



Papua New Guinea

CONSTITUTIONAL & LAW REFORM COMMISSION

Review of Environmental and Mining Laws Relating to Management and Disposal of Tailings

DRAFT REPORT

You are invited to provide a submission or
comment on this Draft Report

DRAFT REPORT 6

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Terms of Reference

CLRC Reference No 6: Review of Environmental and Mining Laws Relating to the Management and Disposal of Tailings

I, Bire Kimisopa, Minister for Justice, having regard to:

- the various concerns and comments raised by indigenous Papua New Guineans living within mine tailings disposals areas, including waterways and coastal areas over mining waste management and disposal into the environment and the consequential harm to the environment;
 - recent concerns are reports on the high toxicity levels of hazardous chemicals and heavy metal traces which have been found to occur in the sample of population in mining waste disposal areas;
 - the need to systemically and properly consider these concerns and the need to take corrective measure should these concerns be found to be so;
- (1) Enquire into and report and recommend in accordance with Section 12(2) of the Act, on the systematic development and reform of laws relating to the management and disposal of tailings including containment and treatment of toxic chemicals and heavy metal traces consistent with industry and world best practice standards;
- (2) In performing its functions in relation to this reference, the CLRC will consider:
- (a) whether the *Environment Act 2000*; the *Mining Act 1992* and such other legislation provide effective mechanisms in their current form of offer and secure the health and wellbeing and lives of our people and the environment;
 - (b) whether the currently stated minimum allowable levels of all pollutions into the river systems, water ways, sea, and such other parts of the Environment under all relevant legislation such as the *Environment Act 2000* offer adequate and effective levels of protection for the safety and well being of the natural environment and the people; and where necessary make appropriate recommendations and propose necessary reforms; and
 - (c) for comparative purposes, any relevant regimes of systems of similar nature, including industry best practices endorsed by relevant professional bodies and such other international agencies - to inform this reference;
 - (d) any relevant research or development, whether in this or other jurisdictions on the matters of enquiry.
- (3) The CLRC shall identify and consult with relevant stakeholders including but not limited to the Department of Environment and Conservation; the Department of Mining; the Department of Petroleum and Energy; the Chamber of Mines and such other industry groups;

all mining and petroleum projects operating in the country; relevant technical experts within and outside the country; and such others.

(4) The CLRC shall report to me within 15 months of the date of publication of this reference in the Government Gazette.

(5) This reference shall be referred to as CLRC Reference No.6: Review of Environmental and Mining Laws Relating to the Management and Disposal of Tailings.

Dated this *2nd* day of *November* 2006.

Hon Bire Kimisopa, MP

Minister for Justice

Making a submission

The CLRC is seeking any form of submission from a broad cross-section of the community, as well as those with a special interest in the inquiry.

Submissions are usually written, but there is no set format and they need not be formal documents. Where possible, submissions in electronic format are preferred.

It would be helpful if comments address specific proposals or numbered paragraphs in this Draft Report.

Open inquiry policy

In the interest of informed public debate, the CLRC is committed to open access to information. As submissions provide important evidence to each inquiry, the CLRC may draw upon the contents of submission and quote from them or refer to them in its publications.

Submissions should be sent to:

The Secretary
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The closing date for submissions in response to Draft Report 6 is 30th August, 2014.

CONTENTS

1	GLOSSARY	4
2	EXECUTIVE SUMMARY	5
3	INTRODUCTION.....	6
4	RECOMMENDATIONS	7
4.1	Legislative Recommendations.....	7
4.2	Administrative Recommendations	8
5	BACKGROUND.....	10
5.1	Introduction to the Reference	10
5.1.1	The Constitutional and Law Reform Commission	10
5.1.2	Background of this Reference	10
5.1.3	Objectives of this Reference: CLRC Reference No 6: Mine Tailings.....	10
5.1.4	The CLRC Terms of Reference Process.....	10
6	ISSUES PAPER	12
7	RESPONSES TO ISSUES PAPER.....	14
7.1	Additional Issues	14
7.1.1	Launch of the Issues Paper:	14
7.1.2	Petromin 11 March 2013	14
7.1.3	Email	14
7.1.4	Talkback Radio Program 9 April 2013.....	14
7.1.5	Working Committee	15
7.2	Criticisms and Submissions on the Issues Paper	15
7.2.1	Chief Secretary to the Government	15
7.2.2	Dr Sylvester Kotapu	15
7.2.3	Bougainville Copper Limited	16
7.2.4	Mineral Resources Authority.....	16
7.2.5	The Department of Health.....	17
7.3	Submission From and Response to the PNG Chamber of Mines & Petroleum	18
8	WORKING COMMITTEE	22
8.1	Working Committee Meetings	23
9	CONSULTATIONS	24
9.1	OK TEDI.....	24
9.1.1	Introduction	24
9.1.2	Consultations and Views Obtained.....	24

9.1.3	Conclusions	26
9.2	PORGERA	26
9.2.1	Introduction	26
9.2.2	Consultations and Views Obtained.....	26
9.2.3	Conclusion.....	27
9.3	HIDDEN VALLEY.....	27
9.3.1	Introduction	27
9.3.2	Consultations and Views Obtained.....	28
9.3.3	Conclusion.....	28
9.4	RAMU NICO	28
9.4.1	Introduction	28
9.4.2	Consultation and Views Obtained	29
9.4.3	Conclusion.....	29
9.5	LIHIR	29
9.5.1	Introduction	29
9.5.2	Consultation and Views Collected	29
9.5.3	Conclusion.....	30
9.6	Criticism of Consultations by the Chamber of Mines & Petroleum.....	30
9.7	Analysis of the Consultation Findings	30
10	LIMITATIONS	34
10.1	Cooperation with State Regulatory Bodies	34
10.1.1	The Department of Mineral Policy and Geohazard Management	34
10.1.2	Department of Environment and Conservation	34
10.2	Technicality	35
11	RECOMMENDATIONS	36
11.1	Current Tailings Management Framework.....	36
RECOMMENDATION NO.1		36
RECOMMENDATION NO.2.....		36
11.2	The EIA Process	36
11.2.1	Guidelines.....	37
11.2.2	Environmental Code of Practice.....	38
RECOMMENDATION NO.3		39
11.3	The Conservation and Environment Protection Authority	39
RECOMMENDATION NO.4.....		40
11.4	Assessment of Current Tailings Management Systems in PNG	40
RECOMMENDATION NO.5.....		42

RECOMMENDATION NO.6.....	42
11.5 Health Impact Assessments	42
RECOMMENDATION NO.7	44
RECOMMENDATION NO.8	44
11.6 Social Impact Assessments.....	44
RECOMMENDATION NO.9	48
11.7 DMPGM Mine Waste Management Policy.....	48
RECOMMENDATION NO.10	49
RECOMMENDATION NO.11	49
11.8 Development of a Tailings Management Handbook.....	50
RECOMMENDATION NO.12	51
RECOMMENDATION NO.13	51
RECOMMENDATION NO.14.....	51
11.9 Creation of a Statutory Body to Conduct Impact Assessments.....	51
RECOMMENDATION NO.15	52
RECOMMENDATION NO.16.....	52
11.10 Assistance for Impacted Communities	52
RECOMMENDATION NO.17	54
11.11 Sustainable Mining	54
RECOMMENDATION NO.18.....	55
RECOMMENDATION NO.19	55
11.12 Considered Recommendations	55
RECOMMENDATION NO.20	55
RECOMMENDATION NO.21	55
12 CONCLUSION	57
Amendments to the <i>Environment (Permits) Regulation 2002</i>	58

1 GLOSSARY

ANZECC	Australia and New Zealand Guidelines for Fresh and Marine water Quality
BCL	Bougainville Copper Limited
BHP	BHP Billiton
CLRC	The Constitutional and Law Reform Commission
DEC	The Department of Environment and Conservation
DMPGM	The Department of Mineral Policy and Geohazard Management
EIA	Environment Impact Assessment
EIS	Environment Impact Statement
HIA	Health Impact Assessment
NGDP	National Goals and Directive Principles
LALSU	Landowners Advocacy and Legal Support Unit
MRA	The Mineral Resources Authority
OTML	Ok Tedi Mining Limited
PEAK	Porgera Environmental Advisory Komiti
PJV	Porgera Joint Venture
PNGSDP	Papua New Guinea Sustainable Development Program
SAMS	Scottish Association of Marine Sciences
SIA	Social Impact Assessment
TSF	Tailings Storage Facility

2 EXECUTIVE SUMMARY

Following the launch of the TOR No. 6 Issues Paper on 20 February 2013, the CLRC proceeded to set up a Working Committee and begin consultations with affected stakeholders. Although the initial work plan for this Terms of Reference targeted a completion date of December 2013, it has proved a much more difficult task than initially considered. This has been due to not only the technicality of the issue but the difficulty in cooperating with affected stakeholders.

At the end of the consultation process, the CLRC has arrived at 19 recommendations. Some of these recommendations are immediately implementable whilst others require additional action or direction from the Government.

A summary of the recommendations made by the CLRC follows, and following from that, a summary of the undertakings by CLRC that led to these recommendations.

3 INTRODUCTION

The draft Report has been produced at the conclusion of public consultations and a review of submissions from stakeholders. It contains the CLRC's findings on not only the issues raised in the Issues Paper launched on 20 February 2013 but other issues that may have been highlighted during the consultation phase. This draft Report will contain the recommendations that the CLRC will be making to Parliament.

After the launch of the Issues Paper, several steps took place which resulted in the findings contained in this draft Report:

- A Working Committee was formed consisting of seven (7) key stakeholders.
- Six written submissions were received from the public
- Meetings and media engagements took place with affected stakeholders
- Consultations took place targeting five (5) selected mine sites, with five (5) selected target groups.

These will be discussed in some detail later in the paper.

4 RECOMMENDATIONS

The following are the key recommendations of the CLRC.

4.1 Legislative Recommendations

1. That an amendment be made to the *Mining Act* 1992, to state that all future mines are to fall under one legislative framework.
2. That as part of its on-going mining review, the Department of Mineral Policy and Geo-hazard Management review the Ok Tedi and Bougainville mine legislation with a view to amending and including the role of the Department of Environment and Conservation.
3. That there is greater transparency by the Department of Environment and Conservation through:
 - a. An amendment being made to the *Environmental (Permits) Regulation* 2002 requiring the Department of Environment and Conservation to maintain an official website containing, amongst other requirements, up to date publication of all approved tailings management systems, all tailings compensation agreements, all environmental reports submitted by the mining proponent as well as the Department of Environment and Conservation's comments on them, any independent audits carried out by the Department of Environment and Conservation, all environmental impact assessment related guidelines, all independent studies on tailings management mandated by the Department of Environment and Conservation.
 - b. Greater liaison with The Department of Health, The National Institute of Standards and Industrial Technologies, National Statistical Office, National Economic and Fiscal Commission, and all other related agencies in monitoring health, economic and environmental impacts of tailings waste disposal methods through amendments to the *Environments (Permit) Regulation* 2002 annexed.
 - c. An amendment being made to Section 163 of the *Mining Act* 1992, on confidentiality, to reflect "public" documents under the *Environment Act* 2000 and *Environment (Permits) Regulation* 2002 annexed.
4. That there is greater capacity building of the Department of Environment and Conservation through:
 - a. An amendment being made to Section 29 of the *Environment Act* 2000 to enable the Department of Environment and Conservation to set-up provincial offices with specialised persons.¹
 - b. An amendment being made to Section 16(3) of the *Environment Act* 2000, to allow the Director to delegate his functions and powers to appropriately qualified officers of the Mineral Resources Authority for Level 3 activities. An "appropriately qualified officer" being one that is held to be so by the Head of the Regulatory Operations Division of the Mineral Resources Authority. Power can be delegated to the Mineral Resources Authority officer

¹ In-line with "Functions of the Authority" under s8(a), *Conservation & Environment Protection Authority Act* 2013.

either at the Director's own volition or at the Mineral Resources Authority's request.²

5. That an amendment be made to the *Mining Act* 1992 to provide for a total ban of the Riverine Tailings Disposal method on future mines.
6. That a Regulation be drafted implementing an environment bond under Section 99 of the *Environment Act* 2000.
7. That amendments be made to the *Mining Act* 1992 and the *Public Health Act* 1973 in order to include Health Impact Assessments (HIAs) as a pre-condition to the grant of a mining license.
8. That a Regulation be drafted implementing a health impact bond under Section 141 of the *Public Health Act* 1973.
9. That the Department for Community Development, in collaboration with the Department for Mineral Policy & Geohazard Management, the Mineral Resources Authority and the Department of Environment and Conservation, take steps to develop policy and regulation for Social Impact Assessments (SIAs), to be a pre-condition to the grant of a mining license.
10. That amendments be made to the *Environment Act* 2000 to ensure reflection of international environmental law principles:
 - a. Amendment to Section 7 "GENERAL ENVIRONMENT DUTY" of the *Environment Act* 2000 to ensure that the precautionary principle is more clearly stipulated and that where there is a proceeding, failure to comply may be a persuading factor in any decision reached.
 - b. Amendment to Section 4(g) of the *Environment Act* to reflect the "polluter pays" principle.
11. That there be a provision within the *Environment Act* 2000, reflected in other appropriate legislation, to allow for class actions against the appropriate regulator or permit-holder, where it fails in its duties.
12. That the Department of Environment and Conservation, The Department of Health and The Department for Community Development identify the "risk analysis models" to be employed within their risk assessment frameworks (EIA, HIA, SIA) and include them in technical standards.³

4.2 Administrative Recommendations

13. That the Minister for Mining direct the formation of a Working Group consisting of various stakeholders to develop a Tailings Handbook, with a particular focus on whether the way forward for tailings management in PNG involves continued use of the Deep Sea Tailings Placement (DSTP) method.
14. That the Department of Mineral Policy and Geohazard Management and the Department of Environment and Conservation develop a joint mine waste policy, taking into account the recommendations made in this Report by the CLRC and those within a Tailings Handbook.
15. That the National Executive Council direct the creation of an independent statutory body to coordinate, approve and monitor all impacts assessments (environment,

² This would require an additional amendment to s23(4), *Conservation & Environment Protection Authority Act* 2013.

³ As per amended s.133A "Technical Standards" *Environment Act* 2000, upon certification of the *Conservation & Environment Protection Authority Act* 2013.

health and social), based on the framework, policy and regulation, created by the respective agencies (The Department of Environment and Conservation, The Department of Health and The Department for Community Development).

