meeting, Tenke; Ilunga Kyakulomba, Tenke; Multi-sectoral meeting, Tenke; Caiman Kayembe Ngwama, RELCOF; Participants at Kilusonsa Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006; Kalenga Mbuya, Fungurume; Gustave Malale, Fungurume; Muba Lubinda, Fungurume; Stanislas Mpanga, Tenke; Participants at Tenke Government Open House, December 2006; Participants at Mulumbu Public Open House, December 2006.</p>	<p>Copper and cobalt are basic materials used worldwide in residential and commercial construction, electrical and electronics equipment, transportation, industrial machinery and consumer products. Currently, there is good market demand for copper and cobalt and TFM is enthusiastic about the project.</p> <p>A modern mining project such as this takes careful planning and precision engineering. There are many things to consider and many people are working on the planning right now. Also, an Environmental and Social Impact Assessment (ESIA) is required for the project. This study will show how to minimize any negative impacts of the project while maximizing its benefits. Because of the importance of the ESIA, preparing it properly takes time.</p> <p>Once the ESIA and engineering work are complete, construction can begin. It will take about 18 months from the start of construction to build the project. It requires bringing in large amounts of equipment from many places in the world. It must be carefully constructed to assure that it will operate as it is designed to operate.</p> <p>The questions that you have been asked and the conversations that you have had with the people planning this project are important. TFM requires 8 to 12 months to design this project to assure that the company considers all comments and is respectful of the people living in the area.</p>
2 AIR QUALITY		
<p>Air quality issues stem from historical experiences with other mines.</p> <p>Issues include the potential impacts of gaseous emissions from the processing plant and dust from the mines, the processing plant and transport of materials by road.</p> <p>Concerns include potential impacts to:</p> <ul style="list-style-type: none"> • Human health, such as respiratory and other diseases. • Natural vegetation. 	<p>Mr. Richard Ngoy Kitangala, Mr. Juvenal Lungangwe, Mr. Albert Kalubi Ngongwe, Mme. Terese Mbwaya, Caritas, Lubumbashi; Dr. Bosenge Mpia, Lubumbashi; Pastor Jeremie Kavuka Kalenga, Eglise Ile Depatmos, Fungurume; Moïse Ulomb Tshaul, Rural Social Center, Kamalenge-Lukotola-Lukotola; Jean Mwenda Kitanika Rural Social Center, Kamalenge-Lukotola-Lukotola; Mbuyi Tshimanga Rural Social Center, Kamalenge-Lukotola; Mr. Banza Nyanga, organization of artisanal miners (SAESSCAM), meeting with SAESSCAM officials and 12 informal miners, Kolwezi; Mr. Kasongo Mutshaila, World Vision, Lubumbashi; Meeting with Chief Nguba and elders, Nguba Village; Dr. Ngoy,</p>	<p>An air quality study has been completed as part of the ESIA. The findings of the air quality study show that effects related to gaseous emissions on nearby villages will be low. Other than for the three villages to be relocated (Mulumbu, Amoni and Kiboko), applicable air quality guidelines will be met in all villages near the Kwatebala mine and processing plant site. Effects from dust have the potential to be high, but mitigation such as watering of roads will reduce these effects to acceptable levels.</p> <p>With regard to greenhouse gases, the Kyoto Protocol seeks to control six substances commonly emitted in large quantities in industrialized countries. The TFM project will</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<ul style="list-style-type: none"> • Agriculture, such as fruit trees not bearing fruit, crops failing or not growing well, or reduction in the fertility of agricultural soils • Climatic conditions <p>Stakeholders suggest that project infrastructure not be located in close proximity to where people live.</p> <p>Several also suggested that TFM employ international best practice in air quality management. A stakeholder mentioned that the scoping report makes no mention of greenhouse gases and the expected quantities from the processing plant, and noted that gaseous emissions ought to be maintained below the universal standards agreed upon in the Kyoto Protocol.</p> <p>Stakeholders said that the ESIA reports must state clearly the amount of gaseous emissions, wastes, etc. that can be expected from the project.</p> <p>Some stakeholders expressed concern that emissions may escape from the tailings dam when the water evaporates. Others wanted to know if any of the gases that will be emitted from the tailings dam are hazardous to human health.</p> <p>Many people requested details on the measures that TFM plans to use to mitigate the harmful effects of the gases being emitted from the processing plant, tailings dam and heavy vehicles.</p>	<p>Mulolo Medical Center, Kolwezi; Ndjibu Lubobo Kitenge, Basketball Coach; Hilaire Ilunga Kitenge; Participant, Amoni Village; Huppe Kakudji Mbuyu, Société Nationale des Chemins de Fer du Congo (SNCC); Meeting at Department of Sociology, University of Lubumbashi, Professor Gabriel Kalaba and his students; Kyolo Kilume Emmanuel, Club des Techniciens Industriels de professions; Lupity Muyembe Kandengele, Police of Mines-Fungurume; Fidèle Mwamba Munkolokoto; André Kaseya Kafwana, Arts and Culture Tenke; Mr. Mukembe Parfait, University of Lubumbashi; Dr. Serge Sumba, Lukotola Clinic, Lukotola Village; Mr. Jean-François Mbuyu Lwambiyi Kalenga, Métallurgie, Polytechnique, University of Lubumbashi; Professor Kalenga Ngoy Mwana, Dean of Polytechnique Mining, University of Lubumbashi and 25 students; Workers at Mofya Quarry; Kazadi Lumbwe Emmanuel, student Rural Social Center, Kamalenge-Lukotola; Mr. Ilunga Mulunda Celestin, Fungurume Tax Collector; Mussebo Wa Museka Francis, Mangombo Institute, Tenke; Mr. Jean Jacques Kabeya, Fungurume Environmental Department; Kabemba Bombeki Jean, student Nguba Mission; Participants at Lubumbashi Public Open House, June 2006; Robert Mwanza Dikamaba, University of Lubumbashi, written comment, June 2006; Participants at Kolwezi Government Open House, May 2006; Ubite Usoko Allen-Jossart, Agro Alimentary Research Center, Lubumbashi; Ngoy Sememba, Fungurume; Kabeya Mbaya; Fungurume; Kayumba Musalo, Pastor at Methodist Church, Fungurume Government Open House, November 2006; Participants at Fungurume Public Open House, November 2006; Malasa Michel, Tenke Public Open House, December 2006; Nshimba Ngoy, Sintexkin, Lubumbashi Public Open House, December 2006; Participants at Fungurume Government Open House, November 2006; Edmond Kabemba, Tenke Government Open House, December 2006; Participants at Tenke Government Open House, December 2006; Joe Mukatshaka, Lubumbashi Public Open House, December 2006; Tshitomb Ngwej, Lubumbashi Public Open House, December 2006.</p>	<p>not emit significant quantities of any of these substances. The ESIA predicts that the project will produce 0.02 percent of Africa's greenhouse gas emissions. The processing plant will use 'hydrometallurgy' rather than 'pyrometallurgy' to refine the ore into copper, therefore there will be no furnace to emit carbon dioxide, as was the case historically with smelters in Katanga. Also, TFM's electric power is being purchased from the national electric utility (SNEL), which is primarily a hydroelectric generator that has no combustion source. Finally, the Kyoto Protocol sought to reduce emissions from industrialized, rather than developing, countries such as the DRC, and as such would not govern emissions from the TFM project.</p> <p>In terms of emissions from tailings, the comment is believed to be directed at blowing dust from dry tailings impoundments, which is an issue on historic mining properties elsewhere in Katanga. The TFM project will implement several measures to control dust from the project tailings impoundment. One such measure is to maintain the active portion of the tailings impoundment in a wet state so as to reduce dust formation. The tailing facility will be monitored, and water applied as needed to control emissions. If these controls are not satisfactory, TFM will investigate the use of coherics, which temporarily bind the tailing to control dust. Upon closure, the tailings will be covered with rock and topsoil and revegetated to reduce dust formation.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>An issue raised in May 2006 concerns the dust being generated from the increase in TFM vehicles on the road between Fungurume and Kwatebala, especially since the dry season has started. This affects local people using the road, particularly those who are elderly, ill, traveling with infants and small children or are carrying food. Those selling food next to the road find it becomes covered in dust. This is particularly detrimental to the fat cakes that can't be washed off.</p> <p>Comments indicate that it is a good idea to use water trucks for dust suppression. However, it is suggested that TFM limit this to inside its mining area, and pave all the roads inside as well as outside the TFM site. This will reduce dust impacts to local people.</p>	<p>Participants at Mulumbu Open House and Lukutola Public Open House, May 2006; Kambaj Kamand, Kolwezi Government Open House, November 2006; Participants at Fungurume Government Open House, November 2006; Participants at Fungurume Public Open House, November 2006.</p>	<p>TFM is aware of this problem. TFM drivers already have been instructed to reduce speed to decrease dust generation. TFM also is investigating a resin or other cover for the road to reduce dust, and the use of water trucks to dampen road surfaces during construction.</p> <p>One of the important reasons that the three villages of Mulumbu, Amoni and Kiboko are being relocated is to minimize the impacts of truck traffic on nearby residents, including the effects of dust. To further address this impact, TFM construction plans call for the application of materials to the primary mine access roads that will stabilize the surface and minimize dust generation.</p> <p>TFM is in dialogue with stakeholders to determine the best approach for rehabilitating roads that are not directly needed for their mine operations.</p>
<p>3 WATER (SURFACE AND GROUNDWATER)</p>		
<p>3.1 WATER QUALITY</p>		
<p>With stakeholders saying that other mines previously had affected water quality in the area (both surface water and groundwater), some outlined recent research that show heavy metal pollution in watercourses and in the food chain in the Katanga Province and elsewhere.</p> <p>Water quality is of great concern since local people use water for drinking and other domestic purposes, children swim and play in streams, and people fish from the streams.</p> <p>Concerns include that water quality could be affected by:</p> <ul style="list-style-type: none"> • The tailings dam. • Effluent dams at the processing plant. • Release of effluent from the processing plant (since it will include a sulfuric acid plant). • Other sources of water pollution, including exposing area minerals since they include sulfur and other water pollutants. 	<p>Mr. Richard Ngoy Kitangala, Mr. Juvenal Lunggangwe, Mr. Albert Kalubi Ngongwe, Mme. Terese Mbwaya, Caritas, Lubumbashi; Mr. Kasongo Mutshaila, World Vision, Lubumbashi; Dr. Bosenge Mpia and Mr. Mbawalala Semilwo, Lubumbashi; Professor Kalenga Ngoy Mwana, Dean of Polytechnique Mining, University of Lubumbashi and 25 students; Mr. Aaron Marshall, United Methodist Committee on Relief (UMCOR), Lubumbashi; Dr. Ngoy, Mulolo Medical Center, Kolwezi; Pastor Jeremie Kavuka Kalenga, Eglise Ile Depatmos, Fungurume; Meeting with Mr. Mutomb Tshiyen and Mr. Mpenge Kalenga, Department of Environment, Kolwezi; Mr. Jean-François Mbuyu Lwambiyi Kalenga, Métallurgie, Polytechnique, University of Lubumbashi; Ferdinand Malango Kivunge University of Lubumbashi; Dely Mwangala; Ngoie Mumba Celestin, Neo-Apostolic Church; Samy Tetele Mumpanja, World Vision; Lumuna Mbula, Tribunal-Nguba; Kimongwele Mwaba Ruphin, Crop Grower; Munyikisa Tshipopa Claude; Ndjibu Lubobo Kitenge, Basketball Coach; Hilaire Ilunga Kitenge; Fidèle Mwamba Munkolokoto; Mumba Munkini Jacques,</p>	<p>TFM intends to use groundwater at the mine and in the processing plant. They also intend to collect and use stormwater derived from the process and mine facilities for use at the processing plant, to reduce groundwater consumption and protect surface water resources. If stormwater meets water discharge criteria it may be released into nearby receiving water ways. Water studies included groundwater and surface water studies. The findings of the ESIA water studies show that the only village that may be affected is the community of Mwanga Muteba (Shungu). This village takes its water supply from the Kasana River. Should monitoring indicate that quality or supply is an issue, TFM is committed to supplying the community with potable (drinking) groundwater during the operation of the mine.</p> <p>Seepage from the tailings dam will be minimized with a zero discharge concept design by underlying the tailing impoundment with thick sheets of plastic.</p> <p>Although ore bodies in the area do contain some sulfur, which can cause acidification of stormwater and subsequent water pollution, the mining of Kwatebala,</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<ul style="list-style-type: none"> Discharge of water pumped out of the mine into rivers. <p>Even with recycling of process water, people fear pollutants would build up in the water and eventually have to be discharged.</p> <p>Representatives of the authorities note that DRC law requires a 500 m buffer zone from streams and rivers, and that the DRC uses World Health Organization water quality guidelines.</p> <p>Questions target how waste water (effluent) will be controlled to keep it from polluting the environment.</p> <p>People suggested that TFM should develop a water management plan to ensure that the underground water that infiltrates into the mine does not become contaminated.</p> <p>Farmers in the Lukotola area would like TFM to give them a guarantee that their water supply will not be affected by the water supply demands of the mining project.</p>	<p>Environmental Authority; Kongolo Sukuma, Judge, Tenke; Matthieu Wazenga. SOS Education (ONG); Fidèle Mwamba Munkolokoto; Parfait Mukembe Muzabula, Lycée Twendelee; Dr. Gilbert Ilunga, Dean: Faculty of Management and Administration, Africa University, Zimbabwe; Christian Umba Kasongo; Mr. Mukembe Parfait, University of Lubumbashi; Meeting with Chief Nguba and elders, Nguba Village; Kasongo Valery, Rural Social Center, Kamalenge-Lukotola; Meeting with Mr. Mutomb Tshiyen and Mr. Mpenge Kalenga, Department of Environment, Kolwezi; Meeting with Bureau Diocesain Pour le Development (BDD) and Council Regional des ONG de Developpement du Katanga, Kolwezi; Mr. Banza Nyanga, SAESSCAM, meeting with SAESSCAM officials and 12 informal miners, Kolwezi; Mr. Mike Parker, Comisa sprl (Filiale de First Quantum Minerals), Lubumbashi; Participants at Tenke Public Open House, May 2006; Participants at Fungurume Government Open House, May 2006; Kabeya Mbaya; Fungurume; Participants at Fungurume Public Open House, November 2006; Patrick Madika, Lukotola Public Open House, November 2006; Participants at Lukotola Public Open House, November 2006; Participants at Mulumbu Public Open House, December 2006; Matthew Mwilambwe, Vice Provincial Secretary of the Katanga Observatory, Lubumbashi Public Open House, December 2006; Dedi Songu, Lubumbashi Public Open House, December 2006.</p>	<p>Goma and Fwaulu will target only the upper oxide ore materials, which do not contain significant sulfur content. This will limit the impacts on surface and groundwater.</p> <p>TFM recognizes the importance of water resources to the residents of the TFM concession area. All monitoring and mitigation measures described in the above paragraphs are derived from the project ESIA, and are components of a comprehensive water management plan presented in that document as public commitments. As part of these commitments, TFM has assured restoration of an adequate supply of good quality water to any community that is adversely affected by the mine's operations.</p>
<p>3.2 WATER SUPPLY/AVAILABILITY</p>		
<p>With wells as the source of water, availability is a strong concern.</p> <p>Comments indicate that in some areas in the province, water sources have dried up as a result of nearby mining. Stakeholders also fear that the depth of the open-cast mines may interrupt the natural flow of underground water and affect people's water wells.</p> <p>Some people suggest that TFM investigate using surface water from rivers and streams for the mine to reduce the impacts on their wells.</p> <p>A groundwater monitoring plan was recommended.</p>	<p>Meeting with Mr. Mutomb Tshiyen and Mr. Mpenge Kalenga, Department of Environment, Kolwezi; Mr. Aaron Marshall, UMCOR, Lubumbashi; Kila Ruphin Crispain, student Rural Social Center, Kamalenge-Lukotola; Kazadi Lumbwe Emmanuel, student Rural Social Center Kamalenge-Lukotola; Mr. Jean Jacques Kabeya, Fungurume Environmental Department; Willy Kafana Mukazo, Cadastre official, Tenke; Moïse Jean Mwenda Kitanika Rural Social Center, Kamalenge-Lukotola; Kabongo Mwansa Matthieu, Rural Social Center, Kamalenge-Lukotola; Mwiaka Mukekwa, Nkonka Village; Chief Zakeyo, Nkonka Village; Kikonde,</p>	<p>The processing plant will be a modern plant. The Company recognizes the benefits of recycling and is allocating significant resources to investigate designs that maximize recycling of process water. By maximizing the reuse of water, it will mean less water will be used from the groundwater, and there is less chance of pollution from waste water. The project engineers currently are investigating many different options.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
	Nkonka Village; Mofati Kapamba, Nkonka Village; Kitenge, Nkonka Village; Kilume; Mangi Albert, Nkonka Village; Ngoie; Kilume Kahoza, Nkonka Village; Kazinga Mubambe, Nkonka Village; Silva Mwanza Yav Anatole, Nkonka Village; Mumbambe Anastas, Nkonka Village; Muzinga Euphrasie, Nkonka Village; Ubite Usoko Allen-Jossart, Agro Alimentary Research Center, Lubumbashi.	
While members of the Mulumbu Community said they understand that the mine and processing plant will use groundwater, they express confidence in the studies and in TFM.	Mulumbu Community meeting on top of Kwatebala Hill.	TFM thanks community members for their confidence.
Inquiries concern "white people that came looking for water," with a need to understand what is going to happen next.	Meeting at Amoni Village.	TFM is drilling boreholes in the area to see how much groundwater there is and its quality. This information also will be used for monitoring the water level and quality over time as the mine is being built and operated. If the monitoring shows that the mine has affected the water supply, the Company will meet with the impacted parties and develop a plan to address the issue.
Kwatebala Hill is an important catchment area for water supply to Mulumbu Village. People are concerned that once the mine starts, their source of surface water will be lost.	Kasongo Mulanda Pierre, Mulumbu Village.	The findings of the ESIA water studies show that the Kasana River may have reduced flows at some time of the year, once dewatering of the mine pit begins in year 8 or so. Monitoring of this river and the Shimpidi and Sokalwela rivers will be undertaken to determine if flows need to be increased to protect vegetation or fish. Water that is removed to keep the pit dry will be used to supplement flows, if necessary. The only village that may be affected is the community of Mwanga Muteba (Shungu). This village takes its water supply from the Kasana River. Should monitoring indicate that water supply is an issue, TFM is committed to supplying the community with potable (drinking) groundwater during the operation of the mine.

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
4 WASTE MANAGEMENT AND SOILS		
Stakeholders want to understand how waste and effluents will be managed in the villages within the concession.	Malimbi Sikubazi Moise, Carpenter in Tenke.	The TFM project should not contribute to waste streams generated by village populations in the project area. However, TFM is evaluating priority community needs in the concession area as part of the ESIA, and will be supporting developments that may improve overall quality of life. Some of these investments may include waste and sewage management infrastructure, particularly if such activities are deemed to be priorities by local communities.
Stakeholders said that placement of the waste rock dump, tailings dam and other infrastructure should avoid fertile agricultural soils as far as possible and that the feasibility study should consider waste management.	Professor Kalenga Ngoy Mwana, Dean of Polytechnique Mining, University of Lubumbashi and 25 students; Meeting with Professor Gabriel Kalaba Mutabwisha, Dean of Social Sciences, University of Lubumbashi, and students; Meeting at Ndela Sase 2 Village; Meeting with migrant men in Mulumbu Village; Delly Mwangala; Blanchard Mbayo Nambia, Ministère de l'information et presse/ Division Provinciale; Fidèle Mwamba Munkoloko; Participants at Fungurume Government Open House, May 2006; Participants at Lukutola Public Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006; Kabeya Mbaya; Fungurume.	TFM's engineers are considering different locations to build the plant infrastructure. They are looking at places near the Kwatebala Hill and further away, too, including Goma Hill. There are many factors to take into consideration when deciding where to build the plant facilities, including, for example, transport costs, the location of existing infrastructure (such as the nearby railway line and roads), where people live, and how stable the ground is in the concession. Also important is whether there is copper or cobalt underground that could be mined in the future. In May TFM showed stakeholders the different plant location alternatives that currently are being investigated. If any project infrastructure will be located on agricultural soils that are currently being farmed, TFM will arrange for compensation as appropriate under DRC law and the Equator Principles.
Environmental indications are that there must be proper management of domestic waste from the mine. Some stakeholders asked about future negative impacts of the domestic landfill site after mine closure.	Mr. Jean Jacques Kabeya, Fungurume Environmental Department; Participants at Lubumbashi Public Open House, June 2006.	TFM will build a modern domestic waste site on the mine property. It will include a plastic liner to limit its potential impact on water resources. The waste site will be managed to prevent the spreading of wastes outside its boundary. Areas where waste is disposed will be covered fully with soil, and compacted, to manage long-term effects.

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<p>People suggested that waste materials should, where possible, be recycled or put to other productive use. This would include capturing sulfur from the air emissions and putting it to good use.</p>	<p>Meeting with Professor Gabriel Kalaba Mutabwisha, Dean of Social Sciences, University of Lubumbashi, and students; Multi-sectoral meeting, Tenke; Lupity Muyembe Kandengele, Mines Police, Fungurume; Participants at Fungurume Government Open House, May 2006.</p>	<p>TFM is studying how to keep the production of waste materials as low as possible. TFM agrees with this comment that productive uses of waste materials from the mine and processing plant should be found, if possible. TFM will study these possibilities.</p>
<p>Since erosion is already a problem in the concession area, it is suggested that natural vegetation and trees not be cut down near roads or rivers because this could increase pollution. Potential pollution of soils also is a concern.</p>	<p>Meeting with Mr. Mutomb Tshiyen and Mr. Mpenge Kalenga, Department of Environment, Kolwezi; Dr. Alain Kayji Mwimkeu, Bureau Central de la Zone de Sante, Fungurume; Dr. Ngoy, Mulolo Medical Center, Kolwezi.</p>	<p>A soils study has been completed as part of the ESIA. The findings of the ESIA soil study show that use of best management practices will keep soil impacts to a minimum by decreasing soil erosion and soil pollution. Some soils currently used for agriculture will be permanently lost (tailings storage facility, waste rock facilities), but other areas will be reclaimed to agriculture or miombo woodland, depending on the wishes of the local land users.</p>
<p>It is suggested that TFM consider incinerating the domestic waste instead of creating a landfill site.</p>	<p>Participants at Fungurume Government Open House, November 2006.</p>	<p>TFM is preparing detailed environmental management plans (EMPs) derived from the conceptual approaches identified in the ESIA. As these EMPs are being prepared, TFM also is evaluating the advantages and disadvantages of a domestic waste incinerator. Local government will be kept apprised of the outcomes from this evaluation.</p>
<p>5 NOISE AND VIBRATION</p>		
<p>Since noise from blasting will be made by the mining operation and processing plant, nearby communities fear negative effects.</p> <p>Their concerns also are that blasting explosives and resulting vibrations could impact the nearby Lubumbashi-Kolwezi railway line, and/or cause cracks in clay houses and other buildings.</p> <p>Stakeholders said that vibration caused by blasting during mining must be calculated in the ESIA studies, and that TFM must put every possible measure in place to address noise and vibration.</p>	<p>Workers at Mofya Quarry; Professor Kalenga Ngoy Mwana, Dean of Polytechnique Mining, University of Lubumbashi and 25 students Mussebo Wa Museka Francis, Mangombo Institute, Tenke; Muhemba Mutombo, Lukotola; Willy Kafana Mukazo, Cadastre official, Tenke; Blanchard Mbayo Nambia, Ministère de l'information et presse/Division Provinciale; Roger Kabila Kayembe; Alex Kampoto, Lukotola Village; Mardochée Sangu Koji; Roger Kabila Kayembe Ndjibu Lubobo Kitenge, Basketball coach; Hilaire Ilunga Kitenge; Participants at Fungurume Government Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006; Kabeya Mbaya; Fungurume</p>	<p>A noise study has been completed as part of the ESIA. The study shows that the noise generated by the mine and processing facilities will have little effect on neighboring communities. Noise from the mine and processing plant will meet applicable guidelines.</p> <p>The Mine Plan also will consider the impact of any vibration on the surrounding communities. Modern mining techniques are able to greatly reduce the amount of external vibrations in the outlying areas, and the mine site will be developed to help reduce sound transmission. The vibrations study shows that all vibrations from mine blasting will meet vibration guidelines.</p>

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<p>There are questions about what measures TFM will put in place to mitigate the negative impacts of noise.</p>	<p>Jean-Guy Kobaganda, Tenke Government Open House, December 2006.</p>	<p>The project will use silencers on all of its vehicles and mine equipment. Use of the surface miner will reduce noise from blasting. The noise study concluded that, with these mitigations, noise levels at all nearby villages (except Mulumbu prior to its relocation) will meet DRC and World Bank noise guidelines.</p>
<p>6 VISUAL ASPECTS</p>		
<p>Removal of the entire Kwatebala Hill over time will change the area's visual character.</p>	<p>Professor Kalenga Ngoy Mwana, Dean of Polytechnique Mining, University of Lubumbashi and 25 students; Kabuya Mukungayi, University of Lubumbashi. Department of Chemistry.</p>	<p>This is correct. A visual impact assessment has been completed as part of the ESIA.</p> <p>The assessment shows how the area may change, and what can be done to reduce the impact of visual change on nearby people. Only a few small villages will be affected (Salabwe, Mwanga Muteba, Mwela Sangu and Mwela Mpande). TFM will plant trees to act as visual screens for the nearest villages. Management of dust will help to reduce visual impacts.</p>
<p>Several groups of Mulumbu community members, when asked about visual impacts, said they would not mind seeing the Kwatebala Hill being mined. If people benefit from the mine, they said they would enjoy seeing the activity, noting that "one cannot eat the hill."</p> <p>However, some people felt that TFM should leave behind a remembrance of Kwatebala Hill for future generations because removal of the hill is a major loss to the beautiful environment.</p>	<p>Participants at Mulumbu Open House, May 2006; Sokoni Malale, Mulumbu Village.</p>	<p>TFM appreciates the support voiced in this sentiment. Nevertheless, the visual impact assessment will show people how the visual character of the area may change.</p> <p>Mining at Kwatebala will be accomplished by minimizing land disturbance as much as feasible. However, there will be visual impacts from mining Kwatebala.</p>
<p>7 FAUNA (ANIMAL LIFE) AND FLORA (PLANT LIFE)</p>		
<p>Some stakeholders expressed concern that creating mine infrastructure will destroy vegetation and trees, with further destruction possible from more people moving into the concession areas for employment.</p> <p>Others counter that there are no special species in the area, and that animals and birds are hunted by local people anyway. However, one participant was concerned that the few remaining animals in the area will leave as a result of the disruption, especially because of vibration imperceptible to humans, and that will deprive people of a food source. Others were concerned that snakes may</p>	<p>Professor Kalenga Ngoy Mwana, Dean of Polytechnique Mining, University of Lubumbashi and 25 students; Mr. Jean Jacques Kabeya, Fungurume Environmental Department; Mr. Francois Kapenda Lukeka, Chef de Cité, Fungurume; Mutombo Kasongo Bernard, Rural Social Center, Kamalenge-Lukotola; Ilunga Maloba Delvaux, Rural Social Center, Kamalenge-Lukotola; Mukekwa Kafuku Adelard, Teacher, ITC Tupendane, Fungurume; Ndjibu Lubobo Kitenge, Basketball coach; Meeting with Mr. Mutomb Tshiyen and Mr. Mpenge Kalenga, Department of Environment, Kolwezi; Dr. Ngoy, Mulolo Medical</p>	<p>These comments reflect two types of impacts to vegetation.</p> <p>Direct impacts to woodlands will occur as a result of building the mine facilities and from ongoing operation and expansion of the mine pits.</p> <p>Indirect impacts may occur if people migrate to the TFM area in search of jobs, and use local trees for firewood and construction timber. Both types of impacts have been addressed in the ESIA.</p> <p>The direct impacts will be minimized through use of best</p>

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<p>move into the villages.</p> <p>People said that TFM should establish a tree-replanting program to replace those that will be destroyed. The program also could include planting a traditional medicinal tree called Moringa, which will benefit the local people.</p> <p>TFM also should consider establishing a nature conservation area in the concession to protect and conserve plants as well as animals that are likely to flee the area due to the presence of the mine and processing plant, the noise and the road traffic. One participant wanted to know who will take responsibility for the maintenance and upkeep of such a conservation area – will it be the government, TFM or the local communities?</p> <p>Some people are concerned that although mitigation measures will be put in place, harmful gas still may be emitted from the processing treatment plant and affect plants in the surrounding areas.</p> <p>TFM must ensure that it puts measures in place before mining starts, to preserve the unique copper-cobalt flora found on the ore deposits.</p>	<p>Center, Kolwezi; Mussebo Wa Museka Francis, Mangombo Institute, Tenke; Dr. Gilbert Ilunga, Dean: Faculty of Management and Administration, Africa University, Zimbabwe; Hilaire Ilunga Kitenga; Participants at Fungurume Government Open House, May 2006; Participants at Lubumbashi Government Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006; Participants at Tenke Public Open House, May 2006; Robert Mwanza Dikamaba, University of Lubumbashi, written comment, June 2006; Kayumba Musalo Pascal, Fungurume; Ubite Usoko Allen-Jossart, Agro Alimentary Research Center, Lubumbashi; Edmond Kabemba, Tenke Government Open House, December 2006; Kalala, Tenke Government Open House, December 2006; Martin Kasambayi, Tenke Public Open House, December 2006; Dorcas Mwahidi, Mulumbu Public Open House, December 2006.</p>	<p>management practices such as keeping the disturbed areas to the minimum necessary, prompt revegetation of disturbed areas that are no longer needed, prevention of erosion, and other measures. As the mine is closed, all areas that are feasible to be reclaimed will be. Only the open pit and portions of dam and stockpile walls may not be vegetated.</p> <p>A Biological Diversity Action Plan (BDAP) has been developed that includes immediate measures for reducing impacts to rare plants in the project area, especially the copper-cobalt flora. The BDAP also includes an extensive research program that will contribute significant new scientific knowledge of copper-cobalt flora of the Katangan Copper Belt, leading to long-term strategies for their conservation.</p> <p>Gases from the processing plant are not predicted to have a significant deleterious effect on local vegetation.</p> <p>The indirect impacts caused by migration of new people into the project area are best addressed through an area-wide natural resource management plan that can be developed only with significant input from the local community. Some of this input already has been received, and the basic pieces of such a natural resource management plan will be presented in the ESIA. However, this will only be a 'roadmap' for how a working plan can be prepared and implemented during the construction and commissioning phases of the TFM project.</p>
<p>Mine impacts should be considered for likely medicinal plants on the Kwatebala Hill.</p> <p>Some people say that there are many medicinal plants growing on the hills in the area and which are used in traditional medicines. It is important that these plants are not destroyed.</p>	<p>Professor Kalenga Ngoy Mwana, Dean of Polytechnique Mining, University of Lubumbashi and 25 students; Kibala Makasa, Tenke Government Open House, December 2006; Participants at Tenke Public Open House, December 2006.</p>	<p>The ESIA included studies to look at the potential impacts on animal and plant life. The studies were done by specialists that have knowledge of DRC plant and animal life. The socio-economic team also interviewed local people on their use of plants on the hills and other areas.</p> <p>Rare and other important plant species will be protected by a variety of mechanisms: (1) protection of Plant Micro-Reserves in areas near the mine that are not needed for the development but that contain important flora; (2) use of a botanical garden to grow important plants by seeds or bulbs, and transfer of plants to reconstructed habitats; and (3) setting aside of conservation areas to protect important plants. Studies are currently under way to determine the best locations for such conservation areas.</p>

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<p>While TFM's development of Reforestation Program as part of its environmental management program for the project is laudable, it's suggested that TFM could start implementing this program by contributing some trees for the Arbor Day celebration in Fungurume on Dec. 5, 2006.</p>	<p>Kapenda Lukeka, Chef de Cite Fungurume, Fungurume Government Open House, November 2006.</p>	<p>TFM committed to look for trees to be planted in the community on Arbor Day, but unfortunately the short notice did not allow significant numbers to be sourced and provided.</p>
<p>8 CULTURAL ASPECTS</p>		
<p>Because there may be sacred sites and unmarked graves that should not be disturbed in the area, chiefs should be consulted on any potential impacts.</p> <p>Local beliefs include that:</p> <ul style="list-style-type: none"> • White men will die before the project is implemented. • Spirits will obey a chief if the chief asks that the riches of copper not be delivered to the white men. • Water sources are protected by spirits who reside in trees and plants that grow next to the source; if removed, the water dries up. • No bathing, or washing of clothes or cooking pots with leftover food should take place near village water points. • If people engage in sexual activities on the hills, the quality of the ore deposit will be diminished. <p>There is a great need for respect to be shown to the local culture of black people, as well as love, dignity and social equality, which hasn't been demonstrated in the past. It is asked that TFM abide by the UN Draft Declaration on the Rights of Indigenous People.</p> <p>Some stakeholders said that TFM drivers and employees do not properly respect customary law, sacred sites and culture and do not pay enough respect to the traditional chiefs.</p>	<p>Mr. Jacques Kanyembo, Meeting with Agence Nationale de Renseignements (ANR), Kolwezi; Meeting in Amoni Village; Meeting with women in Mulumbu Village; Meeting with migrant men in Mulumbu Village; Meeting with Chief Mwela Mpande; Mr. Robert Muanza Dikamba Jr, University of Lubumbashi; Mr. Alfred Gondo, UN Office for the Coordination of Humanitarian Affairs (OCHA), Lubumbashi; Professor Fulgence Nyembo-Mateleka, Mangombo Institute, Tenke; Meeting with young people (secondary school and university age), Fungurume; Meeting with young people in Kamungu Kitambo Village; Meeting with Chief Mulumbu and three elders, Mulumbu Village; Participants at Mulumbu Open House, May 2006; Participants at Fungurume Public Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006; Kayumya Mbula, Nguba Village; Kalunga Mambwe Arthur, Mulumbu Village; Mwanza Saidi François, Fungurume; Mbuyi Tshibasus Theodore, Nguba Village; Mbuyi Tshibasus Theodore, Nguba Village.</p>	<p>TFM wants to respect the culture and beliefs of the local residents. Identification of important areas such as sacred sites was conducted as part of the socio-economic surveys. TFM will use commercially reasonable efforts to avoid these sites. If, impacts unfortunately do occur, TFM will consult with the affected parties and develop mitigation plans consistent with the Equator Principles and local custom.</p> <p>The company asks that people please contact TFM's community liaison officer, Mr. Francis Kalassa, at the TFM camp if any of the project team members inadvertently do something that may appear to disrespect people or their cultural beliefs and resources.</p> <p>Should this happen, please understand that it is not intentional, but only because project team members do not yet fully understand the local culture. TFM undertakes to follow up on all such incidents should they occur.</p> <p>TFM also is willing to help villagers mark their important cultural resources, so that all project team members can easily see them.</p>

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<p>A local belief in sorcery extends to its purported effects on disease, death and child mortality. Some contend that sorcery is linked to jealousy.</p> <p>Several stakeholders said that tribalism should be abandoned.</p>	<p>Meeting with women in Mulumbu Village; Meeting with young people in Kamungu Kitambo Village; Meeting with Chief Mulumbu and three elders, Mulumbu Village; Meeting with migrant men in Mulumbu Village; Meeting with young people in Mulumbu Village; Meeting with women active in agriculture, education and health centers in Tenke; Malimbi Sikubazi Moise, Carpenter in Tenke; Professor Fulgence Nyembo-Mateleka, Mangombo Institute, Tenke.</p>	<p>Although TFM's personnel, contractors and consultants may have different beliefs, they still respect local people's beliefs.</p>
<p>Because jealousy and sorcery are major characteristics of local societies, concerns center on what may happen in the village if some people are recruited and others are not.</p> <p>Some people believe that if TFM continues to employ people from outside, the mineral wealth in the area will vanish.</p>	<p>Meetings with several villages; Malimbi Sikubazi Moise, Carpenter in Tenke; Professor Fulgence Nyembo-Mateleka, Mangombo Institute, Tenke; Chief Mujinga Polydor, Mulumbu Village ; Mabindila Florent, Mulumbu Village.</p>	<p>The comment speaks to the fundamental question of recruitment, and the need for an equitable policy. As is referenced in several places within this document, TFM will develop a recruitment policy in consultation with government and local organizations. The policy will comply with DRC laws, and also will contain some good-practice principles such as those of the International Labor Organization and other organizations. The company will undertake to publicly communicate the principles on which the policy will be based as they are developed.</p>
<p>People have heard that some pottery has been found at Kwatebala by the archaeological specialists, and there is concern whether this is true and where any found artifacts are kept?</p>	<p>Professor Muya, University of Lubumbashi, Lubumbashi Government Open House, December 2006.</p>	<p>Some materials of potential archeological interest were reported to TFM in the vicinity of Kwatebala by a floral survey team active during November 2006. TFM has subsequently contracted the services of archeologists from the University of Lubumbashi to investigate and report on the significance of the recent finds.</p>
<p>9 SAFETY AND HEALTH</p>		
<p>It is important that the local people understand the potential impacts of the proposed project on their health and safety.</p>	<p>Aleathea Musah, U.S. Agency for International Development (USAID), Kinshasa; Kabongo Mwansa Matthieu; Multi-sectoral meeting, Tenke.</p>	<p>We agree that it is important that local people understand the potential negative impacts of the project. A Background Information Document has been distributed widely in the DRC. During the initial round of consultation, we asked people to list all the things they know about the negative impacts of mining from other projects in the area, as can be seen in this issues report. The list of potential impacts was presented in full during the last round of consultation and visually and verbally explained.</p>

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A strict health and safety policy is needed, with the company determining various impacts in advance, including health effects on local residents.	Mr. Kasongo Mutshaila, World Vision, Lubumbashi; Gabriel Kilolo-Komba, National Information Agency, Lubumbashi; Claude Mukebo Wa Ngoy, Human Rights; Mr. Wayne du Chenne and Mr. Francis Kasongo, African Explosives Limited, Zambia.	Phelps Dodge, the major shareholder in TFM, has one of the best health and safety records of all mining companies in the world. The mine will have a strict health and safety policy.
There is concern that underground mines are dangerous, with risks such as cave-ins and underground gases.	Mussebo Wa Museka Francis, Mangombo Institute, Tenke; Multi-sectoral meeting, Tenke; Mulumbu Kayombo Tonton, Rural Social Center, Kamalenge-Lukotola; Kila Ruphin Crispin, Rural Social Center, Kamalenge-Lukotola; Kibongwele Mwaba Ruphin.	The project is not planning an underground mine at this time.
TFM must collaborate with the National Health Department on all health-related matters.	Participants at Lubumbashi Public Open House, June 2006.	TFM indeed will collaborate with appropriate authorities in the development of health-related programs.
TFM must develop a strategy to proactively protect local people from pollution and to inform illiterate people about the potential pollution hazards of the project. Artisanal miners are likely to try to re-use the residue from the tailings dam and this will have major impacts on people and the environment.	Participants at Lubumbashi Public Open House, June 2006.	Protecting human health is the primary goal of the environmental management programs that are prepared as part of ESIA. The residual metal content in the tailings from the TFM facility will not be sufficient to attract artisanal mining, though TFM appreciates the awareness of the potential issues demonstrated by this comment.
There are concerns that the negative effects of mining and processing cumulatively may cause human health impacts in the long term. It is suggested that the company monitor human health in the area and mitigate any negative effects.	Judge President, Kolwezi Government Open House, November 2006.	TFM has designed the project to minimize negative effects. Examples include lining the tailings facility and recycling process water. TFM also will conduct comprehensive monitoring of water and air quality. The results of this monitoring will be compared to criteria that are directly related to human health. Should guideline limits be exceeded on a routine basis, further mitigation will be employed to ensure that all guidelines are met. At this point in time, there is no reason to conduct monitoring of human health in the area. Nonetheless, as part of its community development program, TFM will implement programs that address the highest priority non-project-related health issues in the concession area, such as malaria and water-borne illnesses.

