OFFICE *of the* AUDITOR GENERAL
Republic of Fiji

REPORT OF THE AUDITOR GENERAL OF THE REPUBLIC OF FIJI

Performance Audit on the Licensing and Monitoring of River Gravel and Sand Extractions

Rerevaka na Kalou ka doka na Tui

PARLIAMENT OF FIJI
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File: 102

29 November 2021

The Honorable Ratu Epeli Nailatikau
Speaker of the Parliament of the Republic of Fiji
Parliament Complex
Gladstone Road
SUVA.

Dear Sir

AUDIT REPORT FOR PERFORMANCE AUDIT ON LICENSING AND MONITORING OF RIVER GRAVEL AND SAND EXTRACTIONS

In accordance with section 152(13) of the Constitution of the Republic of Fiji, I am pleased to transmit to you my report on the Performance Audit on Monitoring of Implementation of the Sugarcane Development and Farmers Assistance Program.

A copy of the report has been submitted to the Minister for Economy who as required under section 152(14) of the Constitution shall lay the report before Parliament within 30 days of receipt, or if Parliament is not sitting, on the first day after the end of that period.

Yours sincerely

Ajay Nand
AUDITOR-GENERAL

Encl.

The Office of the Auditor-General – Republic of Fiji

The Office of the Auditor-General is established as an Independent Office by the Constitution of the Republic of Fiji. Its roles and responsibilities include carrying out performance audits to determine whether an entity is achieving its objectives effectively, economically and efficiently and in compliance with relevant legislation. These audits are carried out by the Auditor-General on behalf of Parliament.

The Auditor-General must submit a report on performance audits carried out to Parliament. In addition, a single report may include two or more audits. This report satisfies these requirements.

The Office of the Auditor-General notes the impact of its reports to Parliament on the ordinary citizens and strives for accuracy and high quality reporting including recommendations which are not only value-adding to the entity subject to audit but its customers and the general public as well.

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Audit at a Glance

Why did we do this audit?

- The rising number of illegal river gravel and sand extractions, as well as the effects of these extractions, in terms of environmental and societal regardless of whether they are legitimate or not, have provided the motivation for this performance audit.
- Suggestions for the audit focus from Ministry of Lands and Mineral Resources themselves provided the foremost platform.

Key Facts

- State Land as stipulated in the State Lands Act 1945 and Rivers and Streams Act 1880 includes foreshores, rivers and streams as well as soil under the waters of Fiji.
- Powers of Director Lands to approve the issue of licenses for the removal of lime, sand and common stone are provided for in Regulation 29 of the State Lands (Leases and Licenses) Regulations.

33
Active Licenses

73
Expired Licenses

22
In Process

What did we find?

- Plans to phase out river gravel and sand extractions is blurred due to the large demand for the resource.
- Information on potential river gravel and sand extraction sites can be further improved through the development of a centralized database.
- The awarding of licenses to extract from rivers have generally been compliant though components of effectiveness and efficiency is lacking.
- Monitoring and reporting processes have been well established, though improvements in certain areas is needed.

What did we recommend?

- We made 18 recommendations to the Ministry of Lands and Mineral Resources.
- We recommended that improvements in the areas of geological exploration or similar surveys, licensing and monitoring need to be actioned by the Ministry of Lands and Mineral Resources in consultation with relevant stakeholders, in order to ensure the safeguarding of the environment and society.
- The Ministry of Lands and Mineral Resources generally agreed to the findings and recommendations.

List of Figures, Tables & Case Studies

Acronyms

Abbreviation	Meaning
ACP	African Caribbean Pacific Nations
ADB	Asian Development Bank
AFROSAI-E	African Organization of English-speaking Supreme Audit Institutions
AG	Attorney General
CEO	Chief Environment Officer
COVID 19	Coronavirus Disease 2019
DL	Director Lands/ Director of Lands
DMR	Department of Mineral Resources
DoE	Department of Environment
DoL	Department of Lands
EIA	Environmental Impact Assessment
EMA	Environment Management Act
EMU	Environment Management Unit
EU	European Union
FBoS	Fiji Bureau of Statistics
FN	File Number
FRA	Fiji Roads Authority
FY	Financial Year
GIM	Geospatial Information Management
GIS	Geospatial Information System
GSD	Geological Survey Division
GPS	Global Positioning System
HWM	High Water Mark
i-TLFC	i-Taukei Land and Fisheries Commission
i-TLTB	i-Taukei Land Trust Board
JIR	Joint Inspection Reports
LOU	Land Owning Unit
MIP	Mineral Investigation Project
MLMR	Ministry of Lands and Mineral Resources
mm	Millimeter
MoE	Ministry of Economy

Abbreviation	Meaning
MOU	Memorandum of Understanding
MPC	Heterotrophic Plate Count
NDM	Neglected Development Minerals
NDP	National Development Plan
NRGI	Natural Resource Governance Institute
OAG	Office of the Auditor General
PEO	Principal Environment Officer
PM	Prime Minister
PPE	Personal Protective Equipment
PPQA	Policy Planning Quality Assurance
PS	Permanent Secretary
PSLMR	Permanent Secretary Lands and Mineral Resources
RGE	River Gravel Extraction
RRA	Rock Resource Assessments
SDG	Sustainable Development Goals
SG	Solicitor General
SOP	Standard Operating Procedures
SPC	Pacific Community
SPL	Special Prospecting License
SPREP	Secretariat of the Pacific Regional Environment Programme
TA/NRDO	Technical Assistant - Natural Resources Duty Officers
TIN	Tax Identification Number
TKN	Total Nitrogen
TOR	Terms of Reference
UNDP	United Nations Development Programme
WQA	Water Quality Analysis

EXECUTIVE SUMMARY

Background

Fiji's 5 Year & 20 Year National Development Plan (NDP) expresses the need to revise and update the monitoring and evaluation of mining and quarrying operations for better oversight, in areas such as environment safeguards.

River gravel and sand extractions are forms of mining, yet gravel and sand are absent from the definition of minerals under Fiji's Mining Act 1965, for it to be considered a mining activity. With this restriction, the extraction of gravel and sand from rivers is regulated through the State Lands Act 1945 and the Rivers and Streams Act 1880 and its subsequent regulations. Gravel and sand have often been termed as development minerals.

(Franks, Pakoun, Ngonze, 2016) provides a general definition of development minerals which has been adopted in the UNDP 2018 baseline assessment report of Fiji's development minerals. Development minerals are minerals and materials that are mined, processed, manufactured and used domestically in industries such as construction, manufacturing, and agriculture.

The UNDP 2018 baseline assessment report is the product of Fiji's first ever comprehensive assessment of development minerals in Fiji. The study has identified, amongst other issues, significant and acute negative social impacts associated with river gravel and sand extraction operations.

Despite these negative impacts, which have been supported by sufficient anecdotal evidences, there is still an increase of river gravel and sand extractions. These include regulated and unregulated extractions. These surges in river extractions have been impelled by the demand for sand and gravel for both domestic and international markets. International trade of gravel and sand resources are mostly done with neighbouring island nations.

Coverage

The Performance Audit on Licensing and Monitoring of River Gravel and Sand Extractions focuses on three areas namely the 'Assessment of Potential River Gravel and Sand Extraction Sites',

Key Findings

'Licensing System for Extracting River Gravel and Sand', and 'Monitoring of Extraction Operations'.

Assessment of Potential River Grave and Sand Extraction Sites

- Though there is a centralized information system in place for the MLMR, there is no centralised database for potential river gravel and sand extraction sites.

Licensing system for extracting river gravel and sand

- Though there is sufficient anecdotal evidence to confirm the significant negative environmental and social impacts of river gravel and sand extractions, increase of the same has been impelled by the demand for the resource. A transition to hard rock quarries is therefore a more responsible undertaking.
- Gaps were noted in key procedures in the licensing process.
- A structured review approach for processes and procedures is needed due to gaps noted in key procedures of DoL including requirements of governing legislation and regulations not fully represented in procedural guidance.
- Information is scattered across different agencies/divisions, largely due to the absence of a publicly available centralised place/site capturing all regulatory processes.
- Applications are not assessed and processed in full compliance with procedural guidance.
- Improvements are needed in the process of obtaining significant environment baseline data. This is to ensure that proponents are held accountable for any significant impacts that may occur which can be achieved through benchmarking and monitoring against the state of the environment pre and post extraction.
- The lack of community representation (usually the LOU members for extraction on rivers adjacent to i-Taukei Land) at the Environmental Impact Assessment (EIA) consultation meeting is a concern that needs to be addressed by the

responsible authorities.

- Though we found EIA reports in most of the application files, there is still room for improvement. Issues noted with the EIA reports included inconsistencies in reports prepared for two set periods, volume of extraction not disclosed in some reports, incomplete presentation of water sampling results, sources of pictures and photographs not adequately acknowledged in report, inadequate representation of flora and fauna, inappropriate cost benefit analysis and same information on environmental impacts noted across EIA reports prepared by the same EIA consultants. These issues can be addressed through a proper review process.

Monitoring of Extraction Operations

- While actions are being taken against illegal extraction of river gravel and sand, there is a need for relevant government agencies to work together to impose harsher penalties on offenders. This is to ensure that clear messages are sent on the consequences of not abiding to law, terms and conditions.
- More effort is needed from the MLMR to follow up on licensee's self-reported information as this is a requirement under the approved license conditions.
- There is potential to make more use of technology for monitoring that can help the MLMR detect unregulated/ illegal river gravel and sand extractions proactively.
- While a monitoring system is established, its regularity and consistency can be improved.

General Recommendation

While phasing-out of river gravel and sand extractions is blurred, improvements in the areas of geological exploration or similar surveys, licensing and monitoring need to be actioned by the MLMR in consultation with relevant stakeholders, in order to ensure the safeguarding of the environment and society.

Overall Conclusion

Information on potential river gravel and sand extraction sites can be further improved through the development of a centralized database. Moreover, while the MLMR's compliance with the licensing system for river gravel and sand extractions is fair or moderate, the quality of decisions is an area of concern due to gaps in the SOPs which is compounded by the absence of a structured and thorough review process, inadequate data maintenance, inconsistent application of pivotal work processes, and the substandard quality of information being provided based on which decisions are made. Furthermore, MLMR's established monitoring processes have not been able to prevent issues arising from river gravel and sand extractions because of a weak penalty system on offenders which does not act as deterrent, not taking full advantage of available technologies and inconsistent monitoring of work carried out.

1.0 INTRODUCTION

Development minerals play a major role in Fiji's domestic development, especially in the areas of infrastructure, construction of buildings, road construction, agriculture and disaster reconstruction, as well as supporting a large number of Fijian small and medium-sized domestic enterprises.

The mining and quarrying of development minerals in Fiji are dominated by crushed aggregate, gravel and sand, used for construction materials, and to a lesser extent limestone, used for agricultural purposes.[1] Refer to the table below for details.

Table 1.1: Composition of Development Minerals in Fiji

Name	Development Mineral Type	Definition for the purpose of this assessment
Aggregate	Construction	Any naturally occurring fragments of rock >2mm
Sand	Construction	Any naturally occurring fragments of rock between 0.06mm and 2mm.
Clay	Construction	Any naturally occurring inorganic soil (with a strength <1PMa) comprised of grains <0.06mm.
Limestone	Construction/ Industrial	Any rock comprising <50% calcium carbonate.

Source: UNDP 2018 Baseline Assessment report of Development Minerals in Fiji, p 188.

There are indications that the demand for development minerals will significantly increase in Fiji. A gargantuan quantity of construction materials is required to construct the infrastructure proposed in the Government of Fiji's '5 Year National Development Plan', and development minerals have an important role to play in achieving all 17 of the 'Sustainable Development Goals'.

The 'Baseline Assessment of Development Minerals in Fiji' is the first comprehensive study of development minerals in Fiji and it had identified 86 regulated extraction sites; of which 76% are located in Fiji's rivers. In 2017, the total estimated development mineral production from regulated sites was 3,584,400 m^3, which is equivalent to excavation of an area approximately 10m deep over five times the footprint of Suva's Albert Park.[2] This figure is approximately 8

[1] UNDP 2018 baseline assessment of development minerals in Fiji, pp 25.
[2] UNDP 2018 baseline assessment of development minerals in Fiji, pp 8.

times higher than the total reported official production of hard rock quarry, soft rock quarry and river gravel extraction in Fiji.

Environmental rights is enshrined under Section 40 of the 2013 Constitution of the Republic of Fiji and it is stated that "Every person has the right to a clean and healthy environment, which includes the right to have the natural world protected for the benefit of present and future generations through legislative and other measures".

1.1 Reasons for the audit

Media coverage on illegal river gravel and sand extractions had been a contributing factor behind the motivation for this audit. Poorly regulated development minerals industry can contribute heavily to over-exploitation of river gravel and sand, increased unregulated/illegal extraction resulting in the under-estimation of the industry's output and its contribution to Fiji's economy. Furthermore, increased unregulated/illegal extractions could also lead to significant environment degradation due to operations not being monitored and even threatening future sustainability of the industry. These are all major concerns in promoting sustainable development of any country as it has been described clearly in the United Nation's 2030 Agenda for Sustainable Development.

Following a Compliance Audit Report on the *"Approval of Commencement of Quarry Development Projects and Appointment of Certified Foreman-in-Charge"*[3] carried out by the Office of the Auditor General, certain issues had been highlighted that needed further scrutiny which has resulted in the undertaking of this performance audit.