16. That there be an amendment to the *Mining Act* 1992, allowing for all reports requested by the statutory body referred to in Recommendation No. 15 or requested by The Department of Environment and Conservation, The Department of Health and The Department for Community Development under the permit process, to be concurrently submitted to the Mineral Resources Authority.
17. That the National Executive Council direct the creation of a separate body, independent of the State regulatory bodies, either within the Public Solicitor's Officer or otherwise, to advise, assist and represent the Land Owners and impacted communities in negotiating Memorandum of Agreements and any Business Engagement Plan between the Land Owners, the developer and the State as well as in holding the developer, the State and regulatory authorities to account.
18. That the Department of Environment and Conservation develop and maintain a nation-wide water monitoring office with monitoring sites all over the country, including mining project and non-project sites, collecting data on the quality and quantity of PNG's water resources.
19. That the National Executive Council direct respective agencies to set-up a Task Force mandated to develop a long term mineral resources management plan to ensure sustainable mining.

5 BACKGROUND

5.1 Introduction to the Reference

5.1.1 The Constitutional and Law Reform Commission

The Constitutional and Law Reform Commission (CLRC), formerly the Constitutional Development Commission (CDC) and the Law Reform Commission (LRC). The CLRC was established on March 4 2005 under the *Constitutional and Law Reform Commission Act 2004*.

The CLRC receives reference from the Minister for Justice to conduct its review and propose legislative changes where appropriate, concerning laws other than constitutional laws; or receives references from the Head of State, acting on advice, from the National Executive Council (NEC) to conduct its inquiry and review into any parts of the *Constitution* and the Organic Laws and proposes appropriate constitutional law reform where and when considered appropriate.

5.1.2 Background of this Reference

This reference was issued by the then Minister for Justice, Hon. Bire Kimisopa, in 2007, in response to the publicity given to various presentations by Dr Sylvester Kotapu of his study of the alleged toxicity levels in the river system and surrounding environment of the Angabanga river owing to tailings waste disposal from the Tolokuma Gold Mine.⁴

It is against this background that the Justice Minister, Hon. Bire Kimisopa, issued CLRC this reference.

5.1.3 Objectives of this Reference: CLRC Reference No 6: Mine Tailings

The primary objective of this Reference is to inquire into and review the systemic development and reform of laws relating to the management and disposal of tailings; including containment and treatment of toxic chemicals and heavy metal. With the intention of making them consistent with the industry and world best practice standards. In performing its functions, the CLRC will consider:

- whether the *Environment Act 2000*; the *Mining Act 1992* and such other legislation provide effective mechanisms in their current form to offer and secure health and well-being and lives of our people and the environment;
- whether the currently stated minimum allowable level of all pollutants into the river systems, waterways, sea, and such other parts of the environment under all relevant legislation such as the *Environment Act 2000* offer adequate and effective levels of protection for the natural environment and safety and well-being of the people; and where necessary make appropriate recommendation and propose necessary reform;
- for comparative purposes; any relevant regimes or systems of similar nature, including industry best practices endorsed by relevant professional bodies and such other international agencies; and any relevant research or developments, whether in this or other jurisdictions on the matters of enquiry.

5.1.4 The CLRC Terms of Reference Process

The CLRC terms of reference (TOR) process is as indicated below:

- i. Reference issued by the Minister for Justice or the Head of State
- ii. Drafting of the Issues Paper

⁴ Sylvester Kotapu & Associates, *Heavy Metal Poisoning of the Indigenous People* (PowerPoint dated 12.03.2007, 2007)

- iii. Launching of the Issues Paper
- iv. Formation of the Working Committee
- v. Public Consultation
- vi. Draft Report
- vii. Seminar
- viii. Final Report
- ix. Submission to the Minister for Justice
- x. Minister for Justice presents it to the Parliament

The TOR process begins with the issuance of a Reference from the Minister for Justice or a Directive from the Governor General. An Issues Paper, such the one launched in February 2012 for this TOR, is then drafted by the Commission with the objective of establishing the issues that the Commission intends to consider relating to the review of relevant laws under the particular reference.

6 ISSUES PAPER

The TOR No. 6 Issues Paper was launched on 20 February 2013 at the Holiday Inn Hotel by the then Chairman of the CLRC, Hon. Benjamin PoPONAWA. The launch was well represented by key stakeholders in the area as well as the interested public. In total there were approximately 300 people in attendance. The launch also attracted a lot of media attention and interest from parties both domestically and internationally.

The Issues Paper is the first step for the CLRC in its law reform process. The Issues Paper highlights the issues that fall within a Term of Reference and sets a framework for the consultation process. This eventually leads to the production of this draft Report, followed by a Final Report, which is then presented to Government with the CLRC's recommendations on the particular Term of Reference.

The launch of the TOR No. 6 Issues Paper signified the start date from which CLRC was open to receive submissions from interested and affected stakeholders. These submissions can fall within the issues raised by the CLRC in the Issues Paper or they can be new issues that the stakeholders have identified as falling within the scope of TOR No. 6.

The Issues Paper is important in that it begins the process of open dialogue on a Term of Reference. This is particularly important for terms of references that have come about due to public pressure or concerns, as was the case with TOR No. 6. The background behind the issuance of TOR No. 6 makes it a particularly high profile terms of reference as was illustrated by the attendance level at the launch of the Issues Paper and the general interest and dialogue that has been received by the CLRC since.

The issues raised by the Issues Paper, are summarised as follows:

1. Whether the Riverine Tailings Disposal (RTD) method should be banned in PNG?
2. Whether the Deep Sea Tailings Placement method should be banned in PNG?
3. Should the current minimum allowable levels of pollutants in the Public Health (Drinking Water) Regulation be changed to meet World Health Organisation (WHO) standards? And should such standards be applied to drinking water sources potentially affected by mine tailings waste disposal?
4. Whether mixing zones in PNG should be required by law to satisfy international best practice standards.
5. Should Social Impact Assessments (SIAs) be required under the *Mining Act* or the *Environment Act* on the possible impact upon the livelihoods of individuals, communities and industries within the vicinity of RTD and DSTP sites prior to mining leases being granted?
6. Should the Environmental Impact Assessment (EIA) be prepared by the Department of Environment and Conservation (DEC) with funding from the proponent of the mining activity?
7. Should section 73 of the *Environment Act* be amended to include a provision of misleading information and material falsehoods in the EIA process as an offence?
8. Should specific legislation should be enacted or whether the *Mining Act*, the *Mining (Safety) Act* or the *Environment Act* be amended to specifically address mine tailings management with particular regard to international best practice?

9. Should a long term mineral resources management plan with zoning considerations be created to ensure sustainable mining?

7 RESPONSES TO ISSUES PAPER

The Issues Paper was formulated by the CLRC on the basis of publicly available information. Since the launch of the Issues Paper, new issues have been raised by the public that had not been considered by the CLRC in its Issues Paper. The CLRC also received submissions and criticisms on its Issues Paper which have now been taken into consideration by the CLRC in arriving at this draft Report.

7.1 Additional Issues

Several issues were raised after the launch of the Issues Paper and prior to consultations that were not previously considered by CLRC. They include the following:

7.1.1 Launch of the Issues Paper:

1. Should Parliament create an independent advisory body, similar to the Alaska Environmental Council and others in Canada and the Solomon islands, tasked with representing, informing, advising and assisting Landowners in negotiations with the Government and Mine Operators, especially at the initial stages of a mine operation?
2. Should the *Environment Act* 2000 be amended to legislatively regulate the Department of Environment and Conservation's (DEC) audit process? For example how frequently audits are carried out, by whom and for what reasons?
3. Should the Parliament create a third independent regulatory body, apart from the MRA and DEC, in the mining-environment dichotomy, to monitor the social impacts of mining upon the livelihoods of people?
4. Should the CLRC request a moratorium be placed on the issuance of mining licenses until such time as the CLRC's Final Report and recommendations are produced?
5. Should there be a legislative requirement for transparency of negotiations and contracts between the Government, land owners and mining companies prior to the beginning of mining operations?

7.1.2 Petromin 11 March 2013

6. Whether mines should be made to pay a bond as part of the EIA process and an independent body be set-up to manage the bonds?
7. Whether the EIA guidelines should be made public and clearer?
8. Whether DEC should set aside its permit fees from the mines to be used specifically for monitoring purposes?
9. Whether the tailings waste rates should be raised to be internationally compatible?

7.1.3 Email

10. Whether a specific land versus sea disposal study should be conducted to determine the best tailings management option?⁵

7.1.4 Talkback Radio Program 9 April 2013

11. How far should mines be required to monitor, in terms of geographical scope?
12. What can be done to ensure that the best technical persons are retained by the Government regulatory bodies?

⁵ Email from Robert Quijada- Chile to Author (28 February 2013).

13. How can we ensure Freida River, Yandera and other prospective, soon to be opened, mines fall within the new framework that CLRC is in the process of creating alongside other key stakeholders?

7.1.5 Working Committee

14. The health impacts of tailings waste need to have its profile raised, where does health come into the approach of this TOR and generally in the regulatory processes surrounding tailings management?
15. Can the TOR be widened to cover all mine waste as opposed to tailings?
16. (In response to above issue) CLRC must be aware that as it is framed, the TOR is very narrow in scope and only targets mine tailings waste as opposed to overburden and waste rock.
17. Current legislative and regulatory framework is sufficient, if anything, there needs to be more specific policy which is already catered for in the *Environment Act* 2000.

7.2 Criticisms and Submissions on the Issues Paper

After the launch of the Issues Paper, submissions were invited from the public and especially affected stakeholders. Written submissions received were from the Office of the Chief Secretary to the Government, the Mineral Resources Authority, The Department of Health, Bougainville Copper Limited, the Chamber of Mines & Petroleum and Dr Sylvester Kotapu. Unfortunately no submissions were received from the Department of Environment and Conservation, nor the Department of Mineral Policy and Geo-hazards Management.

7.2.1 Chief Secretary to the Government

The CLRC received a submission from the Chief Secretary to the Government, Sir Manasupe Zurenoc, on 6 May 2013.

The submission noted that the Government already has its monitoring mechanisms within existing government agencies but there has been a lax in consistency in discharging the required duties. It suggested that:

1. Parts 4 and 5 of the *Environment Act* be complemented in the *Mining Act*;
2. DEC's powers under the *Environment Act* to regulate (Part 5) and create policy (Part 4), be separated; and
3. The creation of a separate regulatory authority vested with constitutional powers under an organic law to regulate EIAs (Part 5 powers).

7.2.2 Dr Sylvester Kotapu

Dr Sylvester Kotapu is a medical doctor by profession, whose studies along the Angabanga River, at the Tolokuma mine, first raised widespread concern regarding mine tailings waste disposal, especially on the health of impacted communities.

Dr Kotapu made a submission to the CLRC on 30 September 2013 with the following suggestions:

1. To have EIA guidelines that extend to health impact assessments and are designed by respective experts in a multi-disciplinary approach; and
2. To have baseline environmental, health and social studies conducted independently by the State, before a mining proponent is required to conduct its impact assessments.

7.2.3 Bougainville Copper Limited

The CLRC received a submission from Bougainville Copper Limited (BCL) on 18 July 2013.

The BCL submission stated that the TOR 6 Issues Paper fails to adequately distinguish between practices of RTD and DSTP. BCL emphasised that they are two completely different tailings management methods that only have placement in water as a common factor. BCL believes although many major mining houses have excluded river and shallow marine disposal from their operations, a critical assessment of DSTP shows that, given the right geographic, climatic and environmental setting, DSTP can provide the highest level of environmental protection for mine waste management.

BCL noted that:

- any impact assessment should address the legislative requirements and construction, operational, closure and post closure effects.
- There is a preference for on land storage but this is not always technically feasible and is also not always the best environmental and social option.
- Deep sea tailing placement can provide the most effective and lowest impact environmental and commercial solution in some circumstances and should not be prohibited.
- In establishing legislation and regulation for the management of tailings in PNG, consideration should be given to a risk based approach that references the established guidelines of Australian National Committee on Large Dams (ANCOLD) and the Canadian Dam Association (CDA).
- The Rio Tinto Environmental Standards are presented as an example of the industry's best practices.

BCL made the following recommendations:

1. All tailings management options be made available for consideration and assessment for new projects, however riverine and shallow marine riverine tailings disposal are unlikely to be acceptable for new projects.
2. The option selection process should be risk based and take into account the:
 - a. social and environmental viability; and
 - b. technical and commercial viability; and
 - c. the balance of impacts and benefits;
 - d. Potential impacts over the long term, post closure period as well as the operational and near post closure periods.
3. Consultation with landowners, local communities and governments.

7.2.4 Mineral Resources Authority

The CLRC received the MRA's submission on 21 October 2013. The response of the MRA as to the Issues Paper was twofold;

1. A general comment on MRA's roles and the practical considerations of regulating the Mining Industry in PNG including tailings management; and
2. Brief responses to the nine (9) issues raised in the Issues Paper.

In respect to its roles, MRA stated that it was responsible for regulating all mineral exploration and mining activities in the country through administering and enforcement of the

Mining Act 1992, the *Mining (Safety) Act* 1977. However, it has limited mandate to regulate, monitor and manage mine tailings in relation to environment matters.

Under Section 43(1) (a) (ii) of the *Mining Act*, an environmental permit issued by the DEC is to be taken by the MRA to be conclusive evidence of protection of the environment. This has been applied in practice by the MRA since its establishment.

The MRA's main recommendation is that all standard procedures for assessment and consideration of applications be contained in a Regulation with supporting technical guidelines. Although much work has been done on this aspect for DSTP with the SAMS Guidelines, this is not so for other aspects of mining.

The MRA also made the following responses to the nine (9) issues raised in the TOR No. 6 Issues Paper:

1. No Comment made on whether RTD should be banned.
2. Sufficient consideration has been given to DSTP and it should continue within the guidelines established.
3. Good science should be used to inform the setting of standards in PNG for drinking water standards. This includes the defining of standards for the protection of environment as a source of drinking water.
4. The decision to have a mixing zone should be guided by good scientific and socioeconomic studies all backed with robust risk assessment.
5. SIA should be undertaken together with an EIA and be covered in the *Environment Act*. SIA should cover the whole footprint of the project including the vicinity of RTD and DSTP.
6. An EIA should be done by the proponent and the DEC to independently assess and verify the EIA. At the Environmental Inception Report stage, the DEC can identify and point out areas of importance that need to be thoroughly assessed. Monitoring of impacts should involve community participation hence encouraging greater transparency.
7. To include misleading and material falsehoods in the EIA as an offence would require guidelines to implement the provision.
8. Specific legislation concerning mine tailings is not necessary as the *Environment Act* is broad enough to cover the aspect of mine tailings waste management. However, a specific mine waste policy would better enhance the regulation of tailings disposal in PNG. The *Mining Act* could be amended to compliment this requirement.
9. A long-term mineral resources management plan is an ideal way of managing development and its impact on the environment. It may also assist in measuring "sustainable mining". However, this will require mobilization of information which is currently disjointed and held by various agencies.