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>Questions have been raised about whether TFM has plans in place to assist with health problems experienced by the neighboring populations in the region.</p>	<p>Ngoy Kisula, Governor of Katanga, Lubumbashi Government Open House, December 2006.</p>	<p>While not directly responsible for addressing pre-existing health issues in the region, TFM is committed to conducting an anti-malaria program, as well as HIV/AIDS education. Safe water sources also will be provided to many communities, which will address one of the most critical health issues in the region.</p>
<p>9.1 SAFETY ISSUES</p>		
<p>A buffer zone is requested between the mine and the Mulumbu community for safety purposes, with concerns about blasting and falling rocks hitting the community. Those near the mine want to be informed of the dangers of explosives and blasting, and want workers to receive training in safety procedures. TFM should consider providing safety gear and protective clothing to communities living close to the proposed mine.</p> <p>TFM must make sure that safety measures are a priority, not only for this project but for the company as a whole.</p> <p>People in Tenke also are concerned that blasting at Goma will affect their quality of life and cause their houses to crack.</p>	<p>Mr. Agapao, Mulumbu Village; Meetings with Chief of Mulumbu and with Mulumbu Community members on top of Kwatebala Hill; Christian Umba Kasongo; Participants at Kolwezi Government Open House, May 2006; Kabuya Mukungayi, University of Lubumbashi; Mwika Mukekwa, Nkonka Village; Chief Zakeyo, Nkonka Village; Kikonde, Nkonka Village; Mofati Kapamba, Nkonka Village; Kitenge, Nkonka Village; Kilume; Mangi Albert, Nkonka Village; Ngoie; Kilume Kahoza, Nkonka Village; Kazinga Mubambe, Nkonka Village; Silva Mwanza Yav Anatole, Nkonka Village; Mumbambe Anastas, Nkonka Village; Muzinga Euphrasie, Nkonka Village; Participants at Tenke Government Open House, December 2006; Participants at Tenke Government Open House, December 2006.</p>	<p>TFM will set up a blasting safety zone around all mines to protect nearby people and animals during blasting.</p> <p>The mine and plant area will be fenced, and no one will be allowed to enter this area without proper safety equipment and permission. This policy is for the safety of TFM's workers and the local community.</p> <p>Phelps Dodge, the major shareholder in TFM, has one of the best health and safety records of all copper mining companies in the world. The mine will have a strict health and safety policy, including stringent requirements for the transport, storage and handling of explosives.</p> <p>TFM will conduct monitoring of blasting at Kwatebala to better determine potential effects at Tenke once the Goma hills are mined. Use of a continuous miner will reduce the need for blasting of ore.</p>
<p>With several sources of uranium in the province (some occurring together with copper and cobalt), several stakeholders are concerned about radioactive ore and waste products.</p> <p>The Department of the Environment said that it was not aware of radioactivity in the Tenke, Fungurume and Kolwezi areas.</p> <p>Although the ESIA documents state that radioactivity is not anticipated to be an issue, people still are concerned that the ore and waste products may be radioactive. It is recommended that the company does thorough tests of ore, soils, wastes, etc. to establish whether radioactivity will be a problem.</p> <p>Despite the results of the tests, some people still believe that there are sources of uranium in the ore deposits and wanted to know which of the three ore deposits that are going to be mined has the most uranium.</p>	<p>Dr. Bosenge Mpia and Mr. Mbawalala Semilwo, Lubumbashi; Delvaux Ilunga Maloba; Mr. Banza Nyanga, SAESSCAM, meeting with SAESSCAM officials and 12 informal miners, Kolwezi; Corneille Tshola Kaoma, teacher in Nguba; Kazelo; Meeting with Mr. Mutomb Tshiyen and Mr. Mpenge Kalenga, Department of Environment, Kolwezi; Mr. Wayne du Chenne and Francis Kasongo, African Explosives Limited, Zambia; Participants at Fungurume Government Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006; Kabuya Mukungayi, University of Lubumbashi; Participants at Lubumbashi Public Open House, December 2006.</p>	<p>Radioactivity tests were undertaken for water, sediment, ore, waste rock and tailings samples. The results to date indicate that radioactivity should not be a problem in the local environment. TFM will monitor radioactivity levels as part of its water and sediment monitoring program to ensure that radioactivity levels do not increase in the future.</p> <p>The results of the tests conducted in the ESIA on water, sediment, ore, waste rock and tailings show that none of the ore deposits contain radioactivity sources that are of concern. The data are presented in Appendix B2.3-1 to the ESIA and are available upon request. Monitoring of radioactivity will be conducted over the life of the mine to ensure that human health risks are appropriately managed.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
When TFM repaired sections of the road outside Tenke, they put in stormwater culverts. Because these culverts are not covered, people see them as a danger for children and animals that may fall into them.	Participants at Tenke Public Open House, May 2006.	Thank you for bringing this issue to TFM's attention. It will be investigated and rectified, if necessary.
People want TFM to ensure that road traffic is adequately regulated, especially in terms of ensuring the safety of pedestrians at road crossings.	Participants at Tenke Government Open House, December 2006.	TFM already has established traffic control procedures to minimize the effect of project-related traffic on other road users, including the placement of signs where bicycle paths intersect vehicle roads. Monitoring of the efficacy of these procedures will be conducted, and improvements will be made as required. TFM also will provide a means of segregating foot/bicycle traffic on roads used for mine operations, which will minimize risk posed by increased traffic.
9.2 WORKER HEALTH AND SAFETY		
<p>People consider worker health and safety to be of utmost importance and want workers to be provided with protective equipment.</p> <p>Some participants wanted to know whether the protective clothing and equipment issued to TFM workers is locally made or imported.</p>	<p>Mr. Kasongo Mutshaila, World Vision, Lubumbashi; Kayembe Bipendu, Kambove; Ilunga Kyakulomba, Tenke; Mr. Moma Kyunga, Fungurume City Secretary; Advocate Tasinda Pagu Malumba Jean Louis, Syndicat GST; Kabuya Mukungayi, University of Lubumbashi; COPEMECO, Fungurume Public Open House, November 2006.</p>	<p>Phelps Dodge, the majority shareholder in TFM, has one of the best health and safety records of all mining companies in the world.</p> <p>The mine will have a strict health and safety policy, which will include the use of protective gear by workers.</p> <p>Currently, TFM clothing is imported, but plans are in place to source clothing locally, if available.</p>
<p>There is a request for free medical attention for any workers whose health is affected by the project, as well as medical check-ups.</p>	<p>Mr. Jean-François Mbuyi Lwambiye Kalenga, Métallurgie, Polytechnique, University of Lubumbashi; Meeting with Mr. Mutomb Tshiyen and Mr. Mpenge Kalenga, Department of Environment, Kolwezi; Meeting with Professor Gabriel Kalaba Mutabwisha, Dean of Social Sciences, University of Lubumbashi, and students; Mr. Moma Kyunga, Fungurume City Secretary; Mr. Kasongo Mutshaila, World Vision, Lubumbashi; Mr. Jean Claude Kunda Bwanga, small-scale mining operator in Katanga; Mbuyi Tshibusu Theodore, Nguba Village.</p>	<p>TFM has a medical system called the Occupational Medicine Program that will be used to monitor and protect the health of its workers.</p> <p>All modern mining companies have a medical facility on site in case a worker gets injured or sick on site. All workers are health-tested when they start working, and then at regular intervals. If it is determined by medical authorities that TFM work conditions caused a health problem, the company will review the specific case, its operational occupational health policies and work conditions and take proper actions.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
9.3 HEALTH ISSUES – HIV/AIDS		
<p>Because HIV/AIDS and other diseases are associated with construction workers who come from outside the area (as well as increased area population), there is concern that company activities will result in more of the same. There also are inquiries about what role TFM will take in the struggle against HIV/AIDS.</p> <p>TFM is commended for including an HIV/ AIDS management program in its health policy. Many of the previous and existing mining companies in the DRC have not done this.</p> <p>Some people feel that TFM places too much emphasis on the management of HIV and also should focus on including the treatment of other diseases like silicosis in its health policy.</p>	<p>Mr. Aaron Marshall, United Methodist Committee on Relief (UMCOR), Lubumbashi; Masirika Muhiwi, Rural Social Center, Kamalenge-Lukotola; Mr. Francois Kapenda Lukeka, Chef de Cité, Fungurume; Ms. Aleathea Musah, USAID, Kinshasa, Lubumbashi; Mr. Robert Hellyer, USAID, Kinshasa, Lubumbashi; Dr. Serge Sumba, Lukotola Clinic, Lukotola Village; Mr. Jean-François Mbuyu Lwambiyi Kalenga, Métallurgie, Polytechnique, University of Lubumbashi; Mr. Jeff Bryan, USAID, Kinshasa, Lubumbashi; Villa Mbaya Pierre; Participants at Fungurume Public Open House, November 2006; Mbaya Bamwanya, Fungurume Public Open House, November 2006.</p>	<p>TFM recognizes the need to help manage the risk of HIV/AIDS within the project area. As one early response to this risk, TFM already has surveyed residents of the concession area, and preliminary results indicate that awareness of the disease is very low.</p> <p>As an ongoing action, TFM will outline a transmissible disease management plan, to include HIV/AIDS as part of the ESIA. This outline will be developed into a formal plan that will be started before construction begins. The plan will be specific to the needs of the mine's workforce and the residents in the concession area. The core of this program will be education and training on how HIV/AIDS is transmitted and how it can be prevented.</p> <p>An international organization, the International Finance Corporation (IFC), has developed a guideline for mining companies in Africa on how to help reduce the spread of AIDS. This guideline is one tool being used in the development of the TFM HIV/AIDS management program.</p>
9.4 HEALTH ISSUES – MALARIA		
<p>Because standing water that breeds mosquitoes and results in malaria is a problem, there is a request that TFM assist in upgrading roads that foster this environment.</p>	<p>Multi-sectoral meeting, Tenke; Mr. Francois Kapenda Lukeka, Chef de Cité, Fungurume.</p>	<p>Malaria is recognized as a serious health threat to workers, their families and the surrounding communities. TFM is planning a Malaria Management Program, which will have multiple elements to try and reduce the risk of malaria infections. Possible elements of this program are eliminating standing water as breeding pools; spraying insecticides; increasing availability of protective bed nets and insect repellents; education programs; and increasing medical treatment for people with malaria. Action will be taken before construction starts and throughout the life of the mine.</p>
9.5 HEALTH ISSUES – MALNUTRITION		
<p>Stakeholders are concerned that most able-bodied men prefer to be employed by the mining project, leading them to leave their communities for jobs. There is a belief that the agricultural industry would not be sustained, resulting in malnutrition and hunger.</p>	<p>Dr. Bosenge Mpia, Lubumbashi; Meeting with Professor Gabriel Kalaba Mutabwisha, Dean of Social Sciences, University of Lubumbashi, and students; Multi-sectoral meeting, Tenke; Mr. Aaron Marshall, UMCOR, Lubumbashi; Mr. Robert Tshime Musunga,</p>	<p>Many people that we consulted said the problem already exists. This is because last year they helped the informal miners wash, bag and transport heterogenite. This reduced the time they spent on farming. They also sold their agricultural produce to the miners for cash. Partly as a result of</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>There are concerns that people in the concession area do not eat well, and consequently suffer illness.</p> <p>It is recommended that TFM stimulate agricultural production for better nutrition and food security, especially among women who do the bulk of the agricultural work.</p> <p>Some people suggest that TFM should consider an aquaculture program to increase food production in the concession area.</p>	<p>SAESSCAM, meeting with SAESSCAM officials and 12 informal miners, Kolwezi; Mr. Robert Muanza Dikamba Jr, University of Lubumbashi; Kindele Faidon, Lukotola; Kayumba Musalo Pascal, Fungurume; Participants at Fungurume Public Open House, November 2006; Participants at Tenke Public Open House, December 2006.</p>	<p>these factors, the departure of the informal miners is said to have caused greater hunger in some communities during the pre-harvest season than in the past.</p> <p>TFM recognizes three distinctive issues in these comments.</p> <p>One issue is the need to support and expand local agricultural production. Support to local agriculture is needed in order to assure that there is sufficient food in the region both for the local residents and for people who come to the area looking for opportunities at the mine. As an initial effort to address this issue, TFM has engaged the local Catholic Mission (Oeuvre Missionnaire Ekumene Lukotola) to provide 30 pairs of oxen and technical support for improved agriculture in select communities in the project area. Each person that benefits from the Mission program has to provide oxen and technical support to additional members of the community so that other people in the community also can benefit from improved farming techniques. The community development plan that is currently in preparation as part of the ESIA will include additional program support to the farming community in the TFM area.</p> <p>The second issue is the economic impact caused by the end of informal mining in the TFM concession. The long-term mitigation for this impact will be direct and indirect employment generated by the TFM project, as well as the opportunities for local business development that will be directly supported by the community development program. In addition, TFM will support agricultural opportunities as part of a long-term approach for economic growth in the area. In the short term, TFM has provided temporary jobs (manual labor) to local communities, such as road construction and maintenance, and has focused on making these opportunities available to communities affected by the loss of heterogenite income. Several hundred jobs of 5-30 days duration have been provided to date.</p> <p>The third issue is unrealistic expectations about the potential employment opportunities generated by the TFM project. Through the ESIA process, including the socio-economic. Baseline surveys conducted in the concession area from November 2005 to present, the company has attempted to provide realistic ideas about potential employment by providing realistic job numbers, and by stating when these</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
		likely will be available. Also, TFM will have an awareness campaign when all the jobs are taken, to warn people not to leave their agricultural projects in search of jobs. TFM has already appointed a full-time community liaison officer based at the TFM camp in Fungurume who will keep communities informed.
10 INFRASTRUCTURE AND TRANSPORT		
10.1 LOCATION OF INFRASTRUCTURE		
<p>Infrastructure questions and concerns include:</p> <ul style="list-style-type: none"> • Use of existing area mine infrastructure. • Location of the mine infrastructure and waste disposal facilities. • Impact on existing infrastructure, such as the national highway and railway line. • Impacts on, or loss of, agricultural fields and agricultural soils. • Whether soil quality will be studied prior to deciding where to locate infrastructure. <p>Chief Mulumbu is concerned that TFM is building new roads in his area without his agreement. Many of these roads cut through people's fields and are impacting their livelihoods.</p> <p>Many people wanted to know whether the processing plant and other project infrastructure will cover the whole area of Mulumbu, Amoni and Kiboko or just a portion.</p>	<p>Mr. Kasongo Mutshaila, World Vision, Lubumbashi; Lumuna Ngoie Noss, Nguba Mission, Nkanga; Ilunga Kyakulomba, Tenke; Meeting at Department of Sociology, University of Lubumbashi, Professor Gabrel Kalaba and his students; Professor Fulgence Nyembo-Mateleka, Mangombo Institute, Tenke; Meeting with Services des Mines, Kolwezi; Participants at Fungurume Government Open House, May 2006; Participants at Lukutola Public Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006; Chief Mulumbu Kazadi, Mulumbu Village; John Loustrick, Fungurume; Kibanza wa Ngoyi, Mulumbu Public Open House, December 2006.</p>	<p>An analysis is being done on the best places to put infrastructure and the best routes for access, including a soil study. There are many factors to take into consideration when deciding where to build the plant facilities, including, for example, the cost of transport, the location of existing infrastructure (such as the nearby railway line and roads), where people live, and how stable the ground is in the concession. Also important is whether there is copper or cobalt underground that could be mined in the future.</p> <p>Overloading of existing infrastructure is being considered in this analysis. If the access route selected follows existing rail or road access, the portions of those routes used for the project will be upgraded. This will benefit all users.</p> <p>Given the current project design, it is certain that some project facilities, including tailing storage, process plant and waste rock dumps, will occupy areas that are currently in agricultural production. As required by Equator Principles and DRC law, the occupants of these lands have been identified, and compensation and/or livelihood restoration will be provided as part of the project's Resettlement Action Plan.</p> <p>The plant site and project infrastructure eventually will cover all the land where Mulumbu currently is situated. The villages of Amoni and Kiboko are being relocated due to the potential for air and noise effects.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
10.2 ROADS		
<p>Accidents are common on area access roads due to dust, passing and vehicle crossings. Suggested improvements include:</p> <ul style="list-style-type: none"> • One-way lanes and dedicated roads for mine vehicles. • Mine roads kept out of villages. • Upgrade of local roads when TFM roads are built. • Upgrade/repair of the national Lubumbashi-Kolwezi road (currently in bad condition) that will be used by company vehicle/heavy trucks for moving supplies and products. <p>Some stakeholders suggested that TFM should consider two routes for transporting the ore: one from the mine to the processing plant and a separate route away from the plant.</p> <p>Others suggested that TFM investigate transporting the ore by conveyor as an alternative to road transport.</p>	<p>Meeting at Department of Sociology, University of Lubumbashi, Professor Gabriel Kalaba and his students; Multi-sectoral meeting, Tenke; Meeting with Services des Mines, Kolwezi; Ferdinand Malango Kivunge, University of Lubumbashi; Kalenga, Rural Social Center, Kamalenge-Lukotola; Mamie Mbemba Nguz, Teacher, Tenke; Lupity Muyembe Kandengele, Police of Mines-Fungurume; Mukekwa Kafuku Adelard, Teacher, ITC Tupendane, Fungurume; Professor Emile Mota, Department of Economics, University of Lubumbashi; Malimbi Sikubazi Moise, Carpenter in Tenke; Mussebo Wa Museka Francis, Mangombo Institute, Tenke; Professor Fulgence Nyembo-Mateleka, Mangombo Institute, Tenke; Mukaz Nyemb Laurent, Rural Social Center, Kamalenge-Lukotola; Mr. Victor Kaleng-a- Mbumb BDD, meeting with BDD and Council Regional des ONG de Developpement du Katanga, Kolwezi; Kyolo Kilume Emmanuel, Club des Techniciens Industriels de professions; Kasongo Valery, Rural Social Center, Kamalenge-Lukotola; Huppe Kakudji Mbuyu, SNCC; Participants at Fungurume Government Open House, May 2006; Participants at Lukutola Public Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006; Mujinga Yav Joseph, Kilusonsa Village; Muyeko Kiziba Pamphile, Kilusonsa Village; Kisula Ngoy Raymond, Kilusonsa Village; Tshibulenu Kabama Crispin, Kilusonsa Village; Kyembe Kasuba Francois, Fungurume; Samy Tetela, World Vision Fungurume, Fungurume Government Open House, November 2006.</p>	<p>An analysis has been done on the best routes for access to the mine. Many factors were taken into consideration, including technical, social and environmental issues. The main access route will be from the Kakanda Mine to the south. The route will cross National Highway Number 1 just west of the TFM camp, bypass Fungurume to the west and follow the existing Mulumbu road to the Kwatebala Hill.</p> <p>This route will avoid densely populated areas, for safety of people and animals. Because people use the roads for foot and bicycle travel, TFM will build a separate pedestrian/cycle path next to this road and safe crossing points for local people and their animals. TFM considers safety on the roads to be important and will take precautions to improve the travel routes for the safety of all users.</p>
<p>Many people are unhappy that the airstrip has been fenced off because they use that area as a short route to Fungurume in cases of emergency. People also are concerned that TFM plans to close the access roads.</p>	<p>Mpanga Edouard, Lukotola Public Open House, November 2006.</p>	<p>TFM recognizes that public access to the airstrip allowed shorter travel routes to Fungurume from nearby villages, in particular Kamunga Mulelwa. However, the presence of people on the runway and the unauthorized use of the runway by non-TFM aircraft, created serious safety risks. Fencing was the only effective means of controlling access to the airstrip and addressing this serious public safety issue.</p> <p>In recognition of the potential hardship represented by longer travel routes to Fungurume, TFM will meet with representatives from affected villages, and will improve alternate routes that do not require access to the airstrip property.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
10.3 RAIL		
<p>Stakeholders suggest that rail may be a better form of transport than roads. If rail is used, TFM should collaborate with the railway corporation (SNCC) and consider moving the railway line outside the concession area, to the south of the main road. This will avoid conflict between public infrastructure and mining in the concession area and will reduce safety risks. Concerns also were expressed about level crossings.</p> <p>Some stakeholders suggested that if rail is used, TFM must help support the state rail company and consider rehabilitating the Lobito railway line.</p>	<p>Professor Professor Emile Mota, Department of Economics, University of Lubumbashi; Kalenga wa Kayaba Paul, Development Committee, Lukotola; Multi-sectoral meeting, Tenke; Mr. Robert Muanza Dikamba Jr, University of Lubumbashi; Mr. Victor Kaleng-a-Mbumb BDD, meeting with BDD and Council Regional des ONG de Developpement du Katanga, Kolwezi; Mr. Laurent Muchaila Muanda, Teacher, Fungurume; Participants at Kolwezi Government Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006; Kahenga Nyembo, GCM LATRECA, Lubumbashi; Thierry Ilunga Kamwila.</p>	<p>TFM has met with the railway authorities to discuss the use of the railway to support the mine operations. These discussions are very preliminary and no further details are available to discuss until a later date.</p> <p>Naturally, should rail be used for transport by TFM, safety of local people will be of the utmost importance in the planning and design.</p>
<p>People want TFM to indicate whether the railway line around Goma will be removed once mining starts in that area.</p>	<p>Participants at Fungurume Public Open House, November 2006.</p>	<p>At present, there are no plans to relocate the rail line.</p>
10.4 CONSTRUCTION CAMP/HOUSING		
<p>Employee housing inquiries include:</p> <ul style="list-style-type: none"> • If proper housing will be provided for employees in a staff village. • That consideration be given to building houses in existing towns instead of in a temporary construction camp. • If there is a construction camp, it be placed for least risk of social disruption of local people. • That consideration be given to building another workers camp near Tenke so that people will not abandon Tenke to live in Fungurume. • That consideration be given to building the workers camp at Dipeta station and a railway line from there to Kwatebala. 	<p>Meeting at Department of Sociology, University of Lubumbashi, Professor Gabriel Kalaba and his students; David Mujunga Mwandu, Head of School "Institut Technique Commercial: Lumière du Christ" Tenke; Kongolo Sukuma, Judge, Tenke; Mr. Richard Ngoy Kitangala, Mr. Juvenal Lunggangwe, Mr. Albert Kalubi Ngongwe, Mme. Terese Mbwaya, Caritas, Lubumbashi; Samy Tetele Mumpanja, World Vision; Mr. Amon Kahilu, Fungurume Urbanism and Habitat Department; Ilunga Nday Bondo, CEO at Cimenterie de Katanga (CIMENKAT), Lubumbashi; Mpanga Romanos, Tenke; Mbuyu Lulu Elise, Tenke; Sanga Tenki Poncien, Tenke; Lumbwe Timothy, Tenke; Sanga Tenki Poncien, Tenke; Willy Ciband, Tenke; Kyembe Kasuba Francois, Fungurume; Maginzi Olive, Lubumbashi.</p>	<p>The company is preparing several housing options. During construction, some housing will be required for construction workers. A construction camp for non-local workers will be built to the north of Fungurume. This camp will be converted to a permanent village for the operation phase.</p> <p>It is expected that the mine operation may attract others to move into the local area.</p> <p>TFM will provide assistance to local authorities, specifically to plan for this additional population and to help provide some of the basic infrastructure that is needed. Currently, the idea is to construct "growth centers" at both Tenke and Fungurume to assist with growth. These centers would have basic infrastructure, such as electricity and water, and will serve to attract development such that it can be controlled in an orderly fashion.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>Stakeholders want to know if the project will help systematically rebuild Tenke and Fungurume (currently villages) into modern cities.</p> <p>Some people look forward to the project resulting in a modern city in the concession area, not necessarily at Tenke or Fungurume.</p> <p>People also want to know whether there are still plans to develop a modern town in the area.</p>	<p>Kyolo Kilume Emmanuel, Club des Techniciens Industriels de professions; André Kaseya Kafwana, Arts and Culture, Tenke; Gerard, Fungurume; Ilunga Jules Mukinkwe; Kolwezi Government Open House, Nov. 28, 2006.</p>	<p>It is unlikely that Tenke and Fungurume will turn into modern cities as a result of the project. However, TFM will provide assistance to local authorities to help provide some of the basic infrastructure that is needed.</p>
<p>Participants want to ensure that TFM will consult with the Cadastral Office, which is responsible for assigning land, before finalizing the location of the employees' camp.</p>	<p>Participants at Fungurume Public Open House, May 2006.</p>	<p>TFM indeed will consult with the Cadastral Office.</p>
<p>Stakeholders want details of the houses in the construction camp; for example, whether the accommodation would be for single people or for families, and the sizes of the houses. Many said that mining companies provided very small and basic houses for construction workers. They suggest that each worker provide the plan for the house they want to stay in, and when they start working, they can pay back the cost of the house.</p>	<p>Participants at Tenke Public Open House, May 2006; Participants at Lubumbashi Government Open House, May 2006.</p>	<p>The construction camp, which will be located near the airstrip at Fungurume, will be designed and planned so that houses can be used both for construction workers, and, in the future, as permanent housing for employees and their families. For this reason, the houses will not be small, and will be designed so that they can be easily converted into comfortable, permanent houses. During construction, houses will be shared by several workers. After construction, most of the houses will be converted into family accommodations.</p>
<p>10.5 TAILINGS DAM</p>		
<p>Some stakeholders are concerned that the tailings dam will be too small to contain all the mine tailings over 15 years. They are concerned that the dam may spill during heavy rain and contaminate surrounding areas. They suggested that TFM build more tailings dams, or empty the tailings dam on a regular basis.</p> <p>Detailed studies must be conducted for the tailings dam to ensure that stakeholders' concerns are addressed.</p> <p>Many people asked about the design criteria used to ensure that the tailings dam will withstand severe storm events.</p>	<p>Participants at Lukotola Public Open House, May 2006; Participants at Kolwezi Government Open House, May 2006; Kabeya Mbaya; Fungurume; Participants at Tenke Government Open House, December 2006; Mulumba Kayombo, Lukotola Public Open House, November 2006.</p>	<p>The tailings dam is being designed to accommodate a precise estimate of how much material will be produced over the life of the mine. The dam will have sufficient freeboard (extra space) so as not to spill during rains. Waste rock also will be used to support the dam so that there will be no chance of it failing.</p> <p>The tailings facility is designed to withstand the largest storm expected in 100 years.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>There are questions about the life expectancy of the liner beneath the tailings dam, and whether it will be able to contain potential pollution long after closure of the mine.</p>	<p>Participant at Kolwezi Government Open House, November 2006; Alex Barera, Fungurume Public Open House, November 2006; Edmond Kabemba, Tenke Government Open House, December 2006.</p>	<p>The liner is designed to last for at least as long as the operating life of the processing facility (40+ years) and in reality will last much longer. At closure, TFM will place waste rock and soil on the facility to promote growth of vegetation. In addition, this will promote rainfall to run off the facility as opposed to infiltrate into it. Thus, at closure, there will be less water entering the facility and thus less chance of water seeping through the liner.</p>
<p>10.6 ELECTRICITY SUPPLY</p>		
<p>Participants want TFM to consider carefully whether the National Electricity Company (SNEL) is able to supply enough power to the project, especially because at this stage, SNEL cannot adequately meet the current electricity demand in the region.</p> <p>TFM should also consider getting its power supply from Tenke because it will be cheaper.</p> <p>Some people pointed out that the Inga Dam power supply scheme is not reliable and suggested that TFM consider other options as well.</p> <p>Others suggested that TFM should put measures in place to ensure that the frequent power failures experienced in the region do not have a major impact on its operations. It was also suggested that TFM should build its own hydroelectric plant instead of relying on electricity supply from SNEL.</p>	<p>Participants at Kolwezi Government Open House, May 2006; Participants at Fungurume Government Open House, November 2006; Participants at Fungurume Public Open House, November 2006; Participants at Tenke Public Open House, December 2006; Patrick Kawel, Lubumbashi Public Open House, December 2006; Idris Kyoni, Lubumbashi Public Open House, December 2006.</p>	<p>TFM has been in discussion with SNEL and sufficient power for the proposed project indeed is available.</p> <p>The power purchase agreement negotiated with SNEL includes improvements to existing generation facilities that will allow adequate power to be generated for TFM.</p>
<p>A few people queried the electricity requirements for the processing plant. They believe that 30 megawatts of electricity supply for the scale of production is not sufficient.</p>	<p>Participants at Lubumbashi Public Open House, December 2006.</p>	<p>TFM appreciates the opportunity to clarify the comment. The electrical power to the mine will be provided by a new 220-kilovolt overhead powerline from the existing 220-kilovolt electrical substation in Fungurume. That substation will be modified for the new power requirements.</p> <p>A switchyard will be established near the processing plant boundary where power transformers will step the supply voltage down to 33 kilovots, which will be the principal distribution voltage for the mine.</p> <p>As an additional reliability measurement, an emergency diesel generator facility will be established at the plant site.</p> <p>For the initial planned production, the project requires around 90 megawatts of firm power.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
10.7 PROCESSING PLANT		
<p>Participants had processing plant questions, including:</p> <ul style="list-style-type: none"> • Whether the acid used in the processing plant will be manufactured at the plant or imported from South Africa. • What type of acid will be used in the hydrometallurgy process. • More detail on the mineral processing process and how the potential harmful effects of the process will be mitigated. • Why the mineral processing did not include an enrichment stage. • Whether secondary products like Geranium, Silver and Nickel will be produced in the plant. 	<p>Participants at Fungurume Government Open House, November 2006; Participants at Tenke Public Open House, December 2006; Dieudonné Mashala, Lubumbashi Public Open House, December 2006; Tshitomb Ngwej, Lubumbashi Public Open House, December 2006; Ngoy Banza, Lubumbashi Public Open House, December 2006.</p>	<p>Sulfur will be imported to the project site, and acid will be prepared at the processing plant.</p> <p>Hydrosulfuric acid will be used in the process.</p> <p>An enrichment stage is usually good for the pyrometallurgical process and for low-grade ores. No enrichment is required for this project.</p> <p>There are not sufficient concentrations of other metals to warrant production.</p>
<p>There are questions whether TFM may build another processing plant at Goma.</p>	<p>Willy Kafana, Tenke Public Open House, December 2006.</p>	<p>No, the Kwatebala plant will be used to process all Goma ore.</p>
<p>An inquiry was raised on what company will receive the contract to build the processing plant at Kwatebala.</p>	<p>Kibala Makasa, Tenke Public Open House, December 2006.</p>	<p>TFM is currently soliciting commercial offers from qualified companies for the construction of the processing plant.</p>
11 ENVIRONMENTAL MANAGEMENT, MONITORING AND REHABILITATION		
<p>The perception is that current mining companies operating in the Congo have not established good environmental management practices, despite existing DRC laws, and that none of these companies have been prosecuted for pollution.</p> <p>Participants asked TFM to:</p> <ul style="list-style-type: none"> • Follow sound and responsible environmental practices, especially since local people are not used to mining and industry impacts. • Ensure that it puts sufficient measures in place to prevent pollution, to avoid the secondary impacts of pollution, and to ensure nature and the environment (surface and groundwater, air, soil, fauna and flora) does not degrade over the long term. 	<p>Ms. Magda Gonzalez, MUNOC, Lubumbashi; Huppe Kakudji Mbuyu, SNCC; Mardochée Sangu Koji; Mr. Aaron Marshall, United Methodist Committee on Relief (UMCOR), Lubumbashi; Lumuna Ngoie Noss, Nguba Mission; Samy Tetele Mumpanja, World Vision; Fidèle Mwamba Munkolokoto; Dr. Bosenga Mpia, Lubumbashi; Ferdinand Malango Kivunge, University of Lubumbashi; Kabutwe- Wa- Pipanga Jeanine, Mangombo Institute, Tenke; Mr. Francois Kapenda Lukeka, Chef de Cité, Fungurume; Mr. Emmanuel Tambwe-Kilela, University of Lubumbashi; Mr. Mukembe Parfait, University of Lubumbashi; Dr. Gilbert Ilunga, Dean: Faculty of Management and Administration, Africa University, Zimbabwe; Mr. Boniface Konde Muwelwa, Association Socio-Culturelle Lwanzo Lwa Mikumba, Lubumbashi; Participants at Fungurume Government Open House, May 2006;</p>	<p>TFM will abide by the terms of its Mining Convention and applicable DRC laws, as well as international guidelines and principles for environmental and social management.</p> <p>The findings of the ESIA will be transferred into Environmental and Social Action Plans. These plans will be public documents, and will specify the environmental and social management measures that TFM will follow. The plans also will indicate what environmental and social aspects should be monitored.</p> <p>One of the reasons that people are seeing boreholes being drilled in the area now, and scientists taking samples of the water, is because the quality of the water is being tested. Once the operation starts, monitoring will show if acceptable water quality is being maintained as required by the Environmental and Social Action Plans.</p> <p>A draft conceptual reclamation and closure plan has been</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<ul style="list-style-type: none"> • Monitor potential impacts on an ongoing basis. • Rehabilitate disturbed areas as soon as possible. • Establish a rehabilitation fund to ensure that proper rehabilitation is done. • Disclose the environmental management status of its operations to stakeholders on a regular basis at open houses. 	<p>Participants at Lukutola Public Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006; Robert Mwanza Dikamaba, University of Lubumbashi, written comment, June 2006; Lwamba Venance, Kolwezi; Mukebo wa Ngoie, Nguba Village; Mutomb Chiyeh Georges, Kolwezi; Kimbaku Shakuzanga, Likasi; Kayumya Mbula, Nguba Village; Mbuyi Tshibusu Theodore, Nguba Village; Kimbaku Shakuzanga, Likasi; Ubite Usoko Allen-Jossart, Agro Alimentary Research Center, Lubumbashi; Kabeya Mbaya; Fungurume; Participants at Fungurume Government Open House, November 2006; Isaac Mwamba, Kolwezi Government Open House, November 2006.</p>	<p>developed as part of the ESIA. This plan will be discussed with local stakeholders on an ongoing basis, as the mine is developed, so that the final plan will reflect the needs of local people.</p> <p>Phelps Dodge is a worldwide leader in the field of reclamation and closure of former mine sites. Phelps Dodge's knowledge and expertise will be reflected in the reclamation and closure program implemented at TFM.</p>
<p>The Department of Environment in Kolwezi indicates several DRC environmental laws are applicable to this project. It is important to understand the provisions of these laws because the mine will be located in a natural area.</p> <p>There are concerns about environmental pollution by mining companies due to the toxicity of activities, and the company is asked to provide its monitoring results to the authorities.</p>	<p>Meeting with Mr. Mutomb Tshiyen and Mr. Mpenge Kalenga, Department of Environment, Kolwezi</p>	<p>TFM states that the company will abide by the terms of its Mining Convention and applicable DRC laws, as well as international guidelines and principles for environmental and social management.</p> <p>The findings of the ESIA will be transferred into Environmental and Social Action Plans. These plans will be public documents, and will specify the environmental and social management measures that TFM will follow. The plans also will indicate what environmental and social aspects should be monitored.</p> <p>Mining today is different to what it was in the past. Large mining companies like Phelps Dodge, the major shareholder in TFM, are subject to many international agreements and principles, and if the company does not abide by these, the whole world will know. The ESIA that is currently being done will recommend ways to avoid or reduce pollution, and importantly, will recommend monitoring of all aspects of the mining operation that could cause pollution. Any monitoring reports are public reports, for everyone to see the results. The ESIA includes provision for an Environmental and Social Management System that will be used to manage and improve the Environmental and Social Action Plans over time. These plans, which include TFM commitments for mitigation and monitoring, will be reviewed on an annual basis and improved as necessary.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>At issue is that the open-cast mine will generate harmful effluents and dust over a 100 hectares area, with TFM required to pay the environmental division in Kolwezi the amount of US \$500 per hectare, which is US \$50,000 for the whole area. This amount is to be paid before start up of activities (see Ministerial Decree No 005/CAB/MIN/ENV/2005 of 25 July 2005 and the template for forest rehabilitation in rural areas in the mining province of Katanga, page 27 first indent). Administration and assessment fees also need to be paid by the company.</p>	<p>Mr. Mutomb Tshiyen and Mr. Mpenge Kalenga, Department of Environment, Kolwezi.</p>	<p>TFM's rights to mine the Tenke Fungurume copper-cobalt deposits arise from a mining convention entered into in 1996. The Mining Convention was governed by the 1981 mining legislation, Law No. 81-013 dated April 2, 1981, the general legislation on mines and hydrocarbons in force at the time ("Mining Law"). The TFM investment project also was subject to the Ordinance-Law No. 86-028, Investments Code, dated April 5, 1986, establishing criteria for the eligibility to the conventional system under the Mining Law. After lengthy discussions with the DRC Government and Gécamines, the Mining Convention was amended and restated on Sept. 28, 2005. On July 11, 2002, the DRC established a new mining code for mining rights, Law No. 007/2002 ("New Mining Code"). Consistent with the terms of the New Mining Code, TFM opted to maintain its rights under the Mining Convention, rather than operate under the New Mining Code. Accordingly, the legal, economic, financial, fiscal and social conditions of the project are governed by the Mining Convention and the 1981 Mining Law. Moreover, pursuant to a stability of legislation clause in the Mining Convention, the rights and obligations of the parties unrelated to the statutory mining regime are primarily governed by the general laws of the DRC in force on Nov. 30, 1996, the date of the Mining Convention.</p> <p>The comment received references a Ministerial Decree dated July 25, 2005, which has no applicability to the TFM project. Nonetheless, TFM has seriously considered impacts of its operations, including dust and other air pollutants. Effects outside of the project footprint will be minimized by use of best management practices and implementation of the action plans developed as part of the ESIA (discussed above).</p>
<p>Many people said that monitoring of air quality and other environmental aspects should be carried out by NGOs or other independent parties to ensure that the results are reflected honestly. NGOs should act as watchdogs during the life of the mine. In the past, mining companies have made many promises, only to abandon any such plans when mining commences.</p> <p>Some people felt that a local committee should be established to monitor TFM's overall activities.</p>	<p>Participants at Lukutola Public Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006; Kasimu Heradi, Mulumbu Village.</p>	<p>TFM will implement a comprehensive monitoring program for air quality and other environmental aspects.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>Questions were raised about the differences between the TFM amended and restated mining convention with the government and the Mining Code, and why TFM would not just comply with the Mining Code.</p>	<p>Kenneth Makali, Kolwezi Government Open House, November 2006.</p>	<p>With respect to environmental standards and social policies, TFM will comply with both applicable DRC law and international guidelines, primarily based on the World Bank Group and IFC guidelines and policies, which in most instances are more stringent than the standards established in the Mining Code. TFM's decision to maintain its rights under its mining convention rather than opt for the application of the Mining Code will not affect the level of environmental protection and social policies developed for the project. One of the primary benefits of retaining the mining convention is that the legislation applicable to the project is stabilized, which will result in continued protection of the environment and application of internationally accepted social policies.</p>
<p>Many people wanted to know what measures are being put in place for rehabilitation of the mine and tailings dam site after completion of the project and whether TFM already has prepared a Mine Closure Plan.</p>	<p>Kambaj Kamand, Kolwezi Government Open House, November 2006; Participants at Tenke Government Open House, December 2006; Participants at Lubumbashi Public Open House, December 2006.</p>	<p>A conceptual closure plan has been developed and is included in the ESIA. This plan will be more fully developed as the project proceeds. Input from community members will be solicited to determine the most appropriate end land use.</p>
<p>Questions were raised about how pollution will be avoided in the case of storm events.</p>	<p>Participant, Kolwezi Government Open House, November 2006.</p>	<p>The project has been designed so that all tailings and process water will be contained. A one meter freeboard will be maintained on the tailings facility (designed for the 1 in 1,000 year storm event).</p> <p>Some stormwater from the waste rock and low grade ore stockpiles may be released during 1 in 10-year or greater storm events. This water may have concentrations of constituents of concern that exceed guidelines. However these events will be rare and any releases will be quickly flushed through affected catchments.</p>
<p>A question was raised about TFM's emergency response plan in case of disasters or accidents.</p>	<p>Isaac Mwamba, Kolwezi Government Open House, November 2006.</p>	<p>TFM will have a response plan appropriate to the types of emergencies that can be anticipated, which include spills of potential hazardous materials, or transitory exceedance of emissions or effluent quality criteria.</p> <p>Also the three villages of Mulumbu, Amoni and Kiboko will be resettled specifically to avoid potential adverse effects to the people of these nearby villages.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>12 SOCIO-ECONOMIC ISSUES</p>		
<p>Many stakeholders said that the project must improve local socio-economic conditions and benefit local people and the Congo as a country, and must not only benefit shareholders that live elsewhere in the world. The project must improve the quality of life of local people.</p> <p>Some stakeholders said that previous mining operations in the Katanga Province provided very few benefits to people, and if so mainly the military and the authorities benefited. Others said that development programs of some mining companies did benefit local people, and asked if the same could be expected from TFM's project.</p> <p>Some participants were concerned that there will be little benefit to the country's economy and local people. This, they believe, is because TFM is exempt from certain company taxes to the government and will not be employing many people.</p> <p>Some participants at the Kolwezi Government Open House asked that the company disclose how much tax it would be paying to the Congolese Government once the project is fully operational.</p>	<p>Mr. Richard Ngoy Kitangala, Mr. Juvenal Lunggangwe, Mr. Albert Kalubi Ngongwe, Mme. Terese Mbwaya, Caritas, Lubumbashi; Mr. Gabriele Salmi, Alba, Lubumbashi; Mr. Kasongo Mutshaila, World Vision, Lubumbashi; Professor Emile Mota, Department of Economics, University of Lubumbashi; Gabriel Kilolo-Komba, National Information Agency, Lubumbashi; Meeting with Chief Mwela Mpande; Mme Belinda Kofwumbu Mujinga, BDD, meeting with BDD and Council Regional des ONG de Developpement du Katanga, Kolwezi; Kayembe Bipendu, Kambove; Alex Kampoto, Lukotola village; Mukaz Nyemb Laurent, Rural Social Center, Kamalenge-Lukotola; Huppe Kakudji Mbuyu, SNCC; David Mujunga Mwandu, Head of Institut Technique Commercial Lumière du Christ; Christian Musele Ilunga, Teacher, Tenke; Munyikisa Tshipopa Claude; Hilaire Ilunga Kitenge; Fidèle Mwamba Munkolokoto; Kongolo Sukuma, Judge, Tenke; Ms. Nelly Konkuba wa Mangi, Mangombo Institute, Tenke; Mr. Emmanuel Tambwe-Kilela, University of Lubumbashi; Dr. Ngoy, Mulolo Medical Center, Kolwezi; Meeting with Mr. Paulin Katshongo, Mayor of Kolwezi District; Meeting with BDD and Council Regional des ONG de Developpement du Katanga, Kolwezi; Ms. Joellen McGann, IFESH, Lubumbashi; Mwimba Kambi, Rural Social Center, Kamalenge-Lukotola; Monga UMBA, Kelangile; Mardochée Sangu Koji, Kazadi Malemo Pierrot, CDH, Nguba; Mr. Katombe Bela, Mulumbu Village; Simba Kalumba Pascal, Chemical Engineer, Mpanga Romanos, Tenke; Mr. Francois Kapenda Lukeka, Chef de Cité, Fungurume; Mr. Boniface Konde Muwelwa, Association Socio-Culturelle Lwanzo Lwa Mikumba, Lubumbashi; Participants at Lubumbashi Public Open House, June 2006; Participants at Kolwezi Government Open House, May 2006. Multi-sectoral meeting, Tenke; Meeting with Chief Mwela Mpande; Participants at Tenke Government Open House, May 2006; Participants at Tenke Public Open House, May 2006; Tembo Mumba Ildebrand, Fungurume; Tshineva Steve, Tenke Government Open House, December 2006.</p>	<p>TFM commits to work with the DRC government, local organizations and NGOs, and in consultation with local people, to assist with community development projects in the area. To aid in this process, TFM has committed to provide 0.3% of its net sales revenues to local development programs.</p> <p>TFM wants to ensure that it assists with those types of projects that can make the biggest difference over the longest time. Therefore, the company will collaborate with local organizations that understand local culture, conditions and circumstances. TFM is a mining company, so it cannot implement community development projects alone. The company will support local organizations, financially and in other ways, to implement these activities.</p> <p>It is important to remember that community development projects need the support of community members. Community development is not just hand-outs and gifts under a paternalistic approach. People will have to work together to make projects work. In this way, local organizations and local people also will learn new skills.</p> <p>TFM is not exempt from paying taxes, but is subject to the tax and royalty provisions of the 2002 Mining Code. TFM also believes that the economic impact of the project will reach far beyond the employment opportunities from direct jobs. Additional jobs will be generated by the company's need to purchase materials and services within the country.</p> <p>The minimum investment for the initial stage of this project is approximately US \$650 million. Taxes will be paid according to the TFM Amended and Restated Mining Convention (ARMC), which incorporates the financial standards of the 2002 mining law.</p> <p>Finally, the return to Gecamines on their 17% interest in the TFM project is likely to translate into additional opportunities as the company's financial performance improves.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>The towns of Tenke and Fungurume should benefit equally from the proposed project. At present, Fungurume seems to benefit considerably more through infrastructure and job creation. If this is the case, the company may as well change the name of the project to Fungurume Tenke Mining Company.</p> <p>There were, however, some people who felt that Fungurume will not benefit enough from the proposed project and should be given priority.</p> <p>Many people say that TFM should ensure that its activities and management facilities and offices, etc. are shared equally between Tenke and Fungurume. Currently, most of these are based in Fungurume.</p>		<p>There will be important project structures in both the Fungurume and Tenke areas, in part, because the two towns belong to two different administrative units. This should be part of the planning. However some structures will necessarily remain in Fungurume, such as the existing camp and the airport, since this town was long ago designated for administrative functions.</p>
<p>The social and economic impact study should take into consideration that historically, the UMHK considered the Tenke-Fungurume deposit a strategic reserve for a major crisis. This major crisis has surfaced following Gécamines' insolvency. Efficient management and a spirit of nationalism will lead to Gécamines, currently non-operational, drawing direct benefit from this well-known reserve. Its sudden death is unjustified. Mineral reserves are well documented in UMHK and Gécamines surveys. Tenke Fungurume has proven reserves of 7 million tons in copper and 1.5 million tons in cobalt, i.e. potential reserves of US \$90 Billion, 50 times the DRC's annual budget. Future exploration could double reserves. Consequently, Tenke Fungurume is a national asset and security which may be used to guarantee other foreign investments, and is a large source of finance of the Republic. It's hard to fathom and to accept that government could have ceded 85% of its mineral rights for 15 million dollars. This disproportion is unacceptable.</p>	<p>Mr. Robert Crem, Former President of Gécamines.</p>	<p>The comment does not fully describe the facts surrounding Tenke Fungurume and the transaction among Gécamines and TFM, which are as follows:</p> <p>Gécamines is receiving US \$100 million in asset transfer payments. Of that amount, US \$50 million was paid to Gécamines in May 1997. Another US \$15 million was paid by Phelps Dodge to Gécamines in November 2005, which may be the source of the US \$15 million mentioned in the comment. Additional payments totaling US \$35 million will be made to Gécamines over a period of approximately five years as specified project milestones are reached. It should be further noted that Gécamines also will be an equity partner in the TFM project, and that asset transfer payments mentioned above are above and beyond Gécamines share of future profits. Finally, the asset transfer amounts are also above and beyond the taxes, duties, royalties and other revenues that will come to local, regional and national governing bodies.</p> <p>TFM believes the comment refers to copper and cobalt tonnage figures that have been published previously as the total resource, not as total reserves. TFM is not in a position to verify the figures until it completes the feasibility study. TFM agrees that Tenke Fungurume is a world-class resource, and the Company is determined to develop the project in a way that the wealth it creates will be distributed among the governments, the communities, and the private investors who are stakeholders in the project.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
		<p>The project will generate numerous benefits for the DRC, including:</p> <ul style="list-style-type: none"> • Taxes, duties and royalties paid directly by TFM. • Employment for residents and income taxes for the state. • Business opportunities for national providers of goods and services. • A social development fund financed with 0.3 % of annual revenues from metal sales. • Power purchases of around US \$20 million a year from the state-owned utility. • Construction of new infrastructure and improvement of existing infrastructure, such as power, railway lines and roads. <p>TFM is committed to act in a socially and environmentally responsible manner as it develops the project.</p>
<p>Some people pointed out that TFM now controls the whole concession area. This prevents other mining companies from starting mines and making more jobs available. They suggest that TFM should establish another company in the DRC to process the copper into electrical wire or cables (for example at the Likasi plant or Latreca in Lubumbashi). This will create more jobs.</p> <p>Many people queried whether it is necessary for TFM to process the copper and cobalt abroad, instead of locally. This is of concern because once the ore deposits have been completely depleted after 20 years there will be nothing left for the local people.</p> <p>There were also questions about whether TFM is considering a future project to process the tailings. Such a project will bring more socio-economic benefits to the region.</p>	<p>Participants at Tenke Public Open House, May 2006; Participants at Fungurume Public Open House, May 2006; Participants at Fungurume Government Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006; Guelor Ngoie, Lukotola Public Open House, November 2006; Joe Kitenge Sumbu, Lubumbashi Public Open House, December 2006; Lungayi Sambombi, GCM, Lubumbashi Public Open House, December 2006.</p>	<p>Whereas TFM does not aim to establish another large company at this point, the proposed project is expected to create many additional business opportunities for providers of goods and services, and many additional jobs as a result. This is apart from TFM's community development projects, which are expected to create further jobs. Please also refer to information in previous responses regarding the value added by the TFM investment.</p> <p>TFM understands the apparent benefit of adding value to metal products by further processing before export, such as in the production of wire or cable. However, the economics of producing copper-cobalt products demand that such activities be located close to the source of demand and final use. Most of the market for finished copper-cobalt products is in Asia, North America and Europe, so such products would not be economically competitive if manufactured in the DRC. The greatest economic return to the DRC under current economic conditions will be realized by exporting refined metal.</p> <p>With regard to tailing reprocessing, the question is understandable, given the number of such projects under way on historic tailing deposits in Katanga. However, at</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
		<p>this point in time, the residual copper and cobalt concentrations in the tailings from the TFM project would not be economically feasible to process.</p> <p>Allowance has been made to stockpile low-grade ore. This ore will be processed over a 20-year period once the higher grade ore has been processed, effectively resulting in a project of more than 40 years duration.</p>
<p>Participants took a positive view of potential improvements in socio-economic conditions, noting that the proposed new underground mining operation of KOL near Kolwezi is due to start in about a month. In four years, once fully in operation, the mine would employ a total of 2,500 workers (both as permanent employees and through contractors). Thus, together with other new mining ventures, including the one of TFM, there should be a general improvement in socio-economic conditions in the region.</p>	<p>Participants at Kolwezi Government Open House, May 2006.</p>	<p>The ESIA team would agree that more mining projects in the province would generally improve socio-economic conditions.</p>
<p>People want to know whether Phelps Dodge will own all of TFM's production.</p>	<p>Edmond Kabemba, Tenke Government Open House, December 2006.</p>	<p>The revenue from the sale of TFM production will be allocated among TFM partners in proportion to their participation in the project; Phelps Dodge has a 57.75 percent share, Tenke Mining Corp. has a 24.75 percent share, and Gecamines has a 17.5 percent interest.</p>
<p>It was noted that every day thousands of tons of copper leave Kolwezi, but the mining companies do not invest in building new infrastructure like hospitals, schools and roads – they just refurbish existing infrastructure. It was suggested that perhaps the agreements between companies and the government should be renegotiated to ensure that other more visible benefits come to the country.</p>	<p>Kenneth Makali, Vodacom, Kolwezi Government Open House, November 2006.</p>	<p>TFM's commitment to investing in local development is embodied in the terms of the ARMC. These terms obligate the company to set aside 0.3% of net sales revenue from mine production for a 'Social Development Fund'. How this fund is ultimately used for specific investments in one type of infrastructure or another entails decisions in which all stakeholders should participate, including local authorities, community leaders and residents. In 2007, TFM will prioritize the establishment of a 'foundation' based on these participatory principles, and which ultimately will be enabled to decide which activities merit the highest priority for investment from the TFM Social Development Fund.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
12.1 CURRENT SOCIO-ECONOMIC CONDITIONS		
<p>Numerous stakeholders commented on current socio-economic conditions in the concession area, including that:</p> <ul style="list-style-type: none"> The Congo has extremely rich mineral resources but its people are very poor, mostly as a result of conflict over the country's mineral resources. People in the area have no running water, no sanitation, disease from malnutrition, limited education and health care, limited infrastructure, no communication systems, bad roads and very high interest on credit. Good seed for planting is hard to come by, and the local population earns very little from their produce. The migratory nature of the villagers in the rainy season causes difficulty in educating children, and the strong male domination means many women cannot earn a living on their own. Necessary field work during the rainy season spreads disease due to poor sanitary conditions and distant hospitals. <p>Some stakeholders said that Lukotola is the only village in the area where there is an effective developmental program, sponsored by the local Catholic mission, and requested similar assistance from TFM. Many villagers asked to participate in the mission's oxen acquisition program.</p>	<p>Mr. Kasongo, Mutshaila, World Vision, Lubumbashi; Meeting with Chief Nguba and elders, Nguba Village; Meetings with women, Fungurume and Tenke; Meetings with men, Fungurume (important representatives of the informal mining traders, a few large farmers, former civil servants, etc. mostly quite affluent people) and Tenke; Meeting with young people (secondary school and university age), Fungurume; Meeting with women in Kamungu Kitambo Village; Meeting with men in Kamungu Kitambo Village; Meeting with young people in Kamungu Kitambo Village; Kabutwe- Wa- Pipanga Jeanine, Mangombo Institute, Tenke; Kashimbo Mwanza Jean, Mangombo Institute, Tenke; Ms. Nelly Konkuba wa Mangi, Mangombo Institute, Tenke; Meeting with Tenke Chef de poste, chef ANR, head of the local police, head of the mines' police; Meeting with women active in agriculture, education and health centers in Tenke; Delly Mwangala; Muhemba Muotmbo, Lukotola; Samy Tetele Mumpanja, World Vision; Kazadi Malemo Pierrot, (Human Rights Center), Nguba; Nicolas Kayumya Mbula, Nguba; Shekinah Koji Mujinga and Dimitrios Kazembe Wa Nkulu, teachers at Institut Technique Commercial Lumière du Christ; David Mujunga Mwandu, Head of Institut Technique Commercial Lumière du Christ; Gabriel Mwema Mbayo, Teacher, Orthodox Mission; Christian Ilunga Kabuya; Mpanga Romanos, Tenke; Meeting at Mutaka II Village; Meeting at Mutaka Mwelwa Village; Meeting at Kabwe Kakese Village; Meeting at Kasanga Village; Meeting at Lukotola Village.</p>	<p>People in the concession area are indeed very poor and the region is urgently in need of development.</p> <p>TFM commits to work with the DRC government, local organizations and NGOs, and in consultation with local people, to assist with community development projects in the area. To aid in this process, TFM has committed to provide 0.3% of its net sales revenues to local development programs.</p> <p>TFM wants to ensure that it assists with those types of projects that can make the biggest difference over the longest time. Therefore, the company will collaborate with local organizations that understand local culture, conditions and circumstances. TFM is a mining company, so it cannot implement community development projects alone. The company will support local organizations, financially and in other ways, to implement these activities.</p> <p>It is important to remember that community development projects need the support of community members. Community development is not just hand-outs and gifts under a paternalistic approach. People will have to work together to make projects work. In this way, local organizations and local people also will learn new skills.</p> <p>TFM will work with the communities, community leaders, NGOs, international organizations and the DRC government to develop and support community programs which will help communities improve their economic and living conditions.</p> <p>The socio-economic assessment conducted as part of the ESIA shows that the many benefits will result from the project, including employment and job creation. Other benefits from the project will include tax revenue, improved infrastructure and assistance with agriculture, education, and health services.</p> <p>It is estimated that US \$75 million will be spent during project construction in the DRC. The estimated spending during operations will be significant, of which approximately 40% will be spent in the DRC.</p>
<p>Some stakeholders said that part of the reason for the</p>	<p>Meeting with three of the four quarter heads of</p>	<p>The comment addresses (we believe) the issue of speculators</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>poverty of local people is because of the belief in sorcery, selling of the harvest because of the need of money, and the very small revenues that the local population earns from its agricultural produce. Although it is forbidden to distil alcohol, Lutuku (distilled alcohol) is an important source of income for the women.</p>	<p>Fungurume; Caiman Kayembe Ngwama, RELCOF</p>	<p>buying most of the local grain harvest at low prices at harvest time and selling it back at high prices in the wet season, when people have run out of their own stores.</p> <p>The TFM community development program will include an agricultural development component, including education and technical assistance in the storage and marketing of grains. This should help reduce extremes in local price fluctuation for maize.</p>
<p>Many stakeholders indicate that there is extreme poverty in the area, with lack of schools, few health facilities, poor roads and lack of access to markets. Many people are unemployed. People can't pay for fertilizer to improve their crops, and do not have improved seeds. Problems for the young concern money for studies, poor schools with only theoretical education, and lack of information (no radio, TV, internet). Young people marry early to fight boredom, and many said agriculture needs too much investment for a very poor return – they need other opportunities too.</p> <p>Stakeholders asked what effect new capital in the local area will have for the development of rural facilities and opportunities.</p>	<p>Meeting with men, Fungurume (important representatives of the informal mining traders, a few large farmers, former civil servants, etc. mostly quite affluent people); Matthieu Wazenga, SOS Education (ONG); Wembolwa Sungu Fiston, Rural Social Center, Kamalenge-Lukotola; Dely Mwangala; Mulemba Wa Kila Arthur, Crop grower; Mashala Felix Catholic Mission, Fungurume; Gabriel Mwema Mbayo, teacher; Orthodox Mission, Tenke; Caiman Kayembe Ngwama, RELCOF, Meeting with Chief Mulumbu and three elders, Mulumbu Village; Meeting with young people (secondary school and university age), Fungurume; Kashala Lukoji Douglas, Meeting with migrant men in Mulumbu Village, Ms. Carine Kasongo Banza, Teacher at the Mangombo Institute; Tenke; Dely Mwangala; Kalo Kalonda Pharaon Rural Social Center, Kamalenge-Lukotola; Mumba Munkini Jacques, Environmental Authority; Mr. Jean-François Mbuyu Lwambiyi Kalenga, Métallurgie, Polytechnique, University of Lubumbashi.</p>	<p>People in the concession area are indeed very poor and the region is urgently in need of development.</p> <p>TFM will work with the communities, community leaders, NGOs, international organizations and the DRC government to develop and support community programs which will help communities improve their economic and living conditions.</p> <p>The socio-economic assessment that is being conducted as part of the ESIA will provide an assessment of the benefits as a result of the project.</p> <p>These include:</p> <ul style="list-style-type: none"> • Improvement to local household income. • Training. • Improvements to infrastructure. • Increase in revenue to local and non-local government, including creation of a social development fund based on 0.3% of TFM's net sales revenues.
<p>12.2 EMPLOYMENT – NUMBER OF JOBS</p>		
<p>Many stakeholders said that the media reported in 2005 that there would be 5,000 jobs. Now people hear there will only be 600 permanent jobs, which is causing concern. Many people have given up their farms in anticipation of 5,000 new jobs.</p> <p>Some find it difficult to understand how such a big mining company can provide so few jobs, and worry that 400 of the 600 jobs will be for skilled people, further cutting availability for non-skilled, local people. They also said that the number of permanent jobs will not make much difference to people's lives.</p>	<p>Meeting at Department of Sociology, University of Lubumbashi, Professor Gabriel Kalaba and his students; Mr. Ilunga Mulunda Celestin, Fungurume Tax Collector; Multi-sectoral meeting, Tenke; Mr. Francois Kapenda Lukeka, Chef de Cité, Fungurume; Mr. Gilbert Kyungu Shimbi, Eglise/ New Jerusalem Church; Ms. Mamie Mbemba Nguz, Teacher, Fungurume; Kazadi Malemo Pierrot, CDH, Nguba; Multi-sectoral meeting, Tenke; Mr. Doctor Chibango, SAESSCAM, meeting with SAESSCAM officials and 12 informal miners, Kolwezi; Moïse Ulomb Tshaul, Rural Social Center ,</p>	<p>Once the project is fully in operation, it will create about 1,100 <i>direct</i> jobs. But there will also be <i>indirect</i> jobs.</p> <p>Indirect jobs mean jobs that will be created as a result of the mine being there. For example, the mine will require clothing for its workers and will buy this from a local NGO or business that will have to employ people to make the clothing. The same with many other goods and services that the mine will obtain locally – for example: food production for the mine workers.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>Many recommend that other ways of benefiting people will have to be found if there are so few jobs available.</p> <p>People also said that the employment opportunities to be offered by TFM are few compared to the 60,000 population in Tenke and Fungurume. Others pointed out that Gecamines used to employ 36,000 people.</p> <p>Some people suggested that since the mine will be closest to Mulumbu Village, the majority of jobs should go to people from that village. A few people even suggested that TFM should employ all Mulumbu residents that are fit to work at the mine.</p>	<p>Kamalenge-Lukotola; Jean Mwenda Kitanika Rural Social Center Kamalenge-Lukotola; André Kaseya Kafwana, Arts and Culture, Tenke; Mr. Gabriel Kilolo-Komba, National Information Agency; Participants at Tenke Public Open House, May 2006; Participants at Fungurume Public Open House, May 2006; Participants at Fungurume Government Open House, May 2006; Chief Mulumbu Kazadi, Mulumbu Village; Mukebo wa Ngoie Claude, Nguba Village; Kashala Mujala, Mulumbu Village; Katumba Jean Claude, Mulumbu Village; Mukoko Kalombo, Mulumbu Village.</p>	<p>About 2,000 temporary jobs at the peak of the construction phase and about 1,100 permanent jobs are expected to be created during operations. Many of these will be local people. For every direct job, the project will create around 4 indirect jobs. This means about 8,000 indirect jobs during the peak of construction and 4,400 during operation.</p> <p>In addition, the company will support several community development projects in consultation with local organizations and NGOs.</p>
<p>Some wonder whether the 600 permanent jobs during the operational phase include administrative and other office staff.</p>	<p>Mr. Moma Kyunga, Fungurume City Secretary.</p>	<p>Yes, the current plan is for about 1,100 permanent mine jobs during operations, including administrative and other office staff. However, each of these permanent jobs will lead to several additional opportunities in the support economy, such as selling food, clothing or providing services.</p>
<p>Many people in nearby villages said that they already have mining skills. They said that the company should inform communities well in advance of the recruitment process to ensure that everyone has a fair chance, and that the opportunity for employment should be widely advertised.</p>	<p>Mr. Kalasa, Amoni Village; Meeting with villagers at Mwela Mpande Village; Mr. Umba Francois, Amoni Village; Mr. King de Kang Mukasa Ngweji, Kakanda Primary School.</p>	<p>TFM will communicate the recruitment process publicly and widely. Mr. Francis Kalassa, TFM's community development officer, will be in personal contact with local authorities and communities in the area. The recruitment process will be announced well in advance. Mr. Francis Kalassa is not the recruitment officer, but another person that is not identified yet will conduct recruitments. Recruitment for construction workers is not expected to start before late in 2006. Recruitment for permanent workers will only start sometime in 2007.</p>
<p>People wanted to know why TFM, a large company, is employing only temporary workers while other companies currently doing work for TFM employ people full-time.</p>	<p>Participants at Lukutola Public Open House, May 2006.</p>	<p>The mine has not started up yet. As soon as it starts, TFM will fill staff positions with permanent employees. Meanwhile, there are many preparatory tasks that are temporary in nature, and TFM has elected to give priority for these jobs to local residents.</p>
<p>Some stakeholders questioned why TFM only has two Congolese citizens on its staff.</p>	<p>Participants at Kolwezi Government Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006.</p>	<p>TFM has many Congolese citizens on its staff, not only two. This includes Congolese citizens in the senior management structure of TFM. TFM's recruitment policy will give preference to hiring those people with the best qualifications for a given position. In case of equal qualifications among many candidates, preference will be given to DRC citizens and local residents of the TFM area.</p>