Based on interviews conducted during the pre-audit exercise, it was highlighted that the Ministry of Lands and Mineral Resources (MLMR) had been encountering a lot of problems related to the issue of illegal gravel and sand extractions and environmental degradations of these activities.

The audit of extractive industries is also among the priority areas of Environment Auditing that the Office of the Auditor General (OAG) has embarked on.

[3] Tabled as Parliamentary Number 269 of 2020.

2.0 AUDIT OBJECTIVE, SCOPE AND METHODOLOGY

2.1 The purpose of our audit

The objective of the audit was to determine whether the Ministry of Lands and Mineral Resources (MLMR) effectively regulates river gravel and sand extractions through a proper system of contracting/ licensing and monitoring in order to ensure good governance and sustainable development in the sector.

2.2 What we audited

River gravel and sand extractions fall under the extractive industries sector in Fiji, in addition to mining, petroleum, hard rock quarrying and ground water resource extractions. Extractive industries consists of any operations that remove oil, gas, metals, minerals and aggregates from the earth and/or sea.[4] The OAG is a member of the International Organization of Supreme Audit Institutions (INTOSAI) Working Group on the Audit of Extractive Industries (WGEI) which has adopted the African Organization of English-speaking Supreme Audit Institutions (AFROSAI-Es) 7 (seven) value chain for the audit of extractive industries as shown below.

Figure 2.1: The 7 Step Extractive Industries Value Chain

Source: Summarized from AFROSAI-E Guideline on Audit Considerations for Extractive Industries, 2019.

[4] African Organization of English-speaking Supreme Audit Institutions (AFROSAI-E). *Guideline on Audit Considerations for Extractive Industries*, 2019.

This audit focuses on Value Chains 2, 3 and 4 only.

To achieve our objectives, the licensing and monitoring procedures were assessed to find out whether:

- Due process to extract river gravel and sand have been effectively carried out;
- Awarding of licenses to extract river gravel and sand have been carried out in an efficient and effective manner; and
- Monitoring and reporting system is well established in the MLMR and is functioning well to ensure sustainability of resources.

2.3 How we audited

Audit techniques used for gathering evidence and conducting our audit included the following:

I. Interviews were carried out with the following agencies:

Ministry of Lands and Mineral Resources
Ministry of Waterways and Environment
i-Taukei Lands Trust Board
Fiji Roads Authority
South Pacific Commission
Fiji Cement Suppliers
Foreman-in-Charge and the Tallyman of two extraction companies
Community members of 2 villages

II. Documentary review of legislation, policies, standard operating procedures, development plans, strategies, reports, media articles, databases, meeting minutes; and

III. Physical observation – the audit team visited selected river gravel and sand extraction and mining sites in the Central and Western Divisions to observe activities that had taken place. The list of sites that were visited in the Central and Western Divisions were determined after proper compilation and reconciliation of data held by each regulating agency in the sector.

3.0 ASSESSMENT OF POTENTIAL RIVER GRAVEL AND SAND EXTRACTION SITES

Summary of main findings of the Chapter

This section deals with the assessment process of potential river gravel and sand extractions with respect to database maintenance which is done prior to receiving applications for extractions. This section has only one theme.

Theme 1: Database for potential river gravel and sand extraction sites

Description of the situation found

Though there is a centralized information system in place for the MLMR, there is no centralized database for potential river gravel and sand extraction sites.

Criteria

Government, through ministries and agencies/directorates, should ensure that information from these surveys is stored and updated in a database. Controls should be in place to ensure that reliable and up-to-date information is available in the database.[5]

Evidence and Analysis

We were informed during discussions held with MLMR that they capture and map out data for all active extraction sites. This is applicable for sites where licenses to extract have been issued and are operational. Mapping is performed by the Geospatial Information Management (GIM) Division of the MLMR. The MLMR confirmed that they do not maintain any data for potential river gravel and sand extractions. Potential sites are those where

[5] African Organization of English-speaking Supreme Audit Institutions (AFROSAI-E). *Guideline: Audit Considerations for Extractive Industries*, 2019.

licenses have not been issued to extract, yet they have aggregates that are viable for extractions in the future for any interested companies.

The MLMR informed us that all rivers are assumed to have gravel, thus all rivers are potential extraction sites. Therefore, there are currently no processes in place to pre-determine whether gravel from a particular river is viable for potential extraction. Decisions for extractions are entirely based on whether to approve or decline an application for license to extract which is received by the MLMR through Department of Lands. Pre-requisites for approval are based on provisions of, inter alia, approved EIA Reports, Rock Resource Assessments, and Volumetric Assessments etc.

The MLMR is currently in the process of collecting data through the Mineral Investigation Project (MIP). Though this is only for high value mineral and hard rock resources, data collected would be mapped-out as potential sites. In this respect, we noted that similar practice was not in place for river gravel and sand extraction sites.

We were further informed that there have been discussions on conducting a baseline survey for the river systems in Fiji. The survey would involve collection of information on individual river systems and the resources available in the river.

It is noted that the MLMR does not maintain data and does not have a centralized database capturing potential river gravel and sand extraction sites except for those which have been undertaken based on community requests.

Causes

There is no database because there is currently no data available with the MLMR for all current and potential river gravel extraction sites.

The MLMR in their response to the findings, agreed to the recommendation made but stated that carrying out a Mineral Investigation Project or baseline survey for river gravel and sand will require funds and human resources.

The MLMR indicated that gravel deposits in rivers are not static as flooding plays a major role in washing them away and replenishing them again. Therefore, it was best to carry out assessments once applications are received.[6]

In addition, the MLMR informed us that these plans have also not come to fruition because more focus have been on responding to ad-hoc requests from the communities.

[6] Matrix for comments received from MLMR on 13 September 2021.

Good Practices

The MLMR maintains the Vanua GIS platform under the Department of Lands. The data submitted to the MLMR's web-portal has limited attributes, as it is confidential. They only feature the boundaries and not the full underlying information of the tenement holders.

Recommendation

1. The MLMR should consider collating information for all river gravel and sand extraction sites including potential sites and also keeping a database detailing this information which is linked to a National Land Use Plan.

Expected Benefits

The database would be very useful for all the stakeholders in order to see which sites are available and could be given license for. Maintaining a database for all potential river gravel and sand extraction sites would also be useful because not all sites would have enough quantity of gravel to be extracted. This database could also help monitor a lot of environmental issues.

The environmental impacts of gravel and sand extraction are not always readily obvious and hence have long been under-estimated. The cumulative, far-reaching effects of numerous uncontrolled operations have contributed substantially to the degradation of river and coastal ecosystems. Gravel and sand are drawn mainly from river bed deposits and from the beach zone, both on-shore and off-shore. River gravel and sand extraction changes the physical characteristics of the extraction area and disturbs the closely linked flora, fauna, hydrology and soils. Negative effects are not limited to the site itself, but may extend to other parts of the coastal or river system. To safeguard the future of river gravel and sand extractions and the continued viability of other uses of the resource base, the environmental effects must be controlled. Some of the potential adverse effects of river gravel and sand extraction are as follows:

- Degradation of the riverbed if extraction is not managed within sustainable limits
- Discharge of fuel and lubricants from machinery used
- Disturbance of the natural meander pattern
- Sediment discharge increasing turbidity and smothering habitat
- Dust generation
- Reduction of recreational access and effects on visual amenity
- Disturbance of fish-spawning sites
- Disturbance of nesting birds

- Increased noise and traffic for adjacent landowners

Therefore, there is an urgent need to conduct survey and maintain a database in order to confirm the rivers where extraction could be done and areas where extraction should not be carried out, as it could lead to detrimental environmental effects.

4.0 LICENSING SYSTEM FOR EXTRACTING RIVER GRAVEL AND SAND

Summary of main findings of the Chapter

This chapter looks at the effect of the huge demand for river gravel and sand, with likelihood of consequential rise of over-exploitation and illegal extractions. This chapter also examines whether the Ministry of Lands and Mineral Resources (MLMR) manages and administers the licensing process in an effective and efficient manner and in compliance with applicable procedural guidance's.

Theme 1: Demand Pull for River Gravel and Sand

Description of the situation found

The considerable number of river gravel and sand extractions is impelled by the excessive demand for gravel and sand materials. Consequently, there is sufficient evidence to confirm the significant negative environmental and social impacts of these extractions. The planned and systematic transition from river gravel and sand extractions to a network of hard rock quarries would, therefore, be a more environmental responsible undertaking, considering the impacts of river extractions.

Criteria

The 2018 Baseline Assessment of Development Minerals in Fiji under the ACP-EU Development Minerals Programme, implemented in Partnership with UNDP recommended that:[7]

- *The MLMR should undertake a programme of works to support the development of a network of hard rock quarries in strategic locations, considering the holistic demand for development minerals in Fiji.*
- *The Government of Fiji should develop a detailed implementation plan for the phasing out of river gravel extraction and the transition to a network of hard rock quarries in strategic locations.*

[7] UNDP 2018 baseline assessment report of development minerals in Fiji.

Evidence and Analysis

There is strong evidence to indicate the significant negative impacts of river extractions at the social and environmental levels. Figures 4.1 to 4.4 shows the changes taking place over time to the Dawasamu River as a result of large-scale river gravel extractions. License to extract from the river was granted in January 2016. Figure 4.1 to 4.3 shows the river prior to extractions compared to Figure 4.4 showing the river during extractions. The negative changes to the quality of the environment is clearly presented in Figure 4.4.

The presence of a community living adjacent to the river is noted in the images. These could be an indication of dependence on the river system by the community for recreational purposes such as swimming as well as subsistence including drinking, watering plantations, cooking, bathing, washing clothes and other household items, and providing drinking water for livestock.

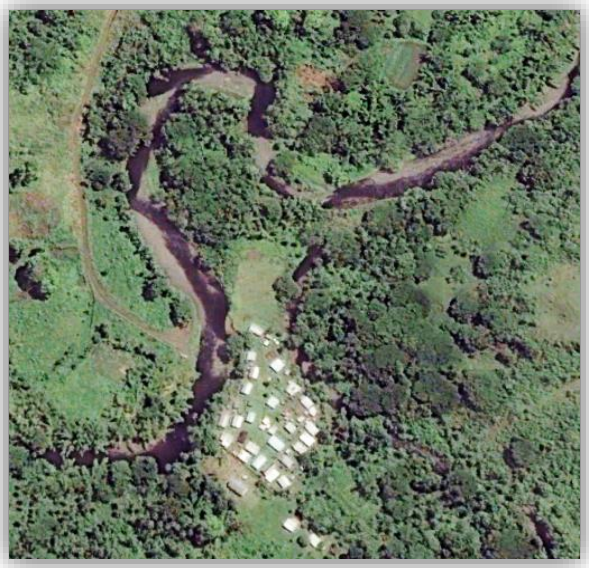
Figure 4.1: River before extractions in 2013

Source: Google Earth Pro Image dated 13 May 2013

Figure 4.2: River before extractions in 2014

Source: Google Earth Pro Image dated 13 September 2014

Figure 4.3: River before extractions in 2016



Source: Google Earth Pro Image dated 23 January 2016

Figure 4.4: River during extractions in 2017

Source: Google Earth Pro Image dated 10 October 2017

The MLMR noted[8] that with every river gravel extraction, the waiver of fishing rights is usually obtained before any other regulatory requirement is attended to and no extractions are allowed at any fish breeding grounds. They also commented[9] that royalty is paid to the fishing ground owners for volume extracted, further noting that the royalty rate is currently being reviewed. The MLMR revealed[10] that the reviewed rate has been transmitted to the Solicitor General's (SG's) Office for legal vetting prior to onward submission to cabinet. We were informed[11] that the review of royalty rates is being influenced by the current COVID 19 pandemic with extracting companies arguing of the impact of the current rate being levied on them. The MLMR anticipates[12] that a decision for the revision of the royalty rate would be finalised by second quarter of Financial Year (FY) 2021/2022.

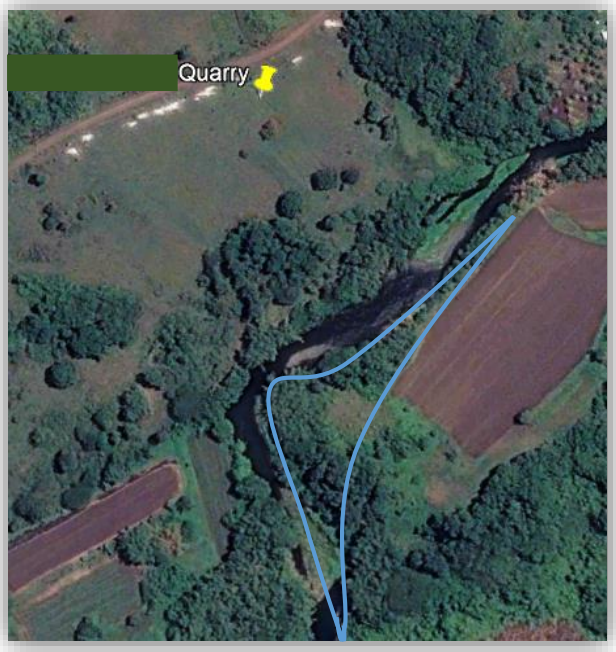
Figures 4.5 to 4.8 exhibits the position of the same river discussed above, near the quarry site. Notice how the position of the river has drastically changed before extractions (in 2013, 2014 and 2016) and during extractions in 2017. The blue line shown in Figures 4.5 to 4.7 represents the extent of land lost after extraction as presented in Figure 4.8. The 2018 baseline assessment of development minerals in Fiji under the ACP-EU Development Minerals Programme, implemented in partnership with UNDP[13] estimated that approximately 12,000m³ (3 acres) of land has been lost, along with a notable amount of vegetation.