7.2.5 The Department of Health

The Department of Health submitted documents to the CLRC on 14 March 2013 detailing their work on the inclusion of Health Impacts Assessments (HIAs) into the mine licensing process. The Department itself is already pursuing this objective and therefore agrees that an absence of HIAs in the mine tailings regulation framework as an issue that needs to be addressed through the CLRC's TOR No. 6 process.

The following is a summary of the various documents provided.

Despite the fact that mining and oil and gas projects have profound positive and negative impacts on community health, PNG does not currently require project proponents and stakeholders to systematically consider potential health impacts of proposed projects prior to licensing and operation, nor to demonstrate appropriate planning for health managing those potential impacts.

A resolution at the 2012 PNG Medical Symposium committed the Department to consulting with Departments and relevant stakeholders in order to consider the role HIAs could play in governance of the booming PNG resource sector. It was proposed that HIAs be a legislative licensing requirement for resource projects and could provide Government with a key tool and process to fulfilling their responsibility to ensure there are adequate safeguards to protect and promote the health of populations impacted by resource projects.

Two of the relevant standards identified by the Department include:

- a) The International Finance Corporation (IFC) Performance Standards on Social and Environmental Sustainability, specifically the *Environmental Health and Safety General Guidelines* (IFC 2007a) and the *Environmental Health and Safety Guidelines for Mining* (IFC 2007b)
- b) *Introduction to Health Impact Assessments* (IFC, 2009) and the *Good Practice Guidance on Health Impact Assessments* (ICMM 2010). Both documents were developed by key international bodies including the World Bank, the World Health Organisation and the International Petroleum Industry Environmental Conservation Association.

The actions identified by the Department of Health as required in order to pursue the development of a national HIA framework include requesting the Prime Minister and the National Executive Council's support in principal for the development of a PNG HIA framework, followed by bringing together key stakeholders to develop a HIA policy and regulations.

The purpose of a national HIA framework would be to balance this process with due consideration to the resource sector and its impact on human health.

7.3 Submission From and Response to the PNG Chamber of Mines & Petroleum

It is imperative that the CLRC respond to the quite in-depth criticism the Chamber of Mines and Petroleum (Chamber) labelled against the TOR No.6 Issues Paper.

From the outset, the CLRC recognises that due to the technicality of this TOR, a better approach would have been for a Working Committee to be formed prior to the production of an Issues Paper, to accurately capture all the issues. Unfortunately, as it is the internal processes of the CLRC with terms of references, an Issues Paper was produced and launched before the formation of a Working Committee.

The main criticisms made by the Chamber are:

1. Issues Paper No.6 is incomplete, erroneous and misleading
2. Issues Paper No. 6's discussion of tailings management ignores three decades of operating experience and monitoring
3. Statutory powers contemplated by Issues Paper No. 6 already exist

4. Advocacy of things to be done which are already done
5. Overreliance on Ok Tedi.

With regards to the first and second criticism, CLRC acknowledges that although it may have overlooked some valuable sources, this does not in any way render the sources it did use in the Issues Paper invalid. It is also important to clarify why the CLRC did not refer to the various mining operators' own environmental reports. Given the background of the terms of reference, as issued by the Minister of Justice, it was clear that the public was concerned that environmental effects being caused by the mines were not sufficiently communicated to them, or were beyond approved levels. Thus, to refer to any of the mine's own reports, which all attest to being within regulation, would seem futile.

The Chamber did point out that Porgera mine has the Porgera Environmental Advisory Komiti (PEAK) attached to it, which is an independent body assisting the Porgera Joint Venture (PJV) on environmental issues, with funding from PJV. Unfortunately, CLRC was unable to locate any independent reports by PEAK,⁶ apart from the Strickland River Report Card noted by the Chamber. CLRC awaits a response from PEAK as to whether it has produced any other independent reports.⁷

With regards to the Scottish Association of Marine Sciences (SAMS) Report commissioned by the Government of PNG, the CLRC would first like to make a point of mentioning the difficulty it experienced obtaining a copy of this report from the DEC, the custodians of the report. Initially the CLRC made contact with the authors of the Report who directed us to the MRA, who suggested the best approach would be to follow up with the DEC directly as they were the custodian of the report.⁸ After much delay by the regulators, a copy of this report was eventually obtained from the University of Papua New Guinea.

The criticisms the Chamber labelled at the CLRC with regards to its interpretation of the SAMS report are petty at best. Although the CLRC does admit it omitted to mention that the Guidelines the SAMS report produced has become a general regulatory guideline for all DSTP mines in PNG, this information was not publicly available for the CLRC to be aware of at the Issues Paper stage.

With regards to the SAMS Report's findings on Misima, the CLRC does not believe any further consideration of past reports on Misima was necessary, given the comprehensiveness of the SAMS Report and the currency of the SAMS Report.

The CLRC acknowledges that undue attention may have been given to the Ok Tedi mine and that the CLRC may not have sufficiently covered the mitigating factors that OTML has put in place to limit the environmental damage caused by its past practice under BHP Billiton. The CLRC believes this has since been rectified in this draft Report, following the CLRC's site visit to the Ok Tedi Mine during consultations.

⁶ That is not attributed to PJV.

⁷ Email from Author to PEAK (14 May 2014 and 17 June 2014).

⁸ Email from Author to Ms Tracey Shimmeld-SAMS (16 October 2012); Email from Ms Tracey Shimmeld-SAMS to Author (16 October 2012); Email from Mr Philip Samar-MRA to Author (16 October 2012).

With regards to the Porgera Mine, CLRC notes that Porgera's recent practises of a cyanide destruction plant and cement paste backfill operation was also not given sufficient attention. It still remains of note, that given the life span of these two mines, these mitigating practises are fairly recent practises.

The CLRC does not believe it misled the public with its statement about the Ramu Nico mine and the court case, nor did it mislead the public with its statements about the Lihir mine.

With regards to criticism of the CLRC's statements about the Simberi mine, CLRC used information that was available publicly due to the mine and State regulator's refusal to directly share information with the CLRC. During drafting of the Issues Paper, an email was sent to Simberi, inquiring as to the tailings management system used by the mine.⁹ The Environment Manager, responded by directing the CLRC's queries to the MRA Project Coordinator,¹⁰ who then directed the CLRC to the DMPGM,¹¹ who advised the CLRC that any information pertaining to a mine's tailings management system was subject to confidentiality between the mine and DMPGM and MRA under Section 163 of the *Mining Act*.¹²

Yet under the EIA process, this information is public information.¹³ Regardless, this unwillingness of both the mine and state regulators to share public information, have led to the Chamber's criticism of the Issues Paper's statements about Simberi mine's tailings management system as being inaccurate.

The Chamber has also criticised the Issues Paper's statement on page 59 of the Issues Paper where it states that "...tailings issues from a global perspective suggest that containment measures are preferred and that there needs to be a comprehensive containment migration, maintenance and surveillance management undertaken." The Chamber feels that comparison to these countries is "inapplicable and misleading" as these countries do not share our terrain.

It would be misleading of the Chamber itself to suggest that the Issues Paper is comparing PNG terrain to those of the countries listed. The CLRC wishes to clarify that the comparison made in the Issues Paper is not of the actual methods of tailings management used but of the processes undertaken to develop the tailings management regulation or frameworks for the respective countries.

The intention of the Issues Paper was to identify the issues that had been raised by the public regarding tailings management. This did not mean that the CLRC found all these issues to be valid and "real" issues, but only that these are issues the public perceived in relation to tailings management. The CLRC expressed no opinions on the validity of issues nor did it make any recommendations at the Issues Paper stage.

As will be seen in this draft Report, some issues that were identified by the CLRC at the Issues Paper stage have not carried over into this draft Report (or perhaps not in the form they were first mentioned) and new issues have also been raised throughout the CLRC's

⁹ Email from Author to Mr Justin Rowntree-Simberi (15 November 2012)

¹⁰ Email from Mr Justin Rowntree- Simberi to Author (15 November 2012)

¹¹ Email from Mr Wesley Doria-MRA to Author (15 November 2012)

¹² Email from Ms Melinda Kera-DMPGM to the Author (16 January 2013)

¹³ See s.16, *Environment (Permits) Regulation 2002*

consultations. More importantly, the consultation phase of this Terms of Reference, allowed CLRC to look beyond the issues raised by the public and consult with a wider group of stakeholders, including industry, to form a more holistic view of mine tailings waste management in PNG.

It is important for the Chamber to note, however, that should after consultations, a significant number of those consulted, hold a certain view on the mine tailings management in PNG, it is the CLRC's responsibility to report it. Where any such issue may already be addressed through law, regulation or policy (as has been one of the Chamber's criticisms), it then becomes clear that the appropriate regulatory body or the mining proponent have not sufficiently informed the public on these issues.

8 WORKING COMMITTEE

Conforming to the CLRC's Terms of Reference procedure, a Working Committee was established following the launch of the Issues Paper. Invitations were sent to important stakeholders of TOR No. 6 to participate as a member of the Working Committee. The Working Committee's role was to assist the CLRC in the consultation process which would result in the recommendations contained in this draft Report.

The TOR No. 6 Working Committee consists of members from the following organisations:

- The Mineral Resources Authority (MRA)
- The Department of Mineral Policy and Geo-hazard Management (DMPGM)
- The Department of Environment and Conservation (DEC)
- The Department of Health
- The Chamber of Mines and Petroleum (Chamber)
- The Centre for Environment, Research and Development (CERD)
- The University of Papua New Guinea- School of Sciences (UPNG)

The Working Committee was provided a terms of reference which included the following functions:

- 3.1 The Working Committee members remain a part of their respective organisations and represent those organisations on the Working Committee.
 - a. The Working Committee's responsibilities are:
 - i. To assist the CLRC by providing relevant information that falls within their respective organisation;
 - ii. To assist the CLRC in their consultation process by providing their technical expertise, gathering information relevant to their functions and providing transparency to the entire process; and
 - iii. To assist the CLRC in assessing and reviewing submissions received from the public in preparing the Final Report.
- 3.3 Responsibilities relating to the CLRC's terms of references process that falls outside those stipulated in paragraph 3.2 remain the sole responsibility of the CLRC.
- 3.4 All work produced by the Working Committee shall be recognised as the work of the CLRC and the CLRC shall assume responsibility for any matters that arise as a result of this work.

Unfortunately, due to some difficulties, the DMPGM did not attend any of the Working Committee meetings, nor did they participate in the consultation process on TOR No. 6.

This was very unfortunate as DMPGM has been working on a Mine Waste Management Policy since 2011, with the publication of the "Mine Waste Policy Framework." This Framework was published by DMPGM after extensive consultations with Government, regulators, proponents and impacted communities. Many of the issues captured during these

consultations (as contained in the Framework) are the same as those raised in the TOR No. 6 Issues Paper and in this draft Paper.

A more cooperative relationship between DMPGM and the CLRC would have accelerated the process of producing this draft Report.

It must also be noted that around August 2013, DEC's cooperation with the CLRC on TOR No.6 also experienced some difficulty. This resulted in inconvenience obtaining certain documents and in producing this draft Report.

8.1 Working Committee Meetings

The TOR No.6 Working Committee's first meeting was held on 7 March 2013. Since then the Working Committee has met a total of 6 times over the past year. Discussions of note that took place during these meetings included the scope of TOR No. 6, criticisms of the Issues Paper (which have been raised in Chapter 7), the Working Committee's terms of reference, the consultation process and the participation of Working Committee members.

Apart from the Working Committee meetings, on Tuesday 25 June 2013, a Workshop was held for the staff of the CLRC and the Working Committee of TOR No. 6. The purpose of this Workshop was for the Government bodies on the Working Committee to present their internal process and procedures relating to the management of mine tailings waste. Unfortunately, DMPGM were not in attendance.

9 CONSULTATIONS

The purpose of the TOR No. 6 consultations was to gauge the views of affected stakeholders, that is the mining proponent, Government regulatory bodies and generally those who are affected by the management and disposal of tailings waste. These views alert the CLRC as to the issues surrounding the TOR and the possible recommendations that can be made to Government to address these issues.

The Working Committee selected the following five mines for consultation: Ok Tedi Copper Mine, Porgera Gold Mine, Hidden Valley Gold Mine, Ramu Niko (Nickel) Mine and Lihir Gold Mine. Consultations took place over the months of July and August 2013.

At every site, five key stakeholders were identified to be consulted. They were the mine's management, the Provincial or Local-level Government representatives (LLG), the health administration, the impacted communities and the general public.

The consultation teams comprised of an average of eight people, usually including one Commissioner of the CLRC, representatives from the Working Committee and the CLRC staff. Consultations usually lasted for four to five days. In the case of Ok Tedi and Porgera Mines, some flights and accommodation was provided for by the mines, for the other selected sites, all costs were borne by the CLRC.

Below is a summary of views collected during consultations. They are discussed in more depth in the "Recommendations" part of this report.

9.1 OK TEDI

9.1.1 Introduction

The Ok Tedi consultation was the first consultation visitation conducted for TOR No 6. The consultation took place from Tuesday 9 July 2013 to Friday 12 July 2013.

Ok Tedi is PNG's oldest operating mine having begun operations in 1984. It has a long and complicated history, a legacy that continues to play out presently. Ok Tedi at the time of consultations was majority owned by the PNG Sustainable Development Program (PNGSDP), however, the ownership of the mine is now in question as Parliament passed a law on 18 September 2013 to have PNGSDP divest its shares to the PNG Government.

It is important to note, that a large part of the complicated history of Ok Tedi, stems from the issues it has had with mine waste and its environmental impacts.

At the time of consultation, the agreement in place was for the mine to close in 2013, with the Ok Tedi Mining Limited (OTML) applying to the State for a Mine Life Extension (MLE) to 2022.

9.1.2 Consultations and Views Obtained

At Ok Tedi, the CLRC was able to consult with four of the five identified target groups. Consultation was carried out with the mine management, impacted communities living in the direct vicinity of Tabubil, the provincial administration and the health officials at the North Fly District Health Office and Kiunga General Hospital. Unfortunately, the public seminar

was cancelled due to a poor turnout. This was largely due to insufficient publicity of the event by the CLRC and the inconvenient location of the seminar venue.

OTML expressed the following views:

1. That the CLRC has given undue attention to Ok Tedi in the Issues Paper and felt the TOR did not extend to them as they operate outside the EIA framework established by the *Environment Act*;
2. That the Issues Paper did not give sufficient attention the mitigating efforts and programs OTML has established to reduce their environmental legacy;
3. That OTML has made substantial progress in reducing the environmental damage caused by the mine under BHP including dredging, addition of limestone to its tailings waste and separation of pyrite;
4. That as part of its MLE, OTML has identified a waste rock dump site at Harvey Creek;
5. That OTML is investigating the possibility of a tailings storage facility (TSF);
6. That an extensive rehabilitation process is being undertaken by the OTML;
7. That the longer the Ok Tedi mine operates, the higher the likelihood that environmental damage is minimised;
8. That OTML's regular consultations with the impacted communities are an open and transparent process which it encourages Government regulatory bodies to participate in; and
9. That OTML conducts health assessments on impacted communities, the results of which are published on their website, and the OTML also provides medical services to impacted communities.