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<p>Stakeholders asked whether there would still be a role for mining engineers in TFM because of the modern technology that will be used in this project.</p>	<p>Participants at Kolwezi Government Open House, May 2006</p>	<p>Yes, the project still will require mining engineers.</p>
<p>Many people raised concerns about the small business enterprises established by TFM, for example:</p> <ul style="list-style-type: none"> • The raw materials provided by TFM for fence making are too expensive, making it difficult for the business to be profitable. • Some contractors and small businesses are dissatisfied because they have not been paid for their services or products. • People feel that enhancing small scale enterprises is good but it does not offer the security of a permanent job. • Members of Kilusonsa Village are still waiting for PACT Congo to give them feedback on whether fence-making and brick-making businesses will be started in the village. • Local authorities should be contacted and informed before NGOs approach communities to start small business enterprises. 	<p>Participants at Tenke Government Open House, December 2006; Mambweji and Kalala, Participants at Tenke Government Open House, December 2006; Kadiata Munama, Tenke Public Open House, December 2006; Joseph Mukekwa Kyungu, Kilusonsa Public Open House, December 2006; Kapenda Lukeka, Chef de Cite Fungurume, Fungurume Government Open House, November 2006.</p>	<p>TFM regrets any delay in payment for services or products delivered for their use.</p> <p>TFM's decision to source basic construction materials locally was made in order to maximize local economic benefit. However, it was also recognized that local capacity may be low for the manufacture of some materials (such as fencing), and so time would be required to establish fundamentals such as fair pricing. TFM believes that these fundamentals are now in place, and that any future invoices will be paid in a timely manner.</p> <p>Raw materials, such as those provided for fence making, should be cost-neutral at this early stage in the micro-enterprise program. Tools and steel wire have thus far been provided at TFM expense, and their cost deducted at equal value from invoices. However, it is fully appreciated that these enterprises should be competitive so as to continue business beyond the opportunities provided by the immediate demands of the project.</p> <p>The village of Kilusonsa will be provided with a brick-making enterprise.</p> <p>TFM acknowledges that local authorities should be aware of activities in their jurisdictions, and will advise NGO collaborators to notify authorities regarding their programs.</p>
<p>People's questions regarding TFM's employment lists include:</p> <ul style="list-style-type: none"> • Whether elders and people that did not get a chance to register on the employment lists will receive other opportunities to do so. • People from Lukotola should also be given a chance to register on the employment lists for semi-qualified jobs. • The fact that so far, only a minority of the community have jobs in spite of all the employment lists being compiled. 	<p>Mambweji, Tenke Government Open House, December 2006; Participants at Lukotola Public Open House, November 2006; Mukebo Augustin, Lukotola Public Open House, November 2006; Kabeshi, Mulumbu Public Open House, December 2006; Jean Mpanga and Emile Mubi, Mulumbu Public Open House, December 2006.</p>	<p>TFM is making arrangements for periodic update of the employment lists in all villages. Anyone who was not present during the initial preparation of an employment list will have opportunities to register in the future.</p> <p>TFM does not discriminate by age and abides by current labor law regarding eligibility for the employment lists. The current age limitations are a minimum of 18 and maximum of 65 years for listing. Qualifications for a given job, including physical condition, are evaluated once candidates have been selected from the employment lists.</p> <p>The purpose of the employment lists is to help assure that jobs are equally available among the roughly 60,000 residents of the concession area, not that everyone</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
		receives a job. Therefore, it is to be expected that only a minority would have received jobs from any given village population.
It was suggested that TFM be aware of the short life expectancy of local inhabitants and should put plans in place to cope with the loss of many of its workers before the end of the project.	Aboubakard Vigoureux, Tenke Government Open House, December 2006.	TFM appreciates the commenter's concern that local realities are appropriately recognized in their management practices. TFM has invested considerable effort in understanding local socio-economic conditions, including human health. This knowledge will be applied in a number of ways, most importantly in the preparation of community development programs that address critical health care needs, but also in the preparation of recruitment and employment policies.
12.3 RECRUITMENT POLICY AND PRINCIPLES		
It was suggested that TFM develop a recruitment policy in consultation with local authorities and others, and that the policy be based on clear principles. TFM also should ensure that its recruitment and employment policy are based on sound legal principles.	Professor Kalaba, Department of Sociology, University of Lubumbashi; Meeting with Mr. Paulin Katshongo, Mayor of Kolwezi District; Participants at Fungurume Public Open House, November 2006.	TFM will develop a recruitment policy. It will do so in consultation with government and local organizations, and in compliance with DRC laws. The company will widely communicate these and any other principles on which the policy will be based.
<p>The following principles for the recruitment policy were suggested:</p> <ul style="list-style-type: none"> • Give preference to local people, but define what "local" means (just the towns around the mine? the whole concession area? the province? the DRC?. If outsiders are employed, including ex-mine workers now living in the area, there could be unrest and demonstrations as has happened to other mining companies. • Use the Tombola (raffle) system for unskilled workers, a system that the Mulumbu community believes works very well. • Don't require job seekers to wait in front of the TFM gate to obtain a job, which is considered a sad and humiliating sight. • Follow the spiral principle for skilled workers; i.e., start looking for skilled people among the nearest communities and spiral out as required. 	<p>Blanchard Mbayo Nambia, Ministère de l'information et presse, Division Provinciale; Chief de Quartier, Amoni Village; Chief Kiboko, Kiboko Village; Dr. Bosenge Mpia, Lubumbashi; Lumuna Mbula, Tribunal Nguba; Lupity Muyembe Kandisele, Police of Mines-Fungurume; Médecins Sans Frontières (MSF), Lubumbashi; Meeting at Department of Sociology, University of Lubumbashi, Professor Mutabusha-Gabriel Kalaba and 12 students; Meeting at Kafwaya Village; Meeting at Mutaka II Village; Meeting at Mwanga Kakunta Village; Meeting at Ndela; Prudence Village; Meeting at Zakeo Village; Meeting with ANR, Kolwezi; Meeting with Chief Nguba and elders, Nguba Village; Meeting with men at Kabombwa Village; Meeting with men, Tenke; Meeting with men, Fungurume; Meeting with Mulumbu women; Meeting with three of the four quarter heads of Fungurume; Meeting with villagers at Mwela Mpande Village; Meetings with Chief of Mulumbu and with Mulumbu Community members on top of Kwatebala Hill; Mr. Christian Roy, PACT; Congo, Lubumbashi; Mr. Doctor Chibango, SAESSCAM, meeting with SAESSCAM officials and 12</p>	<p>TFM thanks the many people who provided suggested principles for its recruitment policy. The company will carefully consider these suggestions as it develops the new policy. Once final, the recruitment policy will be made public and operated in the most transparent manner possible. Meanwhile, TFM notes the following points:</p> <ul style="list-style-type: none"> • TFM will not use informal recruiters. The company will appoint someone specific to do the recruitment, and will monitor the recruitment process so that there is no exploitative use of the process, nor bribery and corruption. TFM does not tolerate bribery or corruption, and asks that anyone who becomes aware of bribery and corruption amongst TFM staff to contact Mr. Francis Kalassa, TFM's community liaison officer. • TFM already employs women. Gender equality is a standard principle in TFM recruitment policies. • TFM will not engage in child labor, as required by law and dictated by the company's corporate values (doing what's right).

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<ul style="list-style-type: none"> Collaborate with the local communities to develop a database of people that are fit to work and employ them on a rotation basis. Publicize the recruitment policy and process widely; including in the villages, so everyone will have equal opportunities to apply for jobs. Announce recruitment opportunities two weeks in advance. Reserve some jobs for youth. Avoid tribal recruitment; instead, hire on competencies and skills. Establish a union/association without tribalism for recruitment. Respect people's qualifications, so that an engineer isn't sweeping floors. Make the recruitment process fair, independent and transparent. Balance the number of workers between Tenke and Fungurume. Give preference to previous TFM employees; they are still on 'technical leave'. Give preference to informal miners who were removed from the site last year since they already have mining experience. Consider construction workers, if suitably qualified, for full-time employment after the construction period is over. Consider metal workers and fitters already working in the area. Do not ask chiefs to do the recruitment because they may only recruit their own people, which will be viewed as unfair. Similarly, do not ask local government officials to do the recruitment, but consult with local government on the procedures to follow. 	<p>informal miners, Kolwezi; Mr. Gabriel Kilolo-Komba, National Information Agency; Mr. Gloire Sumbul Nfumwash, Procureur de la Republique, Kolwezi and Magistrate Mr. John Kadima wa Kadima; Mr. Jean Claude Kunda Bwanga, small-scale mining operator in Katanga; Mr. Kasongo Mutshaila, World Vision, Lubumbashi; Mr. Mumba Kabole, Amoni Village; Mr. Victor Kaleng-a- Mbumb (BDD), meeting with BDD and Council Regional des ONG de Developpement du Katanga, Kolwezi; Ms. Magda Gonzalez, MUNOC, Lubumbashi; Multi-sectoral meeting, Tenke; Professor Emile Mota, Department of Economics, University of Lubumbashi; Professor Fulgence Nyembo-Mateleka, Mangombo Institute, Tenke; Professor Mutabusha-Gabriel Kalaba, Department of Sociology, University of Lubumbashi; Willy Kafana Muzako, Cadastral Office, Tenke; Women in Nguba Village; Zeka Maseka, Tenke; Mr. Mike Parker, Comisa sprl (Filiale de First Quantum Minerals), Lubumbashi; Participants at Fungurume Government Open House, May 2006; Participants at Lubumbashi Government Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006; Participants at Fungurume Public Open House, May 2006; Participants at Kolwezi Government Open House, May 2006; Fanny Kaseng Tshijik, student at University of Lubumbashi, written comment, May 2006; Participants at Kilusonsa Open House, May 2006; Participants at Tenke Government Open House, May 2006; Participants at Fungurume Public Open House, May 2006; Mujinga Yav Joseph, Kilusonsa Village; Muyeko Kiziba Pamphile, Kilusonsa Village; Fidèle, Fungurume; Kyembe Kasuba Francois, Fungurume; Kabesha Kasongo Paul, Fungurume; Ubite Usoko Allen-Jossart, Agro Alimentary Research Center, Lubumbashi; Lumbwe Kabela Celestin and 10 farmer colleagues (Kalenga Mutumbe, Kyungu Kazembe, Mulumbu Kazadi, Kamona Uveve, Tshansa Kapya, Musamba Sangola, Mumena; Muhemba Mukuma, Kyungu Kamwasha), Mulumbu Village; Malovu Mambwe, Fungurume; Jean Louis Sompomutela, AMKA Katanga; Mwika Mukekwa, Nkonka Village; Chief Zakeyo, Nkonka Village; Kikonde, Nkonka Village; Mofati Kapamba, Nkonka Village;</p>	<p>TFM is acutely aware of, and has closely examined the question of, informal heterogenite mining in the concession area. This examination has included the socio-economic baseline studies, the public consultation process and the preparation of community development plans. The company has found that the social and economic aspects of this activity are complex, and the adverse impacts that arose when it was stopped in the TFM concession cannot be mitigated by any single policy such as employment preferences.</p> <p>It is TFM's policy to assure that local residents benefit from the project as much as possible, including through direct employment, through the many indirect economic opportunities that will arise, and through our community development actions. These local residents include many people formerly involved in heterogenite mining, but consideration of this will not be a factor in the implementation of our policy.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<ul style="list-style-type: none"> • Do not use recruiters because they exploit local people. • Demonstrate gender equality, since women want jobs, too, and give preference to widows, especially if their husbands were previous TFM employees or died as a result of mining • Prevent child labor by defining an age limit. • Give preference to informal miners who no longer have an income. • Consider illiterate people, too, especially for unskilled jobs. • Provide written responses (positive or negative) to job seekers. • Create jobs for the elderly members of the community because some of them have skills and experience that young people do not have. • Establish recruitment offices in Tenke and Fungurume to ensure equal recruitment opportunities for both communities. 	<p>Kitenge, Nkonka Village; Kilume; Mangi Albert, Nkonka Village; Ngoie; Kilume Kahoza, Nkonka Village; Kazinga Mubambe, Nkonka Village; Silva Mwanza Yav Anatole, Nkonka Village; Mumbambe Anastas, Nkonka Village; Muzinga Euphrasie, Nkonka Village; Muzinga Euphrasie, Nkonka Village; Ngoy Sememba, Fungurume; Gustave Malale, Fungurume; Muba Lubinda, Fungurume; Jacques Musonda, Fungurume ; Freddy Ntambwe Nkulu, Fungurume; Pascal Kyabwe Kabalo; Fungurume; Gustave Midiki, Fungurume; Sompo Mutela Jean Louis, Lubumbashi; Marie Lenge, Representative of Chief of District Kabila, Tenke Government Open House, December 2006; Tshifunda Patrice, Tenke Government Open House, December 2006; Mambwe Charles, Tenke Government Open House, December 2006; Participants at Tenke Public Open House, December 2006; Luc Madika, Tenke Public Open House, December 2006; Fatuma Musinde, Tenke Public Open House, December 2006; Kasongo Mbayo, Lukotola Public Open House, November 2006; Masilika Bienvenue, Lukotola Public Open House, November 2006.</p>	
<p>Many people requested that TFM inform the community about criteria that will be used for recruitment and from which villages people will be considered, such as:</p> <ul style="list-style-type: none"> • Whether people who live in Tenke, but are from other areas, will be considered for jobs. • Whether a qualified person living in Fungurume will stand a better chance. • Whether people who have lost their school or university certificates, birth certificates, etc. and who cannot get duplicate papers from government institutions be given a chance when they apply for jobs. • Whether recruitment will include people who have letters from TFM dated March – June 1997, promising that they would be re-hired when the mine opens again. 	<p>Participants at Kilusonsa Open House, May 2006; Participants at Fungurume Public Open House, May 2006; Participants at Tenke Government Open House, May 2006; Participants at Lukotola Public Open House, May 2006; Participants at Tenke Public Open House, May 2006; Musas Tshinish Baudoin, Fungurume; Kasongo Mathilde, Nkonka Village; Sompo Mutela Jean Louis, Lubumbashi; John Loustrick, Fungurume; Numbi Mama Nsela, Fungurume; Kabamba Mutombo, Fungurume; Yvette Kabamba, Fungurume; Kasongo Mbayo, Lukotola Public Open House, November 2006; Kasongo Ilunga, Lubumbashi Public Open House, December 2006.</p>	<p>Once finalized, the recruitment policy and principles will be communicated widely within the concession area.</p> <p>Meanwhile, people who used to be employed by TFM and have letters from TFM about re-employment should meet with Mr. Francis Kalassa, and provide their names to him. They should bring their letters along to the meeting. Those who have lost their papers also should communicate with Mr. Kalassa.</p> <p>Lastly, TFM will not allow bribery and corruption in the recruitment process. Anyone who becomes aware of any form of bribery and corruption is requested to communicate this to Mr. Kalassa.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<ul style="list-style-type: none"> • Whether only those people with qualifications will be considered for jobs. • Whether some jobs are reserved for particular people. <p>Some people said that there is a rumor that people have to bribe TFM officials to be recruited for jobs.</p> <p>Many people are skeptical about the criteria for recruitment and want to know whether people are hired on their qualifications or family status.</p>		
<p>The current hiring of temporary and permanent workers is causing great concern and mistrust in the concession area. People want to know how TFM can claim to subscribe to the principles of fairness and equity when this is not being followed. Concerns relate to:</p> <ul style="list-style-type: none"> • Jobs going to 'outside people', and not local people from Tenke, Fungurume and surrounding villages. • Only hiring temporary day workers from Mulumbu Village and not from villages like Kilusonsa, Mpala, Lukotola and Nguba. • The lottery system for temporary jobs only is benefitting people who come from outside the area. People understand the lottery system is fair, but it also must benefit local people who used to practice informal mining. • Only hiring men for temporary jobs and not women. • Only hiring skilled people (TFM should train all people that are able to work). • Requiring mining guards to have qualifications, since this excludes many people from applying for mining guard jobs. • Employing industrial guards mainly from Fungurume, and not from Tenke. • Hiring soldiers instead of civilians as industrial guards. 	<p>Participants at Kilusonsa Open House, May 2006; Participants at Tenke Public Open House, May 2006; Participants at Tenke Public Open House, May 2006; Participants at Fungurume Public Open House, May 2006; Participants at Fungurume Government Open House, May 2006; Participants at Lukutola Public Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006; Mukekwa Joseph Kyungu, Kilusonsa Village; Kabesha Kasongo Paul, Fungurume; Malovu Mambwe, Fungurume; Kabinda Luka Paulin; Fungurume; Mabindila Florent, Mulumbu village; Mwika Mukekwa, Nkonka Village; Chief Zakeyo, Nkonka Village; Kikonde, Nkonka Village; Mofati Kapamba, Nkonka Village; Kitenge, Nkonka Village; Kilume; Mangi Albert, Nkonka Village; Ngoie; Kilume Kahoza, Nkonka Village; Kazinga Mubambe, Nkonka Village; Silva Mwanza Yav Anatole, Nkonka Village; Mumbambe Anastas, Nkonka Village; Muzinga Euphrasie, Nkonka Village; Kambaj Kamand, Kolwezi Government Open House, November 2006; Serge Makuya, Fungurume Government Open House, November 2006; Participants at Fungurume Public Open House, November 2006; Guelor Ngoie, Lukotola Public Open House, November 2006.</p>	<p>Many people throughout the concession area have raised this issue. Everyone wants jobs, and most people say that the jobs are going to outside people, and not to local people.</p> <p>TFM will investigate this, as with any credible grievance, but believes that the perception is inaccurate. This is because TFM currently hires temporary workers from the villages where the work is required to be done. For example, if vegetation needs to be cleared on the future plant site, which is near Mulumbu, people from Mulumbu are hired. When the road bridge near Tenke was repaired, people from Tenke were hired.</p> <p>TFM complies with the requirements of the DRC Labor Code, and thus does not discriminate when hiring. People must remember, though, that benefits will not come only from direct employment. There also will be indirect jobs. For example, people who are employed will have money to buy things like vegetables, fruit, other foods, beer, clothes, etc. TFM also will purchase things like window frames, door frames and other items for building houses locally. Also, since the mine workers will need uniforms, TFM hopes that a local NGO will help teach people to make uniforms. All these activities will create extra jobs, called indirect jobs. With NGO assistance, TFM is actively promoting numerous such opportunities within their concession, such as for the manufacture of construction bricks or the weaving of chain-link fencing.</p> <p>People should not just wait for jobs that will be created for the mine. It is very important that local people start thinking about the kinds of opportunities there could be, and see if</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<ul style="list-style-type: none"> • Permanent jobs currently only being given to people from Kipushi (Gecamines Camp) near Lubumbashi. • Turning down people for security guard jobs because they only speak English. <p>People in Fungurume have written to TFM to complain about the current hiring of temporary workers from outside the concession area. They say that if this situation persists, local people will organize themselves so that no one accepts a job at TFM.</p> <p>Some people feel that the Tombola system (lottery) of employment may be too random for the policy to be fair.</p> <p>Others complain that people who have passed the test and health examination for the job as Mr. Kalassa's vice-officer have not received feedback on why they have not been hired.</p>		<p>they can turn these opportunities to their own advantage.</p> <p>TFM assures that effort is being made to minimize favoritism in recruitment. TFM believes the lottery system will reduce the risk of favoritism in the case of many applicants of equal qualifications for few jobs. The lottery system was suggested initially by a local community leader and has generally been well received by the population.</p> <p>Applicants for specific positions need to direct inquiries to the individual in charge of recruitment for that position, or the human resources officer at the TFM base.</p>
<p>There is a plea from the community for TFM not to hire people who currently are employed as teachers. Some teachers are abandoning students in the middle of their studies to accept jobs at TFM and this is becoming a problem in the community.</p>	<p>Participants at Tenke Government Open House, May 2006.</p>	<p>TFM will take heed of this concern. However, the DRC Labor Code requires that equal employment opportunity be provided for all qualified candidates, regardless of their current employment status.</p>
<p>Chief Nguba would like to know how many local people in the whole concession area currently are employed by TFM, and how many local people will be recruited for the new mine.</p>	<p>Participants at Fungurume Government Open House, May 2006.</p>	<p>TFM currently is employing hundreds of temporary workers in the concession area, repairing roads, cutting grass, assisting on building projects, etc. TFM will recruit as many local people as possible for the new mine.</p>
<p>There are rumors that 50% of TFM employees will be recruited from Gecamines. It is suggested that young, new people should be recruited instead, and that Gecamines find other ways of ending its crisis.</p>	<p>Participants at Fungurume Public Open House, May 2006.</p>	<p>Workers who previously worked for TFM, and were promised re-employment, will have preference. TFM will honor the commitments previously made.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>People would like clarity on how long temporary jobs last. Some people feel that temporary work is not always favorable because when the contract is over, it is often too late to start planting crops.</p> <p>Others do not understand why they have been hired for construction work and after a specific job is complete are told that their services are no longer required yet the construction work continues.</p> <p>It is suggested that, once the temporary jobs have been completed, TFM should consider training and employing those temporary workers for permanent jobs.</p>	<p>Ilunga Jules Mukinkwe, Kolwezi Government Open House, November 2006; Participants at Tenke Government Open House, December 2006; Mulende Kyasha, Tenke Public Open House, December 2006; Participants at Tenke Public Open House, December 2006.</p>	<p>There are different kinds of temporary jobs, for different periods. For example, road clearing (one month or 20 days), building roads and other works (anywhere from three to six months). Construction jobs on the plant are also temporary jobs, and may last between one month and 36 months, depending on the nature of the job.</p> <p>In every case, individuals should make decisions on whether or not to accept employment opportunities based on the duration of the job (which will always be announced) versus the benefit of their other opportunities, including farming.</p>
<p>Many stakeholders have expressed frustration because the recruitment process is taking too long and only temporary jobs are available. People are becoming impatient for the permanent jobs. Many women also want to know when TFM will start recruiting them.</p> <p>In view of stakeholders' concerns regarding the recruitment process, it is suggested that TFM use the local authorities to recruit its workers because they are able to manage the process better.</p> <p>Others say that the recruitment and employment aspects should be managed by the TFM Office in Lubumbashi because some TFM officials at Fungurume are corrupt and dishonest. Some people also feel that Congolese TFM staff members discriminated against local Congolese people by not hiring them.</p>	<p>Participants at Fungurume Government Open House, November 2006; Kapenda Lukeka, Chef de Cite Fungurume, Fungurume Government Open House, November 2006; Alain Sambu Kapenda, Fungurume Public Open House, November 2006; Kasongo Mbayo, Lukotola Public Open House, November 2006; Kazangile Muyombo, Mulumbu Public Open House, December 2006; Dorcas Mwachidi, Mulumbu Public Open House, December 2006; Kayumba wa Makomo, Kilusonsa Public Open House, December 2006.</p>	<p>The employment generated by TFM thus far has been driven by the need to <i>prepare</i> for construction and operations. These types of jobs, such as site clearing, road repair or exploration drilling, are inherently shorter-term than the construction and operations jobs. Recruitment for construction jobs will begin in early 2007, which should result in a more visible level of employment in the TFM concession area than what has been seen to date.</p> <p>TFM takes any report of discrimination seriously. The open houses, employment lists and community liaison positions are all directed toward establishing an atmosphere of trust and transparency with the local community, with particular regard to assuring equitable access to job opportunities.</p>
<p>12.4 TRAINING FOR WORKERS</p>		
<p>TFM should indicate whether the company intends to start hiring/training people as permanent staff before the start of construction, as has been done by other mining companies.</p> <p>The Muthoshi Training School at Kolwezi offers mining training for local people. People suggest a training program for workers once the mine starts so that unskilled people can improve their skills while on the job.</p>	<p>Mr. Amon Kahilu, Fungurume Urbanism and Habitat Department; Professor Kalaba, Department of Sociology, University of Lubumbashi; Mr. Kasongo Mutshalla, World Vision, Lubumbashi; Mulemba Wa Kila, crop grower; Participants at Lubumbashi Public Open House, June 2006; Ngoy Banza, Participants at Lubumbashi Public Open House, December 2006.</p>	<p>The current project schedule and plans do not require permanent staff to be trained before construction starts. During the course of construction, typically near the end of construction and before initial start up of the plant and mine, permanent staff will be recruited and trained.</p> <p>For construction staff, some training will be required and this training will occur throughout the construction period.</p>
<p>If mining companies work together, they could improve the facilities and training at the existing mining college in Kolwezi.</p>	<p>Participant from KOL at Kolwezi Government Open House, May 2006; Muzinga Euphrasie, Nkonka Village; Kenneth</p>	<p>Thank you for this suggestion. TFM currently is exploring opportunities for collaboration with other mining companies</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>This would benefit all mining companies in Kolwezi as well as TFM in the Tenke Fungurume concession area. The college would be a source of trained mine employees for years to come.</p> <p>This also could provide opportunities for workers to be trained abroad.</p> <p>There is concern that if TFM employs all the qualified mining technicians, both TFM and other mining companies may have difficulty finding personnel because there is only one mining technical college in the region.</p> <p>Noting that there is a lack of qualified workers, participants wonder that if TFM uses the Tombola system, how they will replace workers that get sick or die. It was suggested that TFM sponsor mining technical training for Congolese people as well as for its own workforce.</p>	<p>Makali, Kolwezi Government Open House, November 2006; Kambaj Kamand, Kolwezi Government Open House, November 2006.</p>	<p>active in Katanga, and may elect to support such investments, if appropriate.</p> <p>TFM recognizes that their operation will create demand for skills that may be in short supply. The company will implement a training program that assures sufficient personnel are available to operate their mine and processing facilities.</p> <p>The lottery (tombola) system was implemented primarily to assure equal opportunity for access of unskilled laborers to jobs that do not require prior training or specific skills. The lottery system will not be used to recruit personnel for skilled positions, which will be allocated based on qualifications.</p>
<p>12.5 LABOR INTENSIVE WORK</p>		
<p>It was suggested that TFM consider using labor intensive methods to create more employment opportunities for local people.</p> <p>Many people are interested to know what the ratio is of work done by machines vs. manual labor in this project.</p>	<p>Ms. Joellen McGann, International Foundation for Education and Self Help (IFESH), Lubumbashi; Dr. Serge Sumba, Lukotola Clinic, Lukotola Village; Fungurume Public Open House, November 2006.</p>	<p>TFM is considering all aspects of operations that include a mixture of labor, efficiencies and, always, personal safety. The end result must be a profitable mining operation.</p> <p>TFM is committed to maximizing local economic opportunities, including the use of labor intensive methods where commercially feasible. This commitment is visible in at least two ways at the present time. More than 20 brickmaking enterprises have been established, and four fencemaking enterprises, all of which will use hand labor for the manufacture of goods that could have been purchased from mechanized production elsewhere. This commitment will continue as additional opportunities arise.</p>
<p>12.6 WORKER CONDITIONS AND BENEFITS</p>		
<p>The following worker conditions and benefits were suggested by stakeholders:</p> <ul style="list-style-type: none"> • Employ construction workers on contract, not as casual labor. • Establish a workers' union. • Pay overtime. 	<p>Mr. Richard Ngoy Kitangala, Mr. Juvenal Lunggangwe, Mr. Albert Kalubi Ngongwe, Mme. Terese Mbuya, Caritas, Lubumbashi; Meeting at Department of Sociology, University of Lubumbashi, Professor Mutabusha-Gabriel Kalaba and 12 students; Woman in street in Fungurume town; Mr. Mubalo Wilfred, Amoni Village; Kazadi Malemo Pierrot, CDH, Nguba; Multi-sectoral meeting, Tenke; Tshola Kaoma Corneille, Teacher, Nguba; Multi-sectoral meeting, Tenke; Pande</p>	<p>TFM indicates that the company will respect the DRC labor laws and will abide by the terms of its contract agreements, both with current and future personnel. Right now, there unfortunately is not enough work to hire more people on a permanent basis, but a permanent work force will grow as the mine is established.</p> <p>TFM is planning to provide transportation to and from the mine and other work locations on the concession from several central locations where workers live. Not every</p>

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<ul style="list-style-type: none"> • Provide worker transport to operation sites, especially for people from villages far away from Tenke and Fungurume. • Provide credit facilities so workers can buy household goods. • Provide medical aid and sick leave benefits. • Provide housing and sanitation. • Pay salaries regularly and on time. • Use a fair exchange rate (for example US dollars) to pay wages because the local rate is to peoples' disadvantage. • Support educational costs for workers' family members. • Compensate workers' family in case of fatal accident at work. <p>TFM should pay and treat its workers fairly, unlike the factories run by foreigners currently operating in the Congo.</p>	<p>Kiboko Shadrack, Nguba; Participants at Lubumbashi Public Open House, May 2006; Mujinga Yav Joseph, Kilusonsa Village; Mbuyi Tshibasus Theodore, Nguba Village; Muzinga Euphrasie, Nkonka Village; Ubite Usoko Allen-Jossart, Agro Alimentary Research Center, Lubumbashi; Kabwika Mastaki, Fungurume; Participants at Fungurume Public Open House, November 2006; Nyembo Francis, Mulumbu Public Open House, December 2006; Participants at Lubumbashi Public Open House, December 2006; Joseph Yav and Prince Senga, Kilusonsa Public Open House, December 2006.</p>	<p>locality will have transportation provided. Some communities will have to use a central transportation point.</p> <p>TFM will work with banks and other lending institutions to help provide access to the communities for credit. TFM will not provide any credit facilities directly, as this type of business is not allowed by the company's shareholders.</p>
<p>Some stakeholders said that mining companies should not use the salary structure of government to guide what they pay their workers, but should develop their own payment structure, taking into consideration the nature of the jobs. Perhaps mining companies in the Congo could get together and develop such a pay structure for mine workers, based on international guidelines, to get away from the meager salary structure that exists at present.</p> <p>At the same time, a concern was raised about 'wage discrimination, which could affect consumption and prices of goods.</p> <p>TFM should reconsider the wages it pays to those who work as agents for consultants or contractors.</p>	<p>Mr. Kakonge Kafwimbi, meeting with BDDand Council Regional des ONG de Developpement du Katanga, Kolwezi; Mr. Robert Muanza Dikamba Jr, University of Lubumbashi; Participants at Fungurume Government Open House, November 2006.</p>	<p>TFM indicates that the company will develop a salary structure that conforms to DRC labor law, and which allows the company to competitively recruit staff of the experience and quality needed to manage a modern mining facility. This salary is part of an overall Human Resources policy that the company is currently developing.</p>
<p>Participants raised a concern that TFM hires people for temporary jobs, as well as industrial guards, and then expects them to walk or run long distances, and work hard the whole day. But they do not give people food, and the people who are hired are starving and some are sick. They should not be expected to do such hard work without being</p>	<p>Participants at Tenke Public Open House, May 2006; Muyeko Kiziba Pamphile, Kilusonsa Village; Muzinga Euphrasie, Nkonka Village; Kisula Ngoy Raymond, Kilusonsa Village.</p>	<p>TFM pays a very competitive day wage for temporary employment, at least 200% higher than the rate for comparable work elsewhere in the region. Part of this wage is intended to cover food expenses during the work day. Also, TFM recruits preferentially from communities adjacent to the work site, partly so that workers can obtain</p>

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<p>given food.</p> <p>Some people said that TFM must ensure that workers get their monthly food supply.</p> <p>Others felt that TFM should not provide food to workers. Workers must be able to provide for themselves with their salaries to avoid a dependency syndrome.</p>		<p>food from their own households. If people are employed full time by TFM, and the work site is distant from their place of residence, both transportation and meals are provided.</p>
<p>Many people wanted to know why TFM deducts tax and health and retirement contributions from the wages of temporary workers.</p> <p>Others wanted to know whether temporary workers would enjoy the same benefits as the permanent TFM employees.</p>	<p>Participants at Fungurume Public Open House, May 2006; Participants at Tenke Public Open House, May 2006; Participants at Fungurume Government Open House, November 2006.</p>	<p>Congolese law requires that health and retirement contributions be paid. Companies are obliged to take these contributions off people's salaries. Companies that have not done this in the past were not following the law. TFM has committed to the Congolese Government and to its shareholders and lenders that it will abide by the law.</p> <p>TFM will pay competitive wages to temporary workers based on the skill level required.</p>
<p>TFM must provide work permits for the expatriate workers.</p>	<p>Participants at Kolwezi Government Open House, May 2006.</p>	<p>TFM complies with the DRC Labor Code, including provisions regarding work permits for their expatriate staff.</p>
<p>TFM should provide recreational facilities for its workers and make these accessible to communities living in the concession area.</p>	<p>Participants at Lubumbashi Public Open House, June 2006.</p>	<p>Thank you for this suggestion.</p>
<p>12.7 CHIEFS</p>		
<p>Tribal chiefs are very important in the social structure of the area. In Colonial times, chiefs received an annual bonus from mining companies, and some received improved houses, showing respect by the company to the chief. Chief Nguba asked that this tradition of annual royalties or gifts to chiefs be maintained, in accordance with the status of the respective chiefs. Cars and decent houses are desired by the chiefs.</p> <p>There were also suggestions that chiefs in the area receive taxes from TFM and that their children receive free education. Some people wanted details of how TFM plans to compensate the chiefs.</p> <p>Several chiefs said that TFM should involve chiefs in ceremonies, events and decision-making, asking that TFM observe the "Asiri," the customary law. The respective chiefs must be invited to perform rituals and ceremonies at</p>	<p>Meeting with Chief Nguba and elders, Nguba Village; Nicolas Kayumya Mbula, Nguba Village; Professor Emile Mota, Department of Economics, University of Lubumbashi; Chief Mulumbu, Mulumbu Village; Pande Kiboko Schadrack; Meeting with Chief Mwela Mpande; Tshola Kaoma Corneille, teacher, Nguba; Pande Kiboko Schadrack; Mr. Nyembo Disasi, Mulumbu Village; Many other villagers; Mr. Boniface Konde Muwelwa, Association Socio-Culturelle Lwanzo Lwa Mikumba, Lubumbashi; Chief Mulumbu and other chiefs at the Mulumbu Open House, May 2006; Chief Nguba at Fungurume Government Open House, May 2006; Participants at Mulumbu Open House, May 2006; Participants at Fungurume Public Open House, May 2006; Participants at Fungurume Government Open House, May 2006; Participants at Lubumbashi Government Open House, May 2006; Kayumya Mbula,</p>	<p>TFM has taken care to include traditional leaders in the socio-economic surveys in each village, and in the consultation process. TFM will continue this relationship, and to respect the traditional authorities, as the company implements the mining project and its associated community development activities.</p> <p>The company also has appointed a local community liaison officer, Mr. Francis Kalassa, who will communicate with local traditional leaders on an ongoing basis.</p> <p>TFM also will invite chiefs to ceremonies and events that may be held in future, and will ask chiefs to perform the required rituals before the mine project formally starts. Since TFM's area of expertise is mainly mining, not the traditional observance of cultural ceremonies, the company welcomes assistance in understanding the requirements relative to their activities.</p>

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<p>the end of the feasibility study and again once the project is approved (before production starts at the mine) to ensure that the project is a success. Additionally, the right chief must be selected to perform the right ritual. None of the required rituals has been performed yet and Chief Mulumbu feels insulted by this. Chief Nguba would like a tractor as a gift for performing the ritual.</p> <p>The chiefs in the area would like TFM to inform them in advance about when they can expect to perform the opening ceremony.</p> <p>Some participants indicated that the pastors of local churches should also be invited to the opening ceremony, not only the chiefs.</p> <p>It was also said that TFM should consult local chiefs but avoid bureaucracy and undue administrative work. The hierarchy among chiefs is not always clear and should be taken into account when consulting with chiefs in the area. TFM should afford the same amount of respect to all chiefs in the area.</p> <p>Chiefs are supposed to receive traditional gifts from their people but don't, because all people are poor.</p> <p>It was also suggested that chiefs be represented in mine management.</p>	<p>Nguba Village; Muzinga Euphrasie, Nkonka Village; Participants at Fungurume Government Open House, November 2006; Akili Mali Justin, Fungurume Government Open House, November 2006; Kayumba Musalo, Pastor at Methodist Church, Fungurume Government Open House, November 2006; Participants at Tenke Government Open House, December 2006; Ignace Kanande and Nshimba Ngoy, Lubumbashi Public Open House, December 2006.</p>	<p>In respect of royalties and gifts to chiefs, TFM has indicated that the company, while respecting the role of chiefs, would rather see the whole community benefit rather than individuals within that community.</p>
<p>TFM should ensure that Chief Lutanda and Chief Postolo of the villages between Kafwaya and Kilusonsa also are involved in this project.</p>	<p>Participants at Kilusonsa Open House, May 2006.</p>	<p>TFM seeks equitability in its relationships to all communities in the concession area, including those located on the national highway. These relationships also include respect for the role of traditional leaders in each village, including those in communities between Kafwaya and Kilusonsa.</p>
<p>Some stakeholders cautioned that TFM should not only deal with the traditional chief, but also inform and consult the whole population in the area.</p>	<p>Participants at Mulumbu Open House, May 2006; Participants at Fungurume Public Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006.</p>	<p>The whole population in the area is indeed being consulted.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
12.8 POTENTIAL SOCIAL AND OTHER DISRUPTION		
<p>Stakeholders said that the construction camp should be located where it would cause the least social disruption. As a means of reducing social disruption, roads to and from the mine site should not pass through villages.</p>	<p>Mr. Richard Ngoy Kitangala, Mr. Juvenal Lunggangwe, Mr. Albert Kalubi Ngongwe, Mme. Terese Mbwaya, Caritas, Lubumbashi; Professor Emile Mota, Department of Economics, University of Lubumbashi.</p>	<p>As mentioned earlier, planning for where to place infrastructure is still being done through a structured analysis that considers environmental, social, technical and sustainable aspects.</p> <p>Results of these analyses will be communicated through the public consultation process.</p>
<p>Lubumbashi depends on the agriculture in the mining area for fresh produce. Should local people prefer to work on the mine or lose agricultural land, this could have an effect on the region's food production.</p>	<p>Meeting at Department of Sociology, University of Lubumbashi, Professor Mutabusha-Gabriel Kalaba and 12 students.</p>	<p>TFM will have an awareness campaign when all the jobs are taken to warn people not to leave their agricultural projects in search of jobs. TFM has already appointed a full-time community liaison officer based at the TFM camp in Fungurume, Mr. Francis Kalassa. Mr. Kalassa will keep communities informed.</p> <p>We have also initiated an agricultural development project with the Mission Ekumene Lukotola to increase agricultural production by means of animal traction and improved methods.</p> <p>Furthermore, the direct and indirect jobs created as part of the development will result in additional opportunities for the people to have steady work for themselves.</p>
<p>A concern is that unemployed people might engage in socially unacceptable behavior, such as stealing from the employed.</p>	<p>Multi-sectoral meeting, Tenke.</p>	<p>Theft is always possible in nearly every community in the world. TFM encourages the communities to take responsibility for their own security and to ensure theft is not tolerated.</p> <p>With that said, there is no way that all people can get a job from TFM. Those who do not have a job should seek opportunities provided by the TFM workers by providing them with services and merchandise, such as through farming, restaurants, tailors and cell phone outlets.</p>
<p>Stakeholders noted that local communities in the concession area have been very poor for years. As a result, they have always spent whatever they earned immediately. With the new mine, there will be more money circulating in the area, and local people will have no idea how to deal with this increase in money. It is likely that they may spend all they earn immediately. This could cause social ills such as alcoholism, etc. It was suggested that TFM would need to launch an awareness program to build people's capacity about how to deal with more income.</p>	<p>Participants at Lubumbashi Public Open House, June 2006.</p>	<p>TFM appreciates the suggestion of an awareness program to build people's understanding of how to responsibly deal with more income.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>To help mitigate potential social conflicts and cases to be resolved by the tribunal office, TFM should inform people about its plans regarding schools, housing, roads, small businesses, etc., for those people living in the concession area. TFM should be aware that the government is planning to have a new tribunal office in Fungurume.</p>	<p>Participants at Kolwezi Government Open House, May 2006; Kabuya Mukungayi, University of Lubumbashi.</p>	<p>TFM takes note of this suggestion, and will communicate its plans for community development projects more widely. TFM also is committed to opening information offices in local communities by the end of 2006. These offices will disseminate information on many aspects of the company's activities, including community development.</p>
<p>When the mine starts, there will be major growth in Fungurume. The associated negative impacts on the social and security situation in and around Fungurume, as well as on the environment are of concern to Fungurume residents.</p> <p>TFM should put a management plan in place to control migration of rural people toward Fungurume and to prevent people from settling in areas of the concession that will be mined in the future.</p>	<p>Participants at Fungurume Government Open House, November 2006.</p>	<p>TFM recognizes the potential effect of induced development on local communities. One mitigation for potential adverse impacts is the creation of growth areas near Fungurume and Tenke, where new population can be accommodated with some provision of basic public service.</p> <p>TFM also appreciates the concern expressed for the potential risk of settlement on mineralized areas. The company strategy for both project-related and local community development focuses on keeping mineralized areas free of new settlement, and thereby reducing the need for future displacement impacts.</p>
<p>12.9 INFLUX OF PEOPLE</p>		
<p>A concern is that job seekers will flock to the area in search of employment because they have no other incentives, including those previously employed by mines that now have closed. Uncontrolled urbanization of Tenke and Fungurume remains a concern.</p> <p>Some stakeholders suggest that TFM establish an attractive growth area somewhere outside of the concession, with agricultural support, water supply, etc., to draw people away from the concession area. Others suggest relocating everyone in the concession area to a growth area.</p> <p>Some local area chiefs are eager to have more people moving into their villages for growth, indicating that the company can relocate people if the need arises.</p> <p>Others are concerned about crime against local people, as well as the company, by job seekers who cannot find a job. Mine sites should be fenced.</p>	<p>Nkulu Mukata, Lukotola; Professor Kalaba, Department of Sociology, University of Lubumbashi; Lumuna Mbula, Tribunal-Nguba; Professor Kalenga Ngoy Mwana, Dean of Polytechnique Mining, University of Lubumbashi and 25 students; Meeting at Department of Sociology, University of Lubumbashi, Professor Mutabusha-Gabriel Kalaba and 12 students; Professor Emile Mota, Department of Economics, University of Lubumbashi; Mr. Richard Ngoy Kitangala, Mr. Juvenal Lunggangwe, Mr. Albert Kalubi Ngongwe, Mme. Terese Mbwaya, Caritas, Lubumbashi; Meeting with Chief Nguba and elders, Nguba Village; Meeting with Chief Mulumbu and three elders, Mulumbu Village; Meeting with the Chef de Cité, Fungurume; Mr. Gabriel Kilolo-Komba, National Information Agency.</p>	<p>TFM takes the issue of induced development very seriously.</p> <p>At present the company is consulting widely with NGOs, the DRC government and development planning specialists to identify the best means of managing impacts from the anticipated influx of people. Approaches likely will include technical assistance and capacity building for local government in the area of urban planning, as well as targeted investments in infrastructure.</p> <p>TFM also is factoring the influx of people into the analysis of alternative locations for infrastructure, such as workers camps. Mine planners will give consideration to the management of population influx, as well as minimizing the future need for resettlement as other mineralized areas of the project are exploited.</p> <p>Mine infrastructure will indeed be fenced.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
12.10 RELOCATION AND COMPENSATION		
<p>Many stakeholders commented on relocation and compensation of local people, saying that the project may impact local communities, especially Mulumbu, Kiboko and Amoni, to the extent that they have to be relocated.</p> <p>Stakeholders, including the communities of Mulumbu, Amoni and Kiboko closest to Kwatebala Hill, ask that they be given advance notice of any relocation.</p> <p>Some are concerned that they are not being kept informed and that TFM is not being completely open about whether they will be relocated and if so, where they will be relocated to.</p>	<p>Meeting at Mulumbu Village; Mr. Mubi Tshifutshi, Mulumbu Village; Mulumbu Community meeting on top of Kwatebala Hill; John Yav Mbumb, veterinarian, Tenke; Mr. Moma Kyunga, Fungurume City Secretary; Professor Emile Mota, Department of Economics, University of Lubumbashi; Mr. Ngoy wa Kasongo Kasongo, Fungurume; Meeting with BDD and Council Regional des ONG de Developpement du Katanga, Kolwezi; Senior member of Mulumbu Community during meeting on top of Kwatebala Hill; Meeting with migrant men in Mulumbu Village; Chief Kiboko, Kiboko Village; Residents, Amoni and Kiboko Villages; Meeting at Mwela Mpande Gare Village; Meeting at Mulumbu Kyasal Meeting at Ndela Sase 2 Village; Meeting with three of the four quarter heads of Fungurume; Meeting with ANR, Kolwezi; Dr. Alain Kayji Mwimkeu, Bureau Central de la Zone de Sante, Fungurume; Kajika Lupundu Jérôme, Lwanzo Iwa Mikuba Association; Moïse Ulomb Tshaul, Jean Mwenda Kitanika; Kalo Kalonda Pharaon Rural Social Center, Kamalenge-Lukotola; Malomba Mulenda Alphonse, Driver, Kanga Mission, Nguba; Ms. Nelly Konkuba wa Mangi, Mangombo Institute, Tenke; Participants at Lukutola Public Open House, May 2006; Participants at Lukutola Public Open House, May 2006; Participants at Tenke Public Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006; Participants at Lubumbashi Government Open House, May 2006; Participants at Kolwezi Government Open House, May 2006; Chief Mujinga Polydor, Mulumbu Village; Kasongo Mathilde, Nkonka Village.</p>	<p>Resettlement and compensation are among the very highest priority management issues for TFM during the design and implementation of the mining project; and as required by Equator Principles and DRC law, TFM will use the guidelines and policies in the Equator Principles and local law considerations to guide these decisions.</p> <p>Under current plans, the mine itself will be on the Kwatebala, Goma and Fwaulu hills and will avoid extension toward the Mulumbu community. However, it is possible that some of the mine infrastructure may be near the community, and may occupy fields or cause other impacts such as noise or air pollution. These impacts will be reduced to the minimum that is commercially feasible.</p> <p>However, resettlement may be an option for the village of Mulumbu if health and safety risks or significant impacts to agriculture and livelihoods still exist after these measures are taken. We will communicate progress in our decision-making process and its recommendations to Mulumbu residents. If any resettlement program is implemented it will be prepared in close consultation with the community, and in full compliance with Equator Principles and DRC Law.</p> <p>Likewise, compensation for damage that does not result in resettlement of residences will be managed in a process consistent with the Equator Principles and DRC Law. TFM has already implemented a compensation process for impacts to farm fields during the current phase of activity, including damage to crops caused by drilling.</p>
<p>Stakeholders have suggestions on relocation, if necessary, including helping:</p> <ul style="list-style-type: none"> • People find land. • Negotiate with the area chief in the area where the new land will be. • People establish their fields, build houses, tide them over the first harvest season and provide tents in the rainy season. 	<p>Multi-sectoral meeting, Tenke; Jean Malwena Kahinyi, head of Police, Tenke; Meeting with Services des Mines, Kolwezi; Professor Emile Mota, Department of Economics, University of Lubumbashi; Professor Kalenga Ngoy Mwana, Dean of Polytechnique Mining, University of Lubumbashi and 25 students; Mr. Kalasa, Amoni Village; Mr. Ngoy Musenge, Amoni Village; Mr. Kayembe Mwaku, Amoni Village; Ms. Ilunga Ngoy, Amoni Village; Ms. Nelly Konkuba wa Mangi, Mangombo Institute, Tenke; Blanchard Mbayo Nambia, Ministère de l'information et presse/ Division</p>	<p>Please see the response above.</p> <p>TFM is committed to follow international best practices should any people have to be relocated.</p> <p>The company has obtained the assistance of a highly experienced relocation specialist who has helped other communities in Africa relocate successfully, and this specialist is advising the project engineering team in their selection of a final design.</p> <p>As previously stated, any resettlement process will follow the IFC Performance Standards, which means that</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<ul style="list-style-type: none"> Chiefs perform the required ceremonies in advance of relocation. Build proper hospitals and schools like those in Lubumbashi. <p>There is a strong desire that people not be given cash and told to leave, as well as a request that relocation specialists be involved. Many stakeholders urged that the relocation process should be fair and humanely conducted. People should not be harshly driven from their homes and off their fields, and the process should be well communicated in advance to local people and officials.</p> <p>A concern is that the company will not follow World Bank guidelines for relocation, and a participant queried whether the Equator Principles talk about fruit-bearing trees and fields, too.</p>	<p>Provinciale; Mr. Abdon Maloba, Fungurume Tourism Department; William Ngandu Mulangu. Association of Technicians in Fungurume; Mr. Kyembe Mukanda Bantu, Fungurume Administration Secretary; Participants at Lukutola Public Open House, May 2006; Participants at Tenke Public Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006; Participants at Lubumbashi Government Open House, May 2006; Participants at Kolwezi Government Open House, May 2006; Participants at Fungurume Government Open House, May 2006; Chief Mujinga Polydor, Mulumbu Village; Kasongo Mulanda Pierre, Mulumbu Village; Sokoni Malale Adelard, Mulumbu Village; Kabeya Mbaya; Fungurume.</p>	<p>relocated people must have their livelihoods restored to the same or better levels that existed before. This will include compensation for all lost assets, including fruit trees and fields.</p> <p>As a part of resettlement planning for our construction and operation phase, the company has identified all laws and practices found in DRC law and IFC Performance Standards, and is also identifying relevant Gécamines policies and procedures. All of these references, as well as data from the socio-economic surveys and public consultation program, have been used to prepare a resettlement plan that is available for stakeholder comment as part of the TFM environmental and social impact assessment.</p>
<p>Compensation must be paid directly to the affected landowner in the village and not via a government office in order to ensure transparency.</p>	<p>Mr. Kalasa, Amoni Village; John Yav Mbumb, veterinarian, Tenke.</p>	<p>TFM already has implemented the practice of making compensation payments directly to affected parties, and will continue this policy in the future.</p>
<p>TFM should involve the city agronomist to measure the lands and determine how many farmers will be affected.</p>	<p>Mr. Kyembe Mukanda Bantu, Fungurume Administration Secretary.</p>	<p>TFM has sought and obtained the participation of the government agronomist in the compensation process implemented to date for small-scale impacts to farm fields.</p>
<p>People whose fields have been damaged by the feasibility study team should not have to wait too long for their compensation. People ask that TFM speed up the payment of compensation.</p>	<p>Participants at Mulumbu Open House, May 2006.</p>	<p>TFM is aware of this situation, and is making all efforts to pay people's compensation in as timely a manner as possible.</p>
<p>TFM must take care when relocating communities to new areas because there is likely to be conflict between chiefs moving into the area and those already living there.</p> <p>If the Mulumbu community is to be relocated, Chief Mulumbu is concerned that he will lose his traditional authority. If he moves outside of this area, he no longer will be a chief.</p> <p>Some people said that TFM should find another place to build the plant to avoid relocating Mulumbu Village.</p>	<p>Participants at Mulumbu Open House, May 2006; Participants at Fungurume Government Open House, May 2006; Chief Mulumbu Kazadi, Mulumbu Village; Ilunga Mukalay Crispin, Tenke; Chief Mujinga Polydor, Mulumbu Village; Kasongo Mulanda; Martin Kasambayi, Tenke Public Open House, December 2006.</p>	<p>This is a very important consideration in relocation planning. TFM will obtain international best practice advice and consult with the chiefs on an ongoing basis. As with many other aspects of local culture, TFM will depend on feedback and advice provided by local residents, since the company is not expert in these matters. Finally, TFM has organized resettlement consultation committees for villages that may be displaced. The composition of these committees is representative of the affected community, and includes traditional leaders.</p>
<p>Because the entire concession area between Tenke and Fungurume is densely inhabited, here is concern that people in the concession area will have to be relocated. Questions involve where this relocation will be for all involved.</p>	<p>Participants at Tenke Public Open House, May 2006.</p>	<p>TFM's policy is not to relocate people unless it is really necessary. The mine will be at the Kwatebala and later the Goma and Fwaulu hills, so it will not be necessary to relocate everyone living in the concession area.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
There were questions whether a person who has a job with TFM who also has fields damaged by the mine will receive compensation for that damage.	Participants at Lukutola Public Open House, May 2006.	Yes. These payments are intended to compensate for lost assets, and are not linked to employment status.
Stakeholders want TFM to be aware that many local citizens are refugees who fled from the war in the eastern part of the country. Questions involve whether or not that will be taken into consideration in the relocation program.	Kasimu Heradi, Mulumbu Village.	All local people who currently reside within the concession area and who have to be relocated will be afforded the same level of consideration, regardless of their length of residency.
A concern was whether TFM would consider paying cash to a family that does not want to be relocated to a new area, and that moves back to another village where they once lived.	Edmond Banza Ngoy, Mulumbu Village.	The relocation strategy includes provision for restoration of livelihoods to an equivalent pre-disturbance level. Candidates for relocation will be provided with a range of options, one of which will be cash compensation.
There are questions about the amount of money spent thus far for compensation to local people for crops and other aspects.	Kenneth Makali, Kolezezi Government Open House, November 2006.	More than US \$130,000 has thus far (December 2006) been paid by TFM in compensation to local people, mainly for crop compensation. Most of the people have indicated that they are satisfied with the compensation money they received.
Since some of the proposed resettlement sites are in woodland areas, there is concern that resettlement in these areas will result in major deforestation.	Kapenda Lukeka, Chef de Cite Fungurume, Fungurume Government Open House, November 2006.	Some of the proposed resettlement sites identified during public consultation are indeed located in areas that are currently forested. However these sites are no longer under consideration, since they were deemed to have poor potential for agriculture. The sites now considered as the most likely resettlement village locations are located either in active or fallow farmland.
Stakeholders had many comments and questions about the proposed resettlement project, including:	Participants at Fungurume Government Open House, November 2006; Chief Mpala, Fungurume Government Open House, November 2006; Hyacinthe Zamwangana, Fungurume Public Open House, November 2006; Tshineva Steve, Tenke Government Open House, December 2006; Participants at Tenke Public Open House, December 2006; Wafile Tshite, Tenke Public Open House, December 2006; Muleba wa Diba, Lukotola Public Open House, November 2006; Katambo wa Maembe, Lukotola Public Open House, November 2006; Ernilie Mubi, Mulumbu Public Open House, December 2006; Participants at Mulumbu Public Open House, December 2006; Amani Masari, Mulumbu Public Open House, December 2006; Kibawa wa Ngoy, Mulumbu Public Open House, December 2006; Gavage, Mulumbu Public Open House, December 2006; Malobe Ilunga, Mulumbu Public Open House, December 2006; Mwika, Mulumbu Public Open House, December 2006.	These comments reflect the quality of the dialogue that has taken place between members of the affected villages of Mulumbu, Amoni and Kibolo; and the TFM social team responsible for executing the Resettlement Action Plan (RAP). Though many of the individual topic issues have not yet been resolved, the dialogue identifies several trends, as summarized below:

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
Whether people will be resettled in Fungurume.		Two resettlement alternatives now under consideration include sites in the vicinity of the Fungurume urban area. The Potentially Affected Parties (PAPs) must ultimately decide if these areas meet their and TFM's criteria as resettlement zones.
If schools will be built in the resettlement villages.		Schools are planned for resettlement villages.
Whether arrangements will be made for cemeteries to be relocated as well.		At this point there are no cemeteries that will be impacted and thus are in need of relocation.
What type of house will be built and whether people will be able to choose the type of house they receive in the resettlement village.		There will be a standard type of house chosen to replace primary residences, and another house type chosen to replace secondary buildings, as well as latirines. These structures are described in the RAP. Displaced people will have the choice only among this set of housing types offered by the RAP program.
Construction of brick houses for the resettled communities would be better suited to a town such as Fungurume, rather than the proposed rural resettlement sites.		The type of building material will be chosen with the participation of the affected communities, who thus far have stated a preference for brick construction.
Mwanga Muteba is not an appropriate resettlement area because it has mineral deposits that are likely to be mined in future.		Mineralization is a primary criteria of concern in evaluating the feasibility of potential resettlement sites, including Mwanga Muteba. New villages will not be placed on top of areas hosting known mineralization.
Whether TFM also is going to relocate people from Mwanga Sanga and Mwanga Muteba.		There are no plans to relocate people from either Mwanga Sanga or Mwanga Muteba.
Since the workers' camp will be about two kilometers away from Lukotola Village, does it mean that residents in Lukotola also will be relocated.		There are no plans to relocate residents of Lukotola at this time, since the area will not be impacted by any project infrastructure or activity.
Children in the villages that are going to be resettled (Mulumbu, Kiboko, Amoni) do not go to school because the school has not been fixed as a result of the impending resettlement. They ask whether these children can attend new TFM school in Fungurume in the meantime because the resettlement project is taking too long to implement.		Schools and staff at the new resettlement sites for Mulumbu, Amoni and Kiboko can hopefully help students regain any lost competency, whether due to the resettlement program or other constraints in the Mulumbu educational system. Meanwhile, the community should carry on fixing the schools they have so that the children can attend until such time that the necessary arrangements for resettlement are made. However the schools at Fungurume and Tenke are already at full capacity, and cannot be used to host additional students from Mulumbu, Amoni and Kiboko.