[8] Matrix for comments received from MLMR on 13 September 2021.
[9] Matrix for comments received from MLMR on 13 September 2021.
[10] Exit meeting dated 14 September 2021.
[11] Exit meeting dated 14 September 2021.
[12] Exit meeting dated 14 September 2021.
[13] Hereon referred to as the UNDP 2018 baseline assessment report of Fiji's development minerals.

Figure 4.5: River near quarry site before extractions in 2013

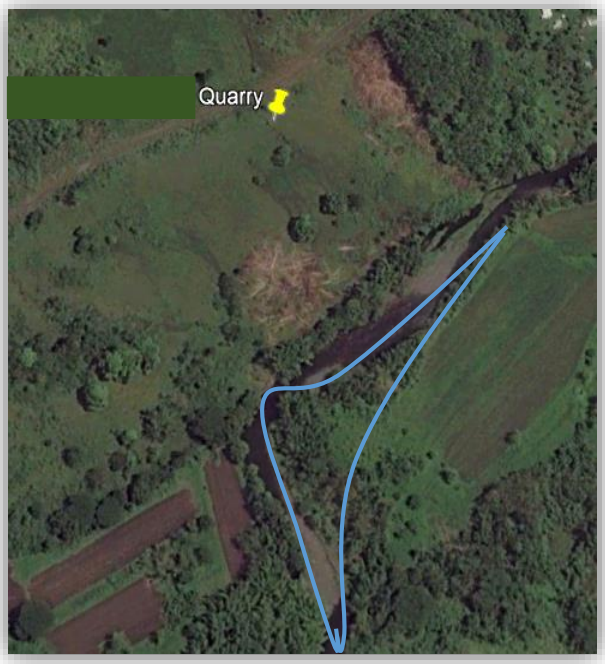
Source: Google Earth Pro Image dated 13 May 2013

Figure 4.6: River near quarry site before extractions in 2014



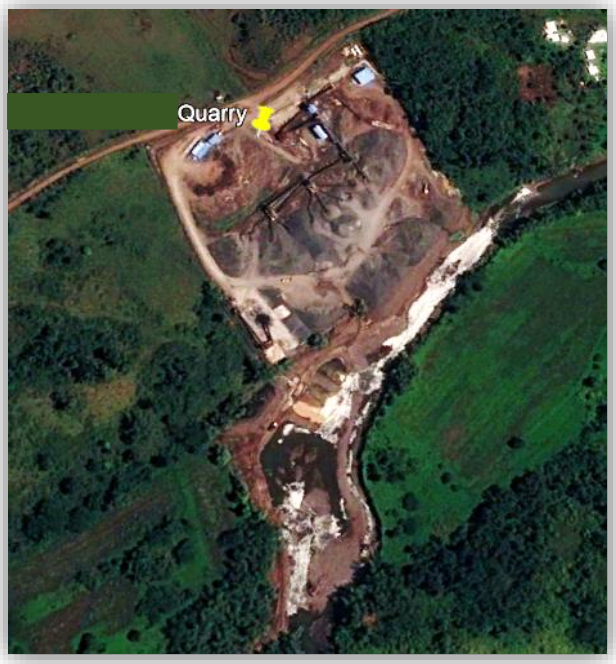
Source: Google Earth Pro Image dated 13 September 2014

Figure 4.7: River near quarry site before extractions in 2016



Source: Google Earth Pro Image dated 23 January 2016

Figure 4.8: River near quarry site during extractions in 2017



Source: Google Earth Pro Image dated 10 October 2017

According to a 2009 report by the Department of Environment and Resource Management of the Queensland Government[14], excessive sand and gravel extraction can trigger bed lowering and subsequent bank erosion. Figures 4.9 to 4.12 explains the phenomenon.

Figure 4.9: Excavating in the Streambed

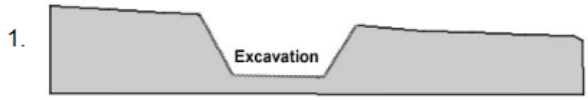


Figure 4.10: Sediment washed into excavation causing the bed upstream to erode

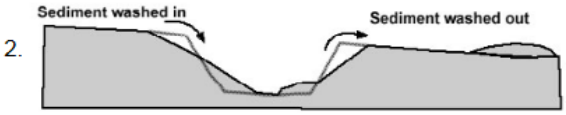


Figure 4.11: Bed may be lowered at downstream of excavation as the flow picks up energy on leaving the hole

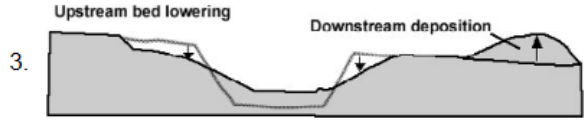
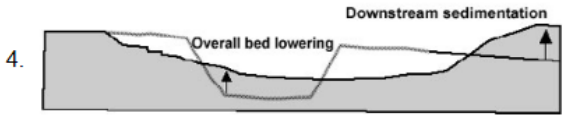


Figure 4.12: Lower bed level is developed overtime



Source: Queensland Department of Environment & Resource Management May 2009 report.

The Queensland report notes that bed lowering can initiate extensive bank erosion because the height of the banks relative to the bed are effectively increased, leaving them more susceptible to collapse. The report further suggests that riverbed lowering, can, amongst others, undermine riverbanks, resulting in overall channel enlargement with all the associated adverse impacts of bank erosion on economic and environmental values.

Site inspections during the audit at one of the sites in the central division found unstable river banks near the extraction site.

Figure 4.13: Unstable river bank

Figure 4.14: Unstable river bank

Source: Pictures taken by OAG on 10 March 2021

[14] https://www.qld.gov.au/__data/assets/pdf_file/0033/67677/what-causes-stream-bed-erosion.pdf

Furthermore, we were provided with inspection reports from MLMR's Department of Mineral Resources (DMR) for some extraction sites in the central and western divisions. We found instances of:

- Bank collapses (Figure 4.15);
- Heavily contaminated water due to erosion (Figure 4.16); and
- Unstable river banks due to excavation work on the river bank (Figure 4.17).

Figure 4.15: Bank collapse into the diverted water way

Source: Department of Mineral Resources, 2017

Figure 4.16: Dirty water downstream due to erosion

Source: Department of Mineral Resources, 2017

In addition, Figure 4.18 shows the state of a river at the completion of extractions. We obtained the photograph from the 2018 UNDP baseline report of Fiji's development minerals that was sighted from the Department of Mineral Resources inspection reports.

Figure 4.17: Bank collapse into the diverted water way

Source: Department of Mineral Resources, 2018

Figure 4.18: River extraction site upon completion of extraction

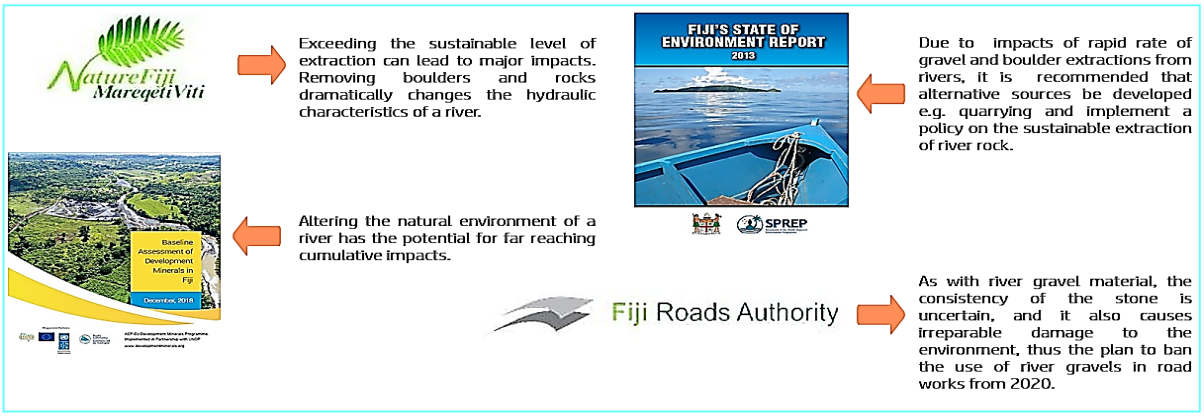
Source: UNDP baseline assessment report of development minerals in Fiji, 2018

The MLMR commented[15] that an environmental screening is carried out and in most instances an Environmental Impact Assessment (EIA) is required. They further noted[16] that this assessment will recommend strategies to counter and minimise environmental impacts. These assessments are usually presented at two public consultations with the local communities before it can be approved. The approved recommendations are included as conditions of the river gravel extraction licenses.

The MLMR also commented[17] that there have been many instances of environmental breaches. The licensee is required to remedy these breaches through rehabilitation works before they are allowed any further extraction. The MLMR further elaborated[18] that any breach with respect to environmental conditions will be dealt with by the Department of Environment (DoE) as per their EIA approval conditions, whereas, any breach to the extraction license conditions will be actioned by them through the Department of Lands (DoL). This demarcation[19], does not prevent the MLMR from reporting any breaches in environmental conditions as they discover many of these breaches during periodic inspection exercises. The MLMR noted[20] that the DoE is subsequently notified of these breaches.

Strong views have also been published regarding the environmental impacts of river extractions. Brief citations from the publications are noted in Figure 4.19 below.

Figure 4.19: Brief Excerpts from publications on the environmental impacts of river gravel and sand extractions

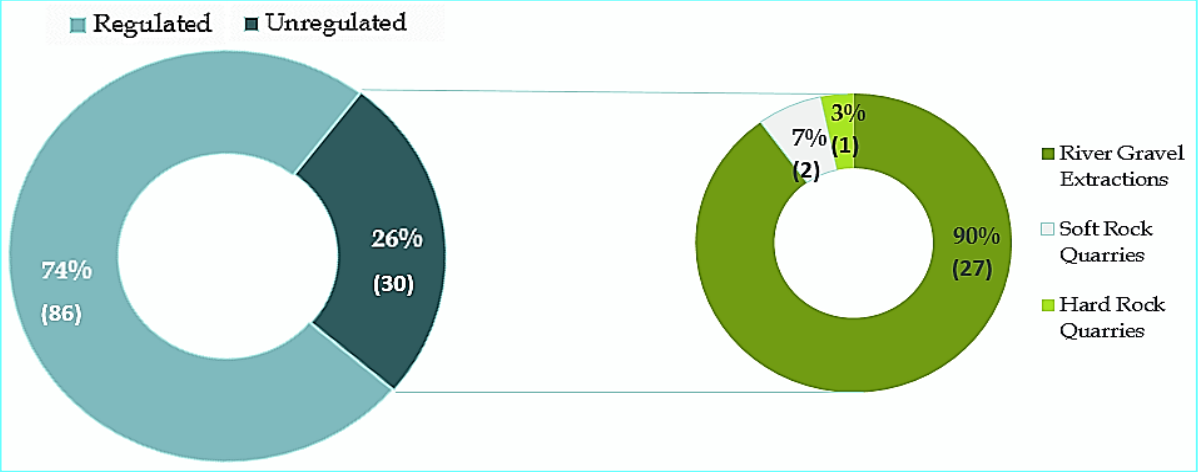


Source: Paper by Nature Fiji-MareqetiViti to the National Environment Council Meeting on the continuing destruction of Fiji's rivers and streams dated July 2010; 2013 Fiji's State of Environment Report' co-published by the Government of Fiji and the Secretariat of the Pacific Regional Environment Programme (SPREP); 2018 Baseline Assessment of Development Minerals in Fiji under the ACP-EU Development Minerals Programme; and Fiji Roads Authority (FRA) Media release published on 23 August 2019.

[15] Matrix for comments received from MLMR on 13 September 2021.
[16] Matrix for comments received from MLMR on 13 September 2021.
[17] Matrix for comments received from MLMR on 13 September 2021.
[18] Exit meeting dated 14 September 2021.
[19] Exit meeting dated 14 September 2021.
[20] Exit meeting dated 14 September 2021.

Given the notable implications of river gravel and sand extractions, we noted increased number of extractions being carried out. These include regulated and unregulated extractions. The UNDP 2018 baseline assessment report of Fiji's development minerals, noted 30 unregulated extraction sites (Figure 4.20). Of the 30 unregulated extraction sites, 27 (or 90%) were river gravel extractions while 2 were unregulated soft rock quarries and 1 was unregulated hard rock quarry.

Figure 4.20: Regulated Versus Unregulated Extractions



Source: UNDP 2018 Baseline assessment report of development minerals in Fiji

Regulated extractions are those companies/individuals operating with valid licenses while unregulated extractions are those companies/individuals who are extracting blatantly without a license. Unregulated extractions also include companies/individuals who are extracting with expired licenses. Unregulated extractions are deemed illegal.

Regulated Extractions

We noted that there are companies, though operating under a valid license, extract beyond the approved volume (as per EIA). An instance we noted during file reviews is examined in Case Study 4.1.

The MLMR noted[25] that over extractions under a valid license requires a penalty which is still being considered for

Case Study 4.1: Company extracting above the approved volume, operating under valid license.