Some of the pertinent views and suggestions obtained from other stakeholders include:

1. All future mining activities should fall under the same legal and environmental framework;
2. The inclusion of a tailings storage facility should be part of OTML's Mine Life Extension plan;
3. Landowners and all impacted communities should be kept regularly informed and consulted of activities at the mine that could potentially affect them and this should be a joint exercise by the mine and the government regulatory bodies and the procedure should be public;
4. DEC must have a presence at Ok Tedi and this can be facilitated through a regulation;
5. Independent review of the Ok Tedi Agreements, especially of the Ninth Supplementary Agreement (and now Tenth Supplementary Agreement);
6. Investigation by the Department of Justice & Attorney General into the potential international law issues concerning mine waste into Indonesian territory;
7. Investigation, headed by the Department of Health and/or other independent institutions such as the PNG Medical Research Institute, into health concerns along the Fly River, specifically sago poisoning, water borne diseases and concerns regarding child deformities;
8. Independent health impact assessments/studies should take place for future mines before operations begin in order for statistical comparisons to be made;
9. There needs to be on-going independent government monitoring of the mine and its environmental, social and health impacts (including environmental monitoring of the

- ponds and fumes at Alice River) and the data be made available to the impacted communities and the public; and
10. The CLRC consultative process needs to include all those impacted communities downriver.

9.1.3 Conclusions

This was the first consultation by the CLRC for TOR No. 6. Most stakeholders that the Consultation Team intended to consult were met with and had their views noted, excepting the public forum. The Consultation Team was also informed, at the Impacted Communities discussion forum, that a large proportion of the impacted communities were further downriver and that the CLRC should also consult with them. Unfortunately, a follow-up consultation with down-river communities did not eventuate due to lack of funding.

9.2 PORGERA

9.2.1 Introduction

From 22-25 July 2013 the second Consultation Team visited the Porgera Gold Mine (PJV) in the Enga Province, operated by Barrick Gold Ltd. The mine was formally operated by Placer Dome, Barrick having taken over in 2006. Porgera has been operating since 1991 and employs the RTD method of tailings management.

9.2.2 Consultations and Views Obtained

Consultations took place with the mine itself, medical personnel at the Paiam Hospital, impacted communities and the District Administration. A public consultation was not necessary as most of the inhabitants of Porgera are also part of the impacted community.

PJV expressed the following views:

1. That PJV has carried out feasibility studies and found that a TSF is not possible for Porgera due to costs and geography of area;
2. That if an RTD ban is applied to Porgera it will no longer be able to operate;
3. That PJV has installed a cyanide destruction plant and a cement paste backfill to reduce the level of cyanide in its tailings waste to a negligible level and to reduce the amount of tailings waste entering the Lagaip River;
4. That PJV is a party to the “International Cyanide Management Code” or Cyanide Code which requires certain best practice with the use of cyanide;
5. That PJV is also ISO 1400¹⁴ certified;
6. That PJV conducts regular monitoring of environmental impacts and its monitoring results at its compliance point (SG3) are ANZECC¹⁵ compliant;
7. That PJV conducts health impact assessments of communities, the most recent large scale one being the Porgera-Lagaip-Strickland-Lake Murray Health Risk Assessment in 2012;
8. That all PJV’s environmental reports are public and online; and
9. That PJV has experienced difficulty meeting with the DEC since 2012.

¹⁴ A family of standards relating to environmental management that exist to help organisations minimise how their operations negatively affect the environment.

¹⁵ Australia and New Zealand Guidelines for Fresh and Marine water Quality.

These are some of the pertinent views and suggestions obtained from other stakeholders, noting that some are mine specific and will not have carried over into this draft Report:

1. Landowners of mining development areas should have an independent office represent and advise them in their negotiations with the State and proponent;
2. The appropriate District and LLG level Governments should have a role in discussions relating to the mine tailings waste and their impacts as these are the Government representatives on the ground and perhaps more fully understand the issues surrounding the impacted communities;
3. The Department of Environment and Conservation and the *Environment Act* should adopt ANZECC levels or at least review levels and have the same minimum standards for all mines (Porgera is already ANZECC compliant on its own volition);
4. Smaller mixing zone for Porgera (mine is already complying at SG1);
5. Independent counter-study to the Health Study conducted by Barrick in 2012 and on-going independent monitoring of health along the mine waste path;
6. Independent study to be carried by DEC or another Government body on the possibility of a tailings storage facility (TSF);
7. Department of Health must be more active in monitoring and addressing the health concerns of those communities living along the mine waste path;
8. More awareness and information must be disseminated amongst impacted communities by the mine and Government regulatory bodies (especially the DEC) of the mine waste, especially of the sediment and tailings content;
9. DEC must be more active with community complaints and have its complaint process made public and easily approachable by impacted communities.

9.2.3 Conclusion

The Porgera Consultation was successful in that all key stakeholders that were targeted were consulted to some degree. Some areas in which further consultation would be needed or should have taken place in hindsight included, the Department of Health's Centre in Porgera area and PJV's Hospital, as well as consultation with the villages downstream.

9.3 HIDDEN VALLEY

9.3.1 Introduction

The Hidden Valley consultation team travelled to Morobe Province on 28 July 2013 and returned to Port Moresby on 1 August 2013. Consultation meetings with stakeholders took place from 29-31 July 2013.

Hidden Valley Gold Mine is the only currently operating mine in PNG employing a tailings storage facility (TSF). Hidden Valley is a joint venture between Newcrest Ltd and Harmony Gold and began operations in 2010.

The CLRC had been in communication with the Hidden Valley mine and management for several weeks prior to the arranged consultation dates. Unfortunately, Newcrest Ltd advised the CLRC on 29 July 2013 that it would no longer be able to cooperate with them on consultations for both Hidden Valley and Lihir.

The Consultation Team, nonetheless, continued consultations with other stakeholders.

9.3.2 Consultations and Views Obtained

Consultations took place with the Watut Community, Watut Health Officials, the Impacted Communities and the Provincial Administration.

Below are some pertinent views and suggestions obtained by the CLRC from consultations. Again, it's important to note that some are mine specific and have not carried over into the recommendations of this draft Report:

- 1) Environmental permit details of Hidden Valley and other mines be made public so impacted communities along the waste path are aware of the mine's obligations and of how they will be possibly affected. (At this stage it is not clear if all of Hidden Valley's tailing waste are stored in the dam or partially discharged into the Watut River (and regulations for that), it is also not clear how the dam is monitored);
- 2) Consultation regarding mine tailings waste disposal take place not only with communities immediately impacted by the mine tailings waste disposal but those impacted further away from the mine site;
- 3) Monitoring of the tailings waste and any social, health and environmental impacts must be on-going and reports to be published publicly on a regular basis;
- 4) Impacted communities to be kept informed of measures taken to manage the tailings, including when tailings will be released into the Watut River and the composition of such tailings;
- 5) Many communities attest to living near the Watut River and using it as a drinking water source, if so, water quality levels need to be consistently monitored and must adhere to agreed and contemporary potable water standards;
- 6) Communities must be better informed by Government regulatory bodies and the mine itself about the construction of the tailings dam and its capacity and safety; and
- 7) Government to produce an independent review of the tailings dam itself and of the mine's monitoring mechanisms and mine closure plan for the dam.

9.3.3 Conclusion

It was unfortunate that the CLRC consultation team was unable to meet with the Hidden Valley mine staff and tour the mine, especially since Hidden Valley is currently the only mine employing a TSF. It was also unfortunate that meetings did not take place with the DEC and the MRA liaison officers.

However, the views collected from the impacted communities, health officials and provincial administration officers do help in highlighting some of the issues relating to tailings waste management in the area and possible ways forward.

It is important to highlight that the CLRC acknowledges that at Hidden Valley many of the concerns raised by those consulted related to mine waste in general and not necessarily tailings waste alone.

9.4 RAMU NICO

9.4.1 Introduction

The consultation trip to the Ramu Nico Mine site in Madang, Madang Province took place from 18 August 2013 to Friday 23 August 2013.

Ramu Nico is a nickel cobalt mine that began operations in 2012. It is operated by Ramu Nico Management Limited (MCC Management Ltd). Due to difficulties that the CLRC faced with the DMPGM, the management of Ramu Nico refused to participate with CLRC on these consultations.

9.4.2 Consultation and Views Obtained

Consultations were held with the Madang Provincial Administration, with Mindere Village (Basamuk Bay) Landowners, the Kirimati Village (Kurumbukari) and with the public, hosted at the Divine Word University.

Some pertinent views and suggestions obtained are contained below. Again, some views are mine specific and will not have carried over into the recommendations of this Draft report.

1. Prior to a mining project, there must be coherent consultation of all impacted communities surrounding the mining area (not just landowners) of the tailings waste method and the consultation process must be public;
2. Consultation with impacted communities about mine waste must be on-going and the communities must have easy access to a point of contact within the mine in a language that they understand, including consultation on the mine closure plan;
3. MRA and DEC must have a presence in the mining area;
4. The Government must make available expert personnel or funds to assist impacted communities in their negotiations with the proponent and Government regarding tailings waste disposal;
5. Government must ensure impacted communities are properly compensated for circumstances under Section 86 of the *Environment Act*, including reviewing the Valuer-General's rates; and
6. Drinking water sources for impacted communities must be monitored.

9.4.3 Conclusion

The consultation was a success in that it managed to capture the views of some important stakeholders. It was unfortunate that the mine did not participate and that more villagers were not in attendance for consultations with impacted communities.

9.5 LIHIR

9.5.1 Introduction

Lihir Island or Niolam (local name) is the largest island in the Lihir group of islands of the New Ireland Province. It is home to one of the world's largest gold deposits, the Lihir Gold Mine, which is operated by Newcrest Mining Limited. Production at the mine began in May 1997 and the life of the mine is expected to continue until 2023.

Consultations took place from 27 to 30 August 2013. Unfortunately, consultations did not take place with the Lihir mine itself due to reasons explained earlier.

9.5.2 Consultation and Views Collected

The CLRC consulted with the New Ireland Provincial Administration, the Office of the Nimamar LLG & Special Purpose Authority and the general public.

From consultations and discussions, several key views were identified. These are listed below:

1. RTD must be banned;
2. Do more studies on DSTP, and if proved to be more harmful, then consider total ban of the practise;
3. Do not issue any more mining licenses until the government enacts a specific law that describes a specific method of tailings disposal;
4. DEC as the regulating government body should improve in its monitoring responsibility;
5. Independent EIAs must be prepared by the national government, should not rely on the EIA prepared by the proponent;
6. Create a separate law on tailings disposal (not to amend existing laws); and
7. DEC and MRA officers in the province should be attached to the respective provincial and local level governments and report to them directly;

9.5.3 Conclusion

Generally, the consultations proved a success despite one or two challenges. Unfortunately consultations did not take place with health officials, the MRA and DEC offices and as mentioned, the mine itself.

9.6 Criticism of Consultations by the Chamber of Mines & Petroleum

The Working Committee was forwarded a summary of the consultation reports of each consultation carried out. The Chamber of Mines and Petroleum then made comments on the consultation reports and preliminary recommendations made. The CLRC has considered those criticisms and comments in writing this report and reaching its recommendations.

9.7 Analysis of the Consultation Findings

The issues raised and suggestions or recommendations made during consultations are compiled below:

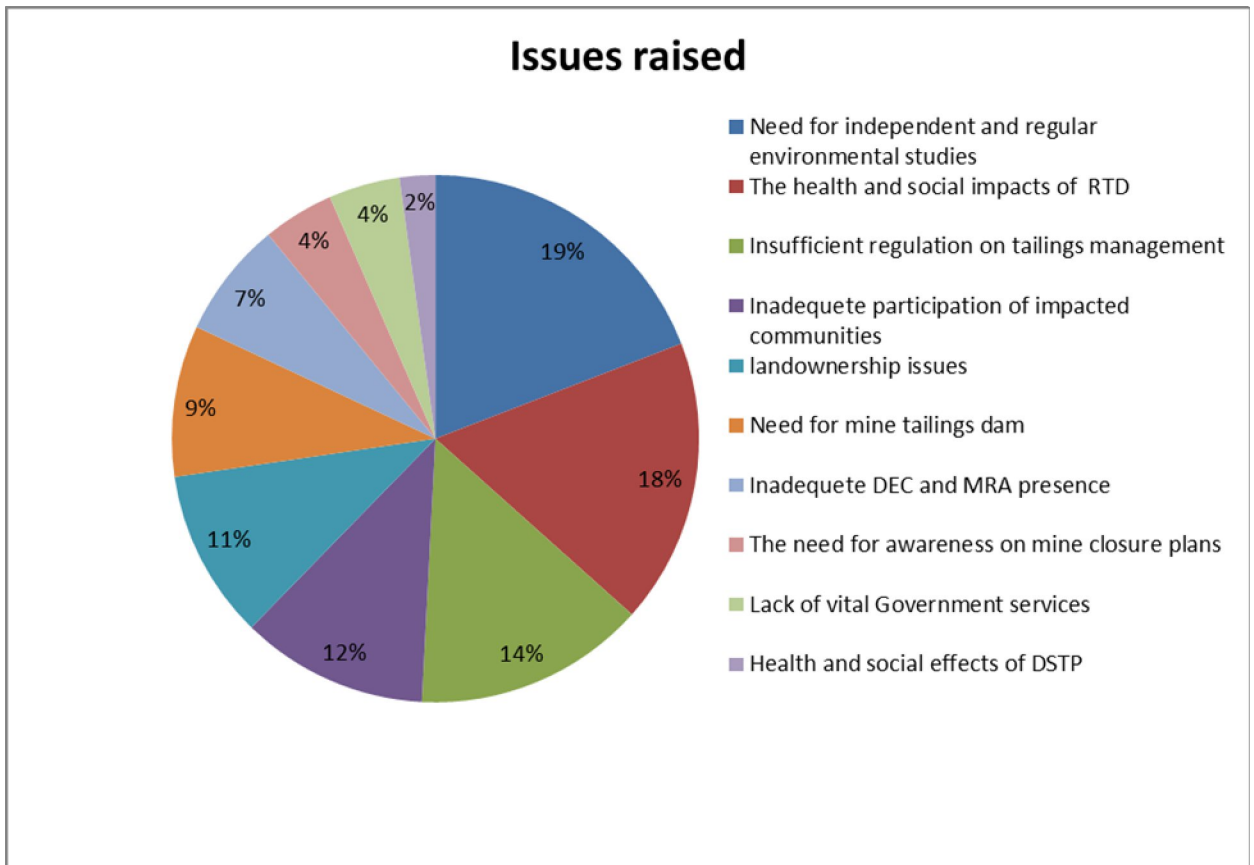


Figure A

It must be noted that no set issues or recommendations were given to those consulted on to comment on. Although the nine issues raised in the Issues Paper were made available for comment, ultimately the format during consultations was of open dialogue. Hence, there was a wide range of issues and recommendations raised.