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>Some people have good reasons why they would not like to be resettled at Munongo farm and would like to be compensated in cash rather than resettle there.</p>		<p>Cash compensation is always an option in lieu of resettlement, whether at Munongo Farm or other sites selected in participation with TFM. However, the value of compensation packages offered for resettlement outside of the formal sites will not be equivalent to those offered for resettlement within the sites.</p>
<p>TFM should not decide on behalf of the people on the resettlement site.</p>		<p>TFM fully agrees with the statement. As required by Equator Principles, residents at resettlement sites always will be consulted about the prospect of receiving new population displaced because of TFM project impact.</p>
<p>Whether the resettled people will receive official papers from the government regarding the ownership of their new homes.</p>		<p>TFM is researching the options available to informal land tenants to obtain written documentation of their ownership rights. TFM will have an answer to this question before residents are displaced from their current homes.</p>
<p>Whether people who are being resettled can take used building material from the old village to the new one.</p>		<p>If there is usable building material at the site of the displaced village, TFM will consider transporting it for use in the construction of the new village, if this process is commercially feasible.</p>
<p>Whether people can continue farming outside the plant boundaries until construction starts.</p>		<p>People can continue farming anywhere in the concession area, as long as they have not been delivered a formal notice from TFM that farming should not take place in a given area.</p>
<p>Whether the elderly and weak will receive assistance in the resettled village to create new fields.</p> <p>Some people also wanted to know whether there was a general feeling of satisfaction amongst the affected communities regarding TFM's proposed resettlement plan.</p>		<p>The elderly and weak area category in the RAP denoted as 'vulnerable people', and will receive targeted assistance in the resettled villages, including in the creation of new fields.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
Stakeholders' concerns and question regarding compensation include:	Participants at Fungurume Government Open House, November 2006; AFEOA; GCM Development Department, Fungurume Public Open House, November 2006; Kalala, Tenke Government Open House, December 2006; Wandeba Sylvain, Lukotola Public Open House, November 2006; Participants at Mulumbu Public Open House, December 2006; Muntete Kakuka, Mulumbu Public Open House, December 2006; Ali Sumaili, Mulumbu Public Open House, December 2006; Kabeshi, Mulumbu Public Open House, December 2006; Nyembo Franelle, Mulumbu Public Open House, December 2006.	The comments again reflect many of the same concerns that have been voiced in meetings with resettlement consultation committees in Mulumbu, Amoni and Kiboko. Responses provided in public meeting venues involve complex dialogue and consensus-building but can be summarized as follows.
How the compensation rate was decided and whether local and international experts were involved in that decision.		The compensation rates were developed by both national and international experts, based on results from both socio-economic baseline surveys and experience on comparable projects elsewhere in the DRC and sub-Saharan Africa.
Whether the compensation rate is calculated on the size of the hut.		Direct cash compensation will be based on factors that include the size of the affected asset, including huts.
Why TFM has not yet compensated the residents of Kafwaya for destroying their mango trees.		A backlog of cases accumulated related to incidental damages to assets, such as the mango trees at Kafwaya. A compensation payment program conducted in December should have cleared all existing cases, including the damage to fruit trees in Kafwaya and other damages referenced in the comment.
Many people could not cultivate other lands because TFM took too long to pay the field work compensation and it was too late to start any new cultivation.		The question of 'sharecropping' or the relationship between 'concession-holder' and 'tenant farmer' is complex, and was the subject of extensive discussion between TFM and affected populations. The arrangement to which all parties finally agreed was that the original 'concession-holder' will receive 30% of any compensation due, and the 'tenant farmer' will receive 70%. This arrangement would be extended to any land that falls within the land chief's jurisdiction.
Why some people whose fields were damaged have not yet been compensated.		The compensation payments are monthly. If an individual misses a given payment date the amount owed will be paid on the next scheduled date.

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
Who will get the compensation if a farmer is given land by a villager and decides to clear new land next to the plot he has been given.		The conditions for payment are consistent, and include an accurate identification of the project-affected person, and an accurate description of the impact for which compensation is being paid. Aside from these generalities, the individuals concerned with incomplete files should direct their particular inquiries to the TFM resettlement team.
Whether people who missed out on the first compensation payment will have another chance to receive compensation.		One of the accepted forms of livelihood restoration, as described in the Resettlement Action Plan, is for TFM to provide employment for a minimum period of 5 years following the loss of livelihood. However, the jobs offered will be driven by project need, and thus the employment option will not be available on demand to all project-affected people.
The conditions for compensation payment to people with incomplete compensation files.		If a project-affected person wishes to relocate independently of the Resettlement Action Plan, they will be compensated for the cash value of their lost assets plus 50%, as required by law. However, they will not receive assistance with the construction of a new home outside of one of the designated resettlement village sites.
Whether TFM is willing to compensate people by providing jobs instead of resettlement.		The intent of the resettlement action plan is to restore livelihoods, including by replacement of farmland.
Whether people who want to move independently will only receive compensation for the value of their house +50%.		People will be compensated for lost temporary housing at replacement value plus 50%.
Whether people can get replacement land instead of just cash compensation for lost land.		
How people will be compensated for their temporary houses in the fields.		

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
13 ARTISANAL MINING		
13.1 CONFLICT AND ROLE OF THE POLICE		
<p>Several stakeholders, including artisanal miners consulted, note the conflict between artisanal miners and police in the concession area in October 2005, expressing a desire to avoid such conflicts in the future.</p> <p>It was recommended by some stakeholders that only mine police, and not the military, should be used should the need arise.</p>	<p>MSF, Lubumbashi; Ms. Magda Gonzalez, MONUC (Mission Observation de UN for Congo), Lubumbashi; Multi-sectoral meeting, Tenke; Meeting at Kafwaya Village; Ms. Joellen McGann, IFESH, Lubumbashi; Meeting with migrant men in Mulumbu Village; Informal miners at Tenke Multi-sectoral meeting.</p>	<p>TFM is committed to observing fundamental human rights and the dignity of all individuals within the company's area of operations. TFM is developing a formal policy to assure this commitment is carried out, using the concepts and procedures described in the Voluntary Principles on Security and Human Rights.</p> <p>TFM also has been instrumental in assuring that enforcement of its official concession rights is carried out by the Mines Police, who are the only entities legally entitled to do so. The company also recognizes that the Mines Police would be able to do their jobs better if supported in appropriate ways, including training. TFM has hired experts to provide training in the application of the Voluntary Principles on Security and Human Rights to Mines Police staff and our own security staff who work with them. This is the beginning of a process that will continue throughout the life of the project, and which will be open to examination from interested stakeholders.</p> <p>The company is addressing the economic impacts of the lost heterogenite export by providing direct employment, indirect business opportunities and community development programs in the areas of health, education and enterprise development; all of which have been identified to TFM as local community priorities.</p>
<p>The company should consult and collaborate with the authorities regarding artisanal mining in the concession area.</p>	<p>Mr. Paulin Katshongo, Mayor of Kolwezi District; Ferdinand Malango Kivunge , University of Lubumbashi.</p>	<p>TFM states that all actions regarding informal mining in the concession area have been taken in collaboration and consultation with appropriate legal authorities.</p>
<p>Local stakeholders in Tenke noted that the mine police had erected road blocks to control the movement of artisanal diggers, but that civilians are now charged a 'tax' to pass through the road blocks, and are harassed.</p> <p>They also noted that a road bridge was destroyed, and that damage was done to the local administration office building during the conflict.</p>	<p>Multi-sectoral meeting, Tenke.</p>	<p>TFM appreciates any such incidents being brought to the company's attention. TFM reports that it has been notified of several such incidents, and has investigated promptly and taken appropriate action to halt abusive treatment by representatives of the Mines Police.</p> <p>As previously stated, the company will respect the human rights and dignity of the local community as the project is developed. TFM also will provide assistance to public law enforcement agencies, such as the Mines Police, as they</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
		<p>carry out their responsibilities in the concession area.</p> <p>TFM is pleased to report that the destroyed road bridge now has been repaired. Local people from Tenke were employed for this purpose.</p>
<p>13.2 POSITIVE AND NEGATIVE EFFECTS OF INFORMAL MINING PERCEIVED BY PEOPLE IN THE AREA</p>		
<p>Different perceptions are expressed by a wide range of stakeholders regarding the positive and negative effects of informal mining, including:</p> <ul style="list-style-type: none"> The activity is considered beneficial to several villages, and favorable to local small trade and sale of agricultural products such as cattle and produce, transport of mine products, washing of products, a market, increased trade and a shift from a barter economy to a monetary economy. The earnings were welcomed. The disadvantages experienced in villages are constant fights with informal miners, theft by miners, disrespect for chiefs, disrespect for village taboos, prostitution, not enough food to go around, and problems between villagers and police at road blocks. Informal mining leads to lack of work in the fields because some village men pursue informal mining and women help with washing heterogenite and in other ways, instead of working in the fields. The current food crisis is seen as a result of insufficient production and overselling of available produce to informal miners. The suspension of informal mining led to economic hardship for some families that used to depend on this activity. Chiefs and community members in various villages express relief that it is over, but say local people need other sources of income. 	<p>Meeting with three of the four neighborhood (Quartier) leaders in Fungurume; Multi-sectoral meeting, Tenke; Meeting at Mutaka Mwelwa Village; Meeting at Kabwe Dikuku Village; Mr. Kalasa, Amoni Village; Meeting at Mulumbu Village; Chief Mulumbu, Mulumbu Village; Chief Kafwayan, Kafwaya Village; Chief Lutanda, Lutanda Village; Meeting at Kwatebala Gare Village; Meeting at Mutaka II Village; Meeting at Salabwe Village; Meeting at Amoni Village; Meeting at Kiboko Village; Meeting at Ndela 1 Village; Mr. Gloire Sumbul Nfumwash, Procureur de la République and Magistrate Mr. John Kadima wa Kadima, Kolwezi; Meeting with women, Fungurume; Meeting at Ndela Sase 2 Village; Meeting with migrant men in Mulumbu Village; Meeting with Chief Mulumbu and three elders, Mulumbu Village; Meeting with young people in Mulumbu Village.</p>	<p>The comments indicate that there were both positive and negative aspects of the heterogenite trade on local communities.</p> <p>TFM is committed to providing direct benefits in selected ways such as through the company's community development program, and facilitating indirect benefits associated with the project to the local community.</p> <p>The company believes that these efforts will more than replace the loss of positive benefits from the former heterogenite trade without the negative effects on the community described in these comments.</p> <p>In contrast, TFM is responsible for a 600 km² area characterized by complex terrain and many potential entrance and exit points. There is a correspondingly high potential that health, safety, child labor and other critical issues would be difficult to control. The New Mining Code and Equator Principles require such provisions for artisanal mining districts, and TFM corporate values further mandate that any operation comply with safety programs in force worldwide. In conclusion, an artisanal mining operation in the TFM concession would be difficult to implement in a manner consistent with our corporate values as well as the legal and international policy framework governing the project.</p> <p>Furthermore, it is internationally recognized that artisanal mining and industrial-scale projects of the same ore body are not always feasible due to the potential for artisanal methods to remove only the highest grade material, which then affects the economics of a given ore body for industrial development. The TFM resource is a world-class copper-cobalt deposit, and partial exploitation on a given hill by artisanal means likely would degrade the deposit for industrial development, and would not be acceptable to the DRC government or the other TFM stakeholders (note:</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
		<p>Anvil's artisanal mining project exploits tailings).</p> <p>For these reasons, TFM will not establish an artisanal mining project within our concession area. TFM is, however, interested in participating in any dialogue on how to address the needs of the artisanal miners from a sectoral or public policy perspective, and is open to providing targeted support to such programs that fit the company's corporate values and legal obligations.</p>
13.3 SUGGESTIONS AND QUESTIONS		
<p>Several requests asked TFM to start an informal mining project in the area. Stakeholders referred to a similar scheme in Kolwezi which they say is working well.</p>	<p>Informal miners at Tenke Multi-sectoral meeting; Mr. Kalasa, Amoni Village; Meeting with Villagers at Amoni Village; Jean Malwena Kahinyi, Head of Police PNC, Fungurume; Kongolo Sukuma, Judge, Tenke; Meeting with men in Tenke; Mr. Doctor Chibango, SAESSCAM, meeting with SAESSCAM officials and 12 informal miners, Kolwezi.</p>	<p>TFM has examined the concept of an 'artisanal mining district' within our concession boundaries, and visited the artisanal mining district in Kolwezi established by Anvil Corporation, which is considered as a regional model for the coexistence of industrial and artisanal mining activities. TFM was impressed by their apparently successful approach to managing industrial-artisanal miner relations. However, evaluation of this model in the context of TFM led to several conclusions, as follows.</p> <p>The Kolwezi model is established within the well-defined limits of a river drainage, and takes place over a relatively short reach of that drainage. Health and safety provisions can therefore be enforced, entrance/exit can be monitored, and issues such as child labor controlled.</p>
<p>TFM should consider buying the remaining ore from the informal diggers that used to mine the concession area but that are no longer allowed to mine there. Through good communication, informal diggers could receive the message that TFM will only do this once.</p>	<p>Professor Emile Mota, Department of Economics, University of Lubumbashi.</p>	<p>TFM is aware that heterogenite stockpiles still exist within the concession area, and is evaluating various approaches for its removal without risk to local residents or of providing encouragement for renewed digging activity. The company will communicate these plans to the public once they are finalized.</p> <p>However, TFM will not buy the remaining ore from the informal diggers as it is inappropriate to promote or support informal mining. The activity is difficult to control and operate in a safe manner, and is not allowed on industrial-grade ore bodies.</p>
<p>Several villagers asked what to do if they find informal miners in their areas.</p>	<p>Meetings at several villages, February and March 2006.</p>	<p>TFM indicates that the company is pleased to hear that the public recognizes that informal mining no longer will be allowed in the concession area. Residents concerned with specific cases where digging is taking place should notify the TFM community liaison officer Mr. Francis Kalassa.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>People in Lubumbashi know that the informal miners are not happy, although they may have been quiet for a while. TFM should know that the informal miners surely are going to cause trouble in the future.</p>	<p>Participants at Lubumbashi Public Open House, June 2006.</p>	<p>The company is addressing the economic impacts of the lost heterogenite export by providing direct employment, indirect business opportunities and community development programs in the areas of health, education and enterprise development, all of which have been identified to TFM as local community priorities. In addition, TFM is participating in a collaborative program to identify options/solutions for artisanal miners.</p>
<p>It is suggested that TFM provide new opportunities and benefits for artisanal miners since they have lost their livelihoods.</p>	<p>Participants at Kolwezi Government Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006.</p>	<p>The company is addressing the economic impacts of the lost heterogenite export by providing direct employment, indirect business opportunities and community development programs in the areas of health, education and enterprise development, all of which have been identified to TFM as local community priorities.</p>
<p>EMAK (Association of small scale and artisanal miners) appreciates the work being done by TFM for the feasibility studies. TFM should collaborate with EMAK and consider letting these miners work in the concession area until the project starts.</p>	<p>EMAK at Kolwezi Government Open House, May 2006.</p>	
<p>Artisanal miners want to know whether TFM will allow them to collect the low-grade ore from the mine for their own purposes.</p>	<p>Participants at Lukotola Public Open House, November 2006.</p>	<p>No. Please refer to responses to earlier requests for renewed artisanal mining.</p>
<p>14 COMPANY CONDUCT AND POLICY</p>		
<p>14.1 TRANSPARENCY, TRUST AND CREDIBILITY</p>		
<p>Phelps Dodge is commended for being open and transparent and following international best practices. The company must ensure that it upholds and maintains these principles throughout the life of the project.</p>	<p>Meeting with PACT Congo, Lubumbashi; Ubite Usoko Allen-Jossart, Agro Alimentary Research Center, Lubumbashi.</p>	<p>Thank you for this comment. TFM is committed to following the terms of its Mining Convention and applicable DRC laws, as well as internationally accepted guidelines and principles for environmental and social management.</p>
<p>Although it is understood that Lundin remains the principal shareholder of TFM, there are questions about the shareholding status of TFM and Phelps Dodge Corporation.</p> <p>Some people feel that TFM's shareholding should be open to include more partners.</p>	<p>Zongwe Kiluba, Gecamines; Ngoy Banza, Lubumbashi Public Open House, December 2006.</p>	<p>TFM is owned by the state-owned Congolese company, La Générale des Carrières et des Mines (Gécamines) (17.5 percent) and Lundin Holdings Ltd. (82.5 percent). In turn, Lundin Holdings Ltd. is 70 percent owned by a wholly owned subsidiary of Phelps Dodge Corporation (PD) of the United States.</p> <p>At this time, the current shareholders of TFM are not interested on diluting their participation in the project.</p>
<p>TFM must be open and transparent in communicating how it will operate and manage the new mine.</p>	<p>Dr. Richard Culp-Robinson, PACT Congo; Fidèle Mwamba Munkolokoto; Mr. Jacques Kanyembo,</p>	<p>TFM recognizes that the root cause of this issue has been the non-performance of government in terms of meeting</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>The company should guard against human rights violations, corruption and tribalism.</p> <p>Because it is believed that corruption in all its forms is deeply rooted in the way leaders and government representatives behave and practice, it is suggested that an efficient way to fight against this would be to provide these officials with anti-corruption training within the framework of TFM's social responsibility program in the DRC.</p> <p>TFM also must avoid corruption, comply with international health and safety and human rights requirements, and enforce the Equator Principles.</p>	<p>Meeting with ANR, Kolwezi; Participants at Lubumbashi Public Open House, June 2006; Robert Mwanza Dikamaba, University of Lubumbashi, written comment, June 2006; Musas Tshinish Baudoin, Fungurume.</p>	<p>salary obligations of its public officials. The company is hopeful that this driver will diminish as the country's economic condition improves and public servants are fairly compensated for the work they perform.</p> <p>Meanwhile, TFM is committed to transparency in its dealings with public officials, and will abide by all relevant laws and policies. This commitment includes appropriate training for management and employees, and the development of transparent and legal working relationships with government officials with whom the company interacts. Corruption or bribery are not tolerated and employees who are found to be corrupt are subject to prosecution under Congolese and, possibly, international laws.</p>
<p>Some stakeholders asked how the concession agreement with the DRC government was negotiated, and asked that the agreement be made public. Some also asked for the total investment to be made by Phelps Dodge.</p> <p>Concern also was raised that that the agreement was one-sided, i.e. that it would benefit only the company shareholders, and not the economy of the DRC, and that the amount paid to the DRC government by the company for the rights to the concession was too low. This commentator recommended that the DRC government freeze the agreement.</p>	<p>Dr. Richard Culp-Robinson, PACT Congo; Multi-sectoral meeting, Tenke; Mr. Doctor Chibango and Mr. Banza Nyanga, SAESSCAM, meeting with SAESSCAM officials and 12 informal miners, Kolwezi; Mr. Robert Crem, Former President of Gecamines; Mr. Gedeon Inonime, Economic Patriotism; Ngoy Kabula, Mangombo Institute, Tenke.</p>	<p>TFM negotiated for over a year with a transitional government formed under a peace agreement mediated by the international community (President Thabo Mbeki) and the United Nations.</p> <p>TFM has established a strong legal basis for its investment by working with this legitimate, sovereign government; TFM further believes that the government negotiated with the best interests of its people in mind.</p> <p>The negotiation process and the resulting Mining Convention both have been approved by all appropriate government officials in accordance with the requirements of DRC law.</p> <p>TFM does not believe it is in the best interest of the DRC to have the Tenke Fungurume resource remain undeveloped, and the TFM partnership includes private investors who have the expertise and capital to assure that this does not happen.</p> <p>The development of the Tenke Fungurume concessions into an operating mine will bring profound improvement to the economy in the immediate region, which is now based on subsistence farming.</p> <p>Revenues to the State and Katanga from the Gécamines equity interest in the project, as well as the duties, taxes and royalties paid by TFM, will provide the government with much-needed funding. Over 50% of the value of the project remains in the DRC.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
		Large-capital investment in the DRC economy by first-tier companies such as TFM partner Phelps Dodge is a vote of confidence in the country's future, and will encourage additional investment in other sectors of the national economy.
<p>Due to lack of transparency and good governance in the past, not everyone trusts new mining companies.</p> <p>Phelps Dodge should be aware that local and informed persons perceive a potential history of human rights abuses during the tenure of TFM. The company should be aware of and resolve these issues, or at least be prepared to proactively respond to questions and allegations that may be made.</p>	<p>Dr. Richard Culp-Robinson, PACT Congo, Lubumbashi; Mr. Kasongo Mutshaila, World Vision, Lubumbashi; Ms. Karen Hayes, PACT Congo, Lubumbashi; Mr. Robert Hellyer, USAID, Kinshasa; Meeting with Chief Mwela Mpande; Caiman Kayembe Ngwama, RELCOF.</p>	<p>TFM appreciates the constructive feedback provided in these comments, and notes the potential liability for adverse public perception about the history of the concession and corporate partners. Phelps Dodge is open to dialogue with any individual or institution about their historic performance, as well as current programs for assuring that core values are integrated with company operations worldwide.</p> <p>The company is committed to integrating Equator Principles to all applicable aspects of the TFM project. This commitment has started with the ESIA, and will continue through implementation of the Environmental and Social Action Plans over the life of the project.</p>
<p>There is a perception in Fungurume that a plane is exporting minerals and area residents don't know where the minerals are taken.</p>	<p>Ilunga Kyakulomba, Tenke.</p>	<p>The plane people see coming to and going from Fungurume does not export minerals. The plane transports people, light goods and water, rock and other samples for analysis by members of the ESIA study team.</p>
<p>When police removed informal miners from the concession area, there were promises of jobs and schools. Since this has not yet materialized, they now find it hard to trust the company.</p> <p>Informal miners said the DRC Mining Code specifies that mining projects should have socio-economic benefits, and that they are tired of waiting for such benefits.</p>	<p>Informal miners at Multi-sectoral meeting, Tenke.</p>	<p>People must please understand that the police cannot speak or make promises on behalf of TFM or any other mining company. Only senior TFM personnel can do this.</p> <p>Nevertheless, the company has committed to being a good neighbor, and will contribute to community development in the area, in collaboration with local organizations and NGOs. The residents of the concession area, including Tenke, will begin seeing the results of this commitment in the coming months, and TFM asks only that the community judge its performance based on what they see.</p>
<p>While the initial perception was that the TFM company was not good, now this is changing. Everyone has needs.</p>	<p>Ngoy Kabula, Mangombo Institute, Tenke.</p>	<p>TFM appreciates the recognition of its efforts presented in this statement. The company will continue to consult. In addition, TFM has indicated that it will continue to consult stakeholders over the life of the project. This is also a requirement of many international guidelines and standards, but more importantly, TFM feels this is essential to the success of the TFM mining project.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>This is the first time a mining company is asking for people's views and concerns. This is very impressive. Consultation should not stop at this stage but should continue for the life of the project and involve local researchers and specialists in the relevant areas of expertise.</p>	<p>Professor Emile Mota, Department of Economics, University of Lubumbashi; Ubite Usoko Allen-Jossart, Agro Alimentary Research Center, Lubumbashi; Participants at Fungurume Government Open House, November 2006; Participants at Mulumbu Public Open House, December 2006.</p>	<p>TFM is committed to continuing consultation throughout the life of the project, and will involve local experts as required.</p>
<p>During an early meeting, the Mulumbu community said that it did not like TFM. During later meetings, the community indicated that it would like to collaborate with TFM and has put its confidence in TFM, saying that if TFM lets down the community by not starting the project after all this work and consultation, it will be difficult to have confidence in the company again.</p>	<p>Meeting with Chief Mulumbu and three elders, Mulumbu Village; Nkulu Mukota Jean Claude, Lukotola Village; Mulumbu Community meeting on top of Kwatebala Hill.</p>	<p>TFM thanks the community for the trust. This comment was made at one of the early meetings with the community, so we believe that it reflects the tense relationships with the Mines Police during the peak period of heterogenite digging. With more contact with TFM and ESIA consultants, we believe that the Mulumbu community is developing a more complete and therefore positive picture that is based on the project's new direction.</p>
<p>TFM should respect the laws of the DRC and respect the role of the authorities. The company should collaborate with authorities, provide reports of company activities, take authorities on field visits, and collaborate only with those with specific jurisdiction over the concession area.</p>	<p>Meeting with Services des Mines, Kolwezi; Mr. Jacques Kanyembo (ANR), Meeting with ANR, Kolwezi; Meeting with Mr. Mutomb Tshiyen and Mr. Mpenge Kalenga, Department of Environment, Kolwezi.</p>	<p>TFM indicates that the company will work with the relevant authorities as required and mandated by DRC laws, and that the company respects these laws and the role of the authorities. The company is grateful for the support and advice it has received from the authorities to date.</p>
<p>TFM has put barriers (booms) on the roads to the concession area and the company guards check all cars. Putting up barriers and checking cars is not TFM's job, but the job of the police.</p>	<p>Mr. Jacques Kanyembo, Meeting with ANR, Kolwezi.</p>	<p>The law enforcement actions at the barriers within the TFM concession area are operated by the Mines Police, not company staff.</p>
<p>People feel they do not see enough of Mr. Francis Kalassa, and want to see him more so as to be kept informed.</p> <p>People from Mulumbu have gone to the TFM camp in Fungurume to see Mr. Francis Kalassa, but the guards at the gate do not want to let them through. People should not be turned away at the gate.</p>	<p>Participants at Tenke Public Open House, May 2006; Participants at Mulumbu Open House, May 2006.</p>	<p>TFM is aware of the restrictions placed on public access by the barriers at the camp gate. Though necessary for security, TFM also is committed to the opening of information offices in local communities by the end of 2006, so as to provide greater ease of access to company representatives. These offices will be staffed by Mr. Kalassa and his staff, and will disseminate information on many aspects of the company's activities, including the community development priorities identified in these comments.</p>
<p>People feel they are not being kept sufficiently informed. They suggest that TFM open an office in Tenke, so residents there will feel more ownership of the mining venture.</p>	<p>Participants at Tenke Public Open House, May 2006.</p>	<p>TFM is committed to the opening of information offices in local communities by the end of 2006, so as to provide greater ease of access to company representatives. These offices will be staffed by Mr. Kalassa and his staff, and will disseminate information on many aspects of the company's activities, including the community development priorities identified in these comments.</p>

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<p>TFM is restricting people from using their own private vehicles in the concession area. This is a great inconvenience because people cannot move around freely or transport their produce to markets, or transport sick people to health facilities.</p>	<p>Participants at Lukutola Public Open House, May 2006.</p>	<p>TFM maintains access roads in the concession area for the transport of material and machinery. Sharing these roads with the public poses a safety risk that is unacceptable. However, TFM also recognizes the public's need for market access and transportation. The feasibility study will include provisions for roads or paths that are co-located with operational access routes, but with segregation of mine-related and public access.</p> <p>Meanwhile, it is suggested that those people who want to transport agricultural produce to markets or anyone who has a private vehicle should contact Mr. Francis Kalassa for authorization.</p>
<p>People have heard that Phelps Dodge recently has been acquired by Freeport -McMoran. If that is true, people wonder what effect that will have on this project.</p>	<p>Mr Crispin Kibambe, Radio Mutoshi, Kolwezi Government Open House, November 2006.</p>	<p>Freeport - McMoran has made an offer to purchase Phelps Dodge that has been accepted by the boards of directors of both companies. One large company purchasing another is common, especially in the mining industry. Before this transaction can be concluded, however, the shareholders of both companies must vote in favor of the acquisition. This will not happen until early 2007. Until that time, Phelps Dodge continues to operate as an independent company.</p> <p>Even if Phelps Dodge were to be acquired by Freeport - McMoran, the general strategies, principles and planning pertaining to the TFM project would remain the same under the new ownership. Both Freeport - McMoran and Phelps Dodge are committed to developing the TFM project.</p>
<p>TFM needs to be aware that another mining company also is operating in the area and that TFM will need to manage the situation carefully.</p>	<p>Malasa Michel, Tenke Public Open House, December 2006.</p>	<p>TFM appreciates the commenter's recognition that vigilance will be needed in the enforcement of the company's legal rights to the mineral resources in the concession area.</p>
<p>People want to know whether TFM has a policy on Corporate Social Responsibility.</p>	<p>Mwamba Munkolokonto, Lubumbashi Government Open House, December 2006.</p>	<p>TFM has a Safety, Health and Environmental policy, which states its commitment to achieving a safe, healthy and productive work environment.</p> <p>It is TFM's fundamental policy to conduct their business responsibly so as to protect the health and safety of all employees and that of surrounding communities with respect to our operations; and to provide sound controls on the environmental effects of our activities.</p> <p>In addition, TFM recognizes the needs of society and the value of economic prosperity, national security and a healthy environment. TFM is committed to integrating</p>

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		social, environmental and economic principles in its mining operations from exploration through development, operation, reclamation, closure and post-closure activities, and in facilities associated with preparing its products for further use.
14.2 HUMAN RIGHTS ISSUES		
<p>Several suggestions were made in terms of human rights issues and the police, including:</p> <ul style="list-style-type: none"> • Mine police as well as TFM's industrial guards must be given proper training, including human rights and human dignity training. • TFM should help build this capability in the DRC. • The Extractive Industries Initiative (EII) has guidelines to assist in the design of a mine security force. 	<p>Mr. Robert Hellyer, USAID, Kinshasa; Dr. Richard Culp-Robinson, PACT Congo, Lubumbashi; Mr. Christian Roy, PACT Congo, Lubumbashi; Mr. Robert Hellyer, USAID, Kinshasa; Ms. Karen Hayes, PACT Congo, Lubumbashi, Mr. Gloire Sumbul Nfumwash, Procureur de la Republique, Kolwezi; Mr. Jeff Bryan, USAID, Kinshasa; Meeting with ANR, Kolwezi; Participants at Lubumbashi Public Open House, June 2006.</p>	<p>TFM is committed to observing fundamental human rights and the dignity of all individuals within its area of operations. The company is developing a formal policy to assure this commitment is carried out, using the concepts and procedures described in the Voluntary Principles on Security and Human Rights.</p> <p>TFM also has been instrumental in assuring that enforcement of its official concession rights is carried out by the Mines Police, who are the only entities legally entitled to do so. TFM also recognizes that the Mines Police would be able to do their jobs better if supported in appropriate ways, including training. TFM has brought experts to provide training in the application of the Voluntary Principles on Security and Human Rights to Mines Police staff and our own security staff who work with them. This is the beginning of a process that will continue throughout the life of the project, and which will be open to examination from interested stakeholders.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
15 ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)		
15.1 ESIA PROCESS		
<p>Many stakeholders view conducting an ESIA before mining project implementation as a positive step, and serves as a good example to other mining companies in the Congo.</p> <p>It is essential for the ESIA to take people's real needs into account, and use those findings for company planning.</p> <p>TFM and the ESIA consultants are commended for creating several opportunities for people to comment on the ESIA and its findings and for providing information and feedback to stakeholders in a manner that is easily understandable.</p> <p>Some people, however, wanted clarity on whether TFM only conducted the ESIA study because it was compelled by the government to do so.</p> <p>One participant said that it seems that TFM is holding these open houses in an attempt to criticize other companies that never carry out such studies.</p>	<p>Dr. Bosenge Mpia and Mr. Mbawalala Semilwo, Lubumbashi; Meeting with Mr. Mutomb Tshiyen and Mr. Mpenge Kalenga, Department of Environment, Kolwezi; Ms. Joellen McGann, IFESH, Lubumbashi; Fidèle Mwamba Munkolonkoto; Ms. Carine Kasongo Banza, Teacher at the Mangombo Institute, Tenke; Kashimbo Mwanza Jean, Mangombo Institute, Tenke; Mussebo Wa Museka Francis, Mangombo Institute, Tenke; Advocate Tasinda Pagu Malumba Jean Louis, Syndicat GST; Ms. Nelly Konkuba wa Mangi, Mangombo Institute, Tenke; Gabriel Kitenge Nyembo, Independent ASAA-AERO, Luano; Caiman Kayembe Ngwama, RELCOF; Pascal Guegan, Ekumene; Jean Louis Sompo Mutela, AMKA Katanga, Lubumbashi; Maginzi Olive, Lubumbashi; Participants at Fungurume Government Open House, November 2006; Participants at Mulumbu Public Open House, December 2006; Christian Roy, PACT Congo; Gabriel Salmi, ALBA, Rudy Jacob, Lubumbashi Government Open House, December 2006; Albert Nshimba, Lubumbashi Public Open House, December 2006; Junior San Antonio Mbuya; Jeannot Wells Nomba Kitwa .</p>	<p>Mining companies and other companies all over the world have come to know that an ESIA is a good planning tool. It helps to understand what the negative impacts of the project will be, and then helps to design ways to avoid or reduce negative impacts. It also helps to understand what the positive impacts will be, and then helps to design ways to increase the positive impacts.</p>
15.2 SPECIALIST STUDIES		
<p>Requests were made for local specialists or NGOs to join the consultants' team. It also was asked why TFM did not hire a Congolese company to conduct the ESIA.</p>	<p>Mr. Jean-François Mbuyu Lwambiye Kalenga, Métallurgie, Polytechnique, University of Lubumbashi; Meeting at Department of Sociology, University of Lubumbashi, Professor Mutabusha-Gabriel Kalaba and 12 students; Matthieu Wazenga, SOS Education (ONG); Participants at Kolwezi Government Open House, May 2006.</p>	<p>The primary criteria in selecting technical assistance include competence and relevant experience. As such, the technical assistance team has been sourced from consultants based in North America, Europe, Australia and Africa; each of whom is considered as a leader in their respective fields.</p> <p>In this sense, TFM agrees that local experts have the best grasp of local needs and history. The company has accordingly staffed key positions, including community liaison officer and community development coordinator, with Congolese professionals, some who are staff members and alumni of the University of Lubumbashi. Facilitators on the socio-economic baseline team also are</p>

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		<p>composed entirely of Congolese professionals who have the requisite language, technical and cultural competency for our needs.</p> <p>In addition, many NGOs and other organizations are being consulted, and will have opportunity to comment on the ESIA reports and findings. Also, TFM has indicated that NGOs and local organizations will help implement the company's community development program.</p>
<p>The development projects which PACT Congo is assisting to investigate also should be considered in the sustainability assessment that is being done as part of the ESIA.</p>	<p>Dr. Richard Culp-Robinson, PACT Congo, Lubumbashi.</p>	<p>The community development projects that are under development by PACT, and the ESIA sustainability concepts being prepared by Golder, will be considered in the project's environmental and social action plans.</p>
<p>People wanted to know about the estimated amount of copper cobalt ore deposit at Kwatebala Hill and whether this is the richest ore deposit in the concession area. If not, which one is?</p> <p>Other people wanted to know what the estimated amount of copper cobalt reserves were in the concession area.</p> <p>One participant wanted to know why TFM will not start mining the Fungurume ore deposit first since this is one of the largest ore deposits in the concession area.</p>	<p>Participants at Kolwezi Government Open House, May 2006; Participants at Fungurume Government Open House, May 2006; Tenke Government Open House, December 2006; Valentin Kahona, Lubumbashi Public Open House, December 2006.</p>	<p>TFM is currently busy with its feasibility studies to determine the exact amount of ore in the Kwatebala, Goma and Fwaulu deposits. Indications are that there is sufficient ore for more than 20 years of mining at the stated rates of around 115,000 tonnes of copper and 8,000 tonnes of cobalt production annually. TFM has not yet done detailed studies on all of the other deposits. People also must remember that even though a deposit may have rich ore, it may be very costly to mine because of where it is located. There are thus many aspects to take into consideration when deciding where to mine.</p>
<p>The reports should indicate where the copper and cobalt that is produced by the mine will be refined and also provide more details on the refining process.</p> <p>Some stakeholders requested more information on who the likely buyers of the refined product would be and what profits TFM expects from these sales.</p>	<p>Participants at Lubumbashi Public Open House, June 2006; Participants at Kolwezi Government Open House, May 2006; Zongwe Kiluba, Gecamines; Mvula Mvula.</p>	<p>The processing plant, as illustrated during the public participation process to date, will be located just north of the Kwatebala Hill. The copper and cobalt ores will be processed to pure metallic form on site. However, it is likely that some of the cobalt ore may be exported as a concentrate for final refinement elsewhere. The feasibility study will provide a final determination as to whether or not this will be done.</p>
<p>Some people feel that some technical issues relating to the project are being addressed without the relevant scientific basis. Government therefore requests that laboratories that analyze samples be open to inspection by government examiners.</p>	<p>Participants at Kolwezi Government Open House, May 2006.</p>	<p>Rigorous science is being employed by the ESIA technical specialists. All samples (water, sediment, soil, waste rock, ore, etc.) have been analyzed in internationally accredited laboratories in South Africa and Canada. The data produced from these studies, and the quality control measures employed in analysis, is described in the draft ESIA, a summary of which is available for public review.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>People would like to know which impacts from the project will be greater: positive impacts or negative impacts? This should be indicated clearly in the ESIA report.</p>	<p>Participants at Lubumbashi Government Open House, May 2006.</p>	<p>This is indeed the purpose of the ESIA. The ESIA reports that are available for comment reflect all the impacts of the project, including recommendations and mitigation measures to reduce negative impacts.</p>
<p>People would like to know the main negative impacts that will be caused by the project and what measures will be taken to mitigate these negative impacts.</p> <p>Others questioned why some negative impacts only will be reduced and not completely mitigated.</p> <p>A participant also wanted clarity on whether the ESIA findings conclusively show that there will be no negative impacts to the ecosystem.</p>	<p>Mr. Crispin Kibambe, Radio Mutoshi, Raymond Biokam and Sammy Mulaji Ngoy, EMAK, Isaac Mwamba, Kolwezi Government Open House, November 2006; Participants at Fungurume Government Open House, November 2006; Vice-Pastor at Garenganze Church, Fungurume Government Open House, November 2006.</p>	<p>Some negative impacts can be fully avoided and some cannot be totally avoided. However, even residual negative impacts can be reduced to acceptable levels through appropriate mitigation measures. 'Acceptable levels' are defined in international standards and guidelines, as well as in Congolese Law.</p>
<p>A concern is whether the impacts of the proposed project on other communities outside the concession have been assessed in this ESIA study.</p>	<p>Fungurume Government Open House, November 2006.</p>	<p>The ESIA focused its assessment on the communities most likely to be impacted, which are those within the Tenke-Fungurume region. However, some socio-economic studies extended their reach beyond the TFM concession area and have been ongoing since 2005, such as the collection of monthly price data on foodstuffs from markets at Likasi and Kolwesi.</p>
<p>15.3 PUBLIC PARTICIPATION</p>		
<p>Some stakeholders said that public consultation was not undertaken by TFM in the past, and many said that the process which is being followed now is most welcome.</p> <p>Many compliments were received on the transparency of the process, the nature of the public consultation materials (very clear and informative), and the format of small group meetings. Many people said the meetings were very useful.</p>	<p>Mr. Richard Ngoy Kitangala, Mr. Juvenal Lunggangwe, Mr. Albert Kalubi Ngongwe, Mme. Terese Mbwaya, Caritas, Lubumbashi; Mr. Kasongo Mutshaila, World Vision, Lubumbashi; Mr. Alfred Gondo, UN OCHA, Lubumbashi; Mr. Paulin Katshongo, Mayor of Kolwezi District; Professor Kalaba, Department of Sociology, University of Lubumbashi; Mussebo Wa Museka Francis, Mangombo Institute, Tenke; Mr. Jacques Kanyembo (ANR), Meeting with ANR, Kolwezi; Ms. Joellen McGann, IFESH, Lubumbashi; Meeting at Department of Sociology, University of Lubumbashi, Professor Mutabusha-Gabriel Kalaba and 12 students; Mr. Doctor Chibango and Mr. Banza Nyanga, SAESSCAM, meeting with SAESSCAM officials and 12 informal miners, Kolwezi; Mulumbu Community meeting on top of Kwatebala Hill; Munyikisa Tshipopo Claude; Jean Louis Sompot Mutela, AMKA Katanga; Fungurume Government Open House, November 2006; Christian Roy, PACT Congo; Gabriel Salmi, ALBA,</p>	<p>We appreciate the feedback on the effectiveness of the public consultation and ESIA program.</p> <p>TFM has committed to follow good-practice principles in the ESIA process, including a robust public consultation program.</p> <p>TFM also welcomes constructive criticism of these processes. Both will help improve performance.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
	Rudy Jacob, Lubumbashi Government Open House, December 2006; Kenneth Makali, Vodacom, Kolwezi Open House, November 2006; Junior San Antonio Mbuya; Jeannot Wells Nomba Kitwa.	
There are questions about the role of the community, based on the perception that the decision has already been made in Kinshasa.	Multi-sectoral meeting, Tenke.	A feasibility study is being prepared to determine whether it is environmentally, socially, technically and economically feasible to mine the ore bodies in the concession area, and to construct a mineral processing plant to extract copper and cobalt from the ore. The community and other stakeholders have an important role: Through the comment process, stakeholders have the ability to influence how the project is designed, built and operated. Local knowledge and opinion is of particular importance during this process.
<p>People's contributions must influence the decision.</p> <p>Stakeholders ask that consultation be as wide as possible, including TFM workers, with several additional names and organizations submitted.</p> <p>Some stakeholders ask why they are being consulted since they do not live in the concession area.</p>	<p>Mr. Alfred Gondo, UN OCHA, Lubumbashi; Professor Kalaba, Department of Sociology, University of Lubumbashi; Mr. Gabriele Salmi, ALBA, Lubumbashi; Multi-stakeholder meeting, Tenke; Ms. Carine Kasongo Banza, Teacher at the Mangombo Institute, Tenke; Mr. Paulin Katshongo, Mayor of Kolwezi District; Mr. Boniface Konde Muwelwa, Association Socio-Culturelle Lwanzo Lwa Mikumba, Lubumbashi; Mr. Gabriel Kilolo-Komba, National Information Agency; Blanchard Mbayo Nambia, Ministère de l'information et presse/ Division Provinciale; Kyolo Kilume Emmanuel. Club des Techniciens Industriels de professions; Kashala Lukoji Douglas; Mr. Alfred Gondo, UN OCHA, Lubumbashi.</p>	<p>A comprehensive Public Consultation program will obtain information from diverse levels, including local, regional, national and international stakeholders, because each has a different perspective on a project. People living close to the proposed mine indeed are being consulted. Both the public participation team and socio-economic study team have had meetings in all the villages near the mine. In addition, stakeholders from different sectors of society are being consulted in various towns.</p> <p>TFM wishes to consult as many stakeholder organizations as possible, and appreciates such suggestions.</p> <p>From the names of commentators listed in this report, it will become clear that a great number of people from various sectors of society throughout the study area and beyond have been consulted.</p> <p>TFM workers were consulted, too. All TFM workers at the TFM office in Lubumbashi, and those at the TFM camp in Fungurume, including those that work off site, received background information documents, and some received verbal and visual briefings. Posters outlining the project are displayed at both offices.</p>
Many stakeholders call for more detailed information on the project than what was presented in the initial Background Information Document and posters, and ask for details in regard to the different alternatives that are being investigated.	Professor Kalenga Ngoy Mwana, Dean of Polytechnique Mining, University of Lubumbashi and 25 students; Mulumbu Community meeting in Mulumbu Village; Mulumbu Community meeting on top of Kwatebala Hill; Mr. Banza Nyanga, SAESSCAM, meeting with SAESSCAM officials and 12 informal	<p>Nowadays, consultation for ESIA's for big mining projects starts very early, even before there is a conceptual design available. This allows the contributions of stakeholders to help inform the designs.</p> <p>TFM has recently completed a feasibility study that produced the details requested in this comment. These</p>

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	miners, Kolwezi; Blanchard Mbayo Nambia, Ministère de l'information et presse/ Division Provinciale; Meeting with Mr. Mutomb Tshiyen and Mr. Mpenge Kalenga, Department of Environment, Kolwezi.	details, including a description of the Analysis of Alternatives conducted for the ESIA, are available to the public as part of the ESIA summary report.
<p>Stakeholders request regular verbal and visual presentations, open houses and feedback meetings.</p> <p>Some suggest that radio and television be used to distribute information, and that the local Swahili spoken in the area should be used.</p>	<p>Ms. Magda Gonzalez, MONUC (Mission Observation de UN for Congo), Lubumbashi; Mr. Wayne du Chenne and Francis Kasongo, African Explosives Limited, Zambia; Mr. Kasongo Mutshaila, World Vision, Lubumbashi; Malomba Mulenda Alphonse. Driver, Nguba Kanga Mission; Tshola Kaoma Corneille, Teacher, Nguba; Kabemba Bombeki Jean, Student, Nguba Mission.</p>	<p>Thus far, over 120 focus group and other meetings have been held. These included meetings in open-house, visual format with small-group discussions in May 2006 to assist stakeholders to comment on the Draft Scoping Report. Another round of open houses was held toward the end of November – early-December 2006 to give stakeholders an opportunity to comment on the draft findings of the ESIA.</p> <p>Mr. Francis Kalassa, TFM's community liaison officer, the members of the socio-economic baseline survey team, and facilitators in the public consultation team are local Congolese people who speak the local language.</p> <p>The opportunity to comment was indeed announced on both radio and television.</p>
<p>UN OCHA has a facilitation and coordination role amongst UN organizations and NGOs in the Congo and will forward the Background Information Document to around 40 NGOs to inform them of the ESIA and the opportunity to comment.</p>	<p>Mr. Alfred Gondo, UN OCHA, Lubumbashi.</p>	<p>We greatly appreciate this contribution to the public consultation process. TFM and its ESIA consultants would welcome an opportunity to meet with NGOs as a group, should they so wish.</p>
<p>Stakeholders advise that cultural requirements be respected during the public consultation process. This includes consulting men and women separately if necessary and understanding that people may not be open if the village chief is present. There are requests to accommodate different literacy levels and to ensure that vulnerable groups not be dominated by others.</p>	<p>Chief Gerome Kitambo, Kamunga Kitambo Village; Ms. Joellen McGann, IFESH, Lubumbashi; Mr. Kasongo Mutshaila, World Vision, Lubumbashi; Mr. Alfred Gondo, UN OCHA, Lubumbashi; Mr. Francois Kapenda Lukeka, Chef de Cite, Fungurume; Munyikisa Tshipopa Claude.</p>	<p>Many meetings were held with villagers without the chief being present. In each case, the chief's permission was obtained first.</p> <p>In many instances, men, women and the youth were consulted separately, but in others, together.</p> <p>Meetings and interviews have been held in all the villages and most of the hamlets in the concession area.</p>
<p>Stakeholders ask that the potential impacts, positive and negative, of the project should be shared amongst the community, the client and the government.</p>	<p>Mulumbu Community meeting on top of Kwatebala Hill; Multi-sectoral meeting, Tenke; Ms. Nelly Konkuba wa Mangi, Mangombo Institute, Tenke.</p>	<p>We agree entirely with this perspective, which is also consistent with international guidelines and best practices. The Background Information Document provided a list of potential negative impacts. During the initial round of consultation, we asked people to list all the things they know about the negative impacts of mining from other projects in the area, as can be seen in this issues report. The list of potential impacts will be presented in full during the next round of consultation and visually and verbally explained.</p>

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Some people ask if they should write down their skills and competencies on the ESIA comment sheets, in the hope of being employed.	Mulumbu Community meeting on top of Kwatebala Hill; Pascal Guegan, Ekumene, Lukotola-Fungurume.	Not at this time. The public consultation process must be separate from the employment process, or else the comments received may be influenced by perceived opportunities for a job. TFM will let people know when they can start applying for jobs.
We acknowledge receipt of your invitations which have reached us in good hands via electronic mail. We have read and understood your proposal. We assure you that our commentary and opinions will reach you within the agreed time.	Major Nkulu Buye; Jean Eustache.	We look forward to your comments.
Public consultation meetings in Kolwezi must be held at another venue. The Hacienda Hotel is not appropriate because it is owned by another mining company.	Participants at Kolwezi Government Open House, May 2006.	TFM will take heed of this suggestion. However, the hotel is a good venue for meetings, regardless of the owner of the property.
<p>Many participants indicated that this is the first time that a mining company has conducted large-scale public involvement, and that the initiative is much welcomed. Several people at the Lubumbashi open house suggested that the open house run for a week rather than one day, and indicated that the information and interaction was most informative and useful.</p> <p>Some people, however, requested more time to comment on the draft scoping report than the three weeks allocated. There were also requests for more information on the Equator Principles.</p> <p>Others indicated that TFM should provide food for people who participate in public consultation meetings.</p> <p>A few people said that more women need to participate in open houses and suggest that separate open houses be held just for women.</p>	Participant at Lubumbashi Government Open House, May 2006; Participants at Kolwezi Government Open House, May 2006; Hildebert Ilunga Manyango, ABEP (Association for Action for Farmers Welfare), written comment, June 2006; Freddy Ntambwe Nkulu, Fungurume; Teddy Mucail, Fungurume; Christopher Kayumba Numbi, Fungurume.	<p>The ESIA team thanks people for their time, contributions and suggestions. We are pleased to see that people find the public participation process constructive and useful.</p> <p>A period of four weeks has been available to comment on the ESIA reports, and, as during the scoping phase, complex aspects will be summarized and illustrated visually.</p> <p>Suggestions about food and more women will be considered for the next round of meetings in November 2006.</p>
ABEP appreciates the consultation process being undertaken to inform people about the details of the project and its benefits to the people, and the opportunity to comment on the project.	Participants at Kolwezi Government Open House, May 2006.	At present, TFM is developing its community development policy. The contributions of stakeholders during the public participation process help to influence the policy. However, TFM does recognize that some needs are regional in nature, and will adapt an appropriate geographic scope of operations to address those needs.
<p>The ESIA team is commended on an excellent public consultation process. It is pleasing to note that people's previous comments have been captured in the report.</p> <p>People look forward to commenting on the findings of the</p>	Robert Mwanza Dikamaba, University of Lubumbashi, written comment, June 2006; Pascal Simba Kalumba, Civil Engineer, Lubumbashi, written comment, June 2006.	