A company[21] extracting from the Vatudele Creek, in Dawasamu in the Central Division had its license approved by Director Lands on 19 February 2018. The approved extraction volume as per Environmental Impact Assessment (EIA) approval[22] was 12,000m³. The MLMR through the DMR, during their inspections[23] found that the company had over extracted by 5,616m³. According to tallies submitted in the file, they had extracted a total of

[21] Company H.
[22] Dated 16 December 2015.
[23] Dated 25 July 2019.
[25] Matrix for comments received from MLMR on 13 September 2021.

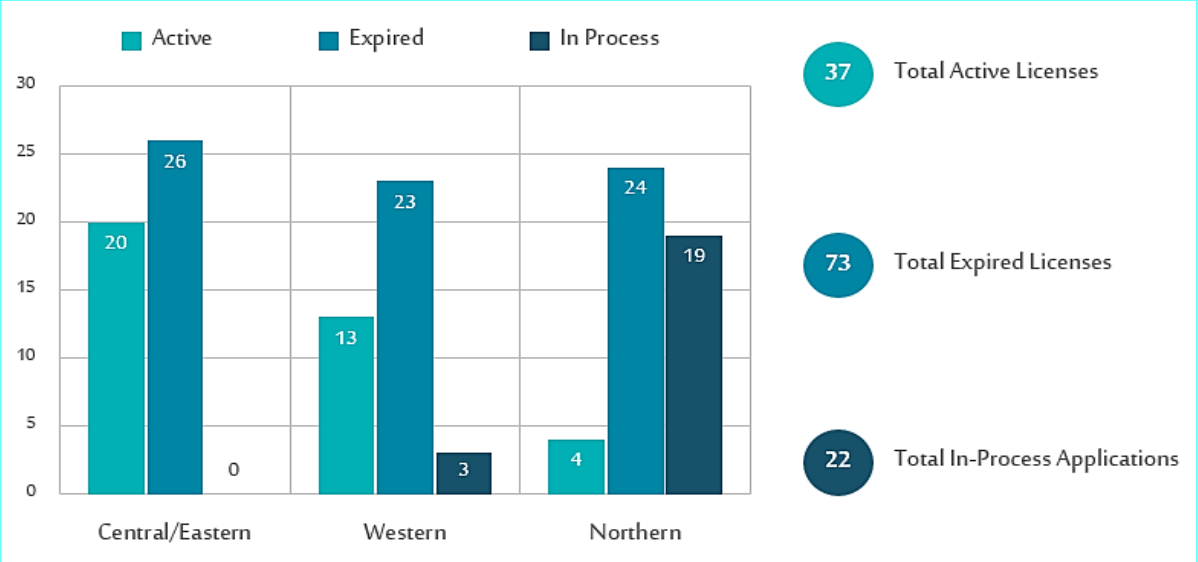
discussions with SG's Office. The MLMR further clarified[26] that what is being sought from SG's office is advice on whether the MLMR can charge an additional penalty for the volume of gravel which is over extracted because current practices by the MLMR can be seen as too lenient. The MLMR noted[27] that licensees are notified to stop extraction work through the issue of stop work notices and simply advised to pay the royalty rate on the volume of gravel over-extracted.

17,616m³, though the inspection team estimates that even this volume is understated based on their site assessments. The inspection team had gathered that a total of up to 60 loads of 10 cubic meter trucks were used in a day's work which totaled 600m³ per day. It is estimated that in a calendar year of 260 working days, 156,000m³[24] of gravel was extracted. According to this estimate, the extracted volume of 17,616m³ as per tally records submitted to DoL does not even make up 12% of the estimate. Our inspections on 10 March 2021 supports the estimation as we were informed that a total of up to 50 loads are carried out per day whereby one load equates to 16m³ of gravel. This signals the significant amount of underreporting by the company involved.

Unregulated Extractions – Expired Licenses

Based on the records provided to audit[28], the MLMR through the Department of Lands had received a total of 132 applications for extractions. Status of applications are shown in Figure 4.21.

Figure 4.21: License application status by division (No.)



Source: OAG analysis based on assessment of Department of Land's records

[24] 600m³ of gravel extracted per day * 260 working days in a calendar year.
[26] Exit meeting dated 14 September 2021.
[27] Exit meeting dated 14 September 2021.
[28] Dated 14 January 2021.

The above figures do not include those extraction licenses issued by the i-Taukei Land Trust Board (i-TLTB). We were not privy to the i-TLTB database, though we estimate a total of 13 quarries sourced from river gravel are under i-TLTB license.[29]

Moreover, of the 73 expired licenses, we had visited two of the extraction sites (one in the central and one in the western division) in order to ascertain whether work had actually stopped. We found sufficient evidence to conclude that work was still actively being carried out.

License for the first company we visited in the central division[30] had expired on 05 March 2019. On the day of inspection[31], we noted that no extraction work was being carried out, although we could find digger tracks along the bank of the river indicating active extraction. This was also confirmed by a quarry man at the site. The audit team was informed by the MLMR that the company had been issued multiple "Stop Work Notices" which, according to our assessment during inspections has been ineffective.

Figure 4.22: Fresh digger tracks leading up to the creek

Figure 4.23: Fresh digger tracks leading up to the creek

Source: Pictures taken by OAG on 10 March 2021

When visiting the expired company's extraction site in the western division[32], we noted little to no disturbance to the aggregates and rocks in the creek. However, when tracking the creek, we found a digger supposedly belonging to the company at an unapproved site. Confirmation by one of the villagers living adjacent to the creek noted that the company had been actively extracting from the unapproved site. Formalization of the "Stop Work Notice" was done on the spot by the officer from the MLMR's western divisional office, who was accompanying us during the site inspections. The notice was issued to the company on

[29] Comparing database of Geospatial Information Management (GIM) at MLMR and Mining Division at Department of Mineral Resources with relation to Quarries.

[30] Company H.

[31] Dated 10 March 2021.

[32] Company C.

18 March 2021. However, a copy of the notice was not handed to the nearest police post as indicated in the notice, reasons of which was not provided to audit, despite follow up requests.[33]

Figure 4.24: Undisturbed approved extraction site

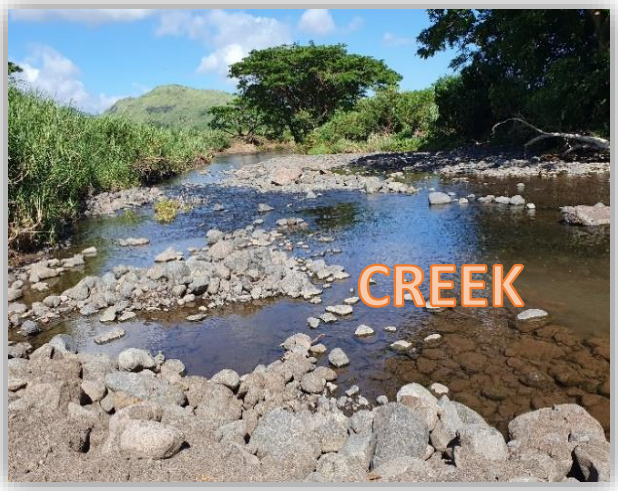


Figure 4.25: Digger found at unapproved extraction site

Source: Pictures taken by OAG on 11 March 2021

Based on our findings, there is high risk of other expired licenses still carrying out extraction work.

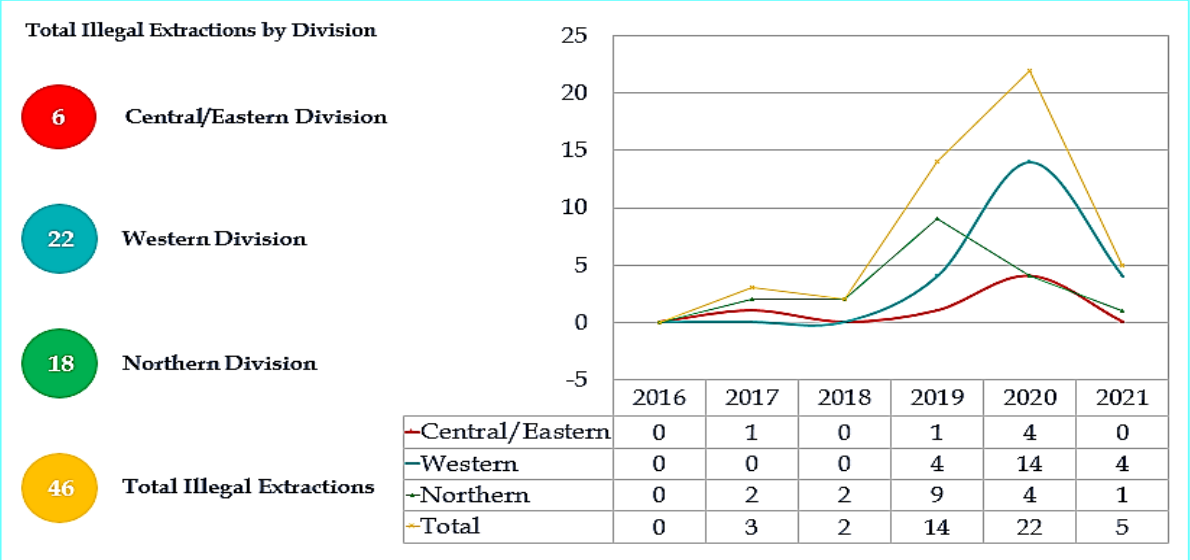
A review of the illegal extraction records provided by the divisional lands offices, confirmed that "Stop Work Notices" were also issued to two companies due to extracting with expired licenses, one in the Northern[34] division and one in the west[35]. The one in the west, was for the same company that we had visited.

Unregulated Extractions – No licenses

Based on the illegal extraction records we received, we noted a total of 46 illegal extractions from 2016 to 2021.

[33] Follow up requests dated 23 July 2021 and 04 August 2021.
[34] Company C1.
[35] Company C.

Figure 4.26: Illegal extractions by Division (No.)

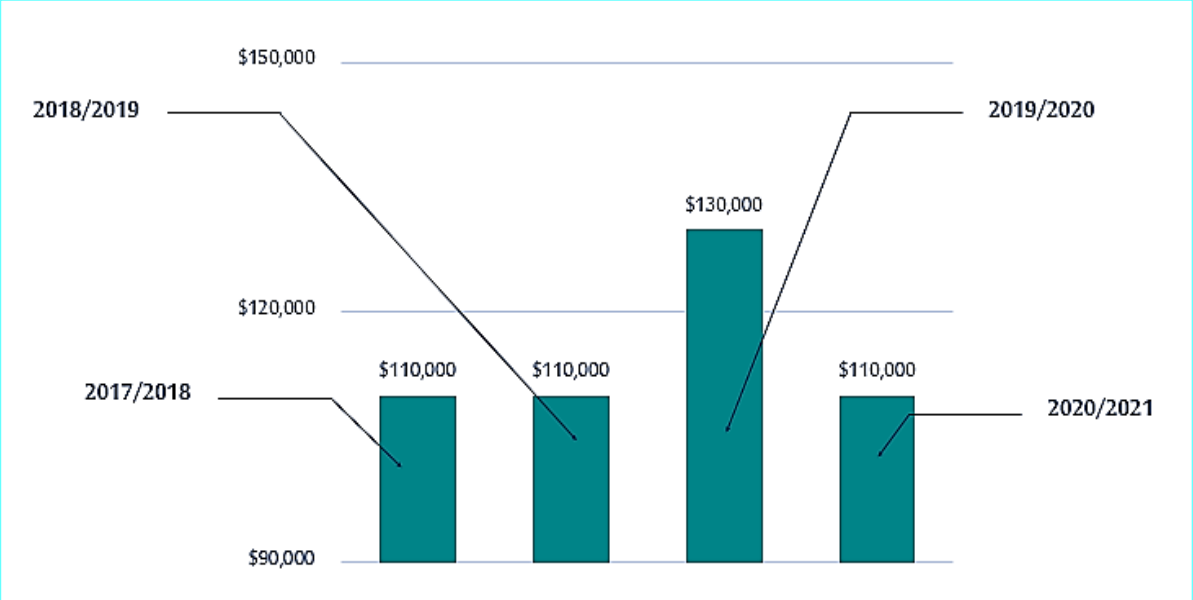


	2016	2017	2018	2019	2020	2021
Central/Eastern	0	1	0	1	4	0
Western	0	0	0	4	14	4
Northern	0	2	2	9	4	1
Total	0	3	2	14	22	5

Source: OAG analysis based on assessment of MLMR's Department of Mineral Resources' database

The spikes in 2019 and 2020 can be attributed to the newly established Technical Assistant Natural Resource Duty Officers (TA/NRDO) as per budget allocation for MLMR. The TA/NRDO's were responsible solely for monitoring the illegal extraction of river gravel and sand.[36] Thus, more illegal extractions were discovered.

Figure 4.27: MLMR budget allocation for monitoring gravel and sand extractions



Source: OAG analysis based on assessment of MLMR's budget allocation

[36] Turaga, S. (2019). 'Ministry of Land seeks legal advice on possible grounds of charging illegal extractors of river gravel and sand', *Fiji Village*, 09 August 2019.

When the recruitment of TA/NDRO's commenced, a total of six officers were engaged by the MLMR whereby two officers were posted to each of the three divisions (Central/Eastern, Western and Northern). For 2020/2021 Financial Year (FY), there were only five officers engaged, whereby one officer was stationed at the Central/Eastern Division and two officers each were stationed at the Western and Northern Divisions, respectively.