From Figure A it can be seen that the issues raised by over 10 percent (10%) of those consulted were:

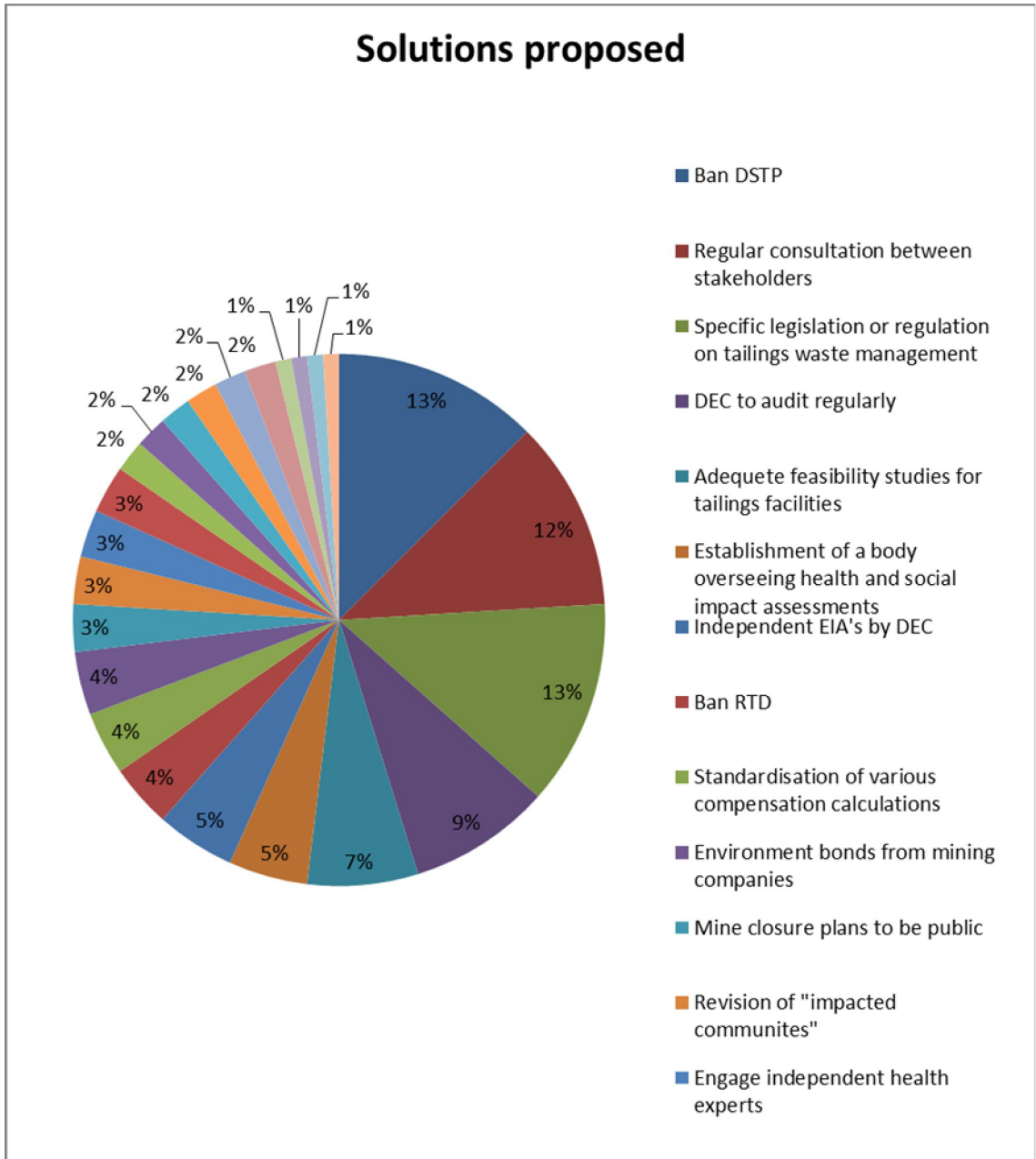
1. The need for independent and regular environmental studies
2. The concern regarding health and social impacts of RTD
3. The perceived insufficient regulation of tailings management
4. The felt inadequate participation of impacted communities
5. Landownership issues

Other issues of concern are an identified need for mine tailings dams (or TSF), the perceived inadequate presence of the DEC and MRA at mine sites, the need of increased awareness of impacted communities about mine closure plans, the need for increased vital Government services and the concern over the social and health effects of DSTP.

There were many other issues raised that go beyond the scope of this Terms of Reference, however, those identified above are thought to be relevant to TOR No. 6 directly and indirectly. For example, where issues are raised relating to landownership issues, it is largely in relation to tailings compensation packages and environment bonds. Concern about mine

closure plans goes to how tailings will be managed after the mine stops operating. Whilst the need for vital Government services goes to health monitoring for those who apprehend health impacts of tailings waste disposal.

There were a large variety of solutions proposed by those consulted and this can be seen in **Figure B¹⁶** below.



The five foremost solutions proposed were:

¹⁶ Note that although up to 24 solutions suggested can be identified, the CLRC has only highlighted those that show higher than 4% of support.

1. Ban on deep sea tailings placement
2. Regular consultation between stakeholders
3. Specific legislation/regulation be enacted for mine tailings waste management
4. DEC to conduct regular audits
5. Adequate feasibility studies for tailings management systems

Other significant solutions suggested are a standardisation of various compensation calculations, environment bonds to be required from proponents, mine closure plans to be made publicly available, a revision of what are perceived to be “impacted communities” to cover those geographically far from the mine who may still be impacted, the engagement of independent health experts to carry out HIAs and for regulatory bodies to be “seen” to be working independently of the mine.

10 LIMITATIONS

There were several limitations which contributed to prolonged process of this Terms of Reference, some internal to the CLRC and others external. The two major external limitations to TOR No. 6 was the technicality of the subject matter of “tailings,” and the difficulty the CLRC faced cooperating with some of the regulatory bodies, which also resulted in difficulties securing the cooperation of the Hidden Valley, Ramu Nico and Lihir mine sites.

10.1 Cooperation with State Regulatory Bodies

10.1.1 The Department of Mineral Policy and Geohazard Management

Although the CLRC requested DMPGM’s participation in the TOR 6 process from the beginning of the consultation phase, this did not eventuate. DMPGM initially agreed to be a member of the Working Committee but subsequently failed to neither attend any meetings nor share any pertinent or requested information, including the draft mine waste policy.

In June 2013, DMPGM went further, to officially make it known to the industry that it did not recognise CLRC’s mandate to conduct a Terms of Reference in an area it felt fell within its responsibilities. DMPGM’s stance not only resulted in a lost opportunity for DMPGM to participate in the TOR No. 6 process and the recommendations of this draft Report but also contributed to the Hidden Valley, Ramu Nico and Lihir mines refusal to cooperate with CLRC’s consultation process.

The managements of Lihir, Hidden Valley and Ramu informed CLRC that due to DMPGM’s stance on TOR No.6, they felt they could not participate with CLRC until such time as any inter-governmental issues were resolved. This was unfortunate indeed as it meant consultations concerning these mine sites were conducted with other identified stakeholders, excluding the mines themselves. Thus any criticisms the mining industry may have with regards to this report, must be made with this in mind.

10.1.2 Department of Environment and Conservation

The DEC accepted the CLRC’s invitation to be part of its Working Committee and participated in its meetings and in the Ok Tedi consultation. Unfortunately, however, for reasons not provided, the DEC seemed unable to assist the CLRC with various documents it requested including examples of environment permits and information on audits. Additionally, following from the DMPGM’s public position in July 2013, it became clear that the DEC would also no longer provide the CLRC with the assistance it required.¹⁷

Although the CLRC has the lawful power, under Section 13 of the *Constitutional and Law Reform Commission Act*, to subpoena persons, including the DMPGM, the DEC and the mining companies, before its Commissioners, it decided not to exercise this power to prevent friction between sister agencies.

¹⁷ In late 2013, an unfortunate event occurred in that Mr Goro Arigae, the DEC’s representative to the Working Committee fell ill and later passed away in May 2015. The CLRC acknowledges the support that Mr Arigae provided for this Terms of Reference.

10.2 Technicality

The CLRC was initially tasked with TOR No. 6 in 2007. Work began on it and a Working Committee of sorts was created but due to several reasons, including the technicality of the Terms of Reference, an Issues Paper was never produced.

In early 2012, the CLRC decided to re-visit TOR No. 6, this time with a view to see it to completion within the initial timeline of six months from the launch of the Issues Paper. The TOR No. 6 Issues Paper was eventually launched in February 2013, after almost eight months of work on the Issues Paper.

The Seminar for the draft Report will take place on 30 July 2014, making it eighteen months since the launch of the Issues Paper that the draft Report is completed. This extension of time was predicted by the Working Committee members who remarked a number of times that tailings and their management is a technical matter that poses a huge challenge for those not familiar or trained in that area.

The CLRC does not pretend to understand all the technicalities of tailings waste management but it does believe it understands the issues that surround it and solutions that have been proven a success in other countries and may prove the same here. The recommendations that the CLRC makes in the next chapter are not technical but legislative and policy recommendations that can assist in making this technical area better regulated and more understandable by those affected by it.

11 RECOMMENDATIONS

11.1 Current Tailings Management Framework

Tailings waste management is currently regulated through the environment impact assessment framework under the *Environment Act*. There also exists an Environmental Code of Practice and several guidelines which are there to assist the proponent throughout the EIA process. The absence of a specific legislation, regulation or even policy on the matter was one of the major issues raised in the TOR No. 6 Issues Paper and picked up again throughout the consultations.

It must be noted that the EIA process applies to all mines except for Bougainville and Ok Tedi which have their own legislation and do not include the role of the DEC, having come into operation before the *Mining Act* 1992. This was an issue highlighted in our Issues Paper and has also been raised throughout the consultations. There is currently, no reason as to why future mines in PNG should exist under a different legislative framework.

During our consultations with OTML, they expressed that although they did not feel it was possible to have Ok Tedi drawn into the same legislative framework as the other mines, given its complex history and legislation, they welcomed increased participation and cooperation with DEC. For Bougainville, as it moves forward to a possible reopening, there is an opportunity for a review of its legislation with the inclusion of the role of the DEC.

In light of this, the CLRC makes the following recommendations.

RECOMMENDATION NO.1

That an amendment be made to the Mining Act 1992, to state that all future mines are to fall under one legislative framework.

RECOMMENDATION NO.2

That as part of its on-going mining review, the Department of Mineral Policy and Geohazard Management review the Ok Tedi and Bougainville mine legislation with a view to amending and including the role of the Department of Environment and Conservation.

11.2 The EIA Process

The *Environment Act* (the Act) is the primary legislation in Papua New Guinea which regulates the environmental impact of development activities and how any adverse effects of such activities should be avoided, remedied or mitigated. For developers to carry out activities that impact the environment, they must apply and obtain authorisation from the DEC. The type of authorisation needed depends on the nature of the proposed activities and the level of impact involved. The Act imposes hefty fines for developers who undertake activities without an appropriate authorisation.

The *Environment (Prescribed Activities) Regulation* 2002 prescribes activities as level 1, 2 or 3 activities.¹⁸ Level 3 activities are those that are of national importance and may result in serious environmental harm. In order to carry out a level 3 activity, a proponent is obliged to

¹⁸ Section 42, *Environment Act* 2000.

obtain authorisation from the DEC. The process involved in obtaining an Environmental Permit is very stringent and must be adhered to in order to obtain a permit or authorisation to carry out an activity.

A proponent who proposes to carry out a level 2 or level 3 activity or proposes to change the nature of level 2 activity to become a level 3 activity must first register his or her intention to carry out preparatory work with the Director at least a month prior to the commencement of the preparatory work in relation to the proposed activity.¹⁹

The Director after receiving notification of the proponent's intention to carry out preparatory work, then gives notice to the proponent to undertake an environmental impact assessment. The EIA shall firstly include an inception report. An inception report shall contain the list of all the issues to be covered by the environmental impacts statement (EIS). Within 60 days of lodgement of the inception report by the proponent, the Director can either approve the report if he is satisfied or refer the report back to the proponent for amendment and re-submission. If the Director does not approve the inception report within 60 days of lodgement, then it is deemed to be approved so the proponent may proceed with the EIS as per the inception report.

When the inception report is approved or deemed to be approved, the proponent then prepares the EIA. The EIA covers all the issues set out in the approved inception report such as all manner of social, economic, cultural and environmental statements. These are very important elements which ultimately contribute to the granting of the permit.

Within 30 days of the receipt of the EIA, the Director shall notify the proponent in writing of the period he will require to assess the EIA. The Director then makes the report or information available to the public for review and for them to make submissions.

The Director will accept the EIS if he is satisfied that it contains an adequate description of the nature and extent of physical and social environmental impacts which are likely to result from the carrying out of the proposed activity and that all reasonable steps would be taken to minimise environmental harm. The Director then refers the information to the Environment Council. If the Environment Council is satisfied, it makes recommendations to the Minister to give his approval in principle.

11.2.1 Guidelines

There are several guidelines in place to assist the proponent in preparing and carrying out various activities. Pertinent ones for the purposes of TOR No. 6 are:

- Information Guideline for Preparation of Environmental Inception Report
- Information Guideline for Conduct of Environmental Impact Assessment and Preparation of Environmental Impact Statement
- Technical Guideline on Water and Land Discharges
- Information Guideline for Submission of an Application for an Environment Permit to Discharge Waste

¹⁹ Section 48, *Environment Act 2000*.

- Scottish Association of Marine Sciences (SAMS) Guidelines for DSTP

These guidelines assist the proponent in preparing the necessary documents, however, these documents remain brief and only assist as to specifying the type of information required without offering an underlying policy or regulation as to how this information should be gathered and assessed.

After initial confusion as to the status of the SAMS Report and Guidelines on DSTP in PNG, as discussed earlier in this report, the MRA and the DEC clarified to the CLRC that the Guidelines produced by SAMS are used as a general guideline for DSTP mines in PNG. This can be concluded to be a technical guideline for DSTP. There is no equivalent for RTD or TSF methods in PNG.

11.2.2 Environmental Code of Practice

As correctly pointed out by the Chamber in their criticism of the Issues Paper, the PNG Environmental Code of Practice (the Code) issued in 2000 was not considered in the Issues Paper. This was due to the Issues Paper relying on information that was available publicly, which, although the Code is a public document, is not publicly or easily available, especially for those not familiar with the industry and its codes, practices and regulations.