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specialist studies, especially on the potential impacts of the processing plant and possible relocation of local communities.		
Members of the press indicated that they would like TFM to take them on a visit to the project site.	Participants at Lubumbashi Government Open House, May 2006.	Mr. Francis Kalassa, the TFM Community Liaison Officer, will maintain contact with members of the press and arrange an appropriate opportunity.
16 SUGGESTIONS FOR COMMUNITY DEVELOPMENT PROJECTS		
16.1 APPROACH TO POLICY AND PRINCIPLES FOR SOCIO-ECONOMIC BENEFITS		
<p>Some villagers asked what is meant by 'Community Development'.</p> <p>Some villagers also said that they understand that TFM cannot do the government's work, and that TFM is looking for suggestions for community development projects and will implement what it can.</p>	<p>Mulumbu Community members on top of Kwatebala Hill; Meeting with Chief Mwela Mpande; Meeting with villagers at Mwela Mpande Village.</p>	<p>'Community development' refers to projects that can improve the conditions in which people live, and that can help them better provide for themselves and their children.</p> <p>It is important to remember that ideas for community development projects must come from the community, and require the support of community members. Real community development is not just hand-outs and gifts. People will have to work together to make projects work. In this way, local organizations and local people also will learn new skills.</p> <p>It will, of course, not be possible to implement every one of these suggestions, and TFM cannot take on the role of government in supplying all civil services in the area. But TFM can help to make an important difference. So, the company is consulting with government and a wide range of NGOs and others about where it could make the most difference to improve socio-economic conditions in the concession area.</p>
<p>TFM should collaborate with local NGOs for community development. There are numerous NGOs, both international with local branches, and local ones, that are highly familiar with local circumstances and with proven track records of successful community development. There are always synergies and potential partnerships that can be investigated.</p>	<p>Mr. Robert Hellyer, USAID, Kinshasa; Mr. Christian Roy, PACT Congo, Lubumbashi; Mr. Richard Ngoy Kitangala, Mr. Juvenal Lunggangwe, Mr. Albert Kalubi Ngongwe, Mme. Terese Mbwaya, Caritas, Lubumbashi; Mr. Gabriele Salmi, ALBA, Lubumbashi; Mr. Kasongo Mutshaila, World Vision, Lubumbashi; Mr. Kakonge Kafwimbi, meeting with BDD and Council Regional des ONG de Developpement du Katanga, Kolwezi.</p>	<p>TFM is a mining company. It cannot implement community development projects by themselves. The company will support local organizations to do the implementation.</p> <p>TFM commits to work with the DRC government, local organizations and NGOs, and in consultation with local people, to assist with community development projects in the area. TFM intends to support projects that can make the greatest positive difference over the longest time. Therefore, TFM will collaborate with local organizations that understand local culture, conditions and circumstances.</p>

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<p>Some stakeholders suggested that TFM establish a social department specifically for community development; the office should be staffed by people skilled in this field and dedicated to this task.</p>	<p>Mr. Richard Ngoy Kitangala, Mr. Juvenal Lunggangwe, Mr. Albert Kalubi Ngongwe, Mme. Terese Mbwaya, Caritas, Lubumbashi.</p>	<p>TFM has already appointed a full-time community liaison officer based at the TFM camp in Fungurume, Mr. Francis Kalassa, as well as a full-time community development coordinator based in Lubumbashi, Ms. Ida Efinda. This core staff will be supplemented by the efforts of NGO staff with experience and skills appropriate to the project's community development objectives.</p>
<p>Several stakeholders caution that mining projects should not create a dependency syndrome, which brings poverty and helplessness once mining stops. Community development projects should be sustainable, with TFM focusing on initiatives that will endure beyond mine closure, i.e. initiatives that could be carried on by NGOs or local people.</p>	<p>Mr. Aaron Marshall, United Methodist Committee on Relief (UMCOR), Lubumbashi; Professor Emile Mota, Department of Economics, University of Lubumbashi; Ms. Joellen McGann, IFESH, Lubumbashi; Mr. Kasongo Mutshaila, World Vision, Lubumbashi; Meeting at Department of Sociology, University of Lubumbashi, Professor Mutabusha-Gabriel Kalaba and 12 students; Malomba Mulenda Alphonse, Driver, Nguba Kanga Mission; Kabemba Bombeki Jean, Nguba Mission; William Ngandu Mulangu, Fungurume Technicians' Association.</p>	<p>The company is consulting with government and a wide range of NGOs and others about where it could make the most difference to improve socio-economic conditions in the concession area.</p> <p>The company also indicates that it intends to support projects that can make the greatest positive difference over the longest time, in other words those that build the capacity of local people and that do not create a dependency syndrome.</p> <p>The concept of local capacity-building underlies TFM's entire approach to community development. The company recognizes a need for improved capacity at every level in the concession area, from government's ability to administer royalty revenue, to individual capacities such as literacy.</p> <p>Each component of the company's community development program will address this need as an essential element for long-term success.</p>
<p>Benefits should be seen by local people, and vulnerable groups should not be dominated by others.</p> <p>There is concern about granting favor to villages closest to project facilities. Kabwe Kikuku Village, for example, has received no benefits so far and there are questions about what projects TFM has planned for this village.</p> <p>The Kilusonsa community also is frustrated at having to wait for TFM to start a social development project in the village.</p>	<p>Ms. Joellen McGann, IFESH, Lubumbashi; Mr. Gloire Sumbul Nfumwash, Procureur de la République and Magistrate Mr. John Kadima wa Kadima, Kolwezi; Billy Kamwasha Mwanga K, Teacher, ITC, Tenke; Mr. Mubalo Wilfred, Amoni Village; Meeting at Mwanga Kakunta Village; Mr. Jean Claude Katumba, Mulumbu Village; Participants at Tenke Government Open House, December 2006; Participants at Lubumbashi Government Open House, December 2006; Benoit Muyoyo Mwanza and Ilunga Nkole, Kilusonsa Public Open House, December 2006.</p>	<p>A basic principle of the community development project is to assure that as much of the project's economic benefit goes to the target, typically the local populations, including vulnerable groups. The socio-economic baseline study is an important tool for this effort.</p> <p>TFM is currently consulting with local organizations and NGOs about which projects to support. The goal is that at least some of the projects will be of general benefit to all residents of the concession area.</p> <p>However, it should be noted that TFM will not support projects that promote a public perception that the closer one is to the mine project the better one's chances of benefiting. This could lead to a population influx in the immediate vicinity of the mine, which would complicate access to mineralized areas and potentially pose health and safety risks to the public.</p>

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<p>Several stakeholders suggested that TFM should stimulate employment outside of mining.</p> <p>They also recommended that the company consider support to other economic activities such as buying goods locally instead of from outside the country.</p>	<p>Mr. Doctor Chibango, SAESSCAM, meeting with SAESSCAM officials and 12 informal miners, Kolwezi; Mr. Jean Claude Kunda Bwanga, small-scale mining operator in Katanga; Ferdinand Malango Kivunge, University of Lubumbashi; Ms. Joellen McGann, IFESH, Lubumbashi; Participants at Fungurume Government Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006; Kahenga Nyembo, GCM LATRECA, Lubumbashi; Thierry Ilunga Kamwila.</p>	<p>TFM is making efforts to identify materials that can be sourced locally versus imported, and will support capacity building for local enterprises to provide goods and services not yet available on local markets.</p>
<p>Suggestions were made for obtaining greater benefits from the mineral resources in the Congo.</p> <p>Some stakeholders also asked if gold, platinum, gypsum and limestone could be exploited at the same time as copper and cobalt.</p> <p>Others said they hope TFM starts mining the Dipeta Syncline as soon as possible to extend the life of the project.</p>	<p>Multi-sectoral meeting, Tenke; Dr. Gilbert Ilunga, Dean: Faculty of Management and Administration, Africa University, Zimbabwe; Ilunga Nday, CEO, Bondo; Mr. Robert Mwanza Dikamba Jr, University of Lubumbashi.</p> <p>Participants at Fungurume Government Open House, May 2006; Participants at Kolwezi Government Open House, May 2006.</p>	<p>The production of high-quality metal is the core business of TFM, and the project will produce pure copper and cobalt metal (or an intermediate cobalt product) at the facilities on site. These will be exported, and will be used for the manufacture of numerous products of use in the worldwide market.</p> <p>There is no gold and platinum associated with the ore body.</p>
<p>Some stakeholders asked whether people may continue to grow crops in the concession area.</p>	<p>Malimbi Sikubazi Moise, Carpenter in Tenke; Professor Fulgence Nyembo-Mateleka, Mangombo Institute, Tenke.</p>	<p>People are welcome to continue growing crops on those areas in the concession that they are legally entitled to do so under local law and where TFM has not identified the area as required for project development. Please contact the community liaison officer based at the TFM camp in Fungurume, Mr. Francis Kalassa, if you require assistance in determining whether an area is required for the project. TFM recognizes that the soil in the TFM concession is very fertile, and it's important to continue farming this land if it has not been designated by TFM as an area required for the project. If farm lands do become needed for mining, TFM will consult tenants in advance.</p>
<p>To demonstrate benefits to local people and community development projects, the company should start doing small things now to illustrate its serious intent.</p> <p>In terms of the poor socio-economic conditions in the area, TFM should consider starting small projects with short-term goals to run concurrently with the long-term projects.</p>	<p>Nyumbaiza Mubunda; Mr. Jacques Kanyembo, Meeting with ANR, Kolwezi; Mr. Doctor Chibango, SAESSCAM, meeting with SAESSCAM officials and 12 informal miners, Kolwezi; Robert Mwanza Dikamaba, University of Lubumbashi, written comment, June 2006.</p>	<p>TFM already has engaged the local Catholic Mission (Oeuvre Missionnaire Ekumene Lukotola) to provide 30 pairs of oxen and technical support for improved agriculture in select communities in the project area. The community development plan that is currently in preparation as part of the ESIA will include additional program support to the farming community in the TFM area.</p>

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		<p>Also, TFM already has provided temporary jobs (manual labor) to local communities, such as road construction and maintenance, and has focused on making these opportunities available to communities impacted by the loss of heterogenite income. Several hundred jobs of 5-30 days duration have been provided to date.</p> <p>TFM already actively is supporting an education project for the concession area. Now in its design stage, the project will construct schools in both the Tenke and Fungurume urban areas, and provide targeted support to village schools among the rural communities. Both schools are now in operation.</p> <p>TFM also already is supporting the installation of water wells by the Oeuvre Missionnaire Ekumene Lukotola. Some of these wells will be installed during the course of this year, and the program will be evaluated for extension into subsequent years of the project.</p>
<p>It is recommended that TFM policy include assistance to local authorities, who are unable to rely on central government for funds. TFM's assistance could take the form of per diems and transport for officials attending meetings, and assisting to upgrade the roads in the concession area in partnership with local government.</p>	<p>Participants at Fungurume Government Open House, May 2006.</p>	<p>TFM will continue to collaborate with local authorities, and involve officials in meetings and events. TFM already has been in contact with government in regard to assistance to upgrade roads in the area. The transparent use of royalty money, in particular that portion legally designated for local government, is a high priority for TFM.</p>
<p>Development initiatives by TFM should be in all sectors of society, not just in agriculture. Unless people start thinking more broadly than agriculture, they always will be looking toward TFM to assist them, because government does very little. People cannot rely on government or TFM alone. But in order for people to become empowered in sectors other than agriculture, they will need information and capacity building.</p>	<p>Participants at Lukotola Public Open House, May 2006.</p>	<p>The ESIA team and TFM fully agree with this statement. TFM's community development program indeed will focus on aspects wider than agricultural support.</p>
<p>Some stakeholders felt that the proposed budget (estimated at about US \$2.7 million) allocated by TFM for social development is insufficient.</p>	<p>Participants at Kolwezi Government Open House, May 2006.</p>	<p>The estimate of US \$2.7 million was offered verbally for purposes of illustrating how the community development program will be funded. Actual payments to the fund will be dependent on commodity (metal) prices and production in a given year. Furthermore, the payments will be allocated for every year of operation, not just once.</p>

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<p>People wanted to know what role NGOs are expected to play in social development programs. What criteria will be used to select these NGOs and will they all have to work through PACT Congo?</p> <p>They also pointed out that not all NGOs have the capacity that they claim they have. TFM should investigate the track record of NGOs before giving them funds for community development. Also, TFM should be very clear in terms of what the company would like to achieve when involving and contracting NGOs to assist with community development. It is better to use local NGOs instead of international ones.</p>	<p>Participants at Lubumbashi Public Open House, June 2006.</p>	<p>TFM has committed to work with NGOs with local knowledge to assist in the implementation of community development projects in the area. The ultimate goal of the community development effort is the establishment of a foundation for the allocation and management of community development funds. This foundation will be managed by a variety of stakeholders, including local authorities, NGO groups and representatives of TFM. Until this foundation is established, TFM has asked for assistance from several NGO groups, including PACT, and also local organizations such as the Lukotola Mission and ALBA.</p>
<p>Local community members should be involved in management structures for socio-economic development.</p>	<p>Participants at Lubumbashi Public Open House, June 2006.</p>	<p>Please see the preceding response. The TFM social fund will be administered by a foundation, with the membership and structure developed in close collaboration with local authorities, civil society representatives and NGO groups.</p>
<p>ABEP operates in two territories in the Kolwezi district, and suggests that the support to local community projects should not only take place in the villages surrounding the proposed project but should be extended to the entire Sanga community beyond the targeted villages, as far as Kanzenze in the Mutshatsha territory and the territory of Lubudi.</p>	<p>Hildebert Ilunga Manyango, ABEP (Association for Action for Farmers Welfare), written comment, June 2006.</p>	<p>At present, TFM is developing its community development policy. The contributions of stakeholders during the public participation process help to influence the policy. However, TFM does recognize that some needs are regional in nature, and will adapt an appropriate geographic scope of operations to address those needs.</p>
<p>TFM must give a clear indication of what the 0.3% of net sales revenue benefits allocated for community development will entail, especially for agricultural support. There are questions on why the percentage is 0.3% instead of 0.5% or 1%, with the request that. This clarification be provided in the ESIA report.</p>	<p>Robert Mwanza Dikamaba, University of Lubumbashi, written comment, June 2006.</p>	<p>TFM is committed to investing with local government for the benefit of the surrounding communities above and beyond the statutory royalties. To this end, TFM will establish an agriculture and social fund supported by contributions equal to 0.3 percent of net sales revenue from mine production. This commitment is required by the Mining Convention. This fund will be jointly managed by local authorities and TFM, most likely through an independent foundation for which the institutional structure, membership composition and specific mandates have yet to be developed. These elements of the future foundation will be developed in close collaboration with multiple stakeholders, including public authorities, local communities and TFM partners, and will reflect the joint priorities of these participants.</p>

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As part of its community development program, TFM should consider building facilities like orphanages or safe homes for NGOs that take care of children.	Participants at Fungurume Public Open House, November 2006.	As described in previous responses, TFM will make an annual contribution to a Social Development Fund that will be managed for the benefit of local communities. The organization structure to administer these funds, a 'foundation', will be organized starting in 2007. This foundation will include participation from stakeholders in the communities of the TFM concession areas, such as the authorities, civil society groups and representatives of rural communities. Once this structure is in place, the decisions on investment priorities, whether orphanages, hospitals or otherwise, will be made with the broadest possible input from the local community.
There are questions about further opportunities for people that missed the charcoal distribution.	Participants at Tenke Public Open House, December 2006.	TFM is unaware of a charcoal distribution project as part of their community development program.
TFM's contributions to social upliftment are admirable but the company needs to be wary of becoming a multi-service company that focuses on the environment and community development rather than its core business of mining.	Hyacinthe Zamwangana, Lubumbashi Public Open House, December 2006.	TFM appreciates the recognition provided in the comment that the company's core business is mining, not community development and the provision of public sector services. TFM will continue to focus its attention on our areas of strength, which are the production and export of high quality metal products from the TFM concession area. However, TFM also recognizes that gaining a social license to operate (SLO) is a strategic element of its business success, and that the SLO will be granted on the basis of generally received and broadly recognized benefits from the project...the 'social upliftment' to which the project refers. Given TFM's focus on mining, the strategic need for an SLO will be addressed through building a number of partnerships with organizations whose technical expertise and core business includes those needed for building our SLO. These organizations will include NGOs, civil society groups, local authorities and community leaders.
16.2 AGRICULTURAL SUPPORT		
The following suggestions were made for agricultural support, to boost yields, strengthen food security and produce income (in some cases, community members offered to pay back at harvest time): <ul style="list-style-type: none"> Fertilizer, improved seeds and seeds for market garden crops including Irish potatoes (people 	Mr. Kasongo Mutshaila, World Vision, Lubumbashi; Professor Kalenga Ngoy Mwana, Dean of Polytechnique Mining, University of Lubumbashi and 25 students; Mr. Jacques Kanyembo, Meeting with ANR, Kolwezi; Chief Mulumbu, Mulumbu Village; Malimbi Sikubazi Moise, Carpenter in Tenke; Chief Lutanda, Lutanda Village; Meeting at Mutaka II Village; Meeting	TFM is currently studying the numerous community needs and developing a program that will allow communities to decide which projects should take priority. TFM will help the communities to support their projects, but of course it will not be possible to implement every one of these suggestions, and TFM cannot take on the role of government in supplying all civil services in the area.

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>should not have to collect these at the TFM camp, because they do not have their own transport)</p> <ul style="list-style-type: none"> • Farm implements like ploughs and tractors, and animal traction (oxen) as the current scheme by the Lukotola Mission • Mills to grind grain • Places for markets • Establishing a farm and selling meat and produce to local people • Rehabilitating the former Gecamines farms in the region • Program to collect and transport agricultural produce and livestock from local farmers to markets and shops (lack of access to markets is one of biggest challenges facing the local communities) • Micro-credit scheme • Buying crops from villagers • Training and extension services to help improve agriculture • Development of agriculture from a hoe-based agriculture to a more performing one • Large-scale production of maize to reduce the price of maize • It was suggested that agricultural support programs should be established before the mining project starts so that people have other livelihoods and not everyone will flock to the mine for jobs. <p>Many people feel that TFM should consider providing agriculture support, including capacity building on agricultural aspects to farmers and communities in the whole area surrounding the mining project.</p>	<p>at Kwatebala Gare Village; Meeting with men at Kabombwa Village; All communities consulted; Mr. Boniface Konde Muwelwa, Association Socio-Culturelle Lwanzo Lwa Mikumba, Lubumbashi; Mr. Doctor Chibango, SAESSCAM, meeting with Saesscam officials and 12 informal miners, Kolwezi; Mr. Ilunga Mulunda Celestin, Fungurume Tax Collector; Meeting with villagers at Mwela Mpande Village; Women in Nguba Village; Mr. Denis Edah, PACT Congo, Lubumbashi; Multi-sectoral meeting, Tenke; Mr. Aaron Marshall-United Methodist Committee on Relief (UMCOR), Lubumbashi; Meeting at Kabwe Kakese Village; Meeting at Ndela Sase 2 Village; Meeting at Kimbakene Village; Meeting with men in Tenke; Meeting with young people in Tenke; Meeting with young people in Kamungu Kitambo Village; Mr. Benoit Ngoy wa Ngoy, Eglise Carnel, Fungurume; Dr. Serge Sumba, Lukotola Clinic, Lukotola Village; Mr. Laurent Muchaila Muanda, Teacher, Fungurume; Meeting at Mwanga Ntadi Village; Participants at Fungurume Government Open House, May 2006; Participants at Tenke Government Open House, May 2006; Participants at Kilusonsa Open House, May 2006; Participants at Tenke Public Open House, May 2006; Participants at Lukutola Public Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006; Mujinga Yav Joseph, Kilusonsa Village; Muyeko Kiziba Pamphile, Kilusonsa Village; Mukasa Kalabo, Kilusonsa Village; Kyoni Mukanda Patrice, Kilusonsa Village; Kindele Faidon, Lukotola; Mukebo wa Ngoie Claude, Nguba Village; Mukekwa Gervais, Mulumbu Village; Mukebo André, Mulumbu Village; Ilunga Mukalayi, Mulumbu Village; Ebondo Kinenga, Mulumbu Village; Lumuna Mbula Polydor, Nguba Village; Kahenga Nyembo, GCM LATRECA, Lubumbashi; Kabeya Mbaya; Fungurume; Participants at Lubumbashi Government Open House, December 2006; Kon Kayomb, Lubumbashi Public Open House, December 2006; Marc Tshidibi, Lubumbashi Public Open House, December 2006.</p>	<p>But TFM can help to make an important difference. So, the company is consulting with government and a wide range of NGOs and others about where it could make the most difference to improve socio-economic conditions in the concession area.</p> <p>Also, TFM is a mining company. It cannot implement community development projects by themselves. The company will support local organizations to do the implementation.</p> <p>However, TFM has learned through the public consultation and social baseline study that there are some very clear priorities among the residents of the concession area. These include agricultural support, improved economic opportunity, either through employment or support for local business enterprises; and improved access to medical care and education. These priorities will be the basis of the company's community development program, which may include many of the ideas suggested in these comments.</p> <p>It is important to remember is that community development projects need the support of community members. Real community development is not just hand-outs and gifts. People will have to work together to make projects work. In this way, local organizations and local people will also learn new skills.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>There are many concerns and questions about the oxen project, for example:</p> <ul style="list-style-type: none"> • People are not sure how the project works. • It is not clear whether the project is only for the Lukotola region. • Whether the 1,000 buckets of maize (2 litres per bucket) needs to be paid to the Lukotola Mission before or after joining the project. • Only the people of Lukotola seem to be benefiting from the oxen program. • The process of setting up the oxen program committees is unfair because people choose their relatives. • Whether the oxen acquired by a committee is owned by that committee forever. • People feel that in some villages, only the chiefs and their families benefit and not the other villagers. • The oxen program could bring conflict among chiefs because only some chiefs are involved and will benefit (Chief Nguba, as senior chief in the area, is unhappy because he was not informed about the project). • To pay 1,000 buckets of maize for a pair of oxen for 10 years is just too much. People cannot possibly afford that much maize, because they are too poor and they cannot grow so much maize. Suggest 400 buckets. • People in Tenke also would like to benefit from the program. • The oxen program should be expanded and more oxen should be provided because many people from other areas would like to participate in the program • Some communities do not know how or do not have the means to care for the oxen and would prefer other support 	<p>Participants at Lukotola Public Open House, May 2006; Participants at Fungurume Government Open House, May 2006; Participants at Tenke Public Open House, May 2006; Participants at Fungurume Public Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006; Participants at Kilusonsa Open House, May 2006; Kyoni Mukanda Patrice; Lumuna Mbula Polydor, Fungurume ; Kindele Faidon, Lukotola; Lumuna Mbula Polydor, Nguba Village; Lumbwe Kabela Celestin and 10 farmer colleagues (Kalenga Mutumbe, Kyungu Kazembe, Mulumbu Kazadi, Kamona Uveve, Tshansa Kapya, Musamba Sangola, Mumena; Muhemba Mukuma, Kyungu Kamwasha);, Mulumbu Village; Mbuyu Lulu Elise, Tenke; Mwika Mukekwa, Nkonka Village; Chief Zakeyo, Nkonka Village; Kikonde, Nkonka Village; Mofati Kapamba, Nkonka Village; Kitenge, Nkonka Village; Kilume; Mangi Albert, Nkonka Village; Ngoie; Kilume Kahoza, Nkonka Village; Kazinga Mubambe, Nkonka Village; Silva Mwanza Yav Anatole, Nkonka Village; Mumbambe Anastas, Nkonka Village; Muzinga Euphrasie, Nkonka Village; Ngoy Sememba, Fungurume; Participants at Fungurume Government Open House, November 2006; Makungu Malikiya, Fungurume Public Open House, November 2006; Molole Ilunga and Kyungu wa Nkulu, Tenke Government Open House, December 2006; Mpanga Edouard, Lukotola Public Open House, November 2006; Mwanza Pastor, Lukotola Public Open House, November 2006; Kibanza wa Ngoyi, Mulumbu Public Open House, December 2006; Kabeshi, Mulumbu Public Open House, December 2006; Kiyoni Ilunga, Mulumbu Public Open House, December 2006.</p>	<p>TFM anticipates that the oxen program will be repeated in the future, however it is clear that local people need more information on how their obligations work under the program. Assistance and expertise from NGO groups will be sought in the selection of beneficiaries under any future implementation efforts, particularly in the development of a clear consensus on how individuals are selected and the exact nature of their obligations.</p> <p>However, it should be noted that the oxen project is designed as a self-help program. As such, beneficiaries not only will have an obligation to pay a return back to the program, but to help other people benefit from the project as well.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<ul style="list-style-type: none"> Whether such a project will be established in Kando Sud where AGRIKAT has a large agriculture program. <p>Some people feel that the oxen program should be substituted with a tractor program since tractors are more efficient than oxen.</p> <p>Many people complain that TFM only provides farming equipment and supplies to the people who received oxen. Other people also should receive farming equipment to improve their agriculture. Some farmers, on the other hand, who received oxen have not been given equipment.</p> <p>Others do not understand the logic in TFM providing them with oxen to plough fields but at the same time taking away their fields.</p>		
<p>TFM says they want to help local people improve agriculture, but at the same time TFM's vehicles are destroying people's fields to make roads and put in mine infrastructure.</p>	<p>Participants at Tenke Public Open House, May 2006.</p>	<p>People whose fields are being damaged are being adequately compensated. In addition, any fields that will have to make way for mine infrastructure will be replaced, and people will be helped to establish new fields. TFM also is assisting with agricultural support in the concession area.</p>
<p>People are unhappy because TFM only gives agricultural support to farmers from Lukotola and Mulumbu and not those from Nguba and Mpala Villages.</p> <p>Others indicated that non-native farmers did not receive any fertilizers and wanted to know whether this means that non-native farmers do not have access to the oxen and agricultural development programs.</p>	<p>Participants at Fungurume Government Open House, November 2006; Dorcas Mwahidi, Mulumbu Public Open House, December 2006.</p>	<p>TFM prohibits its employees from discriminating between 'native' and 'non-native' individuals or communities in the implementation of our community development programs. Agricultural programs in the TFM area were built on the existing work of the Lukotola Mission. Beneficiaries for early TFM programs naturally included the existing, known population of stakeholders with whom Lukotola had been working.</p> <p>TFM recognizes that there are new priorities and an expanded group of stakeholders to bring into the community development program, including the residents of the village of Nguba. As an early recognition of these broader obligations, Nguba will be the first of 10 villages to receive a water well provided with funds from Lundin for Africa.</p> <p>As a precedent to the village well process, NGO groups working under direction from TFM also organized Village Mobilization Committees, including a first such committee in Nguba. The purpose of these committees is to establish</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
		local development priorities for the coming years. If those priorities include oxen-drawn agriculture as a high-value component, then such programs will be proposed for these communities with support from the Social Development Fund.
Although TFM is helping to improve agriculture, the region requires much more agricultural support. There are questions about whether TFM has plans to increase that support in future.	Kyungu Ilunga, Tenke Government Open House, December 2006.	TFM has prepared a community development 'roadmap' based on priorities identified by local populations. Support for agricultural development is a common high priority element of the 'roadmap' strategy, since it was an area of investment frequently requested by local residents. Though specific programs are not yet designed, local stakeholders can assume that these programs will support agriculture development during mine construction and operation..
Farmers should be allowed to collect the seeds provided by TFM directly from the state officer. Extra seeds should be distributed to new committee members instead of being taken away.	Tenke Government Open House, December 2006.	TFM has provided improved seeds to the local farming community by delivering them to the Mission Lukotola for further distribution according to their existing rural development program policies.

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
16.3 ROAD INFRASTRUCTURE AND TRANSPORT		
<p>The lack of road infrastructure is a barrier to economic development and limits agricultural production because farmers can't get their products to market. It's requested that TFM help improve existing roads while building new mine roads.</p>	<p>Ms. Joellen McGann, IFESH, Lubumbashi; Chief Mulumbu, Mulumbu Village; Many other villages; Dr. Ngoy, Mulolo Medical Center, Kolwezi; Ms. Mamie Mbemba Nguz, Teacher, Fungurume; Mr. Gloire Sumbul Nfumwash, Procureur de la République, Kolwezi and Magistrate Mr. John Kadima wa Kadima; Mr. Jean Claude Kunda Bwanga, small-scale mining operator in Katanga; Ubite Usoko Allen-Jossart, Agro Alimentary Research Center, Lubumbashi.</p>	<p>TFM is planning road access around several criteria, including its needs for construction and operation, public safety and the avoidance of mineralized areas as well as areas that are sensitive in terms of environmental and social issues. To the extent that a viable road alternative meeting these criteria also can enhance market access by farmers, this suggestion will be considered.</p>
<p>A request is made to TFM to assist people from the three small villages close to Kwatebala Hill to transport sick people to clinics, and to transport agricultural produce to markets as well as transport the maize they have to pay for the loan of oxen to the Lukotola Mission. People from these villages have only a few bicycles, and no other means of transport. Perhaps TFM could help someone start a small business by giving a loan to this person to purchase a vehicle.</p>	<p>Participants at Mulumbu Open House, May 2006; Edmond Banza Ngoy, Mulumbu Village; Participants at Tenke Public Open House, December 2006 Mulumba "Américain", Mulumbu Public Open House, December 2006.</p>	<p>TFM will consider this suggestion as part of its community development plan, along with all other suggestions.</p>
16.4 HEALTH FACILITIES		
<p>The lack of health care facilities and lack of basic medicines in the area was mentioned by many stakeholders. When people are seriously sick, they have to be transported long distances to a hospital.</p> <p>They suggested TFM consider contributing toward health care through, for example:</p> <ul style="list-style-type: none"> • Building new hospitals or clinics. • Refurbishing or improving existing hospitals and clinics. • Assisting existing hospitals or clinics with basic medicine in the concession area. • Training program for health care workers. • Providing a transport service to the hospital for the elderly and sick people in the area. <p>Some people suggested that TFM support to health care should begin now, since additional dust and other impacts</p>	<p>MSF, Lubumbashi; Professor Emile Mota, Department of Economics, Lubumbashi University; William Ngandu Mulangu, Association Technicians in Fungurume; Malimbi Sikubazi Moise, Carpenter in Tenke; Kashimbo Mwanza Jean, Mangombo Institute, Tenke; Mussebo Wa Museka Francis, Mangombo Institute, Tenke; Mr. Adelard Mukekwa Kafuku, Quartier Mwela Mpanda Derriere L'usine de Pilote; Mr. Jilbert Kitungua Mbayo, Eglise Methodiste Church, Fungurume; Dr. Alain Kayji Mwimkeu, Bureau Central de la Zone de Sante, Fungurume; Mr. Richard Ngoy Kitangala, Mr. Juvenal Lunggangwe, Mr. Albert Kalubi Ngongwe, Mme. Terese Mwaya, Caritas, Lubumbashi; Mr. Kasongo Mutshaila, World Vision, Lubumbashi; Mr. Katombe Bela, Mulumbu Village; Chief Mulumbu, Mulumbu Village; Meeting with villagers at Mwela Mpande Village; Kabutwe- Wa- Pipanga Jeanine, Mangombo Institute in Tenke; Meeting at Kwatebala Gare Village; Women in Kasanga Village; Women at Kimbakene Village; meeting with women in Fungurume; Mr. Boniface</p>	<p>TFM is consulting with government and a wide range of NGOs and others about where it could make the most difference to improve socio-economic conditions in the concession area. TFM will help the communities to support their projects, but of course it will not be possible to implement every one of these suggestions, and TFM cannot take on the role of government in supplying all civil services in the area.</p> <p>However, TFM has learned through the public consultation and social baseline study that there are some very clear priorities among the residents of the concession area. These include agricultural support, improved economic opportunity, either through employment or support for local business enterprises, and improved access to medical care and education. These priorities will be the basis of the company's community development program, which may include many of the ideas suggested in these comments.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>caused by the mining project will result in health-related impacts.</p> <p>Others indicated that many farmers suffer from lumbago and back ache and would appreciate if TFM could assist the clinic with medication for this.</p> <p>Community members also request that TFM consider providing health care assistance to crippled people.</p>	<p>Konde Muwelwa, Association Socio-Culturelle Lwanzo Lwa Mikumba, Lubumbashi; Dr. Ngoy, Mulolo Medical Center, Kolwezi; Meeting with Mr. Paulin Katshongo, Mayor of Kolwezi District; Mr. Gloire Sumbul Nfumwash, Procureur de la République, Kolwezi and Magistrate Mr. John Kadima wa Kadima; Mr. Doctor Chibango, SAESSCAM, meeting with SAESSCAM officials and 12 informal miners, Kolwezi; Dr. Auguy Okese Ohale, Médecin Généraliste, Fungurume; Mukekwa Kafuku Adelard, Teacher, ITC Tupendane, Fungurume; Mr. Jean Claude Kunda Bwanga, small-scale mining operator in Katanga; Participants at Lukutola Public Open House, May 2006; Participants at Tenke Public Open House, May 2006; Participants at Kilusonsa Open House, May 2006; Participants at Fungurume Public Open House, May 2006; Mujinga Yav Joseph, Kilusonsa Village; Muyeko Kiziba Pamphile, Kilusonsa Village; Gerard, Fungurume; Tembo Mumba Ildebrand, Fungurume; Mwanga Sangu, Mulumbu Village; Mwanga Bijimba, Mulumbu Village; Kashala Mujala, Mulumbu Village; Lumuna Mbula Polydor, Nguba Village; Kabesha Kasongo Paul; Fungurume; Kabinda Luka Paulin, Fungurume; Chief Mujinga Polydor, Mulumbu Village; Mwika Mukekwa, Nkonka Village; Chief Zakeyo, Nkonka Village; Kikonde, Nkonka Village; Mofati Kapamba, Nkonka Village; Kitenge, Nkonka Village; Kilume; Mangi Albert, Nkonka Village; Ngoie; Kilume Kahoza, Nkonka Village; Kazinga Mubambe, Nkonka Village; Silva Mwanza Yav Anatole, Nkonka Village; Mumbambe Anastas, Nkonka Village; Muzinga Euphrasie, Nkonka Village; Ngoy Sememba, Fungurume; Kabwika Mastaki, Fungurume; Mwenze Nswana, Lukotola Public Open House, November 2006; Kilundu Auguy, Lukotola Public Open House, November 2006; Ilunga Mutatay and Moise Mulomb, Lukotola Public Open House, November 2006; Kayumba wa Makomo, Kilusonsa Public Open House, December 2006.</p>	
<p>Many people would like to know whether the health facilities established by TFM only would be for TFM employees or if other people in the community also will have access to them.</p>	<p>Participants at Fungurume Government Open House, May 2006; Participants at Lukutola Public Open House, May 2006; Participants at Fungurume Government Open House, November 2006; Participants at</p>	<p>TFM plans to support health care in the area for access by local people in addition to an on-site mine clinic for its workers, though the specifics of this program have not been designed yet.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>Others say that the community is eagerly awaiting the hospital that TFM plans to build. In the meantime, local communities would like access to TFM's hospital until the new hospital project is complete.</p>	<p>Fungurume Public Open House, November 2006; Mukanda Kiswaka and Kaj Mujing, Tenke Government Open House, December 2006.</p>	
<p>16.5 EDUCATION FACILITIES</p>		
<p>Due to the lack of area education facilities and the difficulty of getting children to school, it's suggested that TFM consider:</p> <ul style="list-style-type: none"> • Building schools. • Building a medical school. • Building a mining technical school or college. • Supporting existing schools (many, for example, need only a roof or another classroom or two). • Supplementing teachers' salaries. • Teacher education. <p>Some people asked whether TFM will consider building secondary educational facilities in the concession area.</p>	<p>Professor Kalaba, Department of Sociology, University of Lubumbashi; Meeting at Department of Sociology, University of Lubumbashi, Professor Mutabusha-Gabriel Kalaba and 12 students; Mr. Katombe Bela, Mulumbu Village; Meeting with young people in Tenke; Mr. Gloire Sumbul Nfumwash, Procureur de la République, Kolwezi and Magistrate Mr. John Kadima wa Kadima; Dr. Alain Kayji Mwimkeu, Bureau Central de la Zone de Sante, Fungurume; Mr. Jean Claude Kunda Bwanga, small-scale mining operator in Katanga; Mr. Gabriele Salmi, ALBA, Lubumbashi; Chief Mulumbu, Mulumbu Village; Meeting with villagers at Mwela Mpande Village; Meeting with women, Fungurume; Mr. Kasongo Mutshalla, World Vision, Lubumbashi; Professor Emile Mota, Department of Economics, Lubumbashi University; Mr. Richard Ngoy Kitangala, Mr. Juvenal Lungangwe, Mr. Albert Kalubi Ngongwe, Mme. Terese Mbwaya, Caritas, Lubumbashi; MSF, Lubumbashi; Mr. Katombe Bela, Mulumbu Village; Kabutwe- Wa- Pipanga Jeanine, Mangombo Institute, Tenke; Mussebo Wa Museka Francis, Mangombo Institute, Tenke; Meeting at Kwatebala Gare Village; Women in Kasanga Village; Women at Kimbakene Village; Mr. Boniface Konde Muwelwa, Association Socio-Culturelle Lwanzo Lwa Mikumba, Lubumbashi; Dr. Ngoy, Mulolo Medical Center, Kolwezi; Meeting with Mr. Paulin Katshongo, Mayor of Kolwezi District; Ms. Carine Kasongo Banza, Teacher at the Mangombo Institute, Tenke; Kashimbo Mwanza Jean, Mangombo Institute, Tenke; Meeting with men in Tenke; many villagers; Dr. Gilbert Ilunga, Dean: Faculty of Management and Administration, Africa University, Zimbabwe; Participants at Kilusonsa Open House, May 2006; Participants at Lubumbashi Public Open House, June 2006; Participants at Tenke Public Open House, May 2006; Mwanza Kabumba Enoch, Kilusonsa</p>	<p>TFM already is actively supporting an education project for the concession area. Two new schools already have been built, one in Tenke and one in Fungurume. An existing school in Fungurume also has been renovated.</p> <p>The education project also will provide targeted support to village schools among the rural communities.</p> <p>TFM has started with primary education because there are more than 2,000 school age children in the area. Expansion of investment into higher levels of education will be driven by local community priorities, as defined in the 'foundation' established for managing the Social Development Fund.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
	<p>Village; Mujinga Yav Joseph, Kilusonsa Village; Muyeko Kiziba Pamphile, Kilusonsa Village; Kisula Ngoy Raymond, Kilusonsa Village; Tshibulenu Kabama Crispin, Kilusonsa Village; Kabinda Luka Paulin, Fungurume; Chief Mujinga Polydor, Mulumbu Village; Mukekwa Gervais, Mulumbu Village; Mwanga Sangu, Mulumbu Village; Mwanga Bijimba, Mulumbu Village; Kashala Mujala, Mulumbu Village; Edmond Banza Ngoy, Mulumbu Village; Mwika Mukekwa, Nkonka Village; Chief Zakeyo, Nkonka Village; Kikonde, Nkonka Village; Mofati Kapamba, Nkonka Village; Kitenge, Nkonka Village; Kilume; Mangi Albert, Nkonka Village; Ngoie; Kilume Kahoza, Nkonka Village; Kazinga Mubambe, Nkonka Village; Silva Mwanza Yav Anatole, Nkonka Village; Mumbambe Anastas, Nkonka Village; Muzinga Euphrasie, Nkonka Village; Ngoy Sememba, Fungurume; Kabwika Mastaki, Fungurume; Kibanza wa Ngoyi, Mulumbu Public Open House, December 2006.</p>	
<p>The materials used by TFM to build the two new schools for underprivileged children is not of good quality. It is likely that the buildings will not last for long.</p>	<p>Participant at Kolwezi Government Open House, November 2006.</p>	<p>TFM notes the concern expressed over the quality of building materials used in the school project with special interest, since the company plans on using locally made bricks and materials for its own construction purposes. The durability of the school construction materials will be carefully evaluated.</p>
<p>The community is thankful to TFM for building the two new schools in Tenke and Fungurume. However, some people pointed out that many more schools will be required to cater to all the underprivileged children in the area.</p> <p>However, people are not aware when these schools will open, what the school fees are, how the schools will be managed and who pays the teachers.</p> <p>Many believe that orphans should be given priority to attend these schools.</p> <p>Some people asked whether a reduction in school fees can be negotiated with TFM.</p> <p>Others queried whether TFM monitors its payments to ALBA for the management of the two new schools.</p>	<p>Participants at Fungurume Government Open House, November 2006; Participants at Fungurume Public Open House, November 2006; Kaj Mujing, Participants at Tenke Government Open House, December 2006; Participants at Lukotola Public Open House, November 2006; Katamba Kamungu, Lukotola Public Open House, November 2006; Herve Mwaku, Lukotola Public Open House, November 2006; Participants at Lukotola Public Open House, November 2006; Gustave Mulaji, Mulumbu Public Open House, December 2006</p>	<p>The first two primary schools were constructed on a high priority schedule to demonstrate to local communities that TFM recognizes its responsibilities for local community development.</p> <p>Expansion of the school construction program, or its extension into additional grades, however, must be a decision embarked upon by community leaders as part of the Social Development Fund and its managing 'foundation'. TFM cannot make decisions unilaterally that fundamentally belong in the public sector, such as how to prioritize community development capital.</p> <p>Local residents should contact the NGO ALBA for information on how the schools will be managed, including questions on how the fee schedules are established and how admission is determined.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>Lukotola residents said that the school at Lukotola cannot accommodate more children, and asked whether it would be possible for them to attend the new TFM school in Fungurume.</p> <p>Kamungu Village is in need of a school because the children there do not have access to education.</p>		
16.6 ELECTRICITY		
<p>Since the mining project will use electricity and water and the infrastructure will be in place, stakeholders suggest that TFM help supply electricity and note this would benefit women in particular.</p>	<p>Mr. Abdon Maloba, Fungurume Tourism Department; Mr. Nyembo Disasi, Mulumbu Village; Meeting at Mulumbu Village; Women in Nguba village; Meeting at Mwanga Kakunta Village (men); Meetings in several other villages; Mr. Gloire Sumbul Nfumwash, Procureur de la République, Kolwezi; Participants at Lubumbashi Public Open House, June 2006; Mwanza Kabumba Enoch, Kilusonsa Village; Tembo Mumba Ildebrand; John Loustrick, Fungurume.</p>	<p>TFM is consulting with government and a wide range of NGOs and others about where it could make the most difference to improve socio-economic conditions in the concession area. TFM will help the communities support their projects, but it will not be possible to implement every one of these suggestions, and TFM cannot take on the role of government in supplying all civil services in the area.</p> <p>However, TFM has learned through the public consultation and social baseline study that there are some very clear priorities among the residents of the concession area. These include agricultural support, improved economic opportunity, either through employment or support for local business enterprises, and improved access to medical care and education. These priorities will be the basis of the company's community development program, which may include many of the ideas suggested in these comments.</p>
<p>There is no electricity in Lukutola and because of that people cannot have nice houses. There is one transformer in the area but it is not big enough to supply Lukutola with power. It is suggested that TFM buy a transformer for the area, which will be a small price to pay for wide community benefits.</p> <p>Tenke residents and all the other communities in the concession area also would like to benefit from a similar electricity supply project because it will greatly assist development and upliftment of local communities.</p>	<p>Participants at Lukutola Public Open House, May 2006; Aboubakard Vigoureux, Tenke Government Open House, December 2006; Kibala Makasa, Tenke Public Open House, December 2006; Participants at Mulumbu Public Open House, December 2006.</p>	<p>The suggestion has been passed on to TFM. However, any decision on such an investment will be made in the context of all priority needs for all communities in the concession area. Early indications regarding these priorities are that health care, education and employment are at a higher level of need than household electric power.</p>
16.7 HOUSING AND BUILDING		
<p>Housing and building suggestions include:</p> <ul style="list-style-type: none"> • Providing housing to local communities. • Providing decent houses for tribal chiefs. 	<p>Mr. Katombe Bela, Mulumbu Village; Dr. Gilbert Ilunga, Dean: Faculty of Management and Administration, Africa University, Zimbabwe; Meeting at Mulumbu Village; Meeting with men in Kamungu Kitambo Village</p>	<p>TFM is consulting with government and a wide range of NGOs and others about where it could make the most difference to improve socio-economic conditions in the concession area. TFM will help the communities support</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<ul style="list-style-type: none"> Providing credit facilities and building materials. Supporting the establishment of a construction company because the mine's construction workers will have developed building skills. 	<p>and several other village meetings; Mr. Adelar Mukekwa Kafuku, Quartier Mwela Mpanda Derriere L'usine de Pilote; Mr. Jeanine Kabutwe wa Pipanga, Mangombo Institute, Tenke; Mr. Robert Muanza Dikamba Jr, University of Lubumbashi; Participants at Tenke Government Open House, May 2006; Mujinga Yav Joseph, Kilusonsa Village; Mukasa Kalabo Adolphe, Kilusonsa Village; Mukebo André; Masengo Stanislas; Musas Tshinish Baudoin, Fungurume; Kayumba wa Makomo, Kilusonsa Public Open House, December 2006.</p>	<p>their projects, but it will not be possible to implement every one of these suggestions, and TFM cannot take on the role of government in supplying all civil services in the area.</p> <p>However, TFM has learned through the public consultation and social baseline study that there are some very clear priorities among the residents of the concession area. These include agricultural support, improved economic opportunity, either through employment or support for local business enterprises, and improved access to medical care and education. These priorities will be the basis of the company's community development program, which may include many of the ideas suggested in these comments.</p>
<p>If TFM helps people set up a brick-making company, what will happen to the company when TFM no longer needs the bricks?</p> <p>When TFM establishes the brick-making company, it should consider employing people already involved in the brick-making business.</p>	<p>Participants at Tenke Public Open House, May 2006; Lumbwe Kabelo Celestin and 10 farmer colleagues (Kalenga Mutumbe, Kyungu Kazembe, Mulumbu Kazadi, Kamona Uveve, Tshansa Kapya, Musamba Sangola, Mumena; Muhemba Mukuma, Kyungu Kamwasha).</p>	<p>TFM will provide such enterprises with an assured market for their initial production. As part of its community development effort, the company also will provide expertise from NGOs that will assist owners in identifying additional markets, such as for house construction. It is anticipated that economic development will come to the area, which will drive demand for bricks well beyond the immediate construction needs of TFM.</p>
<p>16.8 WATER SUPPLY AND SANITATION</p>		
<p>Clean water is a big concern in the area, and wells are being shared by people and animals.</p> <p>The area needs assistance with repair and maintenance of water wells and pumps to supply drinking water. Other means of supplying water, including proper distribution systems, also should be considered.</p> <p>People are grateful for the water wells that TFM plans to construct in some of the villages in the concession area and suggest the following:</p> <ul style="list-style-type: none"> Fungurume needs more water wells and would appreciate another one in the M'siri market area. TFM should consider constructing more wells in other villages in future. Water wells should be equipped with taps to make it easier for people to collect their water. The water supply project should be implemented 	<p>MSF, Lubumbashi; Professor Emile Mota, Department of Economics, Lubumbashi University; Mr. Katombe Bela, Mulumbu Village; Chief Mulumbu, Mulumbu Village; Mr. Abdon Maloba, Fungurume Tourism Department; Meeting with Chief Mwela Mpande; Meeting with villagers at Mwela Mpande Village; Meeting at Mwanga Kakunta Village (women)); Dr. Ngoy, Mulolo Medical Center, Kolwezi; Mr. Doctor Chibango, SAESSCAM, meeting with SAESSCAM officials and 12 informal miners, Kolwez; Mr. Benoit Ngoy wa Ngoy, Eglise Cernel, Fungurume; Participants at Lubumbashi Public Open House, June 2006; Participants at Fungurume Public Open House, May 2006; Tembo Mumba Ildebrand, Fungurume; Kabesha Kasongo Paul; Fungurume; Villa Mbaya Pierre; Kabeya Mbaya; Fungurume; Kapenda Mwenze, Pastor at Garenganze Church, Fungurume Government Open House, November 2006; Participants at Fungurume Public Open House, November 2006; Simba Matombe,</p>	<p>TFM is consulting with government and a wide range of NGOs and others about where it could make the most difference to improve socio-economic conditions in the concession area. TFM will help the communities support their projects, but it will not be possible to implement every one of these suggestions, and TFM cannot take on the role of government in supplying all civil services in the area.</p> <p>However, TFM has learned through the public consultation and social baseline study that there are some very clear priorities among the residents of the concession area. These include agricultural support, improved economic opportunity, either through employment or support for local business enterprises, and improved access to medical care and education. These priorities will be the basis of the company's community development program, which may include many of the ideas suggested in these comments.</p> <p>TFM already has identified unsafe drinking water as one of the fundamental health risks to the population of the</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<p>as soon as possible.</p> <ul style="list-style-type: none"> • Chlorine should be provided to some communities, where necessary. • Kamungu Village requires one or two water wells. 	<p>Tenke Government Open House, December 2006; Aboubakard Vigoureux, Tenke Government Open House, December 2006; Participants at Lukotola Public Open House, November 2006; Kayumba wa Makomo, Kilusonsa Public Open House, December 2006.</p>	<p>concession area.</p> <p>The work currently under way by the Oeuvre Missionnaire Ekumene Lukotola includes the installation of water wells. Some of these wells will be installed during the course of this year, and the program will be evaluated for extension into subsequent years of the project.</p>
<p>16.9 ECOLOGICAL PROJECTS</p>		
<p>Many benefits are seen from replanting trees in denuded areas, including:</p> <ul style="list-style-type: none"> • Social benefits, such as jobs and skills. • Small business opportunities, such as nurseries. • Improvements to the natural environment and soil stability. 	<p>Mr. Richard Ngoy Kitangala, Mr. Juvenal Lunggangwe, Mr. Albert Kalubi Ngongwe, Mme. Terese Mbwaya, Caritas, Lubumbashi; Mr. Francois Kapenda Lukeka, Chef de Cite, Fungurume; Mr. Richard Ngoy Kitangala, Mr. Juvenal Lunggangwe, Mr. Albert Kalubi Ngongwe, Mme. Terese Mbwaya, Caritas, Lubumbashi; Mr. Jeanine Kabutwe wa Pipanga, Mangombo Institute, Tenke.</p>	<p>TFM is consulting with government and a wide range of NGOs and others about where it could make the most difference to improve socio-economic conditions in the concession area. TFM will help the communities support their projects, but it will not be possible to implement every one of these suggestions, and TFM cannot take on the role of government in supplying all civil services in the area.</p> <p>However, TFM has learned through the public consultation and social baseline study that there are some very clear priorities among the residents of the concession area. These include agricultural support, improved economic opportunity, either through employment or support for local business enterprises, and improved access to medical care and education. These priorities will be the basis of the company's community development program, which may include many of the ideas suggested in these comments.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
16.10 COMMUNICATION		
<p>Suggestions for improved communication, information provision and capacity building of local people included telephones, television, newspapers, radio and TV antennas for better reception.</p> <p>This will help local people access information better, including watching world events like the Soccer World Cup.</p>	<p>Professor Fulgence Nyembo-Mateleka, Mangombo Institute, Tenke; Kashimbo Mwanza Jean, Mangombo Institute, Tenke; Meeting with young people in Tenke; Meeting with young people in Mulumbu Village; Meeting with migrant men in Mulumbu Village; Meeting with men, Fungurume (important representatives of the informal mining traders, a few large farmers, former civil servants, etc., mostly quite affluent people); Dr. Auguy Okese Ohale, Médecin Généraliste, Fungurume; Participants at Fungurume Government Open House, May 2006; Participants at Lukutola Public Open House, May 2006; Mujinga Yav Joseph, Kilusonsa Village; Muyeko Kiziba Pamphile, Kilusonsa Village; Gerard, Fungurume; Tembo Mumba Ildebrand, Fungurume; Mwanga Sangu, Mulumbu Village; Mwanga Bijimba, Mulumbu Village; Kashala Mujala, Mulumbu Village; Lumuna Mbula Polydor, Nguba Village; Kabesha Kasongo Paul; Fungurume; Kabinda Luka Paulin, Fungurume; Chief Mujinga Polydor, Mulumbu Village; Kabeya Mbaya; Fungurume.</p>	<p>TFM is consulting with government and a wide range of NGOs and others about where it could make the most difference to improve socio-economic conditions in the concession area. TFM will help the communities support their projects, but it will not be possible to implement every one of these suggestions, and TFM cannot take on the role of government in supplying all civil services in the area.</p> <p>However, TFM has learned through the public consultation and social baseline study that there are some very clear priorities among the residents of the concession area. These include agricultural support, improved economic opportunity, either through employment or support for local business enterprises, and improved access to medical care and education. These priorities will be the basis of the company's community development program, which may include many of the ideas suggested in these comments.</p>
16.11 COMMUNITY CAPACITY BUILDING		
<p>Suggestions made for community capacity building include:</p> <ul style="list-style-type: none"> • Involving community people in building schools and clinics, thus creating employment and developing skills. • Providing literacy training and adult education projects, including how to establish a cooperative. • Assisting churches in dealing with the growing problem of street children and other social issues. • Assisting women's organizations. • Supporting local businesses to increase shops in villages. • Promoting stability within household. 	<p>Ms. Joellen McGann, IFESH, Lubumbashi; Mr. Robert Hellyer, USAID, Kinshasa; Kabutwe- Wa- Pipanga Jeanine, Mangombo Institute, Tenke; Meeting at Kabwe Kakese Village; Mr. Doctor Chibango, SAESSCAM, meeting with SAESSCAM officials and 12 informal miners, Kolwezi; Women at Kimbakene Village; Meeting with women active in agriculture, education and health centers in Tenke; Ferdinand Malango Kivunge, University of Lubumbashi; Kazadi Malemo Pierrot, CDH, Nguba; Christian Musele Ilunga, Teacher, Tenke; Kongolo Sukuma, Judge, Tenke; Mr. Benoit Ngoy wa Ngoy, Eglise Cernel, Fungurume; Meeting with men, Fungurume (important representatives of the informal mining traders, a few large farmers, former civil servants, etc. mostly quite affluent people); Meeting with women active in agriculture, education and health centers in Tenke; Meeting with young people in Mulumbu Village; most</p>	<p>The concept of local capacity building underlies TFM's entire approach to community development. The company recognizes a need for improved capacity at every level in the concession area, from government's ability to administer royalty revenue, to individual capacities such as literacy. Each component of the company's community development program will address this need as an essential element for long-term success.</p>