The budget covers for the TA/NDRO's salaries, and their logistics including meals, overtime, travel and Personal Protective Equipment (PPE) and any other expenses. Also, water, rock analysis etc. performed by the TA/NDRO were paid from the budget allocation.

The MLMR noted[37] that addressing unregulated extractions is a challenge, as they do not have any policy in place to penalize offenders. The MLMR also noted[38] that while proposals have been discussed, they have been advised by the SG's Office that they can only penalize offenders under the penal code or refer them to DoE under the Environment Management Act (EMA) 2005. The MLMR further commented[39] that offenders being referred to in this regard are those holding legal licenses and, in most cases, licenses are not renewed until an agreement is reached. These agreements could be by way of clearing outstanding royalties. The MLMR noted[40] that a legal engagement is established with a license holder through the approved license conditions, yet it is a setback for the MLMR when dealing with those extracting without valid licenses because a legal engagement does not exist due to absence of a valid license. Therefore, the MLMR advised[41], that current practice have compelled them to report matters of illegal extractions to other agencies who have powers to penalise such as the DoE if they breach an environmental condition or to the Police under the penal code.

The MLMR further clarified[42] that the limitation of imposing penalties for illegal extractors who do not hold valid licenses, emerges from restrictions in the legislation surrounding river gravel and sand extractions. The MLMR noted[43] that the legislation does not have a prosecution clause which can be used to penalize offenders. On the other hand, the MLMR elaborated[44] that, if river gravel and sand were regarded as minerals under the Mining Act, the MLMR through the DMR would have the legal backing to penalize offenders.

Nonetheless, the MLMR does recognize[45] that illegal extractions is a growing concern and they have proposed addressing this through many forums including:

[37] Matrix for comments received from MLMR on 13 September 2021.
[38] Matrix for comments received from MLMR on 13 September 2021.
[39] Matrix for comments received from MLMR on 13 September 2021.
[40] Exit meeting dated 14 September 2021.
[41] Exit meeting dated 14 September 2021.
[42] Exit meeting dated 14 September 2021.
[43] Exit meeting dated 14 September 2021.
[44] Exit meeting dated 14 September 2021.
[45] Matrix for comments received from MLMR on 13 September 2021.

- Bringing awareness to the local and remote communities through consultations with the various Provincial Roko's and Administrators. This will include public awareness on the legality and processes of river gravel and sand extractions, as in some instances, the community have entered into illegal arrangements by allowing extractions without the Director of Lands (DL's) approval.
- Commencing discussions with the Fiji Police Force in securing assistance to monitor these illegal extractions. The MLMR hopes to enter into an Agreement with the Fiji Police Force once the borders open with Police resuming normal operations due to the current COVID 19 pandemic.
- Sending data of valid licenses to the above mentioned parties with the consensus that any activity outside these licenses are deemed illegal and should be stopped.

"…in the previous years, the ministry had received numerous complaints on the uncontrolled and illegal extraction of sand and gravel…. the limited supplier of the sand and gravel natural resources could not meet the accelerated demand, hence sand and gravel resources were being exploited unsustainably and more so illegally…"

Nacei, L. (2019). 'Demand triggers illegal gravel extractions, *The Fiji Times*, 10 August.

Causes

The former Minister for Lands and Mineral Resources in August 2019 noted that "*the illegal extraction of sand and gravel from all divisions in the country is mainly because of the increasing demand by the construction industry for roads and infrastructure*".[46]

The UNDP 2018 baseline assessment report of development minerals in Fiji identifies the following activities as composing of Fiji's demand profile:

- Transport infrastructure development;
- Concrete manufacturing; and
- Export of aggregates.

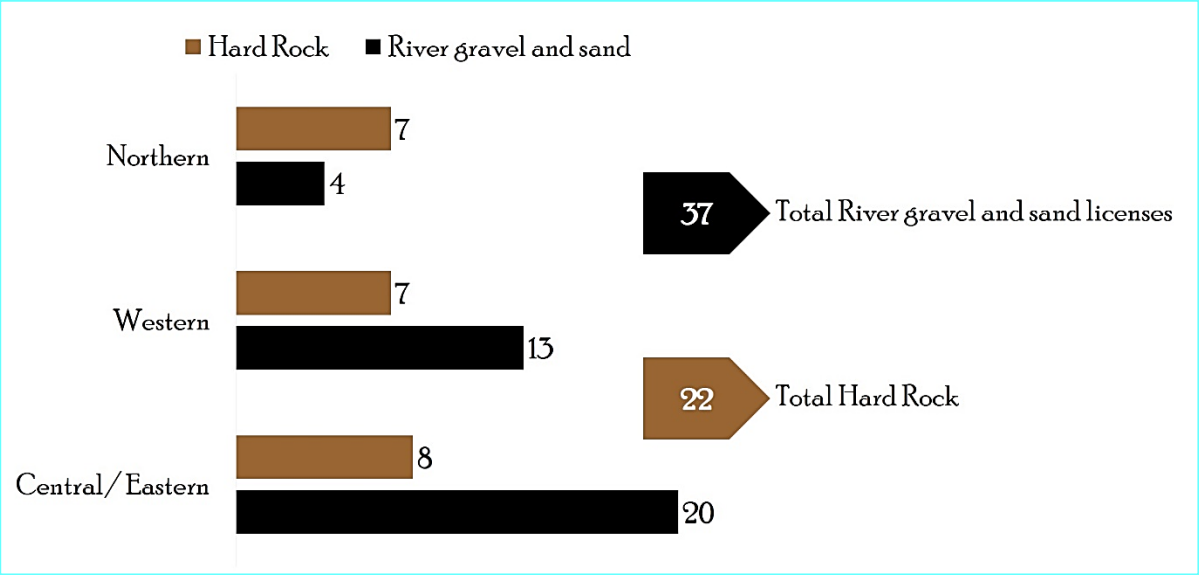
Fiji's transport infrastructure development and concrete manufacturing constitutes the internal demand pull for development minerals (namely aggregates such as gravel and sand sourced from rivers as well as aggregates sourced from hard rock). On the other hand, exports of aggregates make up the external demand pull for aggregates.

Based on the records provided to us by MLMR, we estimate that aggregates are largely sourced from river gravel and sand. Records indicate that there are more gravel and sand extractions carried out compared to quarries from hard rock sources (Figure 4.28). The 37 river gravel and sand extraction licenses noted in the figure below does not include those companies illegally extracting as mentioned earlier in the section, thus the number could be far greater. Our estimation has been based on these exceptions. Of the 37 extraction

[46] Nacei, L. (2019). 'Demand triggers illegal gravel extractions, *The Fiji Times*, 10 August.

licenses, 36 are for the periods 2020 to 2021 while 1 license is for the period 2021 to 2022. Also of the 37 extraction licenses, 20 are from the central division, 13 are from the western division, while 4 licenses are from the northern division.

Figure 4.28: River gravel and sand extractions Versus Hard rock quarries



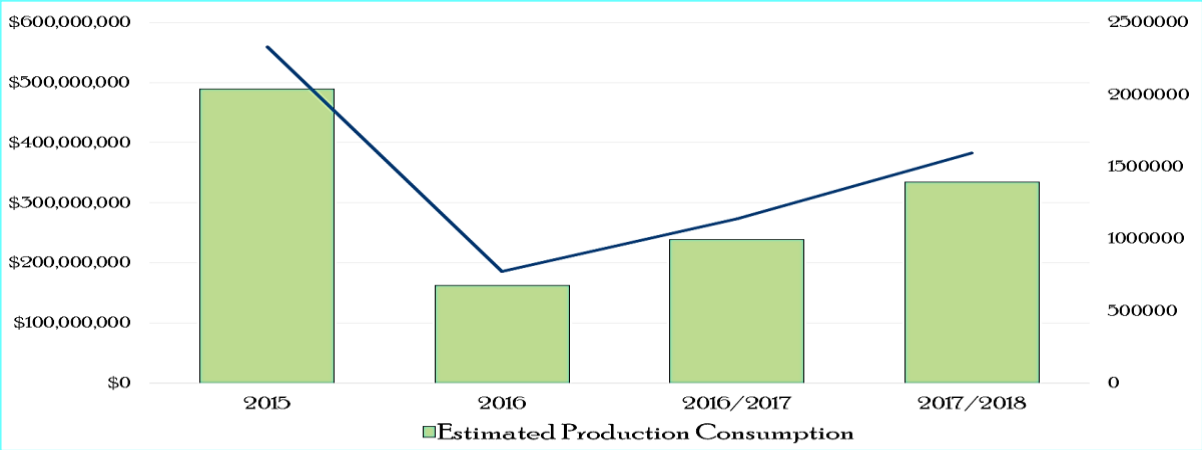
Source: OAG analysis based on assessment of MLMR's records database

Internal demand pull

We were not privy to the Fiji Roads Authority (FRA) data on actual volumes of gravel materials consumed from 2015 till date of drafting this report[47]. We were informed by FRA that it would require a minimum of 3-6 months to extract the information, even if additionally resourced. Alternatively, the 2018 UNDP baseline assessment report of Fiji's development minerals estimated that approximately 3,641m³ of development minerals were consumed for every million dollars spent on the FRA's maintenance and renewals programmes which only represent 31% of the total FRA budget. Thus, applying the same rate to the total FRA budget, the study team estimated that the FRA consumed 1,900,000m³ of development minerals in 2017. Using the consumption rate of 3,641m³ estimated by the UNDP study team, we applied it across FRA's actual expenditures from 2015 to 2017/2018 based on audited accounts (illustrated in Figure 4.29).

[47] Dated 26 May 2021.

Figure 4.29: FRA estimated consumption (m³) based on consumption rate applied across FRA Capital Expenditures



Source: OAG analysis based on assessment of FRA's Audited Accounts

The highest estimated consumption was for the year 2015 which means a higher demand for river gravel and sand. Discussions with FRA[48] noted that they have commenced the phasing out of materials sourced from river gravel in their maintenance and capital projects from 2020. Though there have not been any new contracts in 2020 with exception to the Asian Development Bank (ADB) projects, there are intentions to include provisions in the contracts requiring materials of a homogenous characteristic which is typically found in hard rock sources. FRA's strategy for phasing out materials from river gravel sources was, as advocated by many others, due to its environmental and social impacts.

The result of discussions with FRA was in line with their published media release, noting the ban of the use of river gravels in road works from 2020. (Refer **Appendix 1** for copy of media release). Case Study 4.2 is a practical example of FRA's intentions on the phasing out of materials sourced from river gravel and sand.

We further requested the results of rock resource assessments from DMR from 2020 till date, to determine whether there were companies still extracting river gravel for road making. We noted that for the period January 2020 to March 2021,

Case Study 4.2: Company notified to refrain from using river gravel as source of materials for major project.[49]

A company in the western division, Company T, had just received a significantly huge order from a road contractor currently commissioned by FRA. The company had been updated with a requirement from the contractor on the sourcing of materials from river gravel. They had been notified by the contractor that river gravel would not be accepted for materials. They are currently facing difficulties in trying to find alternative rock sources. Once secured, they understand the magnitude of work that needs to be carried out in terms of regulatory approvals. They also understand the considerable amount of time taken for application processing.

[48] Discussion held on 19 March 2021.

[49] Community Consultation dated 11 March 2021.

there were eight rock resource assessments carried out. Of these assessments, we noted that three were approved for road maintenance only and needed further tests, if the materials were to be used for other purposes, while three were approved for commercial purposes including feeder road maintenance, rehabilitation and local uses. For FRA projects that were awarded in 2017, reasonable explanations were provided for rock resource assessments still identifying purpose for use as approved for road maintenance and other road related uses. We were provided with a list of 56 FRA projects that had been awarded in 2017 which are in progress till date. Discussions with FRA revealed that contracts awarded before 2020 would continue as planned, while contracts awarded in 2020 and thereafter would require the specification for the need of materials to be sourced from hard rock. The MLMR confirmed that they have been processing licenses for parties contracted with FRA together with development and construction companies[50].

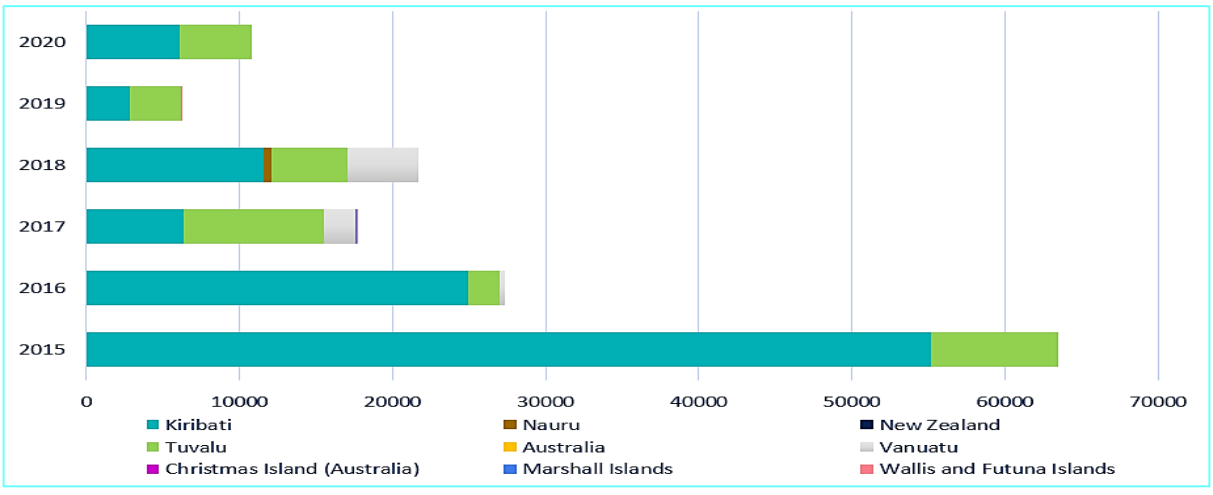
Thus, are concerned with the possibility of losing the contract.