The Environmental Code, although generally helpful in setting the regulatory framework and line of thinking for the mining industry's environmental practices, the Code remains general, brief and a guiding, non-binding, document.

Section 8 of the Code talks about monitoring. It states that monitoring results should be made available to the DEC on a quarterly basis and made publicly available to stakeholders. It further states that "periodic external verification of monitoring results is considered necessary to ensure credibility of the reports."

Currently most of the mining companies publish their monitoring results in their own publications and reports, largely through their websites. The DEC does not mirror this, nor is it clear when the DEC conducts periodic external verification and under what circumstances. During consultations, two solutions that had significant support were that for independent EIAs to be conducted by the DEC and regular audits to be required of the DEC.

Section 5 of the Code discusses mine waste. All permit conditions relating to mine waste must not only be publicly available but easily accessible. There is no point attesting to the public nature of a document when it is not easily obtained.

The inability to access public information under the EIA process was also one of the major issues throughout the TOR No. 6 consultation process. This is also highlighted by the fact that many issues raised throughout consultations are issues already catered for within the EIA framework and the *Environment Act*, however, due to little to no awareness on them by the DEC and inadequate access to public information, affected stakeholders have indicated these actions or inactions as "issues."

The CLRC itself was not able to obtain an environment permit or an example of an environmental impact statement from the DEC, despite these documents being "public."

RECOMMENDATION NO.3

That there is greater transparency by the Department of Environment and Conservation through:

- a) An amendment being made to the Environmental (Permits) Regulation 2002 requiring the Department of Environment and Conservation to maintain an official website containing, amongst other requirements, up to date publication of all approved tailings management systems, all tailings compensation agreements, all environmental reports submitted by the mining proponent as well as the Department of Environment and Conservation's comments on them, any independent audits carried out by the Department of Environment and Conservation, all environmental impact assessment related guidelines, all independent studies on tailings management mandated by the Department of Environment and Conservation.*
- b) Greater liaison with The Department of Health, The National Institute of Standards and Industrial Technologies, National Statistical Office, National Economic and Fiscal Commission, and all other related agencies in monitoring health, economic and environmental impacts of tailings waste disposal methods through amendments to the Environments (Permit) Regulation 2002 in Appendix 1.*
- c) An amendment being made to Section 163 of the Mining Act 1992, on confidentiality, to reflect "public" documents under the Environment Act 2000 and Environment (Permits) Regulation 2002 in Appendix 1.*

11.3 The Conservation and Environment Protection Authority

The DEC have stated through our Working Committee discussions that one of the reasons they are criticised for failing to carry out their regulatory responsibilities is because they lack capacity in finance, as well as technical expertise. The DEC believes the new *Conservation and Environment Protection Authority Act 2013* (CEPA) will go some way in addressing these issues.

CEPA was passed by Parliament in 2013 and awaits certification. It will transform the DEC to a non-commercial statutory authority, much like the MRA. It is important to note, that although this report is largely written on the premise that the DEC is still in existence, any recommendations made are equally applicable to CEPA.

Throughout the consultations a reoccurring issue was the felt absence of representatives of regulatory bodies, most especially the DEC. In Porgera; the mine, impacted communities and the District Administration all expressed the need for greater presence of DEC. PJV's Environment Manager, Mr Charlie Ross, informed CLRC that the DEC has had inconsistent participation with Porgera since 2012. Mr Ross also expressed disappointment that the MRA had not coordinated any meetings between PJV and the DEC since that time either.

PJV informed the CLRC that although the Provincial Mine Advisor conducted checks at the mine, there was no longer a DEC representative in the Porgera/Paiam township. This also seemed to be the case in Ramu Nico, where the CLRC consultation team was unable to engage with the MRA and DEC representatives and where many of the impacted communities consulted expressed concern at the absence of the MRA and the DEC at the

mine. At Ramu Nico, the CLRC was instead assisted by an active provincial mines team, led by the Provincial Mines Director, Mr John Bivi.

As discussed earlier, difficulties between the CLRC and the regulatory bodies and mines for the final three consultations at Hidden Valley, Ramu Nico and Lihir, also contributed to the absence of the DEC and the MRA officers at these consultations. Generally, however, at Porgera, Ramu Nico and Hidden Valley (Ok Tedi being exempt) there was marked concern raised for increased presence of regulatory officers, most especially of the DEC.

The following recommendation by the CLRC, are aimed at building the DEC's capacity to carry out its functions, in addition to any changes by CEPA.

RECOMMENDATION NO.4

That there is greater capacity building of the Department of Environment and Conservation through:

- a) ***An amendment being made to Section 29 of the Environment Act 2000 to enable the Department of Environment and Conservation to set-up provincial offices with specialised persons.***²⁰
- b) ***An amendment being made to Section 16(3) of the Environment Act 2000, to allow the Director to delegate his functions and powers to appropriately qualified officers of the Mineral Resources Authority for Level 3 activities. An “appropriately qualified officer” being one that is held to be so by the Head of the Regulatory Operations Division of the Mineral Resources Authority. Power can be delegated to the Mineral Resources Authority officer either at the Director’s own volition or at the Mineral Resources Authority’s request.***²¹

11.4 Assessment of Current Tailings Management Systems in PNG

Currently PNG mines employ three tailings management methods, RTD, DSTP and tailings storage facility (TSF). RTD is criticised internationally and nationally. MRA has acknowledged that it is a method that is not encouraged for future mines in PNG.

Bougainville Copper Ltd (BCL), in its submission to the CLRC stated that “Rio Tinto avoids implementing Riverine Tailings Disposal in new operations and projects”²² and recommended that “All tailings management options should be available for consideration and assessment for new projects, however riverine and shallow marine tailings disposal are unlikely to be acceptable for new projects.”²³

OTML informed CLRC that under the Ok Tedi mine legislation, it submits an environmental report to the MRA on the 30 September of every year and this report is forwarded to the DEC. OTML acknowledges the impact RTD has had on the environment in the past in what is

²⁰ In-line with “Functions of the Authority” under s8(a), CEPA Act.

²¹ This would require an additional amendment to s23(4), *Conservation & Environment Protection Authority Act 2013.*

²² Bougainville Copper Limited, “Submission to PNG of Environmental and Mining Laws Relating to the Management and Disposal of Tailings.” 18 July 2013, p3

²³ Bougainville Copper Limited, “Submission to PNG of Environmental and Mining Laws Relating to the Management and Disposal of Tailings.” 18 July 2013, p5

referred to as to its “environmental legacy.” It has implemented measures to mitigate the effects of past and current RTD, including dredging, treatment of tailings waste with limestone in order to reach an acceptable pH level and removing pyrite from tailings waste and storing it underground to prevent acid rock drainage.

Additionally, as part of its mine life extension program (MLE), OTML has identified a waste dump site²⁴ to store overburden and waste rock and is looking to the possibility of a TSF. The TSF project began in 2012 and OTML has been actively looking for a TSF site. Although the previous Ok Tedi mine operators, BHP, has since banned the use of RTD at their mines, the current OTML management does not believe a blanket ban is ideal and ultimately a decision must be made weighing the risks involved with a tailings management system against the economic benefits of the mine.

Currently Porgera has 3 dump sites, 2 for overburden rock and one for tailings waste. During our consultation with PJV, it was clear that though they recognised the potential harm of the RTD method, feasibility studies conducted in 20002 concluded that TSF was not a possibility for Porgera because of the expense involved and the geography of the area. Additionally, PJV felt, the Government lacked the capacity to carry out the ongoing monitoring and regulation a TSF would require. PJV informed CLRC that if the Government banned RTD for current mines (as well as prospective mines) Porgera mine would have to shut down.

PJV has implemented a number of measures to mitigate the impact of its use of RTD, the first being a cyanide destruction plant in 2009, which reduces the amount of cyanide in tailings waste to a negligible level before it is disposed. In addition, PJV has a paste plant, constructed in 2009, where all coarse tailings waste are transferred to and stored. This has the potential to reduce tailings discharge into the river by 8%.²⁵

Views collected during the consultation also illustrate that there is strong support for banning of the riverine tailings disposal. Even in Lihir where RTD does not take place, the public there expressed the sentiment that RTD should be banned in PNG.

Although at least 13% of those consulted proposed a ban on DSTP, it became clear during wider consultations that DSTP has the support of the regulators and the technical experts as one of the safest methods of tailings disposal available to PNG if carried out correctly. Both the MRA and the DEC have expressed support for DSTP if carried out according to the SAMS guidelines and any mine specific guidelines created by the DEC. Further, in Lihir, there were strong qualified comments in support of DSTP.

Ms Jacklyn Membup, a Community Development Officer with the Nimamar LLG asked that the Government stop giving out mining licenses until sufficient studies had been carried out on DSTP and its effects and that any such reports are sufficiently explained to the layperson. Ms Membup also expressed the need for independent EIAs to be undertaken by the DEC to satisfy the people that there was no bias.

In Hidden Valley, the general sentiment was similar to Ms Membup’s. That is, TSF was deemed an acceptable tailings management method, however, those consulted felt that more

²⁴ At Harvey Creek

²⁵ Barrick Porgera Gold Mine, *Recent Improvements in Porgera Tailings Management*,” (Slideshow, 23 July 2014) 10

feasibility studies were needed on the site of the dam. Communities consulted felt that the current dam was in a precarious position and further that not all tailings waste was being deposited into the dam.

Given the concerns the public and impacted communities have for all three methods of tailings management used in PNG it becomes imperative that some kind of security is held by mine regulators, to ensure that where environmental effects or damage goes beyond that predicted in the EIS, the regulator is immediately able to provide a remedy. This would also be in line with international best practice and gives due consideration to PNG's history with the Ok Tedi mine.

RECOMMENDATION NO.5

That an amendment be made to the Mining Act 1992 to provide for a total ban of the Riverine Tailings Disposal method on future mines.

RECOMMENDATION NO.6

That a Regulation be drafted implementing an environment bond under Section 99 of the Environment Act 2000.

11.5 Health Impact Assessments

Health Impact Assessments (HIAs) are already being undertaken by many of the mines, as has been pointed out by the Chamber of Mines' submission and confirmed throughout consultations at the Ok Tedi and Porgera mines. This illustrates that the mining industry recognises the importance of HIAs and monitoring of the health of impacted communities. HIAs are, however, not required under the current mine tailings regulations and are therefore produced by the proponent at their own behest with perhaps un-uniformed methods and standards.

The purpose of having HIAs as a requirement within the mining industry, will ensure uniform standards and regulation by an independent office, reporting to the Government. For the long-term, it allows PNG to monitor and cater to the health needs of those individuals in the vast rural areas where PNG mineral resources are commonly located.

During consultation with health facilities within impacted communities, it was commonly found that although the health personnel could point the CLRC to common illnesses in the area or abnormal illnesses that had occurred, it was difficult to attribute the cause of these illnesses to anything in particular, let alone the effects of mine tailings waste.

In Ok Tedi for example, the North Fly District Health Office (located down-river in Kiunga) was concerned that there was a significant number of sago poisoning cases. The belief amongst the people was that this was due to the contaminated water that the sago trees grew in but these claims cannot be proven or dismissed without on-going and in-depth research by specialists.

Mr John Lari, a District Health Officer, informed the CLRC that Dr Milla Gena, s former OTML employee, was undergoing studies at James Cook University and collecting statistics on occurrences of sago poisoning in the North Fly area. Unfortunately, the CLRC was unable to make contact with Dr Gena to obtain any of her findings.

At Kiunga Hospital, Dr Julius Plinduo, the Hospital Manager, suggested that an independent review of the health impacts of the mines should be carried out and that the Government should engage public institutions such as the universities to carry out these health studies, as opposed to purely private consultants.

In Porgera, Dr Nadal and Dr Gerodoline of Paiaim Hospital informed the CLRC that the only directly linked cases to mining that they experienced were injuries sustained by small-scale miners during their work. They mentioned food poisoning cases but stated that there was no pattern and nothing directly linking it to the mine. The Doctors also mentioned increased cases of bone marrow infections in babies in the last 7 years but again could not identify a source. They mentioned further that Paiaim Hospital only catered to those in the near vicinity of the town and that people further down river sought medical services in either Wabag or Kiunga. Thus, Paiaim Hospital could not provide a complete insight on the health of impacted communities.

In Hidden valley, health officials expressed concern at the large sores on the legs and heads of people living along the Watut but again, no direct linkages were made to mine tailings waste. In Ramu Nico and Lihir, consultations did not take place with health officials, however, impacted communities did express general concern, with health effects of mine tailings waste.

The Department of Health itself has identified HIAs as something that needs to be incorporated in the regulatory framework of all mineral and gas projects. They have already begun work on having HIAs become a pre-licensing requirement for natural resources projects as per The Department of Health's submission to the CLRC.

The Department of Health has already identified standards that it believes an HIA regulation would incorporate.²⁶ In terms of a framework, however, the CLRC notes as an exemplary framework, Exxon Mobil's current private-public partnership with the PNG Institute of Medical Research (IMR)²⁷ in its "Partnership in Health" program, as a part of the overall "Exxon Mobil PNG Limited Community Health Impact Management Program."²⁸

The "Partnership in Health Program" (PIH) is an independent program funded by Exxon Mobil but carried out in partnership with IMR, who is the independent research arm of The Department of Health, established through statute.²⁹ The study PIH carries out is known as the Health and Demography Surveillance System (HDSS) and it is both a demography and health surveillance. The aim of the project is to "determine if and how the PNG LNG project impacts on the health and lifestyle of PNG populations by comparing demographic and health trends in project impact and control communities."³⁰

The HDSS is carried out in the LNG impacted areas of Hiri and Hela, as well as two control sites outside the impacted communities (Asaro and Karkar) in order to compare health trends

²⁶ See Chapter 6 of this Report.

²⁷ See Papua New Guinea Institute of Medical Research <www.pngimr.org.pg> at 6 February 2014.

²⁸ See PNG LNG Community Health

<www.pnglng.com/community/healthandsafety/communityhealth> at 6 February 2014.

²⁹ Ibid, n 26.

³⁰ PNGIMR, *Partnership in Health Summary*,

<<http://www.pngimr.org.pg/Research/population%20health%20demography/partnership%20in%20health%20program%20-%20PIH.html>> at 15 April 2014.

within impacted areas against general PNG health trends.³¹ The partnership includes receiving and communicating results to the health practitioners on the ground, whether that be The Department of Health themselves or organisations such as the Salvation Army.³² All findings by the program are forwarded to the appropriate health authorities and concerned stakeholders for them to act upon.³³

With due consideration to the size and nature of the PNG LNG project, CLRC believes the private-public-partnership framework established in this project is an example The Department of Health can look at going forward with the establishment of a HIA requirement for mining projects. It ensures capacity and skills building through the expertise of three different sources, the health practitioners on the ground, the IMR and the proponent themselves, under regulation by The Department of Health.