ISSUES, SUGGESTIONS, COMMENTS	COMMENTATOR/S	RESPONSE
<ul style="list-style-type: none"> Provisioning free time and recreational activities. Assisting and training local people to establish NGOs, so they can help themselves better. 	other young people and students; Meetings with women in Fungurume and elsewhere; Meeting with young people (secondary school and university age), Fungurume; Médard Roger Kakudji Ngoy, TFM Worker; Participants at Lukutola Public Open House, May 2006; Participants at Mulumbu Open House, May 2006; Participants at Tenke Public Open House, May 2006; Mujinga Yav Joseph, Kilusonsa Village; Mwanza Kabumba Enoch, Kilusonsa Village; Kayumba Musalo Pascal, Fungurume.	

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT
VOLUME E: GENERAL APPENDICES
SECTION E7

SOCIAL MANAGEMENT PLAN

Submitted to:

Tenke Fungurume Mining S.A.R.L. (TFM)
Democratic Republic of the Congo

March 2007

05-1334-035

TENKE FUNGURUME MINING SARL (TFM)

TENKE FUNGURUME PROJECT

SOCIAL MANAGEMENT PLAN

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LIST OF ACRONYMS

ARMC:	Amended and Restated Mining Convention
CDP:	Community Development Plan
DCA:	Direct Concession Area
DRC:	Democratic Republic of the Congo
EPC:	Engineering, Procurement, Construction
ESIA:	Environmental and Social Impact Assessment
Fc:	Congolese francs
FS:	Feasibility Study
Gécamines:	La Générale des Carrières et des Mines
GEPFE:	Groupe d'Étude des Populations Forestières Équatoriales
Ha:	Hectare
IFC:	International Finance Corporation
kg	Kilogram
m ² :	Square meter
Mt:	Metric tons
PD:	Phelps Dodge Corporation
PRA:	Participatory Rural Appraisal
TFM:	Tenke Fungurume Mining
ROM:	Run of Mine
RWD:	Return Water Dam
s.a.r.l.:	Société a Responsabilité Limité
SAP :	Social Action Plan
SEBR :	Socio-Economic Baseline Report
SMP :	Social Management Plan
STD :	Sexually transmitted disease
SX/EW :	Solvent Extraction/Electrowinning
t/a :	Tonnes (metric) per year
TSF :	Tailings Storage Facility
USD :	United States dollars

1 INTRODUCTION, PROJECT OVERVIEW AND SCOPE FOR THE SMP SUBMITTAL

Tenke Fungurume Mining S.A.R.L. (TFM) is proposing to develop a copper and cobalt mine and associated industrial facilities (“the project”) in a concession area in the Katanga Province of the Democratic Republic of the Congo (DRC). TFM acquired the rights to mine the Tenke Fungurume copper-cobalt deposits by signing a Mining Convention with the DRC government in November 1996. The state-owned Congolese mining company, La Générale des Carrières et des Mines (Gécamines), is a 17.5 percent shareholder in TFM, and Lundin Holdings Ltd. (LHL, now TF Holdings Ltd.), a company registered in Bermuda, owns 82.5 percent of TFM. A wholly owned subsidiary of Phelps Dodge Corporation (PD) in turn owns 70 percent of LHL.

The Feasibility Study envisages that the primary exploitation will be by open pit methods, extracting oxide ores containing copper and cobalt. The project under consideration will produce an annual output of around 100,000 metric tonnes (tonnes) of copper metal and around 8,000 tonnes of cobalt metal and/or cobalt production as intermediate product. Processing of the ore will be by crushing, milling, and acid leaching followed by solvent extraction and electrowinning (SX/EW) of copper and cobalt. This first phase of operations will have a mine life in excess of 20 years, however, there is the potential to mine a mix of oxide and sulfide ores for many additional years.

If the economics of this first phase of exploitation are favorable, plans for expansion of the mining and processing facilities will be developed. Production may eventually reach or exceed 400,000 tonnes of copper metal per year. These future expansions will be the subject of future feasibility and environmental studies.

This Social Management Plan (SMP) has been prepared for submittal within the framework of the TFM environmental and social impact assessment (ESIA), which will include the social documentation identified below.

- This SMP, which provides the following:
 - A summary description of the project.
 - A summary description of the baseline socio-economic conditions in the project area.
 - An assessment of social and economic impacts.
 - A description of proposed mitigation measures.
 - An action plan, which presents the organizational and other arrangements proposed by TFM to implement the social and economic mitigation measures.
- A Socio-Economic Baseline Report (SEBR), which provides a detailed description of the socio-economic situation prevailing in the project area at the time of undertaking the ESIA.
- The Resettlement Action Plan (RAP), which describes the measures that will be taken to address displacement impacts entailed by the construction phase of the project development, and which will be submitted jointly with the SMP and ESIA (Section D4.2).
- A Community Development Plan (CDP), which provides the framework for community development activities proposed by TFM (Section D2).

These documents will be submitted by TFM to financial entities who are evaluating their participation in the project, and to DRC government entities having jurisdiction over the management of environmental and social issues related to mine development.

2 PROJECT DESCRIPTION

The following sections present an overview of the TFM mine development scenario under evaluation in the project Feasibility Study (FS). This project description is presented so as to provide useful context for the impacts and mitigation measures discussed in subsequent sections, and is therefore a summarized version of the detailed information presented in Section A4 of the ESIA.

2.1 LOCATION

The Tenke Fungurume deposits are located in the Katanga province in the Democratic Republic of the Congo, at a latitude of approximately 10°S and longitude of approximately 26°E. They are located 180 kilometers northwest of Lubumbashi, the provincial capital and administrative center, and second city of the country. The deposits are situated mid-way between the copper mining towns of Likasi and Kolwezi, both at an approximate distance of 90 kilometers from the site.

The mineralized portion of the concession area lies mainly between the towns of Fungurume and Tenke, in an area approximately 20 kilometers long where it is visible on the surface in many places. The exact size and tonnage of the overall mineral deposit is not presently known, but may be in the range of several hundred million metric (tonnes).

Tenke and Fungurume are small towns, with populations of respectively 11,000 and 41,600. Tenke is the site of a major railway junction and Fungurume is a major marketplace for the region. The area between these two small towns is a patchwork of small villages, farm fields and forest, along with mineralized lands that have undergone significant informal mining activities in the recent past.

The concession lies astride the corridors of the principal railway in Katanga province, the National Highway Number 1 from Lubumbashi to Kolwezi road, and a major high-voltage power lines, all of which are aligned east-west between Fungurume and Tenke.

During the first phase of mining, TFM proposes mining of the Kwatebala, Goma and Fwaulu ore bodies in the concession area, and to construct a mineral processing plant near these ore bodies. The nearest villages to the Kwatebala ore body are Mulumbu, Amoni and Kiboko. The Goma ore body is situated just outside the Tenke rail station (Tenke Gare).

2.2 SUMMARY DESCRIPTION OF THE MAIN PROJECT COMPONENTS

The ore body/mine, mineral processing and waste management elements comprise the major components of the TFM project, as further described below and illustrated in Figure 1.

2.2.1 Mining

Extraction will be confined to three of the mineralized outcrops (Kwatebala, Goma and Fwaulu) for the period covered by this study. Ore will be obtained by open pit mining methods. Discrete open pits will mine predominantly oxide ore from these deposits.

Vegetation will be removed from the mining area and the available topsoil will be salvaged and placed in stockpiles for later use in reclamation and mine closure activities. Overburden and waste rock will be used to construct the mine haul road and tailings storage facility.

The mine haul road will run east from the Kwatebala pit, to the west boundary of the plant site, and also around the east side of the proposed tailings storage facility and northward to the proposed waste rock facility. The tailings management facility will be directly west of the processing plant site, and waste rock facilities will be established immediately north of the tailing facility and northwest of the process plant. Workshop areas will be established just north of the Kwatebala pit and east of the tailings storage facility.

Production and development will be by conventional drill and blast methods for waste rock. Ore will be mined by means of a surface miner.

Run-of-mine (ROM) ore from the pits will be hauled to the ROM ore stockpiles by road, using mechanical haul trucks with a nominal capacity of 45 tonnes. Waste rock will be hauled by truck to the waste rock facilities just north of the proposed tailings storage facility. As the waste to ore ratio increases later in the mine life, larger mechanical trucks with a 100 tonnes nominal capacity will be used for hauling waste.

Both a low grade and a ROM ore stockpile will be located east of the Kwatebala pit.

Water will be used to control dust during construction and operations of the mine. Dust control is anticipated to be used on the following areas and operations:

- On haul roads inside or outside the mine pit.
- On the tops of active waste rock areas, when needed.
- During blast hole drilling.
- On ore transfer points in the conveying circuit.

The dominant road activity will be transport of ore and waste by haulage equipment. It is presently envisioned that this equipment will include 33 45 tonne end-dump trucks, two graders, two 100 tonne water trucks, one rubber-tired dozer, and numerous light trucks. In addition, the intermittent movement of such equipment as drills, tracked dozers, track hoes, front-end-loaders, hydraulic excavators, cranes, fuel trucks, mechanics trucks, lube trucks and equipment transport trucks will all add to the road activity.

Road activity is dependent on the production schedule. Construction activity will maximize highway transport equipment moving through the facility, as well as the movement of such support equipment as cranes, dozers, graders and front-end loaders. As overburden stripping operations start, waste rock will be hauled to the tailings facility and used to construct a portion of the tailings embankments. As mine production starts, there will be a transition to increased traffic on haul roads to the processing plant and waste rock facilities.

Although initial mining operations for road and tailing facility construction activities will likely be conducted only eight hours per day, these activities will quickly shift to a 24 hours per day schedule, that will be operated seven days per week.

2.2.2 Processing Plant

The processing plant site is situated about 0.75 kilometers east of the Kwatebala ore body, outside of the mineralized area. The process plant will be designed to produce 115,000 tonnes per year of cathode copper, 8,000 tonnes per year of cobalt metal, and 2,000 tonnes per year of cobalt as cobalt hydroxide intermediate. The process flowsheet includes crushing, grinding, leaching, solvent extraction, purification and electrowinning of cathode copper and cobalt. Sulfuric acid and sulfur dioxide, required for leaching of metals, are produced on site by means of a sulfur burner.

2.2.3 Tailings and Other Waste

2.2.3.1 Tailings Management Facilities

The tailings storage facility (TSF) receives the milled, leached and neutralized mineral residue from the processing plant. It can be divided into two general facilities:

- The main tailings pond.
- The return water dam (RWD).

The main tailings impoundment is located immediately north of the Kwatebala orebody. The tailings design has the required storage capacity of the presently known oxide ore reserve for the Kwatebala and Goma ore bodies.

It will be a lined impoundment, to prevent significant seepage to the groundwater or surface water. The embankments will be constructed primarily of waste rock, provided from the Kwatebala overburden. The maximum embankment height will be about 65 meters. Construction of the embankments will be phased, with the first phase of construction planned to serve about four years before a raise in embankment is required. The placement of the liner will also be installed in a phased manner, with the first phase projected to serve for two years before an extension is needed. The tailings will be discharged from thickeners at the plant as slurry, containing about 50 percent water by weight. Water will be reclaimed from the tailings impoundment through the use of barge pumps and the reclaimed water will be pumped to the return water dam (RWD), for eventual recycling to the process plant.

The RWD is a reservoir that will initially be located within the ultimate footprint of the TSF. After the TSF has operated for about two years, the RWD may be relocated immediately east of the TSF. It is designed to receive water decanted from the TSF and stored it until it can be used in the process water circuit. The reservoir will be lined, to prevent seepage of the process waters to the groundwater or surface water. Pumps will be installed in the RWD to return the water to the plant site. The RWD serves to reduce sediment in the water returning to the process circuit, allows faster removal of impounded storm water, evens out the chemistry of the water returning to the process circuit, and allows the TSF to be run with a smaller clear-water pool.

2.2.3.2 Waste Rock

The maximum height of the main waste rock facility at Kwatebala will be about 85 meters. The waste rock facility at Goma is projected to be about 75 meters in height.

In addition to the waste rock facilities, there will be several short-term stockpiles to allow blending of ore at the plant site, each with varying copper and cobalt concentrations. There will also be several stockpiles near each other for rock containing various grades of copper, below the present cutoff grade for processing at the proposed plant site. These stockpiles may be processed at a later date, depending on future economics.

2.2.4 Transportation and Related Infrastructure

There will be transportation operations and infrastructure both within concession area (on-site), as well as outside the concession and the DRC.

2.2.4.1 On-Site

The principal routes used by mine vehicles will be haul roads linking the Kwatebala pit and the Goma pit to the primary crusher at the Kwatebala plant site. The haul road will be nominally 30 meters wide and will be wide enough to allow two heavy vehicles to pass.

The primary route for importing and exporting materials from the Kwatebala process plant, as well as providing access for personnel will be the Mulumbu access road to the north of the mine area. It is presently a minimally constructed road surviving from the SMTF development in the 1970s. This road will be graded, widened, and designed to safely accommodate pedestrian traffic by separating them from vehicle traffic.

A secondary route (Kafwaya cutoff road) to the process plant will be constructed between the national highway and the process plant. A section of the national highway between the Kafwaya Cutoff Road and Fungurume will be incorporated as part of the secondary access road. These roads will be a maximum of about 30 meters in width, providing for two-way traffic, pedestrian access and drainage.

Other roads in the mine area will be constructed of compacted laterite, and will allow access to areas not served by the Mulumbu Road to the north and national highway to the south.

A bypass route (Fungurume bypass road) will be constructed to the east of Fungurume village which will remove the need for large vehicles serving the plant site to pass through the town.

Existing railway sidings at Tenke and Fungurume will be refurbished and used by the project for transfer of materials between rail and road trucks. No new facilities are proposed to be built at these siding locations.

2.2.4.2 Off-Site

The bulk of both raw material and equipment imports and finished product exports will be handled through the ports of Richards Bay or Durban, South Africa, Dar es Salaam, Tanzania and/or Walvis Bay, Namibia. Transport of supplies and products between mine and port will be by a combination of rail and road. Bulk materials will, where possible, be transported by rail to a suitable transfer point, Ndola, Mufulira or Lubumbashi, and then transferred to road vehicle for the final leg to the mine site.

The largest bulk imports will be elemental sulfur for the sulfuric acid manufacturing plant, magnesium oxide for cobalt purification, lime for pH adjustment and impurity precipitation and fuel. Imports of machinery, spares, and other items will be on an ad-hoc basis. Fuel will be transported in tanker wagons. Machinery and spares will be transported in containers where possible to maximize security, or on open flatcars.

2.3 WORKFORCE

There will be distinctive workforce requirements for the construction and operational project phases.

2.3.1 Construction

The construction phase of the TFM project is expected to start in the first quarter of 2007 and continue for at least 18 months. During that period, the construction work force will peak at about 2,000 workers. These workers will primarily be a skilled workforce, working under the direction of independent construction companies. Construction shifts will consist of half-hour travel times to and from the construction site and eight hour work days. Personnel will work no more than six days per week, although construction will take place seven days per week. Night construction activities will not be undertaken as normal practice, however, it may occasionally be required. The number of hours, shift rotations and the number of hours worked per work week will be in full compliance with the DRC Labor Code.

Payment levels will be established to attract skilled, competent workers. TFM has recently completed negotiations with the recognized unions representing its employees. Wages will be paid according to the agreed upon terms of these Collective Agreements and in full compliance with DRC Labor Code.

2.3.2 Operations

Operation of the proposed TFM facilities will require about 1,000 employees and 100 contractors. The mining and processing operations will be run on a continuous basis, which is 24 hours a day, 365 days a year. Certain positions and departments will only be able to work in daylight or will not be required on a round-the-clock basis, and will work a single shift, but production and operations support positions will require a continuous shift system. The number of hours, shift rotations and the number of hours worked per work week will be in full compliance with the DRC Labor Code.

2.3.3 Overall

The overall (i.e., combined construction plus operations) project manning levels are displayed in Table 1 below. These figures are estimates and will be refined as the operational requirements of the mine become more clearly defined.

Table 1 Projected Employment of the TFM Project ^(a)

Schedule Year	Construction	Operations	Total
year (-2)	0-1,600	50	1,850 (peak)
year (-1)	2,000 (peak)	400-1,100	3,100 (peak)
year 1	50	1,100	1,150 (peak)
year 2	0	1,100	1,100
year 3	0	1,100	1,100
year 4	depends on pending new expansion feasibility study	1,100	at least 1,100
year 5-15	depends on pending new expansion feasibility study	at least 1,100	at least 1,100

^(a) Includes about 100 contractors for operations.

2.4 PROJECT MACRO-ECONOMICS

The project will have a large economic impact on the local, regional and national economies of Katanga and the DRC. The estimated total project capital investment during the construction phase will be about 643 million United States dollars (USD). Of this investment, about 75 million USD will be spent in the DRC, with the remainder spent in the United States, South Africa, Australia and Europe.

Taxation over the life of the project is expected to provide at least 16 million USD per year to the DRC government (local, provincial, and national). In addition, as required under the terms of the TFM Convention, 0.3 percent of the net sales revenues from the project will be invested locally in community development work. This investment is termed the local development fund, and is projected to provide at least one million USD per year, over the life of the project.

2.5 PROJECT DEVELOPMENT SCHEDULE

The following general schedule and order of development is proposed.

Table 2 Project Schedule and Order of Development

Orebody	Mining Area	When Mined
Kwatebala	Kwatebala Pit	2008 to 2016, 2020, and 2023 to 2026
Goma	Goma Pit	2017 to 2020, and 2025
Fwaulu	Fwaulu Pit	2020 to 2022, and 2027

Others pits will be determined by feasibility studies beginning during the construction of the first processing facility. Construction of the facilities is scheduled to start during the first quarter of 2007. Mining of ore from Kwatebala is scheduled to begin in the fourth quarter of 2008.

3 SOCIO-ECONOMIC BASELINE CONDITIONS

The following sections provide a summary of methodology and results used to characterize socio-economic baseline conditions in the TFM concession area prior to significant project investment. A detailed summary of findings is included in Section B4.1 of the ESIA and the full report is provided in Appendix B4.1-I.

3.1 SUMMARY OF SURVEY METHODOLOGY

Data used to establish socio-economic baseline conditions were derived from field surveys conducted in the project area between November 2005 and May 2006. There were two broad data objectives for the socio-economic baseline assessment:

1. Establish a robust characterization of general pre-project socio-economic conditions against which future changes can be measured.
2. Enable the following key issues to be addressed during ESIA and FS preparation.
 - *Issue No. 1:* Physical displacement of TFM area residents from the active mining operations and required safety zones around the mine site.
 - *Issue No. 2:* Loss of areas used for agriculture and gathering (e.g., wood collection or charcoal production) due to exclusion from active mining and safety zones at Kwatebala.
 - *Issue No. 3:* Loss of other revenue sources, including those derived from illegal heterogenite mining, as exclusion zones are established and enforced around Kwatebala and other mineralized areas of interest.
 - *Issue No. 4:* Effects from an influx of migrants to the TFM area, anticipated as a public response to perceived economic opportunity, leading to a number of issues including the following:
 - Increased competition for agricultural land and other natural resources.
 - Inflation and resulting social tension due to economic disparities.
 - Increased social pathologies such as crime and prostitution.
 - Decreased access to existing services and infrastructure.
 - *Issue No. 5:* Increased risk of sexually transmitted disease (STDs) including HIV/AIDS as a result of increased movement through the project area, especially from truck traffic.
 - *Issue No. 6:* Economic marginalization of resident population if skilled labor and professional positions are assigned to a better educated, healthier group of non-resident nationals.

Analysis of these issues is presented in Section 4, Assessment of project Social Impacts.

The fieldwork effort was completed by a team of social scientists under the direction of the Paris-based non-governmental organization Groupe d'Étude des Populations Forestières Équatoriales (GEPFE). The survey team used the following methods:

- Quantitative household survey.
- Participatory rural appraisal (PRA).
- Focus group discussions.
- Key-informant interviews.
- Village profiles.

Applying this suite of methods assures that several distinct perspectives are offered on the socio-economic conditions in the TFM project area and that a mix of both qualitative and quantitative results is produced.

All villages in the 'Local Study Area' (LSA, defined subsequently) were included in the baseline survey. In each of these villages all households were identified and a random sub-sample was chosen for in-depth interview. A sample of fields was also selected within the project's impact 'footprint' where occupants were interviewed to characterize their agricultural practices and the economic interrelationships on which their farming operations depend.

The LSA includes both urban and rural settings around the mineralized zones at Fungurume, Kwatebala, Goma, Pumpi and the many outcroppings along the syncline, an approximately 450 square kilometer subset of the 1,437 square kilometers contained within the entire concession area. The DCA is the area commonly depicted on maps and drawings in use since 1996, and can be further defined as containing the following elements:

- The urban sites of Tenke and of Fungurume.
- The suburban villages of Mpala and Mitumbu bloc at Fungurume.
- The villages along the national highway between Fungurume and Tenke.
- The villages directly between the railroad and the area just north of the primary access road, including Mwela Mpande Gare, Kwatebala Gare, the villages between Kasanga and Mulumbu and the villages on the Tenke to Salabwe Road.
- The northern villages around the quarry and the airport, anchored by the large village of Lukotola.

As identified in Table 3 and Figure 2, a total of 41 rural villages and five distinct urban and peri-urban populations were identified and surveyed during the course of the socio-economic baseline study. As indicated in Table 3, the baseline survey and related analyses disaggregate data into the 41 small rural villages and the five larger, more urban population centers.

3.2 OVERVIEW OF THE SOCIO-ECONOMIC STUDY AREA

The study area is located in a hilly region about 120 kilometers east of Likasi and 150 kilometers west of Kolwezi, within the Katanga Province and the Kolwezi District. A permanent presence was established at Fungurume for industrial-scale mineral exploration as early as 1917, and a series of subsequent exploration activities and attempts at exploitation have taken place over the intervening period.

The most serious attempt at exploitation was done in the 1970s by Société Minière de Tenke Fungurume (SMTF) and Gécamines in the early 1970s, a consortium who reportedly invested more than 200 million USD in the project before abandoning the concession in 1978, by which time construction of a large part of the mine infrastructure had begun. The next attempt at exploitation of the Tenke Fungurume deposits was undertaken by Tenke Fungurume Mining S.A.R.L. (TFM), which was formed in November 1996 as a joint venture between Tenke Mining Corp (TMC) of Canada and Gécamines. However the conflicts of the late 1990s forced TFM to suspend their activities under force majeure until the current partners successfully renegotiated an Amended and Restated Mining Convention (ARMC) in 2005.

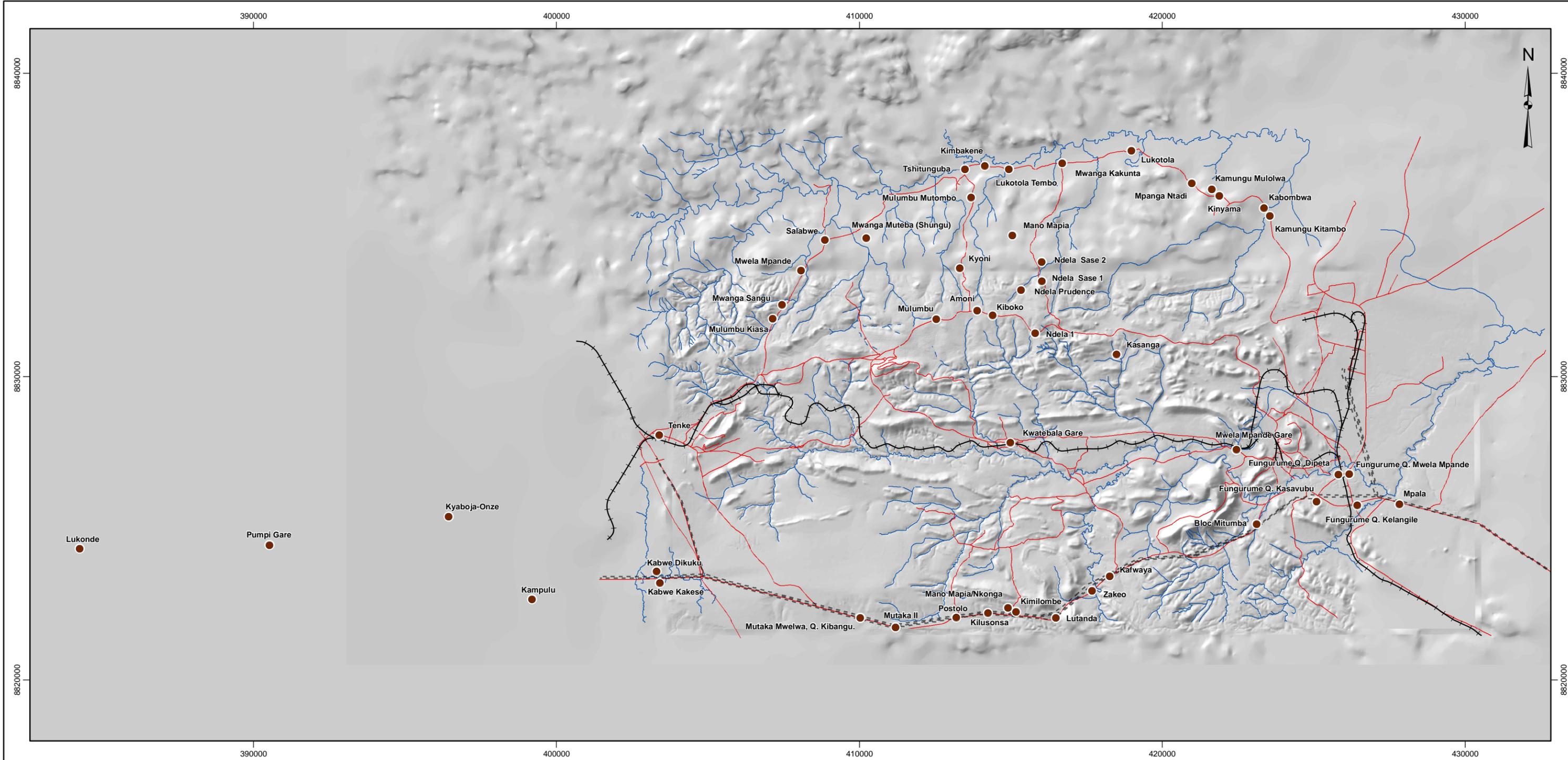
This near-century-long effort to develop the Tenke Fungurume deposits is important in understanding local attitudes towards the project, which are characterized by low levels of confidence that exploitation will actually occur and with it the economic development that has been anticipated for such a long period. Many people in fact migrated to the area in the 1970s, in anticipation of industrial mine development and in search of agricultural land. As another consequence of the area's mining history, a notable aspect of the social milieu is that few villages have existed in their current location for much more than 30 years and only very few, including Nguba, Mpala, Kafwaya, Tenke, Mwela Mpande and Lukotola; were present in the area when the first TFM project was underway in the 1970s.

More recent population growth has been attributed to the return of war-displaced people and the closure of the Shinkolobwe mining site, which caused some to move into informal mining at various sites around the major mineralized outcroppings at Fungurume, Kwatebala, Goma and Pumpi.

Although most people interviewed indicated that they have moved between villages and therefore do not reside in their birthplace, the majority belong to the Sanga ethnic group, which is dominant in the project area. Other main ethnic groups represented in the study area include the Luba, the Ruund, the Tshokwe, the Bembe and the Boyo.

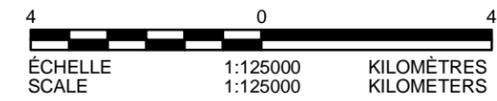
Table 3 Roster and Key Information on Rural and Urban Populations in the TFM Concession Area

	Village	Demography				Village facilities			Consultation summary			
		Number of households / nombre de ménages	Average family size / Taille moyenne	Population size / Taille de la population	% temporary transhumants	Church/Eglise	School/Ecole	Drinking water / Eau de boisson	Village Meeting / Réunion village	Total present during meetings	Men/hommes	Women/femmes
Rural areas												
1	Kafwaya	80	4.4	349		n		river	X	65	32	33
2	Zakeo	25	4.4	109		n		Cemented source	X	5	5	0
3	Lutanda	19	4.4	83		n		river	X	5	3	2
4	Kimilombe	15	4.4	65		n		traditional Source	FS	10		
5	Mano Mapia, Nkonga	5	4.4	22		n		traditional Source	FS	2		
6	Kilusonsa	76	4.4	331		yes	yes	Cemented source	X	16		
7	Postolo	47	4.4	205		yes		Cemented source	X	41	14	25
8	Mutaka II	65	4.4	283		yes		river	X	56	24	32
9	Mutaka Mwelwa, Q. Kibangu.	26	4.4	113		yes		river	X	29	12	17
10	Kabwe Kakese	41	4.4	179		yes		river	X	19	16	3
11	Kabwe Dikuku	52	4.4	227		yes	2 years	river	X	13	9	4
12	Mwela Mpande Gare	26	4.4	113	~10%	n		river	X	10		
13	Kwatebala Gare	86	4.4	375		yes		river	X	41	28	13
14	Mulumbu	275	4.4	1,199		yes	yes	river	X	110	86	24
15	Mwanga Muteba (Shungu)	35	4.4	153		n		river	X	12	7	5
16	Salabwe	54	4.4	235	5%	yes		river	X	23	23	0
17	Mulumbu Kiasa	26	4.4	113	15%	n		traditional Source	X	19	14	5
18	Mwanga Sangu (M. Bijimba)	8	4.4	35	0%	n			JK	2		
19	Mwela Mpande village	4	4.4	17	25%	n		traditional Source	X	3	2	1
20	Kasanga	32	4.4	140	40%	n		Cemented source	X	41	24	17
21	Ndela 1&2	57	4.4	249	79%	n		river	X	54	31	23
22	Ndela Prudence	15	4.4	65	98%	n		river	explanation	14	7	7
23	Ndela Sase 2	10	4.4	44	98%	n		river	X	72	40	32
24	Ndela Sase 1	42	4.4	183	98%	n		traditional Source	X			
25	Mano Mapia	36	4.4	157		yes		river	JK	31	27	4
26	Kiboko	28	4.4	122	38%	n			JK	18	10	8
27	Amoni	59	4.4	257	20%	yes		traditional Source	X	62	35	27
28	Mulumbu Mutombo	11	4.4	48		n		river?	sommaire	10		
29	Kyoni	4	4.4	17	75%	n		traditional Source	sommaire	3	2	1
30	Kimbakene	12	4.4	52				river+photo	JK	9	8	1
31	Lukotola Tembo	17	4.4	74				river+photo	JK	11	7	4
32	Mwanga Kakunta	46	4.4	201		yes	2 years	Kampeketete river	JK	44	25	19
33	Mpanga Ntadi	41	4.4	179	41%	n		traditional Source	JK	8	5	3
34	Kinyama	42	4.4	183	58%	n		Cemented source	JK	31	15	16
35	Kabombwa	35	4.4	153	53%	yes		river	JK	27	19	8
36	Kamungu Kitambo	13	4.4	57	38%	yes		river	JK	18	9	9
37	Kamungu Mulolowo	191	4.4	833		yes	4 yrs	river+wells	JK	19	13	6
Pumpi Area												
1	Lukonde	26	4.4	113		no	1 yr	river	X	19	10	9
2	Pumpi Gare	35	4.4	153		yes		seasonal well + river	JK	26	13	13
3	Kyaboja-Onze	11	4.4	48		no		river	JK	10		
4	Kampulu	17	4.4	74		no		river	X	40	25	15
Total for the rural villages		1,745	4.4	7,608						1048		
Urban and semi-urban areas												
1	Lukotola	320	5.5	1,750		yes	yes	piped	X	64	55	9
2	Bloc Mitumba	152	4.9	740		yes	yes	piped + river + well	JK			
3	Mpala	768	6.2	4,762		yes	yes	river + well	X	14	12	2
4	Fungurume	5220	6.9	36,141		yes	yes	piped + wells		4	4	0
5	Tenke	1777	6.2	10,982		yes	yes	piped river water				yes
Total for the urban villages		8,237		54,375						82		
Total for the rural villages and urban areas		9,982		61,983						1130	63%	37%
										4		



LÉGENDE / LEGEND

- VILLAGE
- - - LIGNE DE TRANSPORT D'ÉNERGIE / POWERLINE
- RIVIÈRE / RIVER
- · - · RIVIÈRE INTERMITTENTE / SEASONAL RIVER
- ROUTE / ROAD
- +— VOIE FERRÉE / RAILWAY



RÉFÉRENCE / REFERENCE

Projection : Mercator transverse. Système géodésique : WGS 84 Système de coordonnées : UTM Zone 35S / Projection: Transverse Mercator Datum: WGS 84 Coordinate System: UTM Zone 35S

PROJÉT / PROJECT 		PROJÉT MINIER TENKE FUNGURUME TENKE FUNGURUME PROJECT TENKE FUNGURUME MINING SARL	
TITRE TITLE ZONE D'ÉTUDE LOCALE DES ASPECTS SOCIO-ÉCONOMIQUES / SOCIO ECONOMIC LOCAL STUDY AREA			
Golder Associates Calgary, Alberta	N° PROJÉT / PROJECT NO. 05-1334-035	ÉCHELLE TELLE QU'INDIQUÉE / SCALE AS SHOWN	REV. 0
	DESSIN / DESIGN LH 23 May 2006	G.S. / SIG. CW 19 Dec. 2006	FIGURE: 2
	VÉRIFIÉ / CHECK MR 25 Oct. 2006	APPROUVÉ / REVIEW MR 25 Oct. 2006	
	APPROUVÉ / REVIEW MR 25 Oct. 2006		

A local dialect of Swahili is the most common language spoken in the area besides the native languages spoken by the Sanga, Ruund and Luba peoples. French is spoken and understood by only a small minority.

3.3 LOCAL GOVERNMENT

3.3.1 Administrative Organization

The project area is located in Lubudi territory of Kolwezi District. Territories are further divided into administrative posts for rural and urban areas. The Concession Area belongs partly to the “Cité de Fungurume” (Fungurume extended township) headed by a “Chief of Township”, and partly to the “Administrative Post” of Tenke headed by a “Chief of Post”.

3.3.2 Traditional Governance

The salient element in local traditional governance structures are the “Land Chiefs” (Chefs de Terre), who are responsible within each community for distributing land and performing various ceremonies that help maintain good relations between the people and their ancestors. However it is difficult to determine the extent of authority for each of the local chiefs in the study area, largely due to the high level of in-migration in recent decades and the introduction of various ethnic groups who respond to traditional authorities outside the concession area. As a result of this dynamic there is considerable disagreement on which chief is responsible for which area and about who has what position within the traditional hierarchy of chiefs. The chief of Bayeke, who lives outside the project area in the village of Bunkeya, is considered supreme chief in the area, presiding over six subordinate chiefdoms. Each of these chiefdoms is divided into two to six “groupements”, over which “Chefs de Groupement” preside. The Chef de Groupement Nguba, who resides in the village of Nguba at the eastern boundary of the concession area, is the currently recognized local supreme authority other Land Chiefs.

This traditional government structure is recognized by the DRC government as the de facto civil authority at the community level. As such, the Land Chiefs and their superior Group Chiefs are frequently called upon to provide judgment in non-criminal disputes, such as over land access, marital issues and accusations of sorcery. The traditional chiefs are not salaried, and collect a fee for services rendered in the discharge of their responsibilities, such as in dispute resolution or in the organization of community functions.

3.4 DEMOGRAPHICS

The total population in the concession area has been estimated during this baseline study at 67,842. This includes 7,600 in the rural villages, 42, 000 in Fungurume, approximately 11,000 in Tenke, 4,762 in Mpala, 740 in Bloc Mitumba and 1,750 in Lukotola. The population is relatively young, with more than half (54 percent) under 15 years of age. Households in rural villages have 4.4 members in average, which is smaller than the global average of six. This may in part be explained by children leaving the village to attend school in town, but also may reflect a higher than average child mortality rate¹.

An average of five percent of the total study area population is over the age of 50, with higher numbers in rural villages, households headed by females and in the village of Lukotola. Approximately 12 percent of the married population lives in polygamous unions.

A striking characteristic of the villages is the very small number of people (ten percent) that were actually born in the village where they reside. As much as 30 percent of the population has lived in the same village for five or less years. This is very different from what is found in other parts of Congo and sub-Saharan Africa, where it is typical to find a resident population in rural villages that has been in place for generations and an

¹ A community health survey is underway as this SMP was in preparation. This survey will produce a more detailed, medical understanding of major health issues in the DCA that will be used in the design of community development programs.

urban population of recent migrants. A variety of reasons were cited for moving to the present villages including access to agricultural land and proximity to family. While potential employment was cited as a reason for moving from villages to Fungurume, informal mining was cited as a reason for moving only among the most recent migrants. During interviews, people also expressed a desire to live separately and independently from their kin and their neighbors of whom they fear too much influence on their lifestyle as well as accusations of sorcery, which is strongly linked to envy of perceived success. On average, female-headed households have the longest tenure of residence.

3.5 LIVELIHOODS

Livelihoods in the DCA were characterized through data obtained in questionnaires, the Participatory Rural Appraisal (PRA) and village interviews.

3.5.1 Overview

Agriculture is the main economic activity for both rural and urban populations, with 99 percent of rural and 82 percent of urban households engaging in some form of farming.

The primary activity declared by rural and urban heads of households is shown in Table 4.

Table 4 Primary Livelihood Activity in the LSA

Primary Activity	Rural (%)	Fungurume (%)	Tenke (%)	Lukotola (%)	Weighted Average (%)
farmer	91.2	68.4	70.5	81.4	72.5
trader	2.1	12.9	7.1	1.7	10.3
handicraft + petty jobs	2.8	7.6	4.5	3.4	5.9
casual laborer	2.1	3.7	9.6	8.5	4.7
civil servant	0.7	4.9	3.8	1.7	4.1
other activities	1.1	2.5	4.5	3.3	2.5
Totals	100	100	100	100	100

Almost everyone engages in secondary activities, particularly to provide income during the period right before harvest, when food stores are at their lowest. These secondary activities can include civil servant positions, crafts, petty jobs, charcoal making, beer brewing, repairs and carpentry.

3.5.2 Agriculture

Agriculture is based on two primary crops of maize and beans, with secondary crops of cassava, peanuts, and soy beans. Recent government policy, yet to be fully implemented, requires that farmers grow a greater variety of crops, rather than maize and beans alone. Market garden crops such as sweet potatoes, Irish potatoes, onions, tomatoes and various leafy vegetables are prevalent in the area whenever there are low-laying marshlands that can be used during the dry season. Animal husbandry is not a very important activity in the study area, with 40 percent of the population having no livestock.

3.5.2.1 Land Tenure

According to Congolese law, all land belongs to the State, and occupants using the land are regarded as “Concessionaires”. From the traditional perspective however land is a community asset, and all villages

surveyed insisted that distribution of land can be done only by the delegated community representative, usually the Land Chief.

The local population of a given village has a usage right over the land given by the village or land chief. This land can be under culture or used as a reserve, and the latter can be either fallow or entirely unused. Land is usually not sold, but a ceremonial gift is expected from the new land user to the chief or to the former concessionaire. An individual's right to land can also be determined by their kinship relationship with the village population as a whole.

People who do not live in the village, such as the seasonal transient farmers from Tenke, Fungurume or other towns, can be given land by the village or land chiefs, but their traditional 'ownership' rights over this land are weaker than those of the local villagers.

3.5.2.2 Cropping Systems

Land in much of the DCA is considered to be rich and not particularly prone to erosion. The same plot is frequently used for as many as 10 to 20 years without crop rotation or fallow periods. Steep slopes are also cultivated without obvious signs of serious erosion. Areas that are not currently used for cultivation include land along the railway and the national highway. A large part of the concession area is farmland, with many villages receiving seasonal transient farmers from urban areas such as Fungurume, Tenke, Kolwezi or Lubumbashi.

Agriculture is practiced using a mulching system where weeds are buried under ridges, and in the ridges, pockets of maize and beans are planted and mixed with small amounts of other vegetables and sweet potatoes. Animal traction is promoted through a local development program of the Spanish Mission in Lukotola ('Oeuvre Missionnaire Ekumene Lukotola'), but is still rarely used, with just one percent of farmers owning oxen, and which were further observed only in the villages of Mulumbu and Lukotola.

Agriculture is practiced on the following three kinds of land:

- The common fields that are prepared using mulched-ridge farming on land already cultivated the previous year (*kurima*).
- New fields or fields cultivated after a short fallow (*kimbalama*).
- Wetland agriculture during the dry season (*kinyanga*).

The first crop is often only beans, as is also the case with the new fields created in the middle of the rainy season (*kimbalama*). The second year after clearing maize or maize-bean combinations is most often planted. In one of the villages, farmers reported that they would plant cassava after about five years of maize and beans as a rotation crop. No distinct period of fallow is practiced although there is abundant formerly cultivated lands and farmers will choose between plots during the second half of the rainy season, leaving some plots uncultivated for short periods, introducing a *de facto* fallow period.

Fields that have been used are generally worth more than fields that are newly cleared because the first harvest on newly cleared land is typically poor. Men are responsible for clearing new land and they may recruit external laborers to help. Tilling, ridging, weeding and harvesting are done by the entire family. There are social institutions, or mutual assistance systems for helping with agriculture, such as *Kinkurimba* and *Mbile*. *Kinkurimba* is a rotational system of sharing labor, and *Mbile* is a system where people are invited to help with agricultural work in exchange for food and drinks. A typical agricultural calendar is shown below (Table 5).

Table 5 Typical Agricultural Calendar

Month	Main activities	Level of Activities	Rains	Food Availability
September	initiate clearing, digging, preparing ridges	+	0	scarce, but available
October	continue field preparation: clearing, digging, preparing ridges after the second rains, sowing of maize, beans, peanuts	++	2-3x per month	scarce, but available
November	continue field preparation: clearing, digging, preparing ridges sowing of maize, beans, peanuts, Irish potatoes	+++	2x per week	diminished
December	sowing of soy beans and sweet potatoes prepare cassava fields weeding of maize start clearing the <i>kimbalama</i> fields for the second beans harvest	+++	daily	diminished
January	harvest of maize and beans from the marsh fields (<i>kinyanga</i>) start harvest of early beans and early peanuts second weeding of maize, weeding of soy beans start sowing of the <i>kimbalama</i> beans	++/+++	several times per day	hunger period, not more than one meal per day
February	towards the 15/02 start of the maize harvest (maize will be left to dry in the field) sowing of cassava, small egg plants main harvest of early peanuts end of the first bean harvest end of the 2 nd beans sowing beans (<i>kimbalama</i>) no further hoeing and weeding	+++	2-3 times per week	less hunger as new products (beans, maize, peanuts) become available
March	dry maize and beans no further hoeing and weeding	+	1-2 times per week	the famine is over, 'one can eat as much as one wants'
April	start of the harvest of the late peanuts, soy beans, sweet potatoes harvest of maize as consumed (remainder dries in the field) start of preparation of the kitchen garden fields in the marshy areas	+	very little	abundance of food
May	surveillance of the fields against thieves harvest of maize as consumed (remainder dries in the field) clear a corridor around the fields to avoid damage by bush fires sowing of market garden crops: cabbages, onions, tomatoes, Irish potatoes	rest	no rain	abundance of food
June	main harvest of maize, threshing and transporting the harvest to the village harvest of the second beans crop start of the preparation of the marsh land fields	++	no rain but very cold	abundance of food
July	end of maize and beans crop preparation of the marsh land fields start of sowing the marsh lands (beans, maize) burning of the harvested fields start of clearing of bush land for the new year	+ / ++	no rain but very cold	abundance of food
August	sowing the marsh lands (beans, maize) building and improving the dwellings in the fields	+	no rain	abundance of food

Typical yields, after provisioning for two months, are shown in Table 6.