Internal demand for river gravel and sand also includes those used for concrete production. However, due to limitation in audit mandate, we were not privy to some privately owned information. Therefore, the internal demand for river gravel and sand discussed in this report would be significantly higher.

External demand pull

We observed Fiji's exports of aggregates (i.e. gravel, sand and crushed rock) using the trade data provided by the Fiji Bureau of Statistics (FBoS). Figure 4.30 shows the export of gravel, sand and crushed rock between 2015 and 2020.

Figure 4.30: Exports of aggregates (gravel, sand and crushed rock) in m³



Source: OAG analysis based n assessment of FBoS Statistics

[50] Matrix for comments received from MLMR on 13 September 2021.

The chart clearly shows that Kiribati and Tuvalu are the two main export destinations for Fiji's aggregates. There is a sharp increase in exports to Kiribati in 2015. The UNDP 2018 baseline assessment report of Fiji's development minerals, noted that these two atoll countries lack aggregate resources. Thus, the report indicated that aggregates from Fiji is key for their construction needs.

The demand for river gravel and sand are further attributed to two main reasons:

- It is the cheaper option compared to set up costs for hard rock quarries; and
- Delayed commitments on the development of a detailed implementation plan and programme of works to support the development and transition to a network of hard rock quarries in strategic locations.

The above points are discussed below.

Incentivising river gravel and sand extractions

The MLMR noted[51] that river gravel and sand extractions is cheaper for investors as it is readily available and incurs less overhead costs compared to investments in its alternative source, i.e. hard rock quarries.

Establishing hard rock quarries requires proper planning and substantial amounts of investment. The UNDP 2018 baseline assessment report of Fiji's development minerals, highlighted that adequate start-up equity is a key challenge, typically comprising at least 50%, the equipment cost, and sufficient working capital, whereas start up for operators extracting gravel from rivers is less challenging because the value of required equipment's are significantly lower. Refer to the table below for details.

Table 4.1: Typical Equipment Start-Up Cost

Hard rock quarry and beneficiation		River gravel extraction		River gravel extraction and beneficiation	
2 x 12T Excavator	$1,000,000	12T Excavator	$340,000	12T Excavator	$340,000
10 wheeler truck	$150,000	10 Wheeler Truck	$150,000	10 Wheeler Truck	$150,000
Primary crusher	$1,000,000			Mobile Jaw Crusher	$1,000,000
Secondary crusher	$1,000,000			Screening & washing plant	$1,000,000
Drilling rig	$700,000			50 kva	$60,000

[51] Exit meeting dated 14 September 2021.

Hard rock quarry and beneficiation		River gravel extraction		River gravel extraction and beneficiation	
				Generator	
50 kva Generator	$60,000				
Explosives Magazine	$20,000				
Screening and washing plant	$1,000,000				
TOTAL	$4,930,000	TOTAL	$490,000	TOTAL	$2,540,000

Source: UNDP baseline assessment report of development minerals in Fiji, 2018.

Delayed commitments for network of hard rock quarry transition

The MLMR agreed[52] that a programme should be considered to support the development of hard rock quarries and eventually phase out river gravel. They, however noted[53] that there are currently no plans in place for this transition.

The MLMR further noted[54] that a complete phase out of river gravel and sand extraction at this stage is not feasible as these materials are still being used in the construction industry. The MLMR also noted[55] that while they have identified, through the DMR, sources of hard rock in Vanua Levu based on desktop analysis of current geological maps and bulletins, due to their properties, hard rock material is not as suitable for use in the construction industry and further studies of hard rock properties is required.

Findings from the UNDP 2018 baseline assessment report of Fiji's development minerals, says otherwise. The report noted that hard rock quarries are currently producing construction materials in Fiji with 17 operating during the time of the study. The report further noted that there is enormous potential to develop additional hard rock quarries.

Effects

The UNDP 2018 baseline assessment report of Fiji's development minerals, noted potential social and environmental impacts of river gravel and sand extractions recorded in various publications. These included:

- Reduced sediment retention, increase peak flows, and extreme flooding further downstream;

[52] Matrix for comments received from MLMR on 13 September 2021.
[53] Exit meeting dated 14 September 2021.
[54] Matrix for comments received from MLMR on 13 September 2021.
[55] Matrix for comments received from MLMR on 13 September 2021.

- Decrease in the overall biodiversity and destruction of river habitats with consequences on aquatic fauna;
- Impacts on food security and income resulting from decline in native fisheries which play an important role in the diet and livelihoods of Fijian communities;
- Detrimental impact on reefs and beaches near the mouths of rivers due to increased erosion and nutrient loading;
- Decline in the overall condition of the terrestrial aquatic system condition; and
- River transformed into a 'culvert-like' condition, leading to much larger floods at the river mouth resulting in increased need to construct costly flood retention dams.

In addition, the report noted that unsustainable river extractions offer little scope for effective rehabilitation, either by natural processes, or human intervention. The impacts have presented a strong basis to recommend for the phasing out of large-scale river gravel extraction and transition to a network of hard rock quarries in strategic locations.

Good Practices

A positive development within the MLMR is the establishment of Technical Assistant Natural Resource Duty Officers (TA/NRDO) in 2018, who, as mentioned earlier, are solely responsible for monitoring illegal extraction of river gravel and sand.

In addition, the MLMR noted[56] that a River Gravel Extraction (RGE) Guideline is being formulated to address the issue of sustainable extraction practices and processes in place for issuing RGE licenses. The guideline is currently in draft stage. The guideline is an initiative of the MLMR in which work was supported under phase 1 of the ACP-EU Development Minerals Project.

The MLMR noted[57] that the guideline came through a Mineral Development Technical Committee and has been in circulation for over three years. The MLMR further noted[58] that the guideline have had numerous drafts with amendments being made as a result of continuous stakeholder consultation, some of which included the DoE, Attorney General's (AG's) Office, Ministry of Economy (MoE), and Prime Minister's (PM's) Office. The MLMR advised[59] that the guideline is currently with the SG's office for final vetting.

[56] Matrix for comments received from MLMR on 13 September 2021.
[57] Exit meeting dated 14 September 2021.
[58] Exit meeting dated 14 September 2021.
[59] Exit meeting dated 14 September 2021.

Recommendations

2. The MLMR should strongly consider the recommendation presented in the UNDP 2018 baseline assessment report of Fiji's development minerals. The report recommended that:
    - The MLMR should undertake a programme of works to support the development of a network of hard rock quarries in strategic locations, considering the holistic demand for development minerals in Fiji. This programme should consider, as proposed in the baseline assessment report, government incentives and improving access to finance.
    - The Government of Fiji should develop a detailed implementation plan for the phasing out of river gravel extraction, with the exception of certain areas where it is beneficial to Fijian communities (supported by thorough scientific studies) or is small scale and the transition to a network of hard rock quarries in strategic locations.

Expected Benefits

While river gravel extractions are strongly discouraged, its immediate phasing out is not a reasonable undertaking as it is most likely to cause major disruption in Fiji's economic activities as far as infrastructure, construction and exports are concerned. This is why, it is strongly advised that a detailed implementation plan and programme of works to phase out river gravel extractions and transit to a network of hard rock quarries is developed and implemented. This should be done, as the environment, social and economic implications to the rivers and streams are more adverse as compared to hard rock quarries. However, gravel and sand extractions from rivers can be better controlled and illegal extractions minimised.

Theme 2: Well defined and maintained procedural guidance

Description of the situation found

Although most of the procedural guidance for approving extraction license applications are clear and relevant, exceptions were noted, with significant one being, the absence of key procedures in the standard operating procedures. Hence, a structured review process is warranted, clearly indicating when and who to review, approve and maintain the standard procedures.

Criteria

Regularly reviewing policies and procedures keeps organizations up to date with regulations, technology, and industry best practices. Policy review ensures that policies are consistent and effective. Reviewing policies and procedures is especially important for high-risk or highly regulated industries such as healthcare, public safety, banking, and more. But organizations in every industry should regularly review and revise their company policies.[60]

Evidence and Analysis

Extraction license approvals are carried out in accordance with established procedural guidelines set out in the Standard Operating Procedures (SOPs). Apart from consistency with governing legislations and regulations (discussed in detail in Theme 3 below), procedures should be adequate to guide the work of staff in a logical manner. It should also be well maintained.

We were provided with the following SOPs relating to the extraction of river gravel and sand:

- Extraction licenses for sand, lime and common-stone[61];
- Receiving of river sand and gravel extraction files[62]; and
- Receiving of illegal river sand and gravel extraction complaints.[63]

We examined whether the standard operating procedures were adequate and appropriately maintained.

Are Standard Procedures Adequate?

Procedures should be well defined, covering all decision points and clearly defining roles and responsibilities.

We assessed whether the SOPs were sufficient to guide the processing of new and renewal applications. We specifically examined (Table 4.2) whether the standard procedures were clear; complete; and relevant.

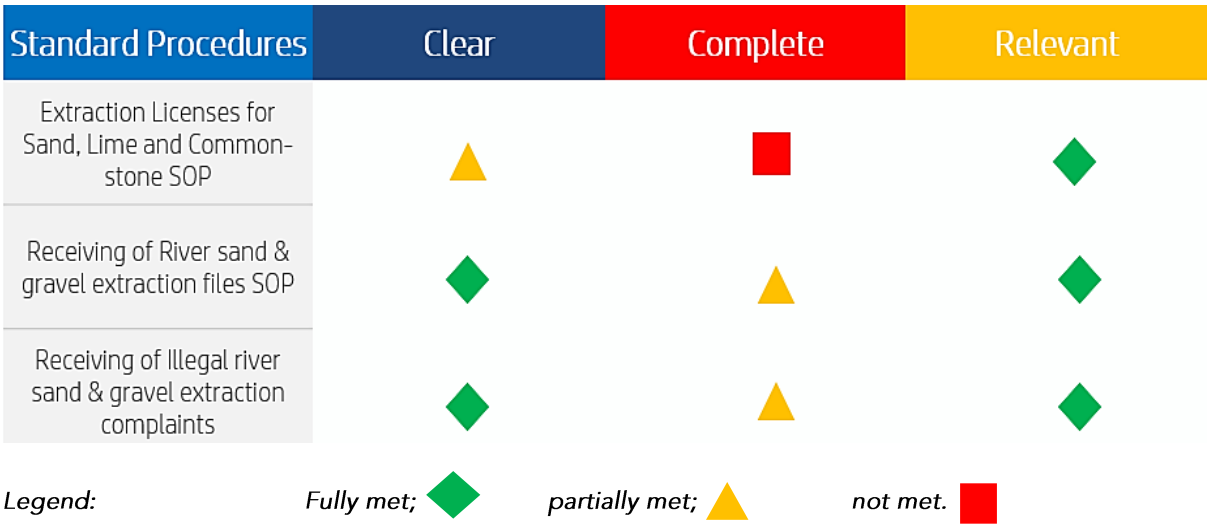
[60] Why is it Important to review policies and procedures, viewed 02 February 2021, https://www.powerdms.com/blog/why-it-is-important-to-review-policies-and-procedures/

[61] Received from MLMR's Department of Lands on 24 February 2021.

[62] Received from MLMR's Environment Division on 13 January 2021.

[63] Received from MLMR's Environment Division on 13 January 2021.

Table 4.2: Assessment of MLMR's standard procedures in determining its adequacy



Source: OAG analysis based on assessment of MLMR Standard Operating Procedures

We found that the SOP on *"Extraction licenses for sand, lime and common-stone"* was not clear with one provision relating to EIA. The SOP requires that the *draft* EIA report are to be submitted with the application and makes mention of joint inspections to be undertaken with the Department of Environment for comments and recommendations. We were of the view that the comments and recommendations as a result of the joint inspection was to improve the draft EIA report. However, discussions with MLMR[64] noted that the EIA report submitted with the application is not the draft but the final approved EIA report. We were further advised that joint inspections are not carried out with the Department of Environment, rather the draft EIA reports are simply circulated to various stakeholders (which includes MLMR's Department of Lands (DoL) as the approving authority) and calls for a review committee as part of the process that is undertaken where comments/ issues to the EIA report are raised.

The MLMR commented[65] that the EIA is the responsibility of the Department of Environment and once approved, the EIA report is sent to the MLMR through the DoL for inclusion in the licenses and for monitoring purposes. The MLMR further stated[66] that any adverse report received will need to be jointly inspected with the Department of Environment who will confirm any breaches of environmental conditions.