The Department of Health itself has identified two key actions that need to be undertaken at this time to enable HIAs to become part of the mining dichotomy, these are:

1. the Prime Minister and NEC's support in principal for the development of a PNG HIA framework
2. The creation of a Working Group of key stakeholders, headed by The Department of Health to develop a HIA policy and regulations.

The CLRC agrees with the above steps identified by The Department of Health and makes the following recommendation:

RECOMMENDATION NO.7

That amendments be made to the Mining Act 1992 and the Public Health Act 1973 in order to include Health Impact Assessments (HIAs) as a pre-condition to the grant of a mining license.

RECOMMENDATION NO.8

That a Regulation be drafted implementing a health impact bond under Section 141 of the Public Health Act 1973.

11.6 Social Impact Assessments

As recognised in the TOR No. 6 Issues Paper, social impact assessments (SIA) already take place to a certain extent within the EIA framework under the *Environment Act*. The issue remains, however, whether the requirement within the EIA framework is sufficient, both in terms of scope and in the DEC's capacity to adequately assess any SIA.

³¹ PiHP, *Report of Partnership in Health Project*, (September 2013, PNGIMR)

³¹ <<http://www.pngimr.org.pg/Research/population%20health%20demography/partnership%20in%20health%20program%20-%20PIH.html>> at 6 February 2014

³² Email from Patricia Rarau-PiPH to Author on 4 February 2014.

PiHP, *Report of Partnership in Health Project*, (March 2014, PNGIMR)

³² <<http://www.pngimr.org.pg/Research/population%20health%20demography/partnership%20in%20health%20program%20-%20PIH.html>> at 15 July 2014.

Social impacts are effects of developmental interventions on human settlements.³⁴ Whatever activity taking place as a result of decision makers must also take into consideration the needs of the people affected and its implications on their lives in the future. A proper social assessment identifies and addresses the possible issues and provides ways to manage these so as to minimise negative effects.

It is a process that provides a framework for prioritising, gathering, analysing, and incorporating social information and participation into the design and delivery of developmental interventions. It ensures that development interventions: (i) are informed and take into account the key relevant social issues; and (ii) incorporate a participation strategy for involving a wide range of stakeholders.³⁵

11.6.1 SIA under the Environment Act 2000

The *Environment Act* provides for SIAs by way of Section 51(1) (b). Section 51 states:

An EIA shall involve the following:-

(a)...

(b) submission of an Environmental Impact Statement in accordance with Section 53 setting out the physical and *social environmental impacts*³⁶ which are likely to result from the carrying out of the activity

(c) assessment and public review of the environmental impact statement in accordance with Sections 54 and 55;

(d)...(e)...(f)...(g)...

The phrase *social environmental impacts* would be correctly taken to mean those social impacts that are related to or have a direct relation to environmental impacts. Secondary social impacts would not seem to fall within the scope of Section 51 and this is confirmed by the “Guideline for Preparation of Environmental Inception Report”³⁷ which states that the contents of an environmental inception report must include 12 items, including socio-economic issues. However, here, the Guideline states that the report must “distinguish differing levels of impact within a project site,”³⁸ Group A being those impacts that can be mitigated by the proponent and Group B being those impacts that are to be addressed by the National, Provincial and local-level Governments.

Further, in the “Guideline for submission of an application for an environment permit to discharge waste,” it states in Section 8 that:

³⁴ Vivek Misra, *Social Impact Assessment Methodology*, South Asia Social Accountability Network, 1 <<http://www.sasanet.org/documents/Tools/Social%20Impact%20Assessment%20Methodology.pdf>> at 6 June 2014.

³⁵ Ibid

³⁶ Emphasis added

³⁷ The Department of Environment and Conservation, *Guideline for Preparation of Environmental Inception Report*, 1 January 2004.

³⁸ Ibid, 2.

For SOCIO-ECONOMIC impacts, provide details of the potential socio-economic impacts that may arise as a result of the bio-physical and biological impacts of the activity. These are social effects that can be addressed by the environmental permitting process and include the following:

- Degradation of air quality
- Degradation in water quality
- Increased noise levels
- Land contamination
- Loss of food sources
- Habital loss etc...

Thus any secondary losses beyond the above are not catered for within the current EIA process under the *Environment Act* and given the functions of the DEC, it is understandably so. These Group B impacts are beyond the powers and expertise of the DEC and are in fact better handled by the various levels of Government, however, there seems to be is no framework in place to facilitate that.

The comparison table below illustrates the generally agreed requirements of an SIA against the current EIA/SIA framework in PNG under the *Environment Act*.

	SIA Requirements	Current EIA (SIA) process under the Environment Act 2000
1.	The current circumstances of the people need to be taken into account, for example where they are located, their interests and resources.	ss.51(1)(a) and 52 provide for the submission of an Inception Report – this contains all the relevant issues relating to the potential impacts of the proposed activity
2.	Consideration of the interests of people who may be affected or have similar interests in the area.	s.51(1)(c) allows for assessment and public review of the EIS s.54(4) allows for assessment of the EIS through gathering of information, calling of conference of interested persons, consultations and

		<p>providing findings</p> <p>s55 enables public review and submissions on an EIS</p>
3.	Consideration of the carrying out of the project/development in line with the social impacts.	<p>If the sections mentioned above are adhered to, it is assumed that any EIS accepted by DEC and any permit dispensed by DEC allow the developer to carry out projects with due consideration of <u>“Group A” socio-economic impacts only</u>³⁹</p>
4.	Predicting how the society will respond to the impacts of the development.	<p>Although both the Guideline for preparation of an EIR and the Guideline for conduct/preparation for an EIA/EIS require that “issues that may arise within and outside of the project area should be identified including whether this is a direct or indirect outcome of the physical, biological or socio-economic effects of the proposed development activity,” monitoring and management of those impacts are limited to those “direct” Group A socio-economic impacts.</p>
5.	Evaluating and modifying, where necessary, the projects looking at the impacts and the response, et cetera towards it. Such include developing monitoring plan and mitigation measures.	<p>Under the Environment (Permits) Regulations it seems that a permit can only be amended on request of the permit-holder (s.23) or on the change of environmental policy (s.24). Thus whether modification can occur in line with the social impacts and the response of the people beyond</p>

³⁹ See ibid

		that is unclear, especially where the impacts are Group B impacts and, therefore, not strictly catered for in the EIA/SIA monitoring process.
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Given the above, the CLRC makes the following recommendation in order that both Group A and Group B social effects can be captured in impact assessments.

RECOMMENDATION NO.9

That the Department for Community Development, in collaboration with the Department for Mineral Policy & Geohazard Management, the Mineral Resources Authority and the Department of Environment and Conservation, take steps to develop policy and regulation for Social Impact Assessments (SIAs), to be a pre-condition to the grant of a mining license.

11.7 DMPGM Mine Waste Management Policy

Although DMPGM has not directly shared its recent draft mine waste management policy (“draft Policy”) with the CLRC, we have obtained a copy of the policy framework from 2011,⁴⁰ which led to the draft Policy. In the framework, several points were made by the engaged consultant, Mr Rainer Hengstmann, that support the recommendations proposed by the CLRC.

Notably in section 3.4 of the framework, it is mentioned that during public consultation, one of the points mentioned that needed addressing was “all information to be public unless a company can demonstrate that it would suffer financial damage, when released.”

In CLRC’s own experience, obtaining information about a mine’s waste management system from the regulatory authorities proved very difficult. In the instance with Simberi Gold Mine mentioned earlier in this Report, we were referred by the mine to the MRA Project Coordinator, who then referred us to DMPGM, who advised us that under Section 163 of the *Mining Act*, confidentiality must be maintained. This means DMPGM and MRA must first seek permission from the information provider before it is released. Under Section 16 of the *Environment (Permits) Regulation*, this is information that should be public. This is an example of the difficulty of obtaining legally “public” information.

Section 3.6 refers to Section 4(g) of the *Environment Act* which states, “The objects of this Act are...to allocate the costs of environmental protection and restoration equitably and in a manner that encourages responsible use of, and reduced harm to, the environment.” The framework paper states that this is not in line with the “polluter pays” principles of environmental law. According to this principle, “all producers of mine waste are legally and

⁴⁰ Rainer Hengstmann, *Mine Waste Management Policy Framework*, (2011, Department of Mineral Policy & Geohazard Management)

financially responsible for the safe and environmentally sound disposal of the mine waste they produce.”⁴¹

Section 4 of the framework lists the “National Mine Waste Management Principles,” they are Sustainability, Affordability, Community Participation, Intersectoral Collaboration, Duty of Care Principle, Liability/Polluter Pays Principle and the Precaution Principle. The CLRC is of the opinion that the Intersectoral Collaboration and Precaution Principle need particular attention in the current mine waste regulatory framework.

Intersectoral Collaboration involves, “other line Ministries and NGOs should be consulted and involved in the management of mine waste at all levels and at the earliest possible point in time.” The Precaution principle states that “it is assumed that all mine waste are potentially, significantly risky and therefore measures shall be designed to fit the situation at the mine. All waste must be considered hazardous until shown to be safe.”

Already, the permit process within the *Environment (Permits) Regulation*, provides for affected line agencies and the general public to comment on EIAs conducted by mining proponents, however, many times these documents are not easily accessible and communication between Government authorities and ministries not smooth enough to ensure line agencies are informed of plans and their possible effects on their areas of responsibility.

The precaution principle is currently exercised at the DEC’s discretion, largely by the Director and Council. It is, therefore, important that their line of reasoning is made public so citizens can understand how the appropriate environmental principles are applied in their decision-making process. For mine waste management, the precautionary principle is particularly important as the mining proponent in submitting its waste management plans must show that the waste can be considered safe at the point of disposal.

As pointed out in Section 5 of the Framework “Policy Strategies,” the DEC must illustrate to the public that any mine waste management plans it approves illustrate Best Available Technique (BAT) and use of the Reference Document on Best Available Techniques (BREFS).

RECOMMENDATION NO.10

That amendments be made to the Environment Act 2000 to ensure reflection of international environmental law principles:

- a) ***Amendment to Section 7 “GENERAL ENVIRONMENT DUTY” of the Environment Act 2000 to ensure that the precautionary principle is more clearly stipulated and that where there is a proceeding, failure to comply may be a persuading factor in any decision reached.***
- b) ***Amendment to Section 4(g) of the Environment Act to reflect the “polluter pays” principle.***

RECOMMENDATION NO.11

That there be a provision within the Environment Act 2000, reflected in other appropriate legislation, to allow for class actions against the appropriate regulator or permit-holder, where it fails in its duties.

⁴¹ Ibid, 21

11.8 Development of a Tailings Management Handbook

In 2006, the Australian Government launched the Leading Practice Sustainable Development Program for the Mining Industry (LPSDP).⁴² The program promotes sustainable development and industry self-regulation through proactive adoption of leading practice principles. As part of this, the Program developed 15 handbooks, one of which is about Tailings Management.

The Tailings Management Handbook⁴³ was published in 2007 and is intended to highlight a more sustainable way forward in tailings management. It discusses a systematic, risk-based approach to tailings management, however, provides the disclaimer that it does not provide “specific consideration of riverine, shallow submarine or deep-submarine tailings placement methods. Such methods are not supported by the Australian regulatory environment or bathymetric conditions.”⁴⁴ Nevertheless, the exercise in itself and the production of the handbook is a lesson to PNG in its way forward to developing a regulatory system that supports sustainable mining.

The handbook states that “the basic requirement of a tailings storage facility is to provide safe, stable and economical storage of tailings presenting negligible public health and safety risks and acceptably low social and environmental impacts during operation and post-closure.”⁴⁵

Section 2 of the handbook reiterates the enduring principles for tailings management, which reflect those stated by the consultant in the PNG Mine Waste Management Framework. Again, the principles CLRC believes the current system struggles at are on-going consultation with interested and affected parties and informing potentially affected parties of significant economic, public health, safety, social and environmental risks.

In terms of environment, this lies with the Government and its regulators and some of their perceived inefficiencies. This is also the case with regards to social risks so far as they are related to the environment and fall under Section 53 of the *Environment Act*. With regards to other risks, there is currently no regulatory arrangement that we are aware of that caters to this.

It is important to note that regardless of the regulatory structure that’s implemented, it will only work if regulations are respected and adhered to by the relevant bodies. In the DEC’s case, there was a general sentiment amongst those consulted that there needed to be increased presence of their officers at mine sites and more extensive and on-going consultations with stakeholders.

Section 3 of the handbook discusses quantifying risks. Risk analysis allows quantification of the options and of likelihood, consequences and costs of failure. There are a variety of risk

⁴² See Leading Practice Sustainable Development Program

<http://www.industry.gov.au/resource/Programs/LPSD/Pages/default.aspx>.

⁴³ Leading Practice Sustainable Development Program for the Mining Industry, *Tailings Management*, (2007, Australian Government Department of Industry, Tourism and Resources)

<<http://www.innovation.gov.au/resource/programs/LPSD/Pages/default.aspx>> at 1 October 2013.

⁴⁴ Ibid, 1.

⁴⁵ Ibid.

analysis models, overriding them, the need to communicate and consult with stakeholders and to monitor and review.⁴⁶

It is imperative that the DEC and any other authorities responsible for reviewing impact assessments and issuing permits, identify the risk analysis model that should be used by the mining proponent. This enables uniformity in the impact assessments undertaken by the proponents. Again, this decision making process must remain public.

Although Sections 4, 5 and 6 of the handbook are Australian specific. The handbook as a whole is very helpful in proposing a way forward for PNG in mine tailings management. It is important to note that the Working Group who developed the handbook consisted of a wide variety of stakeholders of the Australian mining industry.

CLRC recommends that a similar exercise is undertaken in PNG to assist further development of any mine waste policy undertaken by the DMPGM.

In making this recommendation, CLRC hopes that the inter-governmental tensions and restrictions it encountered in carrying out this Terms of Reference do not continue and that any proposals that are concluded at the end of the handbook are a cooperative outcome that all stakeholders can feel a sense of ownership over.

RECOMMENDATION NO.12

That the Department of Environment and Conservation, The Department of Health and The Department for Community Development identify the “risk analysis models” to be employed within their risk assessment frameworks (EIA, HIA, SIA) and include them in technical standards.⁴⁷

RECOMMENDATION NO.13

That the Minister for Mining direct the formation of a Working Group consisting of various stakeholders to develop a Tailings Handbook, with a particular focus on whether the way forward for tailings management in PNG involves continued use of the Deep Sea Tailings Placement (DSTP) method.

RECOMMENDATION NO.14

That the Department of Mineral Policy and Geohazard Management and the Department of Environment and Conservation develop a joint mine waste policy, taking into account the recommendations made in this Report by the CLRC and those within a Tailings Handbook.