Table 6 Typical Crop Yields in the Concession Area

Village	Crop	Bad	Average	Good
average in kg /ha	maize	500-1,000 kg/ha	1,000 – 1,900 kg/ha	> 1,900 kg/ha
	beans	100-400 kg/ha	400-900 kg/ha	> 900 kg/ha
	peanuts	< 800 kg/ha	800-1200 kg/ha	>1,200 kg/ha

Note: kg/ha = kilograms per hectare.

In village discussions, people reported that about one hectare of land is needed to feed a family, a figure that corresponds closely to the average landholding values derived from individual household surveys. Some farmers have larger fields for commercial crops; however the median size of holding in the Concession Area is approximately one hectare.

3.5.2.3 Agricultural Income

Data on income derived from agricultural sales is difficult to obtain because farmers will typically sell their products right after harvest to buy medicine or other items of immediate necessity. On average, agriculture provided 32 percent of income for populations in the study area; however, there is quite a range, with 43 percent in rural villages, 27 percent in Fungurume, 16 percent in Tenke and 60 percent in Lukotola. The average earned last year was approximately 69,000 Congolese Francs (Fc) in rural villages, 60,000 Fc in Tenke and Fungurume and 179,000 in Lukotola. Agricultural workers are paid standardized rates for fields that are measured in units of 25 x 25 meters.

3.5.3 Formal Employment

Approximately ten percent of the population has a salaried job, but not necessarily with regular pay. Employment typically consists of jobs in the civil service, teaching positions and health care work. Trabeco in Fungurume, and the railway company in Tenke provide some industrial jobs. There are many job seekers in the area. Even those that currently have employment had expressed interest in working for TFM, and thus, counted themselves as job seekers in the household survey. An estimated 75 percent (9,000 men between 16 and 49 years of age) consider themselves to be job seekers in the DCA.

Most (53 percent) of people in rural villages have never held a job, which is about the same proportion as for Fungurume and Tenke.

3.5.4 Secondary activities

Secondary economic activities in the DCA include blacksmithing, milling and brewing.

Blacksmiths are found in most villages, where they make many of the agricultural tools used by villagers. Smiths who work with copper have a special ceremonial role and relationship with ancestors, though these positions have become very rare.

Though millers are common, many villages have diesel-powered cereal mills, and these tend to be owned by outsiders who then employ local caretakers. Maize can be ground for 50 to 100 Fc for 2.5 kilograms, or when paid in-kind, two cups of maize for every five cups ground.

Beer brewing (*munkoyo*) is an important source of income for women. Beer is basically made from maize and “*munkoyo*” root (a flavoring) and is boiled over a fire, fermented for several days in the same container, and sold fresh. Local drinks are a source of income for 27 percent of female-headed households and 24 percent of households generally. The sale of drinks accounted for 16 percent of reported income of women and five percent for men. As this activity is somewhat irregular, no real estimate of annual income can be made.

3.5.5 Informal Mining

Over the four-year period from 2002 to 2006 there was a boom of informal (artisanal) mining activity in Katanga, with a significant amount of this activity occurring illegally on the TFM Concession Area. Informal miners, or ‘diggers’ exploited superficial veins of heterogenite, raw cobalt ore, which was then sold to locally-established buyers who worked for a handful of “maisons” (mining houses) based in Lubumbashi, Likasi and Kolwesi. Heterogenite was usually exported in bags to South Africa via the DRC-Zambia border at Kasumbalesa. By 2005 the diggers were also exploiting surface veins of malachite in response to rising copper prices. These activities were illegal in the DCA, since these mineralized areas were legally classified as resources for industrial exploitation by a rightful concession holder, and therefore not be legally exploited either by informal methods or for the benefit of entities operating outside the legal concession agreement.

To enforce TFM concession agreement the Government of the DRC posted a unit of the “Police des Mines et Hydrocarbures” (Mine and Hydrocarbon Police) within TFM’s premises in Fungurume. The mission of this police unit was to limit the extent of illegal mining by arresting diggers and seizing collected ore and transport vehicles. The interactions between the diggers and the Mines Police (and by implication, TFM personnel) were often confrontational, and an atmosphere of hostility existed between the two groups over a period of two to three years. Tensions were also greatly exacerbated by the presence of regular military forces in the TFM concession area that were alleged to have facilitated the heterogenite trade and thwarted the law enforcement mission of the Mines Police.

When the ARMC was executed in late 2005, and with considerable assistance from provincial government authorities, the problematic military units were withdrawn from the Tenke Fungurume area and Mines Police control points were set up on the primary transport corridors into and exiting the concession. With effective, legal control of the concession thus established the mining houses withdrew their buyers from the area. Having no ready market for their ore, the diggers also left the concession area to seek opportunity elsewhere. By the end of 2005 there was virtually no informal mining activity in the TFM concession area.

As determined in the current survey, about 18 percent of the study area population had participated in illegal, informal mining activity to one degree or another. As it is an illegal activity, however, the figure may not be reliable. By way of rough economics, a bag of malachite ore could be sold for 1,500 Fc and cobalt ore, for 2,000 Fc, and a team of five miners could dig 10 to 15 bags per day and would spend up to 5,000 Fc daily on food. These data indicate that 4 USD to 11 USD per individual digger was the likely net daily gross income. Though reliable data are not available, the number of diggers in the TFM concession area was believed to range from 3,000 to 5,000 during seasonal (dry season) peaks in activity. Assuming mid-range values for daily income and numbers of diggers, and a four-month peak digging season (i.e., the idle months for farming), a very rough estimate of 2.6 million USD per year can be inferred as the aggregate annual income derived from digging in the TFM concession.

The actual digging was largely done by emigrants from other parts of Katanga and the DRC, though a certain number of the young local men participated as well. However virtually all of the ‘secondary’ economic activities associated with informal mining, such as washing, sorting, bagging and local transport of stones, as well as food preparation, were done by the local village population. Washing heterogenite would generate about 150 Fc per bag. Adults could typically wash up to 10 bags per day, for an income of about three to four USD. Using the same figures as presented above, the aggregate number of heterogenite (or malachite) bags per year taken from Fungurume would be greater than 800,000 USD. Using this value, another very rough estimate of 240,000 USD to 360,000 USD can be inferred as the aggregate income to villages derived from heterogenite washing/bagging, with food sales to the diggers adding an additional 700,000 USD, for a total income that may have approached 1 million USD.

Though village residents described economic hardships that resulted from the loss of this activity, they were equally open about the several negative aspects of hosting illegal digging in their communities, as summarized below:

- Heavy and constant alcohol and other substance abuse on the part of the non-resident diggers.
- Increases in prostitution and violent/sexual assaults on resident members of the villages.
- Decreased food supplies and drop in farming production due to sales of food to diggers and the pursuit of economic activities other than farming.
- Dangerous working conditions within the unsupported tunnels used by the diggers.
- Disrespect for traditional authority and local customs on the part of the non-resident diggers.

Figures for the market value of copper and cobalt metal that was taken from the concession will also be difficult to determine. However preliminary estimates by TFM exploration geologists indicate that the figure would certainly surpass 100 million USD even if long-term average metal prices were applied.

3.5.6 Other Livelihood Activities

In addition to those already mentioned, other livelihood activities include hunting, fishing, gathering forest products and charcoal making. Bow hunting and fishing are performed by a minority of rural dwellers. Snares are the only hunting gear in use near agricultural fields and serve primarily to catch rats, which are also part of the local diet. Fishing with nets occurs on the Dipeta and Mofia Rivers and with hook and line on smaller rivers. Village surveys revealed however that 94 percent of the study area population does not hunt at all and 96 percent does not fish.

The most important products gathered from forest areas are firewood and wood for charcoal. Other products include mushrooms, fruits, honey and bamboo. Medicinal plants are also collected.

3.5.7 Incomes and Expenditures

Obtaining data for income and expenditures for a society essentially based on subsistence and barter is very difficult.

Average income is almost 250,000 Fc per year per household (about 500 USD), but income figures are unevenly distributed and in fact the median income is about 109,000 Fc (220 USD). Female-headed households have the smallest incomes. The difference in the median figures between urban and rural households' incomes is small. Sales of agricultural products are the most important source of income. Trade is not an important livelihood component for many, though some traders have a substantial income, which may skew the averages to some degree.

The average yearly expenditure is 196,000 Fc, but varied greatly among the population. The median is approximately 142,000 Fc, which includes ten percent who indicated that they had no expenditures at all during the period concerned. Expenses in the urban area are about 50 percent higher than in the rural area. Urban families spend more than double the amount spent by rural families on food, even though 70 percent of the former regard themselves as farmers. Health expenditures are about ten percent of income in rural and five percent in urban areas. This is largely due to less choice in rural areas. In both rural and urban areas, education costs per year were less than five percent of total expenditures, however, urban people paid about twice as much in absolute terms.

Other expenditures include purchases of necessary items such as salt, soap, candles and payments for contract labor. About two percent of annual income is spent on seed and fertilizer. Very small amounts are spent on ceremonial costs such as weddings, funerals and providing assistance to relatives.

Sources of loans are very limited, especially in urban areas, where 60 percent had no one from whom they could borrow money. When in need, many people sell their possessions, such as bicycles, livestock, or clothing; and then take on agricultural labor jobs to repurchase these items.

3.6 ACCESS TO PUBLIC SERVICES

3.6.1 Water Supply

Household water for both urban areas and the rural villages is largely taken from rivers, streams and other unprotected sources. Just five of the 38 rural villages have sources that have been cemented and protected. In the urban areas the situation is little better, with Tenke receiving untreated water piped from the Dipeta River downgradient of Fungurume, the latter having 40,000 residents and complete lack of sewage treatment facilities. Some residents of Fungurume use clean water that is piped from the TFM wellfield, but this supply serves only 15 percent of the population. Others use one of 315 hand-dug wells in town or draw water from the Dipeta River. In general the quality of water used for household purposes in the TFM concession area is extremely low, with human fecal coliform counts exceeding international standards for drinking water in nearly all surface drainages and most shallow wells in the project area.

Lukotola is the only village that has a protected and safe water source due to the efforts of the resident mission program. Water for that town is pumped to a tower and then distributed by pipe to five water faucets in the village.

3.6.2 Health Services

Fungurume, Tenke and Lukotola are the three sites in the study area with health centers. The government health district responsible for the study area provides services for a total of 96,639 people with seven doctors, three of whom are government paid. There are 13 health centers in all in this larger district, some private, some owned by companies such as TFM and others owned and operated by the Catholic Church. In virtually all cases the buildings are in disrepair, medicines are lacking and training is needed for medical personnel. The local population does not find modern medicine affordable, and only 21 percent of urban households and 12 percent of rural ones received medical care from an official health center within the last six months.

Medical facilities are self-financing and therefore must charge for consultations, care and medicines. They receive few new patients. The health district has one motorbike and each health center is expected to have a bicycle, however, few actually do. Outreach services are, thus, difficult to organize. Access to services and to information is a major issue.

Recent epidemics reported by health centers were measles and cholera outbreaks in 2005 and 2002 respectively. Health authorities indicated that HIV/AIDS is not yet visible; however, as it manifests through other diseases, such as tuberculosis, AIDS may not be recognized as an underlying cause. There is a high prevalence of Sexually Transmitted Diseases (STDs) and during the period when informal mining was occurring, high risk behavior was described as common, suggesting that HIV/AIDS could become a significant issue for the TFM project.

Of all visits to health centers 54 percent are related to malaria, followed by pulmonary disease (14 percent), diarrhea (seven percent) and STDs (3.5 percent). A malaria prevention program was introduced through the health centers that provided insecticide-impregnated mosquito nets at a subsidized price (900 Fc, or two USD), however, only one per family is permitted under this program. Only 12 percent of families surveyed have a mosquito net.

Clinic visits typically cost 250 Fc in Tenke and Lukotola. Doctor visits in Fungurume cost 600 Fc, and consultation with a nurse will cost 300 Fc. Birthing services cost approximately 2,500 to 3,500 Fc. Malaria, depending on the severity, can be treated for 200 to 3,000 Fc.

3.6.3 AIDS Awareness

The results of a focused survey on AIDS awareness reveal that most people in the area, rural and urban, know about AIDS and are aware of its possible causes. As a method against HIV infection, the most common suggestion was fidelity to one's spouse and marrying young. No form of protection is commonly adopted, and there are behaviors practiced that contribute to risk of HIV/AIDS, as summarized below:

- Approximately 15 percent of the households are openly polygamist and others have a second partner secretly.
- STDs are prevalent, even among women in rural villages, and especially during the period when informal mining was occurring.

Medical authorities suggest that the incidence of AIDS is quite low but they have no means to test this assumption. There is concern on the part of medical authorities about the possible risks related with the behavior of project employees in their interactions with the local population.

3.6.4 Schools

Schools in Fungurume, Tenke, Lukotola and Mulumbu were visited to gather baseline information. In Fungurume and Tenke, there are seven primary schools and six secondary schools. Most are private and only one school is public, which is the "Institut des Techniques Agricoles de Fungurume", a secondary-level Agricultural Institute.

Classes are overpopulated, with as many as 120 pupils per class. There is a general lack of equipment and teaching materials in classrooms. Teachers in secondary schools often lack qualifications, and due to the very low salaries paid to teachers they are sometimes unmotivated and subject to high turnover.

Children of families that practice 'transient agriculture', which is seasonal farming in places remote from actual residences; are often left behind in town without adequate supervision and tend to do poorly in school. If the family cannot afford to leave the children in town for school, the children will go to the bush with their parents and miss school entirely, often dropping out permanently.

Some of the authorities interviewed indicated that many boys leave school early to engage in informal mining, others suggested that parents earned enough money through the banned activity to pay tuition fees and that the activity actually increased school attendance.

Tuition fees in Tenke range from 10,000 to 15,000 Fc and are expected to begin at the start of the year, with various monthly scheduled fees coming afterward. Teacher's salaries are entirely paid by tuition fees in some schools and partly paid by government in others. In rural villages fees are generally paid in maize. Some of the rural villages used to have schools but were forced to close because tuitions were not paid.

3.7 SOCIO-ECONOMIC QUALITY OF LIFE INDEX

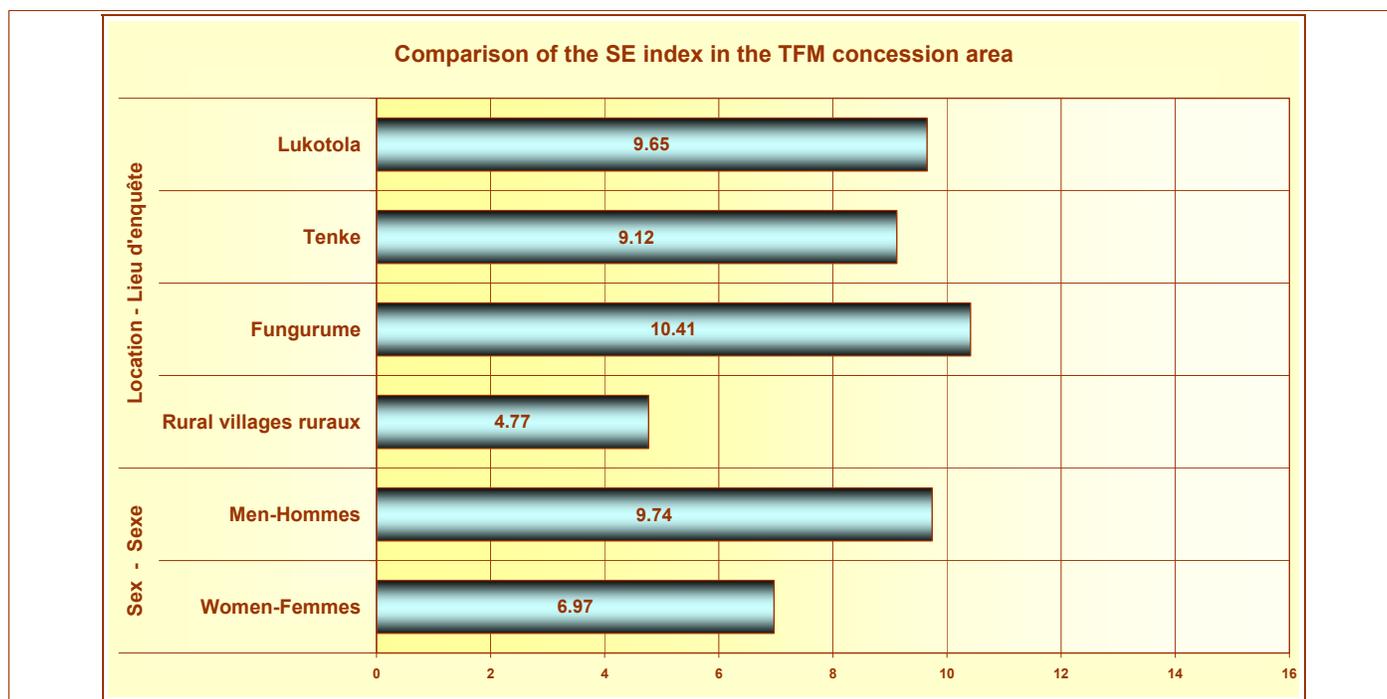
Data from the socio-economic surveys have been used to calculate an index based on household possessions, income opportunities, education levels and health statistics in the study area. The purpose of such indices is not so much to serve as a tool of absolute measurement, but to allow comparison of measurements across different geographic and cultural settings.

The score is made up by valuing different items that reflect economic affluence and non-economic well-being, using information from the following topic categories on which data were collected:

- Education, including the maximum level of education attained for children and adults.
- Infant health, including data on the prevalence of fever and diarrhea during the last week in children one to four years old, and of skin diseases among children less than 10 years old.
- General health, including the presence of latrines, mosquito-nets, access to modern health care and consumption of animal protein the previous day.
- Housing, including the material of the roof, the walls and the floor of the main house of the compound.
- Equipment, including furniture, bedding, purchased items such as radios, bicycles and any item having a cost of more than 50,000 Fc (about 100 USD).
- Revenue, including the presence of regular revenue through employment, retirement, remittances, assistance to saving groups, and travel.

Figure 3 shows the results of this index for the rural and urban sites as well as the comparison of the men and women in all sites included in the sample.

Figure 3 Comparison of Socio-Economic Indices within the TFM Concession Area



3.8 OPINIONS AND EXPECTATIONS RELATED WITH THE MINING PROJECT

The Participatory Rural Appraisal and Focus Group Meetings included several questions and elements directed at assessing public opinions and expectations for the TFM project. Additional, significant input was also received through the public consultation exercise conducted as part of the ESIA. Feedback from all of these sources was incorporated into a detailed Issues and Response report used during the ESIA scoping phase, and will be included in a public consultation report that is part of the ESIA (Section A6).

In summary however, it can be stated that individual expectations of the project concern employment to an overwhelming degree. In rural villages, however, people tend to look relatively less to employment as a project benefit, and relatively more to assistance with agriculture, such as assistance with seed and fertilizer, as well as in making improvements to education, health services and housing. Among the benefits they expect are often handouts of free goods such as housing materials. Women in rural areas and all people in urban areas also expect that water and electricity will be provided.

Almost 90 percent of the population answered directly that they did not fear anything about the project. Only a minority of the rural population expressed concerns about resettlement of their village or loss of their fields. Among the rural village, there were also more concerns about employment issues, pollution and risk of accidents, both natural as well as linked to sorcery. Sorcery was also raised when people spoke of unfair employment practices within the village (e.g., favoritism towards family members of people with connections to TFM), or if too much employment were to be given to foreigners.

4 ASSESSMENT OF PROJECT SOCIAL IMPACTS

The following methods have been used to predict impacts from the TFM project, to assess their significance, and to design appropriate methods for avoidance or mitigation of unavoidable impacts:

- Observed impacts of other mining or industrial projects recently implemented in Africa have been used as examples, insofar as they are comparable in magnitude and scope and are situated in similar social and economic conditions (e.g., other large mines in the DRC and particularly in Katanga, Chad oil project and Chad Cameroon pipeline, gold mines in Mali, Guinea and Ghana).
- Consideration was taken of the singularities of the local situation, such as the current sources of livelihoods, the present condition of the local economy, the social and political/administrative organization and the status of civil society.
- Use has been made of available best practice documentation in relation with social impact assessment, particularly that issued by the World Bank Group, commonly referred to as Equator Principles.

The general methodology of impact description and assessment is described in Section A5 of the ESIA. Socio-economic impacts are described in terms of extent, duration, intensity, and probability, and assessed in terms of direction (positive or negative) and significance (low, medium, high).

4.1 STANDARDS AND GUIDELINES

Standards and guidelines used by international finance institutions with relevance to social and economic impacts and their avoidance or mitigation include the following:

- The International Finance Corporation (IFC) Policy on Environmental and Social Sustainability.
- The IFC's eight Performance Standards, and the related guidance notes.
- The World Bank Group policy on Public Consultation and Disclosure (included in OD 4.01 and its annexes).
- The IFC handbook on Involuntary Resettlement.

Documentation describing these standards can be found at www.ifc.org.

4.2 IDENTIFICATION OF POTENTIAL SOCIO-ECONOMIC IMPACTS – SUMMARY TABLES

The following tables (Tables 7 and 8) present the potential socio-economic impacts likely to be experienced during the construction and operations phases of the project. Information are presented on each impact in terms of criteria described in the Equator Principles and IFC guidance documents, as summarized below:

- Impact direction, specifically whether it will produce a positive or adverse (negative) effect.
- The anticipated geographic extent, specifically whether local, regional or national effects are expected.
- The impact intensity, in terms of whether high, medium or low-level effects are expected.
- The probability of the expected impact in terms of whether it is 'certain' to happen or will 'probably' happen.
- The impact duration in terms of whether short, medium or long-term.
- The significance of the impact in terms of whether or not the effects have low, medium or high consequences; both before and after mitigation measures are applied.

Table 7 Anticipated Impacts from the Construction Phase of the TFM Project

Topics	Impact #	Impact Description	Direction	Extent	Intensity	Probability	Duration	Significance Without Mitigation	Significance With Mitigation
land use / agricultural land	C1	loss of agricultural land due to occupation by the project, potentially resulting in loss of income streams and means of livelihood (economic displacement), pressure on land, and land-related conflict	negative	local	high	certain	long-term	high	medium
land use / agricultural land	C2	severed access to agricultural land remaining itself unaffected	negative	local	high	certain	long-term	medium	low
land use / physical displacement	C3	physical displacement of households residing within the project footprint or within the boundary of safety or environmental buffer zones	negative	local	high	certain	long-term	high	high
demography / workforce	C4	strain on local housing, infrastructure and services, potentially detrimental to locals, resulting from a potential influx of job-seekers and workers from outside the area	negative	local	high	probable	short-term	high	medium
demography / workforce	C5	development of spontaneous settlements (shantytowns) near the project facilities, or in the towns of Fungurume and Tenke, in relation with the influx of job-seekers and other in-migrants	negative	local	high	probable	short-term	high	low
demography / workforce	C6	risks of disruption and cultural conflict with locals resulting from a potential influx of job-seekers and workers from outside the area	negative	local	medium	probable	short-term	medium	low
demography / workforce	C7	influx of predominantly male job-seekers and workers, potentially living alone, with associated risks that sexually transmitted diseases, including HIV/AIDS, may spread	negative	local	high	certain	long-term	high	medium
demography / workforce	C8	training required for workforce may result in long-term improvement of local population employability	positive	regional	medium	probable	long-term	-	-

Table 7 Anticipated Impacts from the Construction Phase of the TFM Project (continued)

Topics	Impact #	Impact Description	Direction	Extent	Intensity	Probability	Duration	Significance Without Mitigation	Significance With Mitigation
economy	C9	inflation caused by the influx of well-paid construction workers, potentially detrimental to the poorest in the community	negative	regional	high	probable	short-term	medium	low
economy	C10	loss of local income to diggers, buyers and the local economy in general caused by the interruption of informal mining	negative	local	high	certain	short-term	medium	medium
economy	C11	improvement in local household income due to employment at the project during construction	positive	regional	high	certain	short-term	-	-
economy	C12	local and regional economic “boom” during construction	positive	regional	high	certain	short-term	-	-
economy	C13	local and regional economic depression at the end of construction	negative	regional	high	certain	short-term	high	medium
labor	C14	labor conflicts at the end of construction when construction workers’ work contracts are terminated	negative	local	high	probable	short-term	high	low
labor	C15	spill-over of labor conflicts at the project to the neighboring communities	negative	local	high	probable	short-term	high	low
infrastructure	C16	long-lasting improvements to local infrastructure due to infrastructure upgrades required for construction	positive	regional	medium	probable	long-term	-	-
infrastructure	C17	local road infrastructure could be negatively affected by increased heavy-load traffic	negative	local	low	probable	long-term	medium	low
community safety	C18	safety hazards to neighboring communities in relation with increased traffic along the roads used by project traffic	negative	local	medium	probable	short-term	high	low
community safety	C19	safety hazards to neighboring communities in relation with construction activities at construction sites	negative	local	medium	probable	short-term	high	low

Table 7 Anticipated Impacts from the Construction Phase of the TFM Project (continued)

Topics	Impact #	Impact Description	Direction	Extent	Intensity	Probability	Duration	Significance Without Mitigation	Significance With Mitigation
social fabric	C20	increase in crime and other social ailments (alcoholism, prostitution, drug-use) caused by an influx of outsiders perceived as well paid and an influx of job-seekers remaining unemployed	negative	local	medium	probable	short-term	medium	low
social fabric	C21	social disruption caused by compensation (social jealousy, fraudulent activities aiming at maximizing compensation) and employment – gap between “haves” and “have-nots”	negative	local	medium	probable	short-term	medium	low

Table 8 Anticipated Impacts from the Operations Phase of the TFM Project

Topics	Impact #	Impact Description	Status	Extent	Intensity	Probability	Duration	Significance Without Mitigation	Significance With Mitigation
land use / agricultural land	OP1	Severed access to agricultural land, which itself remains unaffected	negative	local	high	certain	long-term	medium	low
economy	OP2	Increase in fiscal resources available to local and non-local levels of government	positive	local, regional, national	high	certain	long-term	-	-
infrastructure	OP3	Local road infrastructure could be negatively affected by increased heavy-load traffic	negative	local	low	probable	long-term	medium	low
community safety	OP4	Safety hazards to neighboring communities related to increased traffic	negative	local	medium	probable	long-term	high	low

4.3 DESCRIPTION OF POTENTIAL SOCIO-ECONOMIC IMPACTS – CONSTRUCTION

The following narrative expands on the summary impact descriptions provided in the preceding tables.

4.3.1 Land Use

Three types of land-use related impacts are identified, including impacts to livelihoods and residences.

4.3.1.1 Impact C1: Loss of Agricultural Land

The project site is located mainly within the territory of the villages of Mulumbu, Kiboko and Amoni. As any rural land in the DRC, these lands are deemed to be state-owned. In addition, the ARMC confers surface rights to the Concession Holder. However, this land is traditionally used by both local and transient farmers, who exert locally recognized rights of occupation and usufruct (the right to use and derive profit from a piece of property belonging to another, provided the property itself remains undiminished and uninjured in any way), conferred to them by the rightful authority (the local Chef de Terre or village chief).

Unless adequately compensated, loss of this land due to occupation by the project may result in loss of income streams and means of livelihood (economic displacement) for the affected farmers. In addition, this impact could result in increased pressure on other, remaining lands, and entail land-related conflicts between locals and the project, or between locals amongst themselves.

This impact, and proposed mitigations thereof, is addressed in detail in the Resettlement Action Plan (RAP; Section D5).

4.3.1.2 Impact C2: Severed Access to Unaffected Agricultural Land

Agricultural land, albeit unaffected directly, may become difficult to access for its users as a result of the project footprint. This could apply mainly around Mulumbu village near the processing plant site. This impact is also addressed in the RAP.

4.3.1.3 Impact C3: Physical Displacement

Where permanent residences fall within the project footprint, residents will be physically displaced. This impact will apply to the villages of Mulumbu in its entirety (ca. 1,200 individuals would be physically displaced), as well as the villages of Amoni (260 individuals) and Kiboko (120 individuals).

This impact, and proposed mitigations thereof, is also addressed in detail in the RAP.

4.3.2 Demography / Workforce

There are five impacts to the local demographic structure, primarily related to the anticipated influx of new population from outside the LSA.

4.3.2.1 Impact C4: Influx of Job-Seekers and Workers from Outside the Area and Resulting Strain on Local Housing, Infrastructure and Services

This negative impact is typically observed on similar projects in Africa, when a large workforce is brought in from outside the project area to participate in the construction of the project. The peak in workforce is expected to reach about 1,800 individuals, all of whom cannot be hired locally. In addition to the workers themselves and their families or dependents, it is to be expected that a large number of job-seekers and other people may come to the project area in search of work and other related opportunities (petty trade, commercial sex, etc.), as unemployment is high in the Katanga province and the DRC as a whole, and construction jobs are usually expected to be better paid than others. Experience of other projects in Central Africa clearly indicates that this is a potentially serious impact.

Unless adequate mitigations are in place, this influx of workers and job-seekers might result in undesirable pressure on existing housing, and such marginal infrastructure as already exists in the TFM area.

4.3.2.2 Impact C5: Development of Spontaneous Settlements

This impact is closely related with Impact C4 described above. It is typically observed on similar projects that in-migrants tend to have little or no financial resources when they arrive, and therefore settle illegally in precarious housing either near the project facilities in the expectation that this will make it easier for them to seize any work opportunity that may arise, or in town. In the case of the TFM project, unless the situation is otherwise managed through mitigation measures it could be envisioned that people would settle near the construction site main gate near the present location of the village of Mulumbu, or in the surroundings of the towns of Tenke and Fungurume. It is also observed that when informal mining was active in the area, such settlements did appear near the village of Mulumbu.

Unless adequately mitigated, this impact in turn entails several undesirable consequences:

- Sanitation conditions in such settlements are usually disastrous, which may entail morbidity risks not only for the residents themselves but also for the project workforce and the community at large.
- Focusing on short-term gains, local chiefs tend to charge small fees to allow people to settle, which makes them unwilling to solve the problem when negative impacts start to appear.
- Informal settlers who do not get a job or other economic opportunity secure a minimal livelihood by engaging in agriculture, which if unmanaged causes pressure on agricultural land and has potential for land conflicts with locals.

Mitigation measures for these impacts are discussed in subsequent sections.

4.3.2.3 Impact C6: Risks of Disruption and Cultural Conflict

Another potential negative impact of the influx of workers and job-seekers is potential disruption to local residents, particularly resulting from the settlement of new populations with different cultural values or religions. As mentioned in the baseline study, the LSA is a melting pot of recently settled people, which is in itself a positive factor in relation with this potential impact. History of recent conflicts in the DRC indicates, however, that this potential impact certainly needs to be managed with appropriate attention.

4.3.2.4 Impact C7: Influx of Job-Seekers and Workers and Associated STDs and HIV/AIDS Risks

This potential negative impact is also typical of similar projects that need a significant workforce to be brought in from outside the project area. Workers living alone and with higher incomes than the general population represent a significant risk of increase in STDs (including HIV/AIDS), as they may resort to commercial sex workers and cause an increase in adultery in the local community. The baseline study clearly indicates that while there is overall a good awareness of HIV/AIDS, means of prevention (condoms) are not widely used. It also indicates that when informal mining was active, people reported an increase in risky behaviors.

4.3.2.5 Impact C8: Training and Improvement of Employability

A positive impact of local recruitment of a significant part of the workforce for construction is that the employability of those who are hired will improve. Temporarily hired local workers will obtain on-the-job training in aspects such as safety and other technical topics, which will enhance their capacity to obtain better jobs later.

4.3.3 Economy

There are five impacts that are predominantly economic in their effect that originate with the increase in local economic circulation caused by the project, as well as reduced circulation caused by the loss of informal mining and at the end of the TFM mine construction period.

4.3.3.1 Impact C9: Inflation Caused by the Influx of Well Paid Construction Workers

A potential adverse effect of the influx of workers with higher purchasing power than the local population is a rise in prices of housing, staples, and other basic goods and services. This is typically observed on similar projects in Africa, and may apply particularly to relatively small markets like Fungurume and Tenke. This impact is of course detrimental to the local population, particularly to the poorest in the community. Baseline data have been collected, and a routine already established for ongoing monitoring of prices based on purchase of a shopping basket of staple goods in the markets of Fungurume and Tenke, and using Likasi as a regional control. These data will be used for long-term monitoring of trends in local prices, and for the mitigation of impacts to the poorest members of the local community.

4.3.3.2 Impact C10: Interruption of Informal Mining and Related Losses of Income

This impact has already occurred with the termination in late 2005 of the informal mining activities that were booming in 2004 and 2005 in the TFM concession area. The baseline survey indicates that people in the several communities where heterogenite digging was active experienced a loss in income when the activity was interrupted. The influx of diggers caused a boom in trading activities, which was particularly visible in the towns of Fungurume and Tenke. Some animosity towards TFM was also observed during the time of highest conflict between Mines Police and diggers over the 2004 to 2005 periods, but hostility seems to have been replaced with hope that something better will replace the informal mining. On the other hand, the departure of many diggers from the area has caused the spontaneous settlements in Mulumbu to disappear, which in itself is a positive impact (according to village residents).

4.3.3.3 Impact C11: Project Employment and Related Improvements in Income

Of the total project workforce, many workers will be hired locally, both from the two towns of Fungurume and Tenke, and from the local villages in the DCA. Local residents hired for the project will receive a salary, which is expected to benefit both the households themselves, and the local economy through the increase in purchasing power and a shift towards monetary exchanges (presently based to a large extent on barter).

The number of direct project hires is now predicted to be 3,100 individuals at peak. There have been numerous attempts on similar projects in Africa and elsewhere at estimating the number of indirect jobs created (or sustained) in addition to each direct formal project job. It is generally estimated that this “multiplying factor” is in the order of four to five indirect jobs for each formal direct project job. In this case, given the likely structure of the supply chain, a significant number of these jobs will be created (or sustained) outside of the project area, such as in Lubumbashi, South Africa or the United States of America. It is, however, fair to estimate that each direct project job will create or sustain at least one other indirect job in the project area. Assuming each job provides a livelihood to five individuals (or another four family members and dependents in addition to the employed person), about 30,000 individuals at peak and about 10,000 in the long-term operations phase would rely on the project for their main source of livelihood.

4.3.3.4 Impact C12: Local Economic “Boom” During Construction

This positive impact results from the influx of workers with higher purchasing power, local recruitment, and local procurement. The positive effects of this boom can be enhanced through a range of economic development measures currently being planned under the project Community Development Plan (CDP) (Section D2), and which will be discussed among TFM, its stakeholders, including local government, NGOs, and representatives of the local communities.

4.3.3.5 Impact C13: Local Economic Depression at the End of Construction

This negative impact is a direct consequence of construction completion, and the termination of work and procurement contracts that result. Construction completion and subsequent demobilization of workers and local suppliers needs to be carefully planned well in advance. In addition to specific mitigations of this impact, the CDP will be also intended as a tool to prepare the communities for the aftermath of the end of construction.

4.3.4 Labor

There are two impacts that are primarily labor-oriented.

4.3.4.1 Impact C14: Labor Conflicts at the End of Construction

Even if pro-actively managed during the construction phase, experience in Central Africa indicates that labor conflicts are difficult to avoid at the end of construction, when numerous work contracts are terminated. The main reasons for these labor conflicts usually include the following:

- Poor understanding by the workers of the terms and conditions of their work contracts, and/or of the provisions of the Labor Code.
- Poor human relation policies and implementation thereof, with failure of the employer to pro-actively explain termination provisions.
- Non-compliance with Labor Code or work contract provisions by employers (including contractors and the whole chain of subcontractors²) and failure to provide legally agreed packages or to provide sufficient notice of termination.
- Poor workers' organization, with absence of unions, or failure of unions to fulfill their information, negotiation and conflict resolution missions.
- Manipulation of workers by dishonest individuals seeking to cause conflict in the anticipation that they may take individual benefit from the situation and its eventual resolution.

Work conflict may result in legal action against the companies forming part of the project, but also in strike and other undesirable consequences, including local civil unrest (see Impact C15 below). It has the potential to be most damaging to community relations, notwithstanding efforts made in other areas to engage and establish a proper long-term relationship with neighboring communities, such as community development initiatives. No community relation policy can be successful if labor relations are not appropriately managed.

4.3.4.2 Impact C15: Spill-Over of Labor Conflicts to the Neighboring Communities

Where labor conflicts are not avoided, or not managed appropriately if they do occur, the issue may spill-over to the neighboring communities. Workers are also largely community members as well, and their family members may want to get involved in the labor conflict. Local politicians and chiefs may also try to get involved with agendas that are not necessarily directly related with the conflict at stake.

4.3.5 Infrastructure

One positive and one negative impact is anticipated on local and regional infrastructure.

4.3.5.1 Impact C16: Improvements to Local Infrastructure

project construction will require infrastructure upgrades in the power, road, communications, and water supply sectors, which will remain after the end of construction and will be beneficial to the overall community in the LSA and beyond.

4.3.5.2 Impact C17: Impacts of Heavy Traffic on Local Road Infrastructure

A typical result of similar large-scale construction projects is negative effects on roads generated by heavy loads hauled to the project site. A baseline survey of the pre-construction condition of roads likely to be intensively used for construction purposes will help mitigate this impact, as well as close on-going consultation with relevant authorities at regional and national levels. This includes regional highways outside of the LSA, which experience shows are usually the source of contention as they may not be periodically maintained by the project, in contrast with roads within the LSA used for purposes of mine operation.

² Experience shows that subcontractors are generally the main source of labor problems.

4.3.6 Community Safety

Two impacts are identified in the public safety arena.

4.3.6.1 Impact C18: Community Safety Hazards Related with Increased Traffic

As mentioned above, construction activities will result in a significant increase in traffic on local and regional roads, which currently have limited vehicular use. A traffic management plan will need to be developed so that routes taken by heavy load and other vehicles avoid inhabited areas to the extent possible. In addition, safety awareness campaigns, particularly among school children, will be needed in Fungurume, Tenke and LSA schools and communities. These measures are further discussed in the next section.

4.3.6.2 Impact C19: Community Safety Hazards Related with Construction Activities

Most construction activities will take place within fenced areas. However, some exploration, drilling and related activities may take place outside of the main construction site, and could entail safety risks to third parties.

4.3.7 Social Fabric

Social fabric is a term that refers to the incidence of social pathologies and how they are managed.

4.3.7.1 Impact C20: Increase in Crime and Other Social Ailments

Unless pro-actively managed, the anticipated influx of well-paid workers, including expatriates whose pay is incommensurate with usual local incomes, may cause an increase in petty crime as well as in more significant offences, such as assault. In addition, an increase in prostitution is usually observed to accompany major construction projects such as the project. Finally, there is a potential for a rise in alcohol and drug abuse as well in response to any increase in general social tension.

4.3.7.2 Impact C21: Social Disruption Caused by Anticipated Compensation or Employment

Cash compensation will be paid for crops damaged by construction, and possibly for other losses as well, in accordance with the RAP. Jobs will be offered locally to community members.

In societies where poverty is overwhelming and cash is rare, the perspective of cash compensation and employment offers is usually observed to trigger several issues, such as the following:

- Attempts to manipulate counts and valuation fraudulently, for example through bribery of members on community consultation committees.
- Attempts by people in positions of authority to extort payments from recipients of compensation or employment.
- Attempts by people in charge of offering jobs to obtain bribes in exchange for job offers, and by prospective employees to bribe employment officers.
- Creation of two classes, of “haves” and “have-nots”, with related jealousy, complaints, suspicion of bribery and favoritism, which may be fuelled by ethnic differences.

4.4 DESCRIPTION OF POTENTIAL SOCIO-ECONOMIC IMPACTS DURING OPERATION

Many of the impacts already evaluated and described for the construction phase of the TFM project may also occur during operations. The nature of these impacts and the means for their mitigation do not differ substantively between the construction and operational project phases. Only the more notable of these impacts are therefore identified below.

4.4.1 Impact OP1: Restrictions of Access

See Impact C2 above.

4.4.2 Impact OP2: Increase in the Fiscal Resources of DRC Government at Different Levels

Taxes paid by TFM, as well as custom duties and other fiscal resources will result in a significant increase of the resources of the various levels of the DRC Government (DRC central government, Katanga Province, and possibly Kolwezi District).

4.4.3 Impact OP3: Impacts of Heavy Traffic on Local Road Infrastructure

See Impact C17 above.

4.4.4 Impact OP4: Community Safety Hazards Related with Increased Traffic

See Impact C18 above.

5 MITIGATION OF PROJECT SOCIAL IMPACTS

Tables 9 and 10 detail proposed avoidance, mitigation and monitoring measures that TFM is prepared to commit upon as part of its environmental and social action plans (Section D3 and D4) for the construction and operation phases, after public consultation intended to discuss these measures with the public and fine-tune them as appropriate. Bold letters indicate specific policy documents yet to be developed.

Table 9 Proposed Mitigation Measures for the Construction Phase of the TFM Project

Topics	Impact #	Impact Description	Mitigation Measures	Monitoring Measures	Responsibility
land use / agricultural land	C1	loss of agricultural land due to occupation by the project, potentially resulting in loss of income streams and means of livelihood (economic displacement), pressure on land, and land-related conflict	<ul style="list-style-type: none"> • identification, valuation and compensation of all affected crops at full replacement value as per principles stated in the project resettlement action plan (RAP) • identification and provision of replacement agricultural land to those economically or physically displaced as per principles stated in the project RAP • additional livelihood restoration measures as per the project RAP • compliance with IFC's performance standard 5 "land acquisition and involuntary resettlement" 	<ul style="list-style-type: none"> • monitoring of compensation-related grievances and of grievance resolution • periodic assessment of the effectiveness of livelihood restoration measures, as per monitoring provisions of the Resettlement Framework (RF) and the Resettlement Interim Action Plan (RIAP) 	TFM
land use / agricultural land	C2	severed access to agricultural land, which itself remains unaffected	<ul style="list-style-type: none"> • pro-active identification of issues related with access to agricultural land and associated consultation with communities and farmers • provision of alternative footpaths and tracks where necessary • inclusion of "orphan land" (stranded parcels of land made inaccessible by the project but otherwise unaffected) in eligibility for compensation • cash compensation of damages to standing crops entailed by severed access if any 	<ul style="list-style-type: none"> • monitoring of compensation-related grievances and of grievance resolution • periodic assessment of the effectiveness of livelihood restoration measures, as per monitoring provisions of the RAP 	TFM
land use / physical displacement	C3	physical displacement of households residing within the project footprint or within the boundary of safety or environmental buffer zones	<ul style="list-style-type: none"> • resettlement of physically displaced households on sites provided and developed by TFM in compliance with the RAP • identification and provision of replacement agricultural land as per RAP • additional livelihood restoration measures as per RAP • compliance with IFC's performance standard 5 "land acquisition and involuntary resettlement" 	<ul style="list-style-type: none"> • monitoring of compensation-related grievances and of grievance resolution • periodic assessment of the effectiveness of livelihood restoration measures, as per monitoring provisions of the RF and the RIAP 	TFM

Table 9 Proposed Mitigation Measures for the Construction Phase of the TFM Project (continued)

Topics	Impact #	Impact Description	Mitigation Measures	Monitoring Measures	Responsibility
demography / workforce	C4	strain on local housing, infrastructure and services, potentially detrimental to locals, resulting from a potential influx of job-seekers and workers from outside the area	<ul style="list-style-type: none"> • Hiring Policy intended to limit job-seekers influx by giving priority to locals for recruitment by TFM and its EPC contractors and subcontractors (see details in Section 5.1.1) • broad communication of this policy at local, regional and national levels (TV, radio, newspapers) • endorsement of this policy by local politicians and government officials. raising of awareness among local politicians and government officials so that they do not contribute raising employment expectations • accommodation of non-local workers in a specific construction camp having its own water supply and waste treatment facilities (see details in Section 5.1.2) 	<ul style="list-style-type: none"> • periodic monitoring of the ratio of local workers to total number of workers for TFM, EPC contractors and subcontractors • monitoring of the situation of water and power supply, sanitation, solid waste collection and treatment in the towns of Tenke and Fungurume 	TFM
demography / workforce	C5	development of spontaneous settlements (shantytowns) in the vicinity of project facilities, or in the towns of Fungurume and Tenke, in relation with the influx of job-seekers and other in-migrants	<ul style="list-style-type: none"> • no uncontrolled spontaneous settlements near project facilities to be tolerated - endorsement of this policy by government officials and local chiefs - any spontaneous settlement near project facilities to be removed by mine police, after adequate notice (2 weeks) given to settlers • bussing policy to transport construction workers from Tenke or Fungurume rather than from the villages close to project facilities • establishment of a project-sponsored commercial area at an appropriate location near the construction site main gates, to enable local petty traders to establish small shops to serve project construction workers – no residence to be tolerated on this commercial area, latrines and water supply to be provided • establishment in cooperation with relevant local and regional authorities of an urban development masterplan for the town of Fungurume, whereby new development areas for workers' and new arrivals' accommodation will be catered for and duly planned 	<ul style="list-style-type: none"> • monitoring of the potential appearance of spontaneous settlements near project facilities and in the towns of Tenke and Fungurume 	TFM
demography / workforce	C6	risks of disruption and cultural conflict with locals resulting from a potential influx of job-seekers and workers from outside the area	<ul style="list-style-type: none"> • Code of Conduct (see Section 5.1.3) applicable to project workers, including contractors' and subcontractors', establishing rules for interaction between the project and its workers and the local community • dissemination of the code of conduct to the local community • accommodation of non-local workers in a dedicated construction camp 	<ul style="list-style-type: none"> • monitoring of code of conduct compliance (violations, complaints) • maintenance and periodic inspection of grievance logbooks 	TFM

Table 9 Proposed Mitigation Measures for the Construction Phase of the TFM Project (continued)

Topics	Impact #	Impact Description	Mitigation Measures	Monitoring Measures	Responsibility
demography / workforce	C7	influx of predominantly male job-seekers and workers, potentially living alone, with associated risks that sexually transmitted diseases, including HIV/AIDS, may spread	<ul style="list-style-type: none"> • development of a workforce HIV/AIDS management program, including by extension coverage of contractors and subcontractors, and having the following basic elements • development of a TFM HIV/AIDS corporate policy that emphasizes aspects of non-discrimination, confidentiality, prevention, treatment and monitoring and evaluation • STD and HIV/AIDS repeated awareness campaigns targeting project workers, beginning with senior management and eventually including contractors' and subcontractors', to be carried out by qualified specialists • voluntary and free-of-charge HIV testing and counseling for project workers, including contractors' and subcontractors', and their spouses at project health facilities • availability at all times of free-of-charge condoms in accessible locations that allows/ensures employee anonymity • technical support to existing health centers in how to deal with diagnosing and treating STDS and HIV/AIDS • engagement of project medical doctors with commercial sex workers known to be active in the community, with counseling and voluntary HIV testing if agreed by both parties • monitoring by project medical doctors of incidence of STDS amongst workers and establishment of periodic statistics • STD and HIV/AIDS repeated awareness campaigns targeting communities near project facilities, including Tenke and Fungurume carried out by qualified specialists • STD and HIV/AIDS repeated awareness campaigns targeting risk groups (commercial sex workers, truck drivers – not only those working for TFM, elements of the police and military forces, young adults) 	<ul style="list-style-type: none"> • monitoring by project medical doctors of incidence of STDS amongst workers and establishment of periodic statistics • statistics of attendance to the project-sponsored awareness meetings, for all interested public categories • replication of the HIV/AIDS awareness assessment carried out in the framework of the baseline survey • monitoring by local health centers with technical support from project medical centers of STDS and HIV/AIDS incidence 	TFM

Table 9 Proposed Mitigation Measures for the Construction Phase of the TFM Project (continued)

Topics	Impact #	Impact Description	Mitigation Measures	Monitoring Measures	Responsibility
			<p>The workforce HIV/AIDS management program described above will be extended to include transport contractors and subcontractors (hereafter referred to as “truck drivers”), and having the following basic elements:</p> <ul style="list-style-type: none"> • development of a TFM HIV/AIDS corporate policy that emphasizes aspects of non-discrimination, confidentiality, prevention, treatment and monitoring & evaluation • sexually transmitted disease and HIV/AIDS repeated awareness campaigns targeting truck drivers, to be carried out by qualified specialists • voluntary and free-of-charge HIV testing and counseling for truck drivers at project health facilities • availability at all times of free-of-charge condoms in accessible locations that allows/ensures truck driver anonymity • monitoring by project medical doctors of incidence of STDs amongst truck drivers and establishment of periodic statistics • STD and HIV/AIDS repeated awareness campaigns targeting communities, truck stops and delivery/pick up points near/at project facilities, including Tenke and Fungurume, carried out by qualified specialists 		
demography / workforce	C8	training required for workforce may result in long-term improvement of local population employability	not applicable - positive impact	not applicable - positive impact	-
economy	C9	inflation caused by the influx of well-paid construction workers, potentially detrimental to the poorest in the community	<ul style="list-style-type: none"> • commissary providing staples at fair market prices to project workers, including contractors and subcontractors • local agricultural production enhancement through community development activities, including assistance with marketing and storage of basic cereal crops (see CDAP) 	<ul style="list-style-type: none"> • monitoring of sales at commissary • monitoring of market prices for a selection of staples (food basket) in Tenke, Fungurume and a control market (Likasi) well outside of any project influence 	TFM

Table 9 Proposed Mitigation Measures for the Construction Phase of the TFM Project (continued)

Topics	Impact #	Impact Description	Mitigation Measures	Monitoring Measures	Responsibility
economy	C10	loss of local income from diggers, buyers and to the local economy in general caused by the interruption of informal (illegal) mining	<ul style="list-style-type: none"> local agricultural production enhancement through community development activities (see CDAP) development of small and medium size businesses through community development activities (see CDAP) Procurement Policy (see Section 5.1.4) 	<ul style="list-style-type: none"> monitoring of agricultural yields and incomes for comparison with those observed in the baseline survey monitoring of the development of small businesses in Tenke and Fungurume 	TFM
economy	C11	improvement in local households' income due to employment at the project during construction	not applicable - positive impact	not applicable - positive impact	-
economy	C12	local and regional economic "boom" during construction	not applicable - positive impact	not applicable - positive impact	-
economy	C13	local and regional economic depression at the end of construction	<ul style="list-style-type: none"> local agricultural production enhancement through community development activities (see CDAP) development of small businesses through community development activities (see CDAP) Procurement Policy (see Section 5.1.4) 	<ul style="list-style-type: none"> monitoring of agricultural yields and comparison with those observed in the baseline survey monitoring of the development of small businesses in Tenke and Fungurume, with a particular focus on the period when construction ends 	TFM
labor	C14	labor conflicts at the end of construction when construction workers' work contracts are terminated	<ul style="list-style-type: none"> compliance with all applicable labor regulations of the DRC compliance with IFC's performance standard 2 "labor and working conditions" monitoring of all contractors and subcontractors for compliance with the above sets of standards, with contractually-established financial sanctions for observed non-compliances ensuring that each employee – including contractors and subcontractors is aware of termination conditions ongoing community awareness efforts on the end of construction, with adequate notice, and related redundancies 	<ul style="list-style-type: none"> monitoring of violations of DRC labor regulations monitoring of the number of grievances related with labor issues monitoring of the number of court cases related with labor issues 	TFM

Table 9 Proposed Mitigation Measures for the Construction Phase of the TFM Project (continued)

Topics	Impact #	Impact Description	Mitigation Measures	Monitoring Measures	Responsibility
labor	C15	spill-over of labor conflicts at the project to the neighboring communities	<ul style="list-style-type: none"> continued engagement with neighboring communities in the event of significant labor conflicts (strikes) continued engagement with government, local officials, local politicians, traditional chiefs, in the event of significant labor conflicts (strikes) 	<ul style="list-style-type: none"> same as above 	TFM
infrastructure	C16	long-lasting improvements to local infrastructure due to infrastructure upgrades required for construction	not applicable - positive impact	not applicable - positive impact	-
infrastructure	C17	local road infrastructure could be negatively affected by increased heavy-load traffic	<ul style="list-style-type: none"> comprehensive baseline survey of the road conditions at kick-off of construction, including photographic evidence, in coordination with relevant government authorities – this baseline survey must include regional highways likely to be used by project traffic monitoring of project traffic, particularly on regional highways monitoring of degradation of road conditions, and maintenance works where deemed appropriate, in relation with relevant government authorities, with discharge certificates once obligations are met (if appropriate) 	<ul style="list-style-type: none"> monitoring of project traffic, particularly on regional highways monitoring of road conditions monitoring of grievances related with road conditions 	TFM
community safety	C18	safety hazards to neighboring communities in relation with increased traffic along the roads used by project traffic	<ul style="list-style-type: none"> construction of a road by-passing the town of Fungurume for heavy traffic traveling from Lubumbashi to the project site(s) awareness campaigns in neighboring communities, with focus on school children and mothers, about risks related with traffic appropriate speed limits in towns and villages as well as outside enforcement of speed limits (measurements with radar guns) and sanctions for any personnel found in violation of speed limits, including senior staff and contractors and subcontractors employees contractually agreed financial sanctions for contractors whose personnel are found not to comply with speed limits appropriate signaling of moving heavy machinery, and escort vehicles where needed restrict driving at night to absolute necessity 	<ul style="list-style-type: none"> monitoring number of traffic accidents and incidents, including those involving third parties monitoring number of violations of speed limits required attendance to traffic safety awareness meetings 	TFM

Table 9 Proposed Mitigation Measures for the Construction Phase of the TFM Project (continued)

Topics	Impact #	Impact Description	Mitigation Measures	Monitoring Measures	Responsibility
community safety	C19	safety hazards to neighboring communities in relation with construction activities at construction sites	<ul style="list-style-type: none"> fencing of all active construction sites, including where exploration drilling is conducted provision of security personnel, preferably sourced from local villages, to guard fences awareness campaigns in neighboring communities about risks attached to intrusion into project sites 	<ul style="list-style-type: none"> promoting attendance to safety awareness meetings monitoring number of incidents involving third parties 	TFM
social fabric	C20	increase in crime and other social ailments (alcoholism, prostitution, drug-use) caused by an influx of outsiders perceived as well-paid and an influx of job-seekers remaining unemployed	<ul style="list-style-type: none"> Code of Conduct applicable to project workers, including contractors and subcontractors, establishing rules for interaction between the project and its workers and the local community dissemination of the code of conduct to the local community accommodation of non-local workers in a dedicated construction camp 	<ul style="list-style-type: none"> monitoring of code of conduct compliance (violations, complaints) monitoring with local police of incidents involving project staff monitoring with local police of the overall crime level in Fungurume and Tenke 	TFM
social fabric	C21	social disruption caused by compensation (social jealousy, fraudulent activities aiming at maximizing compensation) and employment – gap between “haves” and “have-nots”	<ul style="list-style-type: none"> establishment of a fair identification and compensation mechanism, with broad dissemination of eligibility policies (see RAP), compensation rates, and identification and valuation criteria meaningful sanctions in the event of any evidence of involvement of project personnel in bribery, with termination and legal action sanctions in the event of any evidence of involvement of project personnel in favoritism establishment of a grievance management mechanism, with involvement of external stakeholders continued engagement with neighboring communities transparent and public establishment of lists of employable people, with involvement of local chiefs (Hiring Policy) 	<ul style="list-style-type: none"> monitoring of grievances related with identification and compensation monitoring of grievances related with recruitment 	TFM

Table 10 Proposed Mitigation Measures for the Operation Phase of the TFM Project

Topics	Impact #	Impact Description	Mitigation Measures	Monitoring Measures	Responsibility
land use / agricultural land	OP1	severed access to agricultural land that itself remains unaffected	<ul style="list-style-type: none"> • pro-active identification of issues related with access to agricultural land and associated consultation with communities and farmers • provision of alternative footpaths and tracks where necessary • inclusion of “orphan land” (land stranded and made inaccessible by the project without itself being affected) in eligibility for compensation • cash compensation of damages to standing crops entailed by severed access if any 	<ul style="list-style-type: none"> • monitoring of compensation-related grievances and of grievance resolution • periodic assessment of the effectiveness of livelihood restoration measures, as per monitoring provisions of the RAP 	TFM
economy	OP2	increase in fiscal resources available to local and non-local levels of government	not applicable - positive impact	not applicable - positive impact	-
infrastructure	OP3	local road infrastructure could be negatively affected by increased heavy load traffic	<ul style="list-style-type: none"> • comprehensive baseline survey of the road conditions at kick-off of construction, including photographic evidence, in coordination with relevant government authorities – this baseline survey must include regional highways likely to be used by project traffic • monitoring of project traffic, particularly on regional highways • monitoring of road conditions, and maintenance works where deemed appropriate, in relation with relevant government authorities, with discharge certificates where adequate 	<ul style="list-style-type: none"> • monitoring of project traffic, particularly on regional highways • monitoring of degradations of roads conditions • monitoring of grievances related with road conditions 	TFM

Table 10 Proposed Mitigation Measures for the Operation Phase of the TFM Project (continued)

Topics	Impact #	Impact Description	Mitigation Measures	Monitoring Measures	Responsibility
community safety	OP4	safety hazards to neighboring communities in relation with increased traffic	<ul style="list-style-type: none"> • awareness campaigns in neighboring communities, with focus on school children and mothers, about risks related to traffic • construction of a road by-passing the town of Fungurume for heavy traffic traveling from Lubumbashi to project sites • speed limits in towns and villages and outside • enforcement of speed limits (measurements with radar guns) and sanctions for any personnel found in violation of speed limits, including senior staff and contractors and subcontractors employees • contractually agreed financial sanctions for contractors whose personnel is found not to comply with speed limits • appropriate signaling of moving heavy machinery, and escort vehicles where needed • restrict driving at night to absolute necessity 	<ul style="list-style-type: none"> • monitoring number of traffic accidents and incidents, including those involving third parties • monitoring number of violations of speed limits • required attendance to traffic safety awareness meetings 	TFM

5.1 DETAILS ON SOME PROPOSED MITIGATION MEASURES

The following narrative supports the summarized mitigation measures provided in the preceding tables.