While we found all the SOP's to be relevant, we noted that the SOP for *"Extraction licenses for sand, lime and common-stone"* is incomplete. The SOP lacked procedural guidance for:

- Renewal of licenses given the need for annual renewals required under *Regulation 29* of the *State Land (Leases and Licenses) Regulation 1980*;

[64] Discussion meeting held on 24 March 2021.
[65] Matrix for comments received from MLMR on 13 September 2021.
[66] Matrix for comments received from MLMR on 13 September 2021.

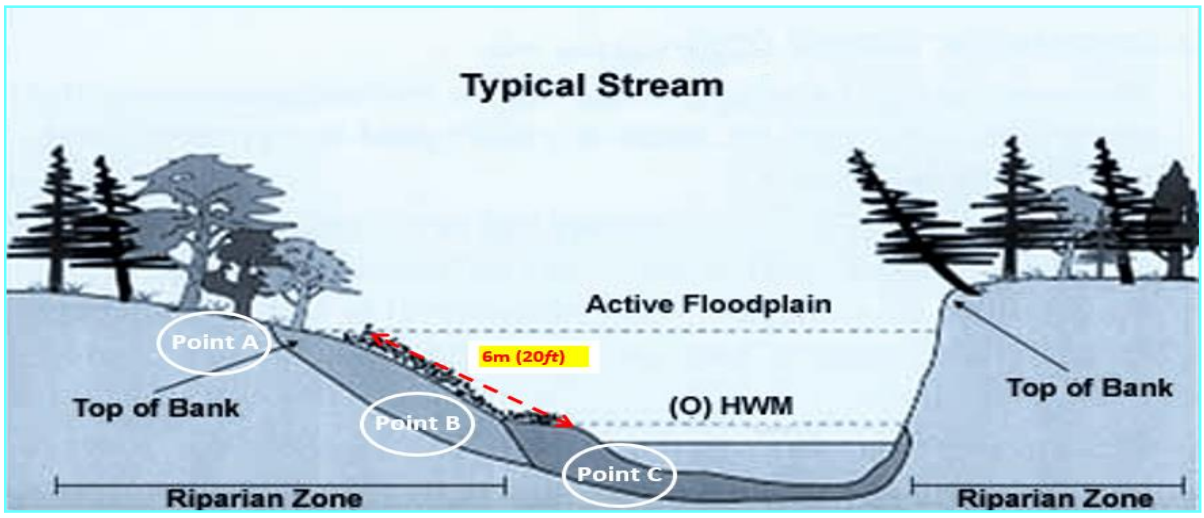
- Joint inspections (when applicable) with i-Taukei Land Trust Board (i-TLTB) to ensure that the correct license issuer is identified (i.e., i-TLTB issuer for gravel and sand extracted on dry pit and MLMR's Department of Lands issuer for gravel and sand extracted directly from the river); and
- Consent by the Land Owning Unit (LOU) for road access to the extraction site.

We found that the SOP received from the MLMR's Environment Division titled *"Receiving of river gravel and sand extraction files"* did cover procedures for license renewal. It also made reference to a checklist. Though this is acknowledged, we are of the view that any procedures pertaining to the Environment Division will predominantly be for assessments carried out in relation to environmental impacts of the extraction operations. Thus, standard procedures for the renewal of licenses should be incorporated in the DoL SOP, as the approving authority. In addition, while it is pleasing to note that there are procedures in place at the Environment Division to respond to complaints of illegal extractions, there has been no confirmation received from the division on whether the SOPs have been approved and endorsed for official use, thus it has been assessed as partially complete.

A review of files noted that LOU consent for road access was an integral part of the licensing process. This was, however lacking in the current SOP.

Furthermore, review of governing legislation and supporting regulations noted that approval for the removal of sand, lime and common stone falls under the responsibility and ambit of DoL for state lands (which includes rivers, streams and soil under the waters of Fiji) and i-TLTB for land after six (6) meters from the high level water mark situated within i-Taukei Land (Refer Figure 4.31 for definition of terms relating to the demarcation of extraction points).

Figure 4.31: Definition of terms relating to the demarcation of extraction points



Source: Received from MLMR's Environment Division on 03 March 2021
HWM - High Water Mark

We were provided with[67] confirmation that all gravel and sand extractions from any river and stream in Fiji shall be solely on the approval of the Director of Lands.

River gravel and sand extractions can take place at either points A, B or C in Figure 4.31. Approvals for extraction at Point A are administered by i-TLTB (if river is running within i-Taukei Land) in accordance with the i-Taukei Land Trust Act 1905, i-Taukei Land Trust (Leases and Licenses) Regulations 1984 and i-Taukei Land Trust (Gravel) Regulations 1998. Approvals for extraction at Point C are administered by the DoL in accordance with the State Lands Act 1945, State Land (Leases and Licenses) Regulation 1980 and Rivers and Streams Act 1880.

Section 3 of the Rivers and Streams Act 1880 provides guidance on extractions at Point B. It states that *"the banks of the said river to the breadth of 20 feet (or 6 meters) from the ordinary water-line in the wet season and the highest spring tide shall be subject to an easement in favour of the public for all purposes…"*. Interpretation of this section of the Act entails that land within the six-meter buffer zone at Point B belongs to the State. This is consistent with the defining parameters of State land which includes soil under the waters of Fiji given that gravel and sand at Point B are typically submerged under water during flooding periods as indicated by the line of active floodplain. Therefore, any approval for river gravel and sand extractions should be administered by MLMR's Department of Lands.

The MLMR confirmed[68] that the river bank easement reserve is the 20ft [6m] from the high water mark and that any activity in this reserved area is not allowed as this needs to be open for public access.

Consequently, during site inspections[69], we found that i-TLTB had issued a license to one of the extracting companies to extract on dry pit[70] which was still within the six- meter buffer zone. Due to challenges for real-time monitoring of extraction operations by the DoL, there is significant risk of companies directly extracting from the river bed and stock piling on the dry pit. This is deemed illegal. Pictures taken during the site inspection are noted in figures 4.32 and 4.33.

[67] Provided by the MLMR on 12 October 2021.

[68] Matrix for comments received from MLMR on 13 September 2021.

[69] Inspections carried out on 10 March 2021.

[70] Dry pit – river sand and gravel not submerged under water during non-flooding periods.

Figure 4.32: 3 meters into the iTLTB dry pit license area

Figure 4.33: 6 meters into the iTLTB dry pit license area

Source: Picture taken by OAG on 110 March 2021

Figure 4.33 shows the six-meter measurement from the High Water Mark (HWM), which is directly over the dry pit where extraction licenses have been issued by i-TLTB. The license, technically, should be issued by DoL according to Section 3 of the Rivers and Streams Act 1880. In view of this, joint inspections between MLMR through DoL and i-TLTB are warranted for inclusion in the SOP.

The MLMR while agreeing[71] that i-TLTB need to be informed of all extractions from rivers adjacent to i-Taukei land, they noted that i-TLTB has no jurisdiction over river gravel and sand extractions. The MLMR commented[72] that the Geospatial Information Management (GIM) team have commenced the plotting of all legal licenses on the Vanua Geographic Information System (GIS) platform and the team would begin sharing data once approved by Executive Management. The MLMR clarified that the proposal to share data was for awareness purposes in which data for all valid licenses issued by the MLMR (including details of the extraction site) would be shared with stakeholders such as i-TLTB, Commissioners Offices, District Offices, and Provincial Offices etc. The MLMR indicated[73] that approval from the Permanent Secretary (PS) and Minister responsible for Lands and Mineral Resources was yet to be sought. Thus, the MLMR noted[74] that, in this way, when a license is approved, prior to issuing it to the applicant, the MLMR would share a copy of the license to the above mentioned stakeholders. The sharing of this data[75], is to ensure that stakeholders are well aware of the approved licenses, as some would seek assistance from these stakeholders in terms of facilitating their application.

[71] Matrix for comments received from MLMR on 13 September 2021.
[72] Matrix for comments received from MLMR on 13 September 2021.
[73] Exit meeting dated 14 September 2021.
[74] Exit meeting dated 14 September 2021.
[75] Exit meeting dated 14 September 2021.

Moreover, the MLMR noted[76] that the DoL's SOP is clear in terms of requirements for licensing with aggregate volumes being determined by the Geological Survey Division of the DMR. In addition, the MLMR noted[77] that the main issues to be addressed by applicants include – waiver of fishing rights, access agreement, identification of stockpile area, EIA and payment of environment bond. Upon expiry of licenses, the MLMR noted that they would, through the DoL, inspect the sites and issue stop work notices if necessary.

Are Standard Procedures appropriately maintained?

To ensure that procedures remain appropriate over time, structured arrangements for its review should be maintained. These arrangements would include determination of when the procedures are to be reviewed and who is responsible for their approval and maintenance. While acknowledging the need to review the SOP, the MLMR lacks a structured approach to the review process.

The MLMR in their response, stated[78] that the SOP's are open to review but are usually standardized once adopted. The MLMR further noted[79] that recent reviews to the SOP were being carried out in 2020, hence, the SOP currently being used, is the reviewed version.

Causes

The MLMR have generally agreed[80] with the audit observations, though, noting that they have preferred the use of checklists. The checklists have allowed them to make changes, by simply inserting and excluding documents where necessary. Our file reviews confirm this, as we came across multiple checklists for new and renewal applications. The MLMR further noted that not having certain processes in the SOPs must not be taken as it not being done. They usually came in the form of official instructions through verbal or other means. This has made the use of checklists more appealing because review of standard procedures is done over time.

The MLMR stated[81] that checklists are to be strictly followed and any deviation will need the approval of the Honorable Minister. Adherence to the checklist before licenses are approved were again reiterated by the MLMR during the exit meeting[82].

[76] Matrix for comments received from MLMR on 13 September 2021.
[77] Matrix for comments received from MLMR on 13 September 2021.
[78] Matrix for comments received from MLMR on 13 September 2021.
[79] Exit meeting dated 14 September 2021.
[80] Meeting dated 24 March 2021.
[81] Matrix for comments received from MLMR on 13 September 2021.
[82] Exit meeting dated 14 September 2021.

While we noted the MLMR's response, there is a general understanding that checklists simply list the documents to be submitted with an application, whereas SOPs capture the departmental operations as well. For example, the endorsing and approving officers etc. Nonetheless, MLMR is committed to amending the SOP's as much as they can in the review process.

Effects

Unclear guidelines and absence of procedures for key processes can result in inconsistent work practices. This could lead to staff exercising professional judgment which can be unreliable. In addition, absence of structured arrangements for the update and review of procedural guidance's increase the risk of procedures not being relevant and appropriate over time. This can also lead to inconsistency in work practices.

Good Practices

File reviews have confirmed the use of checklists by MLMR. In the absence of fundamental processes in the procedural guidance's of MLMR, the consistent use of checklists, though in multiple versions, have been assessed as a good practice. In addition, the development of the draft river gravel and sand extraction guideline has also been assessed as a good practice for the MLMR as it will include the process for licensing.[83]

Recommendations

3. The MLMR should:
    - Expedite the amendments and review of its SOPs so that processes have more clarity and procedures that are lacking are incorporated; and
    - Consider developing a structured review process for its procedural guidance.

Expected Benefits

Properly documenting procedures and providing more clarity on unclear processes encourages uniformity. It also ensures that work is carried out in a consistent manner where newly appointed members of the MLMR would be able to follow through even without training and constant supervision. Moreover, structured review processes ensure that SOPs are reviewed in a systematic and reliable manner. As a result, processes and procedures remain appropriate over time.

[83] Matrix for comments received from MLMR on 13 September 2021.

Theme 3: Requirements of legal infrastructure supported by standard procedures

Description of the situation found

Consistency in regulatory decision-making depends on procedural guidance which are consistent with requirements of governing legislations and regulations. However, it was noted that procedures for servicing extraction of river gravel and sand do not fully represent the requirements of the governing legislation.

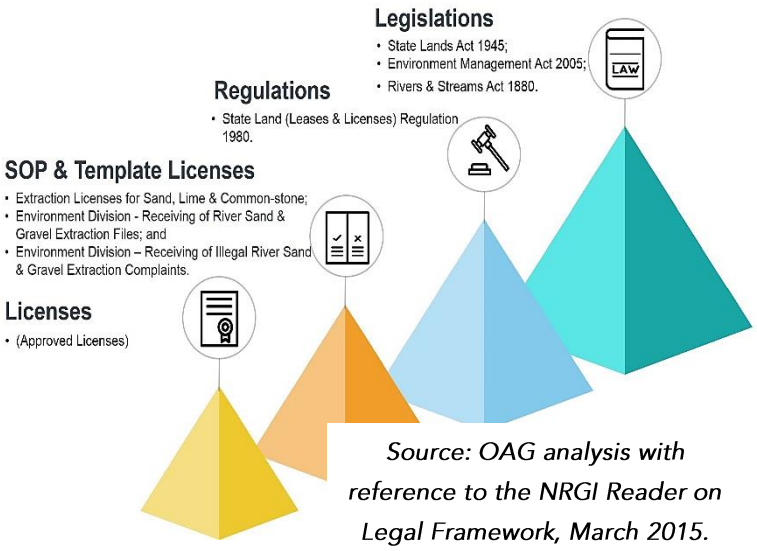
Criteria

The characteristics of an efficient and effective system of awarding contracts and licenses are found in a system that, amongst others, has a legal framework representing best international practice for the award of exploration, development and production rights; transparent, competitive and non-discretionary bidding procedures and minimal discretionary authority.[84]

Evidence and Analysis

The legal architecture governing the licensing process (as indicated in Figure 4.34) is provided for in legislation, regulations, procedural guidance, and license contracts, consistent with the legal hierarchy suggested by the Natural Resources Governance Institute (NRGI).