11.9 Creation of a Statutory Body to Conduct Impact Assessments

The recommendation of the creation of a separate statutory body to carry out all impact assessments (environmental, health and social) is one that was raised throughout consultations and was also proposed by the Chief Secretary to Government in his submission on the TOR No. 6.

⁴⁶ Ibid.

⁴⁷ As per amended s.133A “Technical Standards” *Environment Act 2000*, upon certification of *Conservation & Environment Protection Authority Act 2013*.

Although the CLRC has had difficulty finding other countries that employ this practice, it is a recommendation that it believes warrants further investigation. Currently the DEC both creates environmental regulations and policies and implements them through the EIA process. Although this work is carried out by different branches within the Department, it does warrant some concern with separation of powers and effectiveness of being the policy-maker and regulator at the same time.

Given the CLRC's proposals for HIAs and separate SIAs to be included in the mining dichotomy, it would also make sense to create a regulator that makes a holistic assessment of all three.

RECOMMENDATION NO.15

That the National Executive Council direct the creation of an independent statutory body to coordinate, approve and monitor all impacts assessments (environment, health and social), based on the framework, policy and regulation, created by the respective agencies (The Department of Environment and Conservation, The Department of Health and The Department for Community Development).⁴⁸

RECOMMENDATION NO.16

That there be an amendment to the Mining Act 1992, allowing for all reports requested by the statutory body referred to in Recommendation No. 15 or requested by The Department of Environment and Conservation, The Department of Health and The Department for Community Development under the permit process, to be concurrently submitted to the Mineral Resources Authority.

11.10 Assistance for Impacted Communities

Section 9 of the Environmental Code speaks of community Relations. It states that "local communities should be made part of the consultation process. Discussions should extend beyond environmental effects into the social, economic and cultural benefits and costs of the proposed mining development." Throughout the consultations, it became clear that many impacted communities are ill-informed and that the gap between village dwelling communities and the mine and regulators is too great for fair and balanced negotiations to take place.

In Porgera for instance, Mr Jeffrey Leo of Asmeil, complained that when people were initially consulted about the (tailings) waste they did not understand the kind of waste being referred to and signed agreements without a proper understanding. There were also issues raised in Porgera regarding tailings compensation and the need for the DEC to act upon a revision of the compensation packages under a Ministerial Determination.⁴⁹

In particular, Mr John Tole Pokoli of Lower Porgera submitted documents to the CLRC illustrating that the State Solicitor's Office⁵⁰ and the MRA,⁵¹ had advised the DEC to revise

⁴⁸ This recommendation is pendent upon the effectiveness and capability of the new Conservation and Environment Protection Authority. If CEPA shows itself capable of successfully conducting this role and responsibility then this recommendation is moot.

⁴⁹ See National Court cases OS No. 194 of 1996 and OS No. 340 of 1996 and Supreme Court appeal SCA No. 60 of 1996.

⁵⁰ Letter dated 26 September 2013, from Mr Daniel Rolpagarea (State Solicitor) to Mr Gunther Joku

the tailings compensation rate for some impacted communities in Porgera. The DEC is yet to do so, and Mr Pokoli argues that these impacted communities, who are not land owners within the mine area, do not have the funds to engage experts or lawyers to assist them in pursuing the matter with more force.

Another matter that was consistently raised throughout the consultations, although beyond the scope of this reference, was the demand for mineral resource ownership by the people. This is not captured in the pie chart analysis of the consultation because of the scope of this Terms of Reference, however, at least 15% of those communities and public consulted proposed resource ownership by the people as a solution to tailings management issues. This is largely due to the perception that Government as an equity holder in mining projects is compromised and this belief can seem to be compounded upon when the regulators are seen as failing in their duties and the people feel disempowered to demand their rights.

CLRC believes that the issues discussed above can be mitigated with the creation of an independent authority, to be funded by both the mining proponent and the Government, to assist local communities and landowners in negotiations, especially with regard to negotiating the mining development contract and any memorandum of agreements and compensation agreements during the approval stage of the mining project.

In particular, the CLRC draws upon the example of the Public Solicitors Office in the Solomon Islands and their Landowners Advocacy and Legal Support Unit (LALSU) that provides free legal advice and assistance to landowners.⁵² LALSU was established in 2009 with the support of the European Union. It provides legal advice on a range of legal issues regarding land and resource use. It also drafts letters, negotiates on behalf of landowners, and assists landowners to access Government ministries. However, it can only represent clients in Court on a limited basis where a case has strategic relevance to the country as a whole.

LALSU focuses on landowners, however, from the CLRC's consultations it became clear that many communities beyond the landowners within a MOA felt that they were impacted communities who should be included in dialogue with the mine and the Government. This was especially evident in Hidden Valley where Mr Robert Petrus, the Deputy Chairman of the Watut Impacted Communities Committee, submitted to the CLRC a report documenting build-up of sedimentation alleged to be caused by the mine.

Although sedimentation is highly likely from waste rock and not tailings, it remains a concern that should tailings waste affect communities outside the scope of the initial MOA, they too should have access to sufficient legal advice and assistance. This will prevent an Ok Tedi situation where communities outside the MOA are only considered once the environmental damage becomes undeniable.

Therefore, the CLRC makes the following recommendations.

⁵¹ Letter dated 12 October 2012 from Mr Philip Samar (MRA MD) to Mr Gunther Joku (Secretary, DEC)

⁵² See Solomon Islands Office of the Public Solicitors, Landowners Advocacy and Legal Support Unit < <http://www.pso.gov.sb/index.php/lalsu> >

RECOMMENDATION NO.17

That the National Executive Council direct the creation of a separate body, independent of the State regulatory bodies, either within the Public Solicitor's Office or otherwise, to advise, assist and represent the Land Owners and impacted communities in negotiating Memorandum of Agreements and any Business Engagement Plan between the Land Owners, the developer and the State as well as in holding the developer, the State and regulatory authorities to account.

11.11 Sustainable Mining

The final two recommendations by the CLRC are done in line with the DMPGM's current mining review and its work on a "Sustainable Mining Development Policy." During discussions with the CLRC's TOR No. 6 Working Committee, particularly with the MRA and with the Centre for Environment, Research and Development (CERD), it transpired that there is a need for the monitoring of PNG's water sources on a broad and on-going scale and also for the development of a long term policy to ensure PNG is mined in a sustainable manner.

Water monitoring in PNG was previously carried out by the Bureau of Water Resources under the now repealed *Water Resources Act 1982*. This was important in creating baseline data for subsequent development, including mining, which may affect water resources at a later time. CLRC has been unable to obtain information from the DEC as to whether the Department has continued this work and if information on its monitoring is available.

During consultations, there was a significant amount of complaints made by communities in Ok Tedi, Porgera, Hidden Valley and Ramu Nico about the quality of their local water sources which they believed were affected by mine waste. Baseline data on water monitoring would ensure that subsequent complaints by impacted communities on the quality of their potable and non-potable water sources can be more easily proved or dismissed.

As a model, the CLRC points to Western Australia's Department of Water whose function is to "manage the availability and quality of water sustainably now and for the future."⁵³ One of the ways the Department does this is by operating numerous surface and groundwater sites throughout Western Australia. All the information collected from their monitoring is published online and assists the Government in making "informed decisions, provide useful advice and manage and plan effectively for safe and sustainable water supplies."

Additionally, in the Issues Paper, the CLRC raised as an issue, "Should a long-term mineral resources management plan with zoning considerations be created to ensure sustainable mining?" This issue was also raised throughout consultation, especially during public consultations in Madang where Benjamin, a student at Divine Word University stated that, "PNG's resources are being reaped at an alarming rate that future generations may have nothing to live on. Locals are not aware of what goes on. They trust in the educated and particularly the Government to do the right thing for their betterment."

The MRA in responding to this issue, stated:

⁵³ See Government of Western Australia, Department of Water <www.water.wa.gov.au>

This is an ideal way of managing development and its impacts on environment. It may also assist in measuring “sustainable mining.” However, this will require mobilization of information which is currently disjointed and held by various agencies.

Information from town planning in each provincial headquarters, from MRA and DMPGM of geological resources, population figures, other resource types (forest, agriculture, fishing) and GIS mapping of all data types.

This will require a collaborative effort across government to develop a resource management plan with zoning consideration.

MRA however is compiling a information database that could give mineral occurrences within PNG.

Once a plan is developed to manage resources in PNG, the *Mining Act* 1992 needs to be amended to reflect this requirement.

Taking into consideration, MRA’s submission on this issue and the DMPGM’s current drive towards sustainable mining, the CLRC believes that a long-term mineral resources plan should be developed and implemented with the assistance of all stakeholders.

RECOMMENDATION NO.18

That the Department of Environment and Conservation develop and maintain a nationwide water monitoring office with monitoring sites all over the country, including mining project and non-project sites, collecting data on the quality and quantity of PNG’s water resources.

RECOMMENDATION NO.19

That the National Executive Council direct respective agencies to set-up a Task Force mandated to develop a long term mineral resources management plan to ensure sustainable mining.

11.12 Considered Recommendations

The following recommendations were considered but not included in the final list of recommendations; however, for the purposes of the draft Report, they are included for your comments.

RECOMMENDATION NO.20

That an amendment be made to the Environment (Water Quality Criteria) Regulation 2002 to adopt the ANZECC minimum water quality criteria.

RECOMMENDATION NO 21

That an Amendment be made to Section 73 of the Environment Act 2000 to establish as an offence, the provision of misleading information and material falsehoods under the environmental impact assessment process.⁵⁴

⁵⁴ Complimenting s.47, CEPA 2013, which states that a person who makes a false statement is guilty of an offence with a fine not exceeding K50 000

12 CONCLUSION

The Minister of Justice issued the CLRC with Terms of Reference No. 6 because of public concern about the environmental and health impacts of mine tailings waste. Although a technical matter, many Papua New Guineans felt that this should not bar the way for regulations to be put in place that made them feel that their health and environment was safe, beyond the considerations of economic benefit.

The CLRC believes that the recommendations it has made in this draft Report will assist the mining industry to put in place measures that will keep the people better informed about tailings waste and how it may affect them. The CLRC encourages the Government, especially the mining regulatory bodies, to take ownership of the issues and recommendations raised in this draft Report and address them.

ANNEX

Amendments to the *Environment (Permits) Regulation 2002*

10. NOTIFICATION OF APPLICATIONS.

(1) Subject to Subsection (2) and (3), the Director shall upon acceptance of an application for a permit pursuant to Section 61 of the Act, within 28 days, publish a notice in a newspaper circulating nationally, **on the official website of the Department** and a radio – broadcasting service (if any) which serves the province where the proposed activity is planned to be carried out, advising that any interested person may –

- (a) make written representations to the Director and furnish a copy of them to both the Director and the applicant within 21 days of the date of publication of the notice; and
- (b) view the application at such nominated places on payment of a prescribed fee **not greater than K100.**

(2) A notice published in accordance with Subsection (1) shall be in Form 4 of Schedule 1.

(3) **The applicant shall pay for the costs of publication of the notice or pays the publishers for publication of the notice.**

15. CONSIDERATION OF SUBMISSIONS.

(1) Subject to Section 65 of the Act, the Director shall –

- (a) in determining whether or not to grant a permit; and
- (b) in specifying the conditions to which a permit is subject,

have regard to the submissions made or the objections received under Sections 9, 10 and 11.

(2) Where –

- (a) the Departmental Head of the Department responsible for health matters objects to an application on grounds that the public health is likely to be endangered by the carrying out of the proposed activity; or
- (b) the National Physical Planning board, or another planning authority advises that a proposed activity is contrary to a planning or zoning requirement,

the Director **shall** refuse to grant the permit.

16. PUBLICATION OF GRANT OF PERMIT.

(1) The Director shall upon grant of a permit under Section 65 of the Act –

- (a) issue a permit in Form 5 of Schedule 1 subject to such conditions as the Director may endorse on the permit under Section 66 of the Act; and
- (b) specify a commencement date not less than 28 days after the date on which the permit is

issued; and

(c) specify the duration of the permit, being –

(i) in the case of Level 2 (Category B) activity or Level 3 activity, at least 25 years unless a shorter period is requested by the applicant; and

(ii) in any other case, not exceeding 10 years;

(d) publish a notice of the granting of the permit within seven days of the issue of the permit –

(i) in a newspaper circulating nationally; and

(ii) through the radio broadcasting service (if any) which specifically serves the province in which the proposed activity is proposed to be carried out; and

(iii) on the Department's official website

stating the place where any approval in principle, the application and the permit can be inspected; and

(e) give a copy of the permit to the applicant; and

(f) register the permit in the register; and

(g) make the register available to the public through the Department's official website

(2) The applicant shall pay for the costs of publication of the notice or pays the publishers for publication of the notice.

(3) A notice published in accordance with Subsection (1)(d) shall be in Form 6 of Schedule 1.

23. AMENDMENT OF PERMIT

(6) Where –

(a) an application for an amendment relates to a Level 3 activity for which an environmental impact assessment has not been conducted in relation to the proposed amendment; or

(b) in any other case, an application for a major amendment is made and it is necessary that appropriate notification and referral of the application require to be undertaken,

the Director shall refer the application to the relevant government agencies or instrumentalities and give public notice of the application in accordance with Sections 9 and 10.

26. FAILURE TO LODGE AN ANNUAL RETURN OR FEE.

(1) Upon the failure of a permit holder to comply with a condition of a permit relating to payment of annual fee prescribed under the Environment (Fees and Charges) Regulation 2002 or lodgement of annual return, to which he fails to remedy such failure within 28 days of receipt of a written notice from the Director providing particulars of the failure, the Director shall issue a notice to the permit holder requiring him to show cause as to why the permit should not be suspended.

(2) Following the issue of a notice under Subsection (1) –

(a) a permit holder fails, within the time specified in the notice, to show cause as to why the permit should not be suspended; or

(b) the Director is satisfied that no good cause exists for the failure to pay the annual fee or lodge the annual return,

the Director shall suspend a permit issued to the permit holder.

(3) A suspension under Subsection (2) has effect until the annual fee is paid, or the annual return is lodged, or both, as the case may be.

(4) Following the lapse of a period of two months after the suspension of a permit under Subsection (2), the annual fee remains unpaid, or the annual return is not lodged during that time, the Director shall, by notice in writing to the permit holder, cancel the permit.

27. APPEAL.

(1) A person who is dissatisfied with a decision of the Director under this Regulation in relation to an application made by that person or in relation to an activity carried on by that person may apply under Section 68(1) of the Act for a review of the decision by the Council.

(2) Any person who is deemed a materially affected person who is dissatisfied with a decision of the Director under this Regulation in relation to an application or activity, affecting that person, may apply under Section 68(2) of the Act for a review of the decision by the Council.