5.1.1 Hiring Policy

5.1.1.1 Principles

Consultation with all layers of the community in the project neighborhood indicates that local employment expectations are very high, and that there is considerable fear that recruitment will not take place in a transparent and equitable manner.

Selection of all employees by TFM for all positions (by function, not solely by work title) will be based on qualifications to best meet business requirements. For unskilled and semi-skilled personnel, TFM will implement a hiring policy that will rank applicants in the following order (assuming they have the required abilities and insofar as such a rank does not contravene with labor legislation of the DRC):

- Persons affected by project land takings (i.e., having received compensation for physical or economic displacement).
- Persons registered as residents of one of the 41 villages and two towns of the DCA as per their electoral card (see hereunder details on establishment of lists of eligible persons).
- In the event where the two above categories would not provide sufficient numbers of applicants for unskilled and semi-skilled positions, persons registered as residents in the Katanga province as per their electoral card.
- Other persons, only in the event where the three above categories would not provide sufficient numbers of applicants for unskilled and semi-skilled positions.

Recruitment of skilled and professional positions will be open to all Congolese nationals with priority given to local place of residence in case of a tie on skills and ability. Final recruitment will however remain subject to TFM's operational requirements and people having the requisite ability to perform the work.

This policy will be made binding on TFM and to all contractors and subcontractors working for TFM at construction and operation phases, as long as they employ ten or more workers at any given time for project work and their project-related activity is predominantly on project sites. These contractors will be contractually required to develop hiring, recruitment and training plans and procedures to satisfy the requirements of this policy, before contracts are finalized. Financial sanctions will be contractually applied if a given contractor fails to implement certain provisions of this policy.

TFM will monitor contractors' performance and compliance with the hiring policy.

5.1.1.2 Establishment of Lists of Eligible Applicants for Unskilled Labor

The project recruitment policy will give priority to people living in or near the concession area. The list of eligible villages will be finalized at a later stage, but could include any of the communities listed in Table 2 of this report.

The following key messages will be delivered by TFM's community liaison or human resources staff to the village chief and community members before establishing the list. For each list two meetings will take place, the first to be held one day before establishing the list, the second one immediately before establishing the list.

- There will be some unskilled jobs at construction phase (it could amount to a few in each village).

- Unskilled jobs will be reserved to physically or economically displaced people in first priority, and in second priority to local residents, over the age of 16, both male and female, physically fit for the position offered.
- Skilled jobs will be open to any qualified individual meeting the position requirements regardless of residence; however where skills and ability are equal, preference will be given to local residents, beginning with those from the immediate impact area and spiralling outward.
- Applicants for unskilled jobs need to be registered in their place of residence.
- This registration process will be public to make it transparent and avoid fraudulent attempts to qualify: the list will be established publicly with villagers and the village chief attending.
- Registration must occur in person, and the applicant must present his/her voter card.
- Village chiefs and village residents attending the meeting are invited to verify that an applicant for registration in a given village is actually a resident of this village; this applies particularly to agricultural migrants, who actually reside in Tenke or Fungurume, and cultivate fields in the concession area
- No person can register in several different localities; checks will be made; if an applicant is found to have registered several times, he/she will be barred from employment; the same applies to other fraudulent attempts to qualify on false grounds.
- No person will be allowed to register another individual; no person will be able to register without presenting his/her voter card.
- Being registered in the list does not ensure that the applicant will get a job, in fact, there will be many fewer jobs than applicants, and the majority of people on the list are not likely to get a job.
- Successful applicants will be selected by lottery within the list of residents of each village; unskilled jobs will be allocated in turn to eligible villages, according to the number of jobs offered and ensuring proper balance between villages.
- No person is entitled by the Company to take applications other than the Community Liaison Officer (CLO) in the framework of the above process; no applications will be taken at the base or other project sites or otherwise by project staff other than the CLO; no person is entitled by the Company to receive money or other favors against applications; any attempt by a Company staff member or other person to receive an application must be reported to the Company's CLO or Human Resources (HR) department.

The list will be established as follows by TFM's or contractor's community liaison staff.

- Village chiefs will get a one-day notice before the list is actually established, and when this notice is done and the appointment is made for the following day, messages above will be delivered a first time.
- On the day of establishing the list:
 - The village chief must be present.
 - People will be assembled, made to line in a queue, and each will be registered in turn.
 - For each candidate, the voter card must be presented and the following needs to be registered on a paper list:
 - Name, surname, postname/family name.
 - Date of birth (according to the voter card).
 - Number of the voter card.

- Each candidate must be photographed and the photograph reference needs to be registered.
- The information above needs to be entered into an Excel file according to the attached template. Photographs need to be linked to the above Excel file, and need to be stored in the same directory as the Excel file itself.

It should be noted that this process has already been successfully implemented in several villages around the Kwatabala ore body, where it has been used for recruiting temporary laborers used on project Feasibility Study (FS) activities (e.g., digging test pits).

Hiring will be done in turn between eligible villages. For each hire of unskilled workers, the actual hire will be done as follows:

- Determination of the number of unskilled people needed for a particular task to be hired from a given village, and whether the hire may be reserved for males or females.
- Reference to the list established before, removal from the list of people who were hired before.
- Selection of people to hire by lottery (numbers in a hat drawn by a child, for example).
- There might be a “waiting list”, depending on the number of hires, if one amongst the selected proves unfit for work.

The registration process for Tenke and Fungurume will be different. Employment offices will be opened in both towns and will be operated on a part-time basis for the duration of the construction period. People resident from Tenke or Fungurume will have to register in those offices. Lists will be checked against actual place of towns residence with local authorities. Any person registered twice will be barred from employment.

5.1.2 Workers' Accommodation

While as per the policy detailed above much of the project workforce will be hired locally, there will still be a need to bring in workforce from other areas of the DRC, and to a limited extent from abroad. The need for construction of accommodation is dictated by the need to mitigate potential negative impacts of the influx of non-local workers into the community (such as cultural disruption and inflation on the local housing market), and the lack of suitable alternatives in the local area to accommodate such numbers.

Adequate accommodation will be provided for non-local supervisors and construction staff with living quarters and dining facilities for a male and female workforce. Accommodation will be in the form of a construction camp, including catering and recreation facilities. Water supply, waste water treatment, and solid waste collection and treatment will be carefully designed to eliminate any impacts both on the local environment and on municipal facilities.

TFM will be responsible to have its EPC contractors build, commission, operate and decommission the construction camp and its ancillary facilities.

5.1.3 Workers' Code of Conduct

A Workers' Code of Conduct will be prepared by TFM for application by all contractors and subcontractors employing ten or more workers. This Code of Conduct will be drafted, and then consulted upon with community leaders. The Code of Conduct should cover the following topic areas:

- Interaction with communities, including cross-cultural awareness, basic politeness, mutual respect rules and basic principles of conflict management.
- Interaction with government officials, including security forces.
- Protection of community assets such as crops, livestock and structures.
- Environmental protection (notably solid waste and protection of wildlife).

- Safe driving and other community safety issues.
- STD prevention.
- Rules to apply if damage or accidents occur.

Awareness and training on the Code of Conduct will be given at induction (when a worker is hired) and through periodic refreshment sessions, using for instance daily “toolbox” meetings intended to address other issues such as safety.

All workers will be expected to comply with the Code of Conduct. Foremen, superintendents and management shall be responsible for overseeing workers placed under their supervision with respect to Code of Conduct compliance. Noncompliances shall be reported and sanctions may be taken where needed.

The Code of Conduct will be publicly released (at camp gates, at work sites, at community information centers and other public places), and community members will be informed of avenues available to them to lodge complaints related with observed noncompliances with the Code of Conduct. It will be maintained during the Operations phase, albeit in a modified form if necessary. The Code of Conduct will be appended to all work contracts signed by TFM and its contractors and subcontractors with workers.

5.1.4 Procurement Policy

Similar projects worldwide have successfully outsourced to local companies works, supplies and services such as the following:

- Workers’ transportation from their accommodation to construction and/or operation sites, including provision of bus services and hired car services.
- Catering of meals at construction camps.
- Various operation and maintenance services at construction camps.
- Security services (provision of watchmen, patrolling of facilities).
- Construction of construction camps and other buildings such as administrative offices.
- Reclamation works involving agricultural equipment.
- Archaeological excavations.
- Provision of office supplies and services.

Local outsourcing has a longer-lasting effect and may be even more beneficial to the community than local hiring. In effect, local outsourcing contributes to create and enhance business management capacity; provided favorable environment conditions are also in place (these could include a business services center and potentially a business “incubator”, to the creation of which the Community Development Plan [CDP] may aim).

Emphasis will be placed by TFM on outsourcing locally those services that will be maintained during operation phase, in order to mitigate the post-construction depression effect.

It is critical for success, and it will therefore be a high priority objective for TFM to partner well with its Engineering Procurement and Construction (EPC) contractor(s) and the main subcontractors partner well in

advance to identify needs in terms of works, supplies and services that could be outsourced locally, and to assess the ability of the local businesses to meet these needs in terms of quality and quantity. This assessment will lead to a business support program, with the objective of maximizing local procurement and have as long-lasting an effect as possible by prioritizing for support those businesses that could sustain their enhanced activity after construction is completed. It is likely that the business capacity building activities will need to address topics such as those listed below:

- Safety.
- Quality.
- Marketing.
- Administration.
- Corporate governance.
- Accounting and finance.
- Compliance with environmental and social regulations.

At construction phase, the EPC contractor(s) and their main subcontractors will be required to submit a Local Procurement Plan before contracts are finalized, prepared in partnership with TFM, and including the following elements:

- Identification of affected, local, regional and national businesses with potential to take part in construction as subcontractors.
- Assessment of their performance and identification of training and capacity-building required to bring these businesses to adequate safety and quality standards, where necessary.
- Commitment on local procurement targets for different categories of businesses following guidelines stated below. Experience from similar projects in emerging countries indicates that these targets could be in the order of the following amounts:
 - 0.5 to 1 percent of the amount of the EPC contract for affected and local businesses.
 - 2 to 10 percent of the amount of the EPC contract for regional businesses.
 - 25 to 100 percent of the amount of the EPC contract for national businesses.
- Development of local procurement procedures, including advertisement, contracting and payment.

Once endorsed by TFM, the plans will be binding to the EPC contractor. Compliance and performance will be monitored quarterly.

In addition to such plans applicable to contractors, TFM will develop its own Local Procurement Plan for its own operations at construction and operation phases.

6 SOCIAL ACTION PLAN

The project Social Action Plan (SAP) describes the implementation arrangements that assure execution of mitigation measures identified for each project impact. The basic Social Action Plan elements include organizational arrangements for the social team, responsibilities of each team member and provisions for internal and external monitoring.

6.1 IMPLEMENTATION ARRANGEMENTS

6.1.1 TFM's Implementation Team

Compliance with social commitments contained in this document will be under the responsibility of the TFM's **Environmental and Social Manager**, who reports to the TFM General Manager (Figure 4). The Environmental and Social Manager is responsible for securing and maintaining the TFM project's social license to operate, which during the project's construction phase will entail the following areas of oversight and responsibility:

- Recruit and manage the TFM community and social team members for the following functional areas:
 - Resettlement planning.
 - Community relations.
 - Community development.
- Develop and administer budgets for all SAP, community development and community liaison activities.
- Oversee and provide quality assurance on the following:
 - Resettlement action planning and execution.
 - Community relations.
 - Socio-economic impact assessment.
 - Implementation of social aspects of recruitment and procurement policies.
- Development and execution of additional needed policies for all operational areas of responsibility.
- Establishment of the future community development foundation for management of the social development fund.

As mentioned, the Environmental and Social Manager will be supported by team leaders in the primary functional areas of resettlement planning, community relations and community development, each of whom will have the requisite staff and material support to achieve their mission. These team leaders will have the following individual responsibilities under the SAP.

The **Resettlement Planning Task Leader** will have operational, daily responsibility for RAP execution, including the following specific program components:

- Survey and value assets taken during project construction.
- Conduct census and census updates of affected households.
- Plan and supervise compensation activities, including for lost crops, land buildings and livestock, and to restore lost livelihoods.
- Coordinate selection of alternative resettlement sites.
- Monitor and report on the construction of replacement village structures.
- Plan and coordinate the move into replacement housing for affected parties.

- Conduct ongoing consultation with affected parties via communication with resettlement consultation committees, with affected individuals, in community-wide consultation venues.

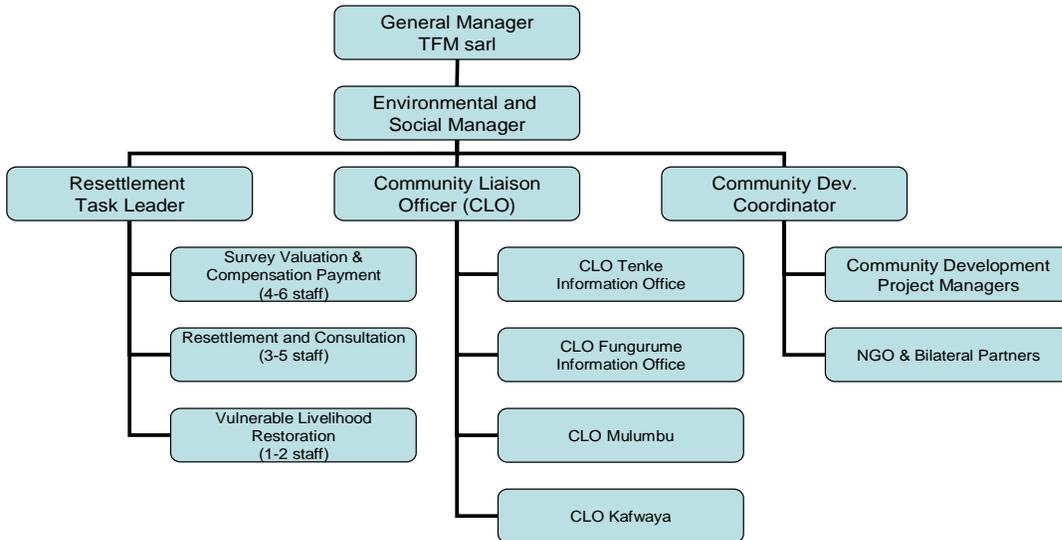
The Resettlement Planning Task Leader will be supported by a staff of up to three additional professionals who will be responsible for asset survey and valuation, resettlement consultation and for assuring equitable treatment of vulnerable and disadvantaged groups within the population.

The **Community Liaison Officer** (CLO) will serve as the primary point of contact between communities of the DCA and the TFM project, and will have the following primary areas of responsibility, among other things:

- Liaise with local government with regard to local community liaison and issues and in consultation with appropriate TFM personnel.
- Oversee and assure compliance with implementation of TFM policies on recruitment.
- Log and respond to grievances lodged by members of the community.
- Assist in identification of individuals to receive compensation through intended or accidental damages during field work as required by the 2002 DRC Mining Code (Article 281), and as described in internal procedures.
- Organize and facilitate compensation payment actions.
- Obtain prior written permission from community leaders / affected members for any intended damage to any infrastructure, crops or land as a result of exploration, Feasibility Study (FS) or ESIA work, and compensation to be paid.
- Notify communities in advance of any exploration, FS or ESIA tasks that they may observe (e.g., field visits by study team members) or that may affect them (e.g., intended damage through field work).

The CLO will be supported by at least four additional team members who will staff TFM community liaison offices in Fungurume and Tenke, as well as additional community liaison posts at southern and northern village sites within the DCA (e.g., Kafwaya and Mulumbu).

Though not technically responsible for mitigation-driven activities, the **Community Development Coordinator** is nonetheless a key member of the TFM social team. The CDC will prepare and assist in the implementation of the community development 'Roadmap' that is presented independently of this Social Management Plan (SMP). Key elements of the Roadmap include community governance, food security (agricultural programs) livelihoods (e.g., small and medium enterprise development) and improvements to healthcare and educational opportunities among the urban and rural populations of the Direct Concession Area (DCA).

Figure 4 Organization of the Social Management Plan Implementation Team

6.1.2 Interaction with Contractors and Subcontractors

TFM will assume responsibility for contractor and subcontractor performance in complying with mitigation measures described in the preceding section. Specifically, each contractor will be required to develop a social plan before contracts are finalized, addressing the following topic areas:

- Detailed recruitment procedures.
- Detailed worker accommodation arrangements.
- Health and safety plan.
- Transportation/busing arrangements.
- Provision of food.
- Enforcement of traffic safety rules, including speed limits.
- Commissary arrangements (if appropriate).
- Local procurement.
- Community liaison.
- Social team, with qualifications and credentials of proposed senior staff.

- Interaction with human resources.
- Control of subcontractors.

Once reviewed and agreed upon by TFM, contractors' social plans will be binding for the whole duration of the contract. Financial sanctions can be attached to the following violations of the social commitments.

- Health and safety violations.
- Violations of speed limits.
- Violations of the hiring policy.
- Violations of labor regulations.

TFM may provide training and other needed resources if local contractors do not have the requisite ability to prepare and execute on key components of their contract agreements:

6.2 MONITORING

6.2.1 Monitoring Indicators

Monitoring indicators are described in the tables of mitigation measures in Section 5.

6.2.2 Internal Monitoring

Monitoring indicators will be generated internally by TFM's environmental and social team, for consideration by Management.

6.2.3 External Monitoring

TFM will hire a suitably qualified external social auditor to conduct six-monthly monitoring visits focusing on the assessment of compliance with social commitments contained in this Social Management Plan, and the Resettlement Action Plan(s).

External monitoring reports will be prepared independently by the auditor and public released after review by TFM for factual accuracy.

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT
VOLUME E: GENERAL APPENDICES
SECTION E8

TERMS OF REFERENCE
FOR THE
ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

Submitted to:

Tenke Fungurume Mining S.A.R.L. (TFM)
Democratic Republic of the Congo

March 2007

05-1334-035

Terms of reference for the ESIA are presented below.

Topography/Geomorphology

- Describe the topography and geomorphology of the local study area using topographic maps, other existing maps, aerial photos, and site visits.
- Determine the presence of any unique topographic features.
- Evaluate changes to topography and geomorphology as a result of the project.

Geology/Geochemistry

- Ascertain the volume (quantity) and quality of the seepage from waste rock facilities under the revised mine plan.
- Use existing data and some test work to characterize the waste rock and tailings material (both the transitional and sulfide ores will be tested if they will be exposed during mining).
- Model the quality of various water mixing scenarios such as seepage into surface water streams, spillages due to entrainment by storm water and effluent discharges (in and off specification).
- Provide modeling results as input to the hydrogeological, hydrological, and water quality disciplines for impact analyses.

Soils

- Determine soils type and distribution within the study areas.
- Determine capability of soils for agriculture and other uses.
- Determine the sensitivity of soil types to acidifying emissions for those study areas where such emissions are expected, their sensitivity/buffering capacity and predicted deposition patterns.
- Conduct an assessment of soil types for reclamation suitability.
- Determine the potential for soil erosion and measures to minimize the effects of any such erosion.
- Determine the availability of soils suitable for reclamation activities.
- Determine any constraints or limitations to achieving vegetation restoration based on anticipated soil conditions.
- Assess the effect of the project on soil quantity and capability.

Visual Aesthetics

- Determine the nearest habitations or frequented viewpoints of concern for the study area (e.g., highway or hill top viewpoints).
- Assess potential effects to viewpoints from the project.

Natural Risks

- Describe the natural risks (e.g., earthquakes, landslides, flooding) that may occur within the study areas.
- Evaluate the potential risk for the project to be affected by these risks (e.g., tailings dam failure), and any consequent environmental or social impacts.

Air Quality

- Analyze the general climatology and local meteorology.
- Characterize the current air quality in the air study area.
- Identify, quantify and evaluate the potential air quality impacts anticipated due to the mining operations and processing facility.
- Describe the health risk criteria applicable to the pollutants expected from the proposed operations.
- Overview the legislation and regulatory context as it pertains to the regulation of atmospheric emissions and air pollutant concentrations, (i.e., air pollution compliance criteria).
- Identify all potentially significant emission sources.
- Quantify significant air emissions, including gaseous and particulate, from well-defined (e.g., stacks) and fugitive sources.
- Quantify greenhouse gas emissions.
- Set up an appropriate atmospheric dispersion model to simulate the transport and dilution of air emissions from the proposed project.
- Predict air concentrations and deposition rates expected to result from the proposed operations.
- Assess the predicted incremental air pollution levels (air concentration and deposition) with respect to local and international regulatory requirements (as applicable).
- Identify significant information gaps, if applicable.
- Provide recommendations regarding measures which could be implemented to reduce the impact of the proposed development on the receiving environment (where applicable).

Noise and Vibration

- Identify noise and vibration sensitive locations in the concession.
- Characterize the baseline noise levels within the study areas.
- Quantify noise emissions and vibrations from the project.
- Calculate probable increases in noise or vibration levels at sensitive locations as a result of the project.
- Evaluate the significance of changes in noise or vibration levels due to the project.
- Evaluate the effectiveness of mitigation measures.

Hydrogeology

- Describe and map the groundwater regimes for the study areas for both the wet and the dry season, including data from monitoring wells, local wells for humans or livestock, springs and seeps.
- Prepare an inventory of water users. Identify water use conflicts and proposed resolutions.
- Include measurement for levels/flow and quality.
- Develop a conceptual groundwater flow model followed by a numerical model.
- Assess the potential of the project to cause changes in groundwater and surface water levels and flows for both the wet and dry seasons.
- Assess the effects of groundwater withdrawal under prolonged drought conditions.
- Assess the effects of changes in groundwater regime on other resources such as vegetation, wetlands, fish and wildlife.
- Describe a groundwater monitoring program for water levels and flows and the early detection of potential contamination.
- Describe groundwater mitigation options to be considered for implementation should adverse effects be detected.
- Describe predicted groundwater effects following closure.
- Demonstrate water availability for the life of mine.

Surface Water Hydrology

- Take daily readings of water levels at baseline stream monitoring stations equipped with staff gauges in the study areas for the wet season. Continue monitoring after ESIA completion to capture dry season data.

- Carry out discharge measurements to develop rating curves at baseline stream monitoring stations in study areas at changes of flow.
- Describe the annual and seasonal climatic regimes (mean annual precipitation, mean monthly precipitation, intensity-duration-frequency of extreme precipitation events, mean annual temperature, mean monthly temperature, annual evaporation and evapotranspiration, monthly evaporation and evapotranspiration) for the study areas based on regional and local climatic data.
- Describe the annual and seasonal surface water regimes (mean annual runoff, mean monthly flows, flood flows, low flows) for the study areas based on regional and local hydrologic data.
- Describe the response of catchments in the study areas to short-duration rainfall events.
- Describe the water balance of catchments in the study areas.
- Prepare an inventory of all water users based on survey data administered by the social assessment team.
- Assess the potential impacts of the project on drainage patterns in the study areas (stream lengths, diversions, re-alignment of streams, etc.).
- Assess the potential impacts of the project on surface water flows (low flows, flood flows, water balance) for both the wet and dry seasons.
- Assess the effects of anticipated water withdrawal for the project's use on stream flows under normal and prolonged drought conditions.
- Identify potential water use conflicts and propose resolutions.
- Provide flow data to the water quality and geochemistry studies to assess the potential impacts of treated effluent discharges, spills and seeps from the mining operations on the receiving stream water quality.
- Describe a surface water monitoring program for water levels and flows.
- Describe surface water mitigation options to be considered for implementation should adverse effects be detected.
- Design, where possible, for naturally sustaining watercourses at closure.
- Describe predicted hydrological impacts following closure.

Water Quality

- Describe the baseline water quality of watercourses in the study areas. The description of water quality will consider all appropriate water quality parameters, their seasonal variations and relationships to flow and other controlling factors.

- Identify components within each phase of the project that may influence or affect surface water quality.
- Assess (using qualitative or quantitative methods) the potential impacts of the project on surface water quality within the study areas. Compare the results of the water quality assessment with relevant national (DRC) and international (e.g., World Health Organization) water quality guidelines.
- Describe the proposed mitigation measures to be considered, during the construction, operation and reclamation phases of the project, to maintain surface water quality.
- Describe the monitoring program that will be used to identify and monitor project impacts on water quality. Justify the selection of monitoring locations, and the integration of these sites into an overall aquatic assessment and monitoring program.

Traffic

- Determine existing traffic levels and types of traffic on local roads and railways by means of traffic counts and/or existing data.
- Predict changes in traffic as a result of the project.
- Assess effects of increased traffic and vibrations on nearby residences.
- Assess effects of increased traffic on human and livestock safety.

Flora

- Select an appropriate local study area for the flora assessment that includes the footprint of the mine and infrastructure as well as an appropriate buffer.
- Select a suitable Regional Study Area for the flora assessment, to allow for an assessment of project-related impacts, within a regional context.
- Map and describe the baseline flora of the study areas in terms of their vegetation communities, including a consideration of structure and species composition.
- Inventory each community during the dry season to determine species richness, diversity and relative abundance.
- Inventory timber to document commercial value of trees to be affected by the project.
- Inventory off-site areas of similar community types that may have similar species assemblages.
- Determine the presence of endemic or listed species by study area and community type.

- Describe the local use of flora for commercial, traditional and medicinal purposes.
- Select key indicator species to focus the assessment. Provide the selection criteria and rationale for the choice of key species or higher indicator taxa (e.g., orchids).
- Quantitatively assess the adequacy of baseline sampling.
- Assess potential impacts to flora through mine activities including site clearing, air and water effects and potential changes in land use due to induced development.
- Provide details on any planned mitigation or compensation.
- Contribute revegetation and monitoring components to the reclamation and closure plan.
- Assess residual impacts to vegetation, given the application of mitigation activities.
- Prepare vegetation conservation/management plans for the life cycle of the project.
- Describe and assess floral conditions for the eventual post-closure landscape.

Fauna

- Map vegetation types for the study areas and describe the baseline fauna (including at least birds, mammals, reptiles, amphibians) associated with each vegetation type.
- Inventory each vegetation type during the wet season to determine species richness, diversity and relative abundance.
- Inventory off-site areas (outside of the proposed mining footprints) of similar community types that may have similar species assemblages.
- Determine the presence of endemic or listed species by study area and community type.
- Quantitatively assess the adequacy of baseline sampling.
- Determine key habitats and movement corridors if possible.
- Estimate the nature and extent of the local use of fauna for commercial, traditional and medicinal purposes.
- Select key indicator species/taxa to focus the assessment. Provide the selection criteria and rationale for the choice of key species/taxa.
- Assess potential impacts to fauna through mine activities including site clearing, air and water effects and potential changes in land use due to induced development.

- Provide details on any planned mitigation or compensation.
- Describe and assess fauna conditions for the eventual post-closure landscape.

Fish and Aquatic Habitats

- Inventory each study area stream reach during the wet season to determine fish species composition (species richness, diversity), relative abundance, distribution, movements, and general life history parameters in those waterbodies.
- Determine key habitats (critical or sensitive areas such as spawning, rearing, migration corridors).
- Complete an assessment of baseline tissue residue contaminant concentrations (e.g., heavy metals) in fish that reside in the waterbodies within the zone of impact of the proposed mine and ancillary infrastructure.
- Inventory aquatic resources in addition to fish, including macro-invertebrates and periphyton.
- Inventory a regional area (drainages) of similar aquatic community types that may have similar biota for purposes of reference, control or future monitoring.
- Determine the presence of endemic or listed species by study area and community type.
- Describe the local use of fish resources for subsistence and traditional purposes.
- Select key indicator species to focus the impact assessment. Provide the selection criteria and rationale for the choice of key species.
- Assess potential impacts to aquatic resources, including fish and fish habitat, invertebrates, riparian areas, and consumptive fish use, from mining or other related infrastructure activities including site clearing, changes in hydrology, air and water effects and potential changes in land use.
- Describe how stream channel alterations, changes to substrate conditions and quality, stream flow alterations, groundwater changes, and water quality alterations may affect fish and fish habitat in the study areas.
- Assess potential acute and chronic effects on fish health.
- Identify the mechanism, existing source of any tissue contaminants (if present), and provide projections on potential cumulative contamination impacts with key fish species.

- Discuss how the project impacts could affect local and regional aquatic biodiversity.
- Outline mitigation measures to prevent or minimize adverse effects during project construction, operations and closure.
- Identify activities that cannot be mitigated and develop a compensation plan to offset the loss of productive fish habitat.
- Describe and assess fish and fish habitat conditions for the eventual post-closure landscape.
- Make recommendations regarding any required wet season work.
- Identify any aquatic environmental effects monitoring programs that will be initiated by the proponent to identify and manage the effects of the project on aquatic resources and confirm the performance of mitigation measures.

Natural Habitats and Biodiversity

- Describe the current level of disturbance and biodiversity of each natural terrestrial and aquatic vegetation type within the local study area.
- Describe each vegetation type's sensitivity to disturbance and ability to be restored.
- Determine the status (distribution, abundance, conversion rates) of each vegetation type.
- Describe landscape characteristics such as habitat connectivity and fragmentation.
- Discuss the mitigative and compensatory mechanisms to be used to reduce/offset losses to natural vegetation types.
- Discuss if the project has the potential to enhance biodiversity.
- Assess residual impacts for both the operations and post-closure phases of the project to natural vegetation types and biodiversity.
- Provide details on natural habitat and biodiversity monitoring and management that includes participation of local residents.

Protected Areas

- Describe and map project study areas relative to the nearest protected areas such as National Parks and reserves, and any proposed protected or special management areas.
- Develop mitigation measures if required.

- Determine the potential impact of the project on the ecological integrity and economic sustainability (e.g., tourism) of the protected areas.

Cultural Resources

- Describe and map archaeological, historical, religious and natural unique sites within the study areas.
- Plan avoidance, recovery or preservation of sites as necessary.

Socio-Economics

- Review literature and available national, regional and district secondary data to characterize the economic and social context for the project.
- Describe the socio-economic status of the directly affected population, including demography, education, economic activities, natural resource use (including land and water), social services and infrastructure, public health, political and social organization, and perceptions of the project.
- Describe the socio-economic status of people to be resettled, if needed, including the detail of livelihoods, assets and social organization that will be affected by resettlement, prepare a resettlement action plan to International Finance Corporation (IFC) standards.
- Use data collection methods appropriate to the required level of detail, including review of existing documentation, stakeholder consultations, key informant interviews, focus group discussions and house to house surveys.
- Identify potential negative impacts and benefits to the economy of the DRC, to the directly affected population, and to people to be resettled.
- Develop social and economic mitigation and benefit enhancement measures, to be more fully described in the Social Action Plan.
- Assess residual impacts.

Land Use

- Describe and map land use.
- Develop mitigation measures and assess residual impacts to land use.

Action Plans

- Develop integrated environmental and social action plans addressing interventions to enhance the benefits of the project and mitigate against damage to the biophysical and social environments.
- Document intervention required during the pre-construction, construction, operations and closure phases of the mine to meet

environmental, social and economic and other issue-specific management objectives.

- Ensure the safety of the site during and after the mining or quarrying operation.
- Reduce the adverse effects of the mining or quarrying operation on the atmosphere, on water sources and watercourses to an acceptable level.
- Harmonize the mine or quarry and the infrastructures with the landscape through appropriate development to protection wildlife and vegetation.
- Reduce erosion, leakage of water or chemicals and irregularities in the landscape resulting from the mining or quarrying operation, as well as its adverse effects on the habitat of wildlife species and local flora.
- Improve the well-being of local populations by implementing economic and social development programs and by providing for compensation of the populations in the event of the displacement of their home.
- Reduce adverse effects of the mining or quarrying operation such as shock, noise, dust, etc., on the activities of the human and animal populations that live in the surrounding area.

Reclamation and Closure Plan

Develop a conceptual reclamation and mine closure plan as follows:

- Describe the mine site, regulatory and other requirements and company policy and goals from a closure perspective.
- Develop closure objectives and conceptual reclamation and closure approaches, and indicate the typical measures that TFM must implement during the operational, decommissioning and post-closure periods of mining to achieve its post-closure objectives.
- Guide the progressive development of the closure plan over time.
- Estimate the costs of progressive and final closure.
- Make recommendations for a possible walk-away situation for the mining proponent.
- Formulate and describe the required control and monitoring mechanisms.

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

VOLUME E: GENERAL APPENDICES

SECTION E9

TAILINGS REPORT

SUMMARY

Submitted to:

**Tenke Fungurume Mining S.A.R.L. (TFM)
Democratic Republic of the Congo**

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1 TAILINGS MANAGEMENT

This appendix provides a summary of the feasibility-level tailings storage facility design. The full tailings management report is available in MinProc (2007).

1.1 GENERAL DESIGN CRITERIA

The tailings storage facility (TSF) was designed assuming the following constraints:

- Zero discharge concept, to the extent physically and economically feasible.
- TSF and return water dam (RWD) 100 percent lined.
- Conventional (slurry) tailings, combining the leach residue tailings, the magnesium hydroxide (Mg(OH)₂) residue and the base metal removal residue.
- 7,000 tonnes of ore processed per day.
- A 115,000 tonnes per year Cu and 8,000 tonnes per year Co production and 2,000 tonnes per year Co(HO)₂ scenario.
- Over 115 million tonnes total tailings capacity.

1.2 GENERAL ARRANGEMENT

The TSF proposed for the TFM project consists of a cross-valley storage site, contained by mine rock and native earth embankments. The entire impoundment area will be lined with an HDPE liner. The TSF will be constructed in stages, to limit initial capital investment. It will be supplemented by a permanent RWD located to the east of the TSF impoundment. Figure 1.2-1 shows the proposed TSF configuration during the first two years of operation and after about four years of operation, as well as the arrangement of the facilities near the end of the operational phase. Additional capacity can be obtained from this general configuration by raising the confining embankments, as necessary. A second TSF may be required before the end of mining, depending on the location and value of inferred resources in the vicinity of the TSF. It would be located north of Fungurume as shown on Figure A4.1-1 in Volume A.

Figure 1.2-1 Layout of TSF and RWDs After ~2 Years (left) and ~4 Years (right)

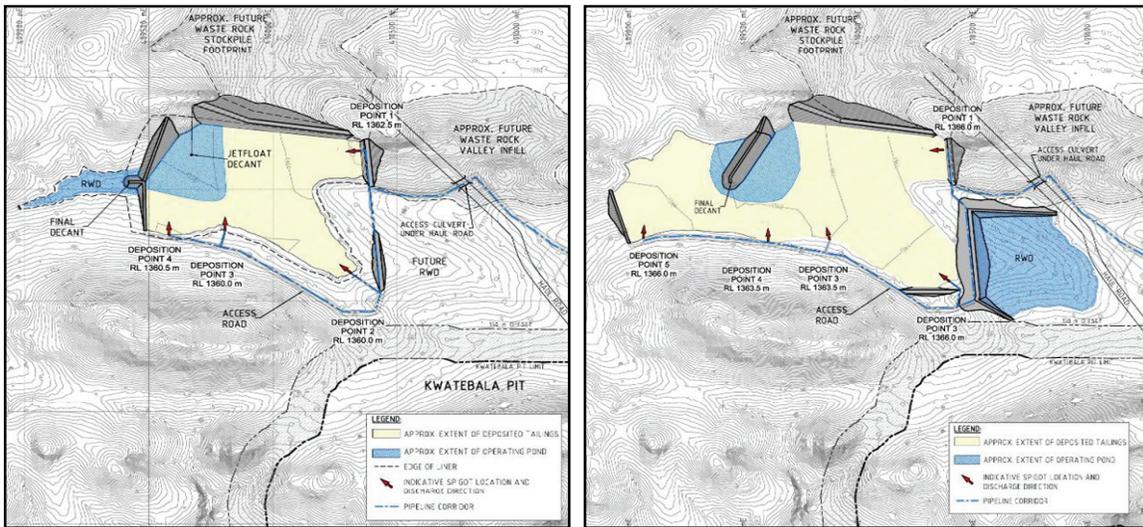
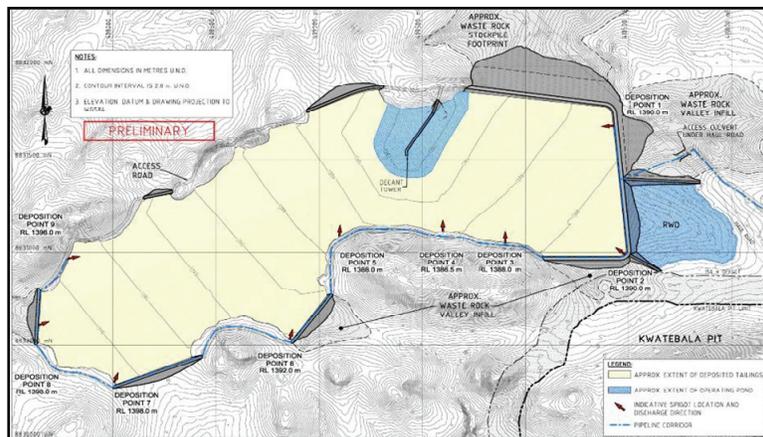


Figure 1.2-2 Layout of TSF and RWD at End of Operational Life



Design elements to reduce initial capital costs while optimizing the internal rate of return on capital investments include the following:

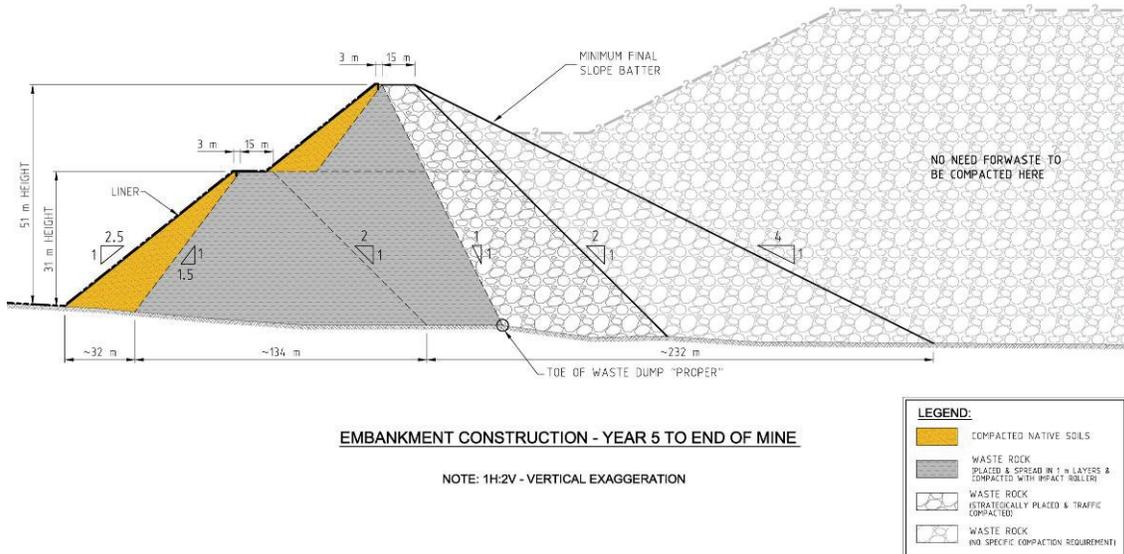
- Initial development of containment embankments only to a height necessary to contain four years of operation.
- A fully lined TSF basin that will contain the first two years of tailings production, with remaining liner being placed as needed through the life of the project. These costs are included as sustaining capital.
- The RWD, as a separate water holding facility to the TSF, allowing flexibility in water management and the maintenance of a lower level of operational risk.
- Inherent provisions to progressively extend the facilities throughout the mine life.

The site-specific design has embraced the PD corporate guidance of aiming for a “zero discharge” concept facility. Due to the unfavorable permeability of the underlying natural soils (ubiquitous in the region), the shallow water table, and the lack of clay borrow materials nearby, the basins of the TSF and RWD will thus be lined with a single high-density polyethylene (HDPE) liner, comprising of 1 millimeter and 1.5 millimeter thick geomembranes, overlying a 300 millimeter thick layer of conditioned and compacted in situ clayey silt. The thicker geomembrane will be used on the upstream faces of embankments and the steeper sections of the basins, where the stresses on the liner are likely to be higher. A seepage assessment concluded that a composite liner system (geomembrane over compacted native soils) will render the seepage impacts downstream of the TSF negligible, thereby meeting the zero discharge conceptual goal.

1.3 TAILINGS EMBANKMENTS

The upstream face is formed at 1(V):2.5(H) in order to facilitate liner placement and the first stage downstream face is formed at 1:2, which provides adequate short term factors of safety against slope instability. To reduce the potential for differential embankment settlement, which would induce excessive strains in the liner, it will be necessary to compact the waste rock fill in the zones shown in Figure 1.3-1.

Figure 1.3-1 Embankment Construction



1.4 RETURN WATER DAM EMBANKMENTS

The RWD facility will also be lined with HDPE to prevent seepage. A wall constructed predominantly of mine waste rock similar in design to the TSF embankments is provided at the eastern extremity of the facility, to provide for the permanent RWD, which is located to the southeast of the TSF.

1.5 TAILINGS DEPOSITION AND WATER MANAGEMENT

Tailings slurry will be deposited from strategically placed deposition points around the TSF basin. The slurry will form a beach with an average slope of about 0.75 percent (about 1:1.35).

In the early stages of TSF operation, a floating barge pump system will be used to pump water to the RWD. After about Year 3, there is an option to construct a permanent decant tower or to continue use of barge pumps. If a permanent decant tower is used, it will be constructed to use a sump pump and will not drain through or under the TSF embankment.

1.6 TSF CONSTRUCTION SEQUENCING

The sequencing of the TSF and RWD construction is largely dictated by the rainy season, which typically extends from late October to April, and the ability for the mine operations to supply the needed pre-stripping mine waste rock quantities. Approximately 1.8 million cubic meters of waste rock material will be required for Stage One construction of the TSF and RWD embankments. The embankment construction and HDPE liner placement need to be complete by the end of the third quarter 2008.

1.7 TAILINGS EMBANKMENT STABILITY

The results of the stability analyses undertaken indicate that there is unlikely to be any long-term instability of the constructed embankments under the conditions modeled. The analyses also indicate that even with a tear in the liner, the Safety Factor remains above the recommended minimum.

1.8 DAM BREAK ASSESSMENT

Overall, the risk of a dam break is considered to be sufficiently low to obviate the need for a fully quantitative risk assessment. It is judged that the risks are located in a zone that is commonly referred to as the ALARP region (As Low As Reasonably Practicable). Consistent with accepted international recognized design practice, a dam break assessment was carried out on the proposed TSF and associated RWD facilities. A 'dam break' was judged only likely to be possible under one or more of the identified scenarios below.

1.8.1 Overtopping of One (or More) of the Perimeter Embankments

The likelihood of embankment overtopping due to extreme rainfall events is judged to be 'very low' and the consequence of such an occurrence is judged to be 'low'. The overall risk (likelihood x consequence) is thus 'acceptable'.

1.8.2 Piping Erosion of One (or More) of the Perimeter Embankments

The likelihood of embankment piping erosion is judged to be 'negligible' and the consequence of such an occurrence is judged to be 'very low'. The overall risk (likelihood x consequence) is thus 'acceptable'.

1.8.3 Instability of One (or More) of the Perimeter Embankments

The likelihood of slope failure of an embankment is judged to be 'negligible' and the consequence of such an occurrence is also judged to be 'negligible'. The overall risk (likelihood x consequence) is thus 'acceptable'.

1.9 TSF CLOSURE

The final landform of the TSF will be formed with a gently sloping upper surface towards the north. It will thus be possible to create a landform that contains the poor quality TSF supernatant plus run-off water and evaporates it. For extreme storm events (i.e. exceeds the one in 1,000 year wet annual rainfall total) the storm water will be drained through a permanent spillway channel, constructed at the end of TSF operations. The current closure plan includes the stockpiling of the available topsoil from the facility footprint, prior to facility construction. At the end of facility life, the closed tailings facility will be capped with a layer of coarse waste rock.