Figure 4.34: Legal hierarchy for river gravel & sand extractions



Source: OAG analysis with reference to the NRGI Reader on Legal Framework, March 2015.

While, the main legislation governing river gravel and sand extractions are the *State Lands Act 1945*, *Environment Management Act 2005* and *Rivers and Streams Act 1880,* regulations for the same are provided for in *the State Land (Leases and Licenses) Regulations 1980.*

Procedures should be consistent with relevant legislative and regulatory requirements.

[84] African Organization of English-speaking Supreme Audit Institutions (AFROSAI-E). (2019). *Guideline: Audit Considerations for Extractive Industries*, 2019.

The primary source of procedural guidance for the administration and management of the licensing process is the MLMR's Department of Lands Standard Operating Procedures (SOP) for *Extraction licenses for sand, lime and common-stone*. Complementing SOP's include those administered by the MLMR's Environment Division.

Our audit assessed whether the provisions of the governing legislation and regulations relevant to the extraction of river gravel and sand were captured in the procedural guidance for DoL.

Table 4.3: Assessment of whether relevant provisions of governing legislations were captured in MLMR's procedural guidance.

	Consistent	Partially Found	Not Found	Inconsistent
Applications	10	0	1	0
Assessment Method	4	1	2	0
Approval	3	0	0	0
Post Approval	2	2	10	1
Renewals	0	1	0	0
	19	4	13	1

Source: OAG analysis based on assessment of relevant legislation, regulations and MLMR's standard procedures

While 47% of the relevant provisions were included in the SOPs of MLMR, 17 (or 45%) provisions were not found or not fully captured in the standard procedures. We have determined that seven of the 17 provisions are critical procedures that need to be laid out in the standard procedures. These include:

- DoL as the approving authority to determine whether the extraction needs an EIA;
- Extraction license renewal process given that licenses are to be renewed annually, if proponents require extensions;
- Fees in arrears in respect of licenses (pertains to two sub-sections), i.e. Section 15 of the State Lands Act 1945 and Regulation 34 of the State Lands (Leases and Licenses) Regulations 1980;
- Proceedings to be brought in the name of the Attorney General; and
- Dealings with a licensee who has sold, transferred, sub-licensed or in any other manner, without the consent of the Director of Lands as licensor, i.e. Section 16 of the State Lands Act 1945 and Regulation 33 of the State Lands (Leases and Licenses) Regulations 1980.

The MLMR advised us in respect of the last point above, noting[85] that the DoL issues licenses to licensees who may enter into agreements with contractors where arrangements are captured under sublicenses. These arrangement, the MLMR noted[86], needs the consent of the Director of Lands in which contractors are required to pay a performance bond.

The remaining provisions primarily relate to less frequently used provisions of the governing legislations. They include:

- Transmission of interest in unexecuted license in certain cases;
- Transmission of license in certain cases without probate or administration;
- Service of notices through registered posts;
- Penalties imposed for removing notices from public offices or places;
- Debt to State not extinguished by forfeiture;
- Acceptance of rent not to operate as a waiver of forfeiture;
- Obstruction of Officers;
- Penalty for false declaration; and
- Penalty for omission or neglect to comply with and every act done or attempted to be done contrary to the provisions of the State Lands Act 1945 or for any regulation or order made thereunder shall be deemed to be an offense against this Act; and
- Issue of certified copies of lost licenses.

In addition, we noted a procedure in the SOPs as not being consistent with the State Lands Act 1945. We noted that the standard procedures stated that "license to be revoked if returns are not submitted within three (3) consecutive months.", while the governing legislation (that is State Lands Act 1945) noted that the license to a person can be rescinded if the person fails to execute the license within six (6) months of the service of notice that such lease or license is ready for execution.

The MLMR noted[87] that the state land policy on breaches is a basis for the three months as a timeline for the rescinding of a license which includes timelines for the serving of notices.

"Legal frameworks comprise a set of documents that include the constitution, legislation, regulations, standard procedures and contracts. How these documents relate to one another, which has more force than the other, is often referred to as a legal hierarchy…Each instrument…should be consistent with the instruments below it."

Legal Framework. NRGI Reader March 2015

Causes

Discussion[88] with MLMR noted that since the coming to effect of the SOPs for license processing, it has not been holistically reviewed.

[85] Matrix for comments received from MLMR on 13 September 2021.
[86] Matrix for comments received from MLMR on 13 September 2021.
[87] Matrix for comments received from MLMR on 13 September 2021.
[88] Meeting dated 24 March 2021.

Also, as indicated in discussions under theme 2 above, the MLMR have preferred the use of checklists when receiving applications for extractions as it is easier to include documents for proponents to submit, depending on the situation of each application.

Effects

The omission and inconsistencies of some provisions of the governing legislation and regulations from the SOPs of MLMR increases the risk of inadvertent non-compliance with the legislation and its regulations.

Good Practices

As noted in Theme 2) above, the DoL have taken into consideration the need to plan for the review exercise. Nonetheless, this has not been substantiated through the provision of planning documents.

Recommendations

4. The MLMR should expedite the review of the SOPs ensuring that they are consistent with the governing legislation and its regulations.

Expected Benefits

Standard Procedures that are consistent with the requirements of governing legislations and regulations ensures that decisions are legally valid.

Theme 4: Business and Information Systems

Description of the situation found

In the absence of a centralized place/ site which captures all regulatory processes, information is scattered across a range of agency/divisional silos. Although talks have surfaced on a "One Stop Shop" concept, it has remained on the discussion table without any definite plan of becoming a reality.

Criteria

The report from the Natural Resource Governance Institute (NRGI) and the Open Contracting Partnership addresses the lack of a systematic guidance for ensuring transparency in allocating and managing the rights to explore for and exploit natural resources. The report suggests that Governments should provide resources that explain all the regulatory processes surrounding contracting, incorporating information from multiple agencies as necessary and presenting it in a joined-up manner.[89]

Evidence and Analysis

As noted earlier, the most relevant and primary source of procedural guidance for the administration and management of the licensing process is the MLMR's *Department of Lands (DoL) SOP for Extraction licenses for sand, lime and common-stone.*

Figure 4.35: Key Agencies in Licensing Process

Source: DoL SOP for Extraction licenses for sand, lime and common-stone

The procedural guidelines identified key agencies whose endorsement and approvals were pre-requisites to the approval of extraction license applications.

The agencies have different responsibilities and lines of accountability. As such, best practice suggested by the Natural Resource Governance Institute (NRGI) propose the presenting of system information in a joined-up manner.

The NRGI acknowledges that government agencies will continue to exist and function as separate entities with their own legislation, resources and lines of responsibility. Nonetheless, this should not preclude all concerned agencies from coordinating to present information in a way that supports a coherent and orderly flow of information about the administrative processes of river gravel and sand extractions.

Figure 4.36: Other Key Agencies in Licensing Process

Source: DoL SOP for Extraction licenses for sand, lime and common-stone

[89] Natural Resource Governance Institute (NRGI) and Open Contracting Partnership. (2018). Open Contracting for Oil, Gas and Mineral Rights: Shining a Light on Good Practice, p 3.

We noted that there is no publicly available and centralized place/site where key information on regulatory agencies with responsibilities for administering extraction projects can be accessed.

In addition, multiple divisions within MLMR have some role to play in the awarding of licenses. These include:

- The Environment Division's environmental assessment and analysis of resource based development facilitated by the MLMR;
- Geological Survey Division for geoscience information to support and regulate the development of mineral resources, such as Rock Resource Assessments (RRA); and
- Geospatial Information Management Division for development/maintenance & distribution of Geospatial Information.

The Environment Division maintains a database which is stored in the division's shared drive for ease of access by the division staff. The database content is to track the receipt of files marked for the division's action and also for the assessing officer on the file. Basic information contained in the database are date file is received, file details, assessing officer, date file is despatched and cleared from division. The database can only be accessed by the division's staff. It does not capture information such as water sampling, volumetric assessment results and other environment inspection information. These are documented in the inspection reports. In some cases, the reports are maintained by the assessing officers themselves and not kept in the shared drive.

The Geological Survey Division populates information in a database which is maintained by the Geospatial Unit. It is stored in the POSTGRES server within MLMR's Department of Mineral Resources. The division also maintains a separate database known as the aggregate database which is kept for the divisions own records. It captures requests received by the Director Mineral Resources from communities and clients in respect of available volume for their resources (i.e. river gravel, sand, hard rock on land e.g. quarrying) known as volumetric assessments. The results of the assessments are also captured in the database. The information reflected in the database is used by the division's team when carrying out field surveys. It is in the form of an aggregate datasheet. The information maintained in the database cannot be accessed by persons outside the division. Any release of information need to be sought through the Director Mineral Resources.

The Geospatial Information Management Division is responsible for information on gravel licenses issued by the Director of Lands and uses the database known as ArcGIS SDE to capture these license information which is reflected on the Vanua GIS.

The above discussions confirm the isolated nature of information maintenance. Furthermore, there are other external key agencies as depicted in figures 4.35 and 4.36 which also play a role in the licensing process.

"If there are, for example, five different regulatory agencies with responsibilities for administering a particular project, then being able to access key information in one place rather than five would be an enormous step forward."

Natural Resource Governance Institute (NRGI) and Open Contracting Partnership. (2018). Open Contracting for Oil, Gas and Mineral Rights: Shining a Light on Good Practice.

Causes

Agencies whose endorsement and approvals are pre-requisites to the approval of the extraction license, work according to their SOPs which are not shared with other approving agencies.

We were informed that a request was made in 2018 by the Permanent Secretary Lands and Mineral Resources (PSLMR) to develop a database which was to be used as a monitoring tool for gravel extraction. However, the form and copy of the request was not provided to audit. The database was known as the Resource Management Database. Conversely, it was not used as there was no decision from managers at that time on who was to populate the database resulting in the development of other databases.

Effects

The NRGI advices that the absence of a centralised place/site where information can be accessed, poses challenges for citizens who want to understand how extractive projects are selected, who makes decisions and who stands to benefit.

Moreover, information maintained separately by the responsible divisions within MLMR compounds difficulties of sound decision-making, monitoring or planning for the sustainable utilisation of natural resources.

Good Practices

We were informed of a "One Stop Shop" concept. The concept anticipates the centralizing processes of approving agencies processes as part of the Neglected Development Minerals (NDM) project being undertaken by the UNDP in partnership with the MLMR's Department of Mineral Resources. However, substantial work on the concept has not commenced.

Caution on the establishment of a "One Stop Shop" regulatory body is provided by NRGI. The following is an excerpt from the NRGI 2018 publication on *"Open Contracting for Oil, Gas and Mineral Rights: Shining a Light on Good Practice"*: *"Some approaches to joined-up*

information can result in trade-offs for regulatory effectiveness. It can be tempting for governments to establish "one-stop shop" regulatory bodies that bring the full range of regulatory roles into one institution or a super-regulator to oversee all others. Both can work but combining some roles can also increase the likelihood of conflicts of interest…."

Although the Resource Management Database at MLMR was inactive, we were able to access the various modules in the database. We were informed that the database can be re-activated with the scope broadened for gravel resources. The MLMR confirms that the draft guideline for river gravel and sand extractions which is currently being developed also includes the process for licensing.[90] The MLMR noted[91] that they anticipate the guideline to address many of the issues raised through this audit engagement as well as others discovered along the way.

The MLMR agreed[92] to the audit findings and recommendations.

Recommendations

5. The MLMR should:
    - Consider leading collaboration work with relevant agencies to develop a centralized place/site where all regulatory processes and information surrounding licensing can be accessed. The site should incorporate information from multiple agencies as necessary and presenting it in a joined-up manner; and
    - Ensure that information maintenance by responsible divisions within MLMR who are part of the licensing process, is stored in a co-ordinated and holistic manner. One such approach could be the reactivation of the Resource Management Database with broadened scope of operations.

Expected Benefits

Having information presented in a co-ordinated and organised manner allows users to see how one piece of information fits with others in the broader context of river gravel and sand extractions. It also ensures transparency across the licensing process, where approval decisions can be verified as information is accessible to responsible officers.

[90] Matrix for comments received from MLMR on 13 September 2021.
[91] Exit meeting dated 14 September 2021.
[92] Exit meeting dated 14 September 2021.

Theme 5: License Application processing

Description of the situation found

Applications are not processed and assessed in full accordance with procedural guidance.

Criteria

Extraction Licenses shall be prepared either under Regulation 29 or Regulation 30 of the State Land (Leases and Licenses) Regulations, 1980.[93]

Licenses may be granted by the Director for a period not exceeding 12 months for, amongst others, the removal of sand, lime and common stone.[94]

The Director can grant any license applied for that which is not included in Regulation 29, however, it shall be approved by the Minister.[95]

Every application for a license shall be in the appropriate form and shall be lodged with the Director. The information required in the form of application shall be fully and carefully stated.[96]

Evidence and Analysis

The MLMR's SOP define the processes and parameters employed for assessing river gravel and sand extraction applications. On receipt of applications and approvals from relevant agencies (i.e. endorsed waiver of fishing rights and approved EIA report), applications for extraction are assessed using the DoL's *Extraction licenses for sand, lime and common-stone* SOP and the Environment Divisions SOP on *Receiving of river sand and gravel extraction.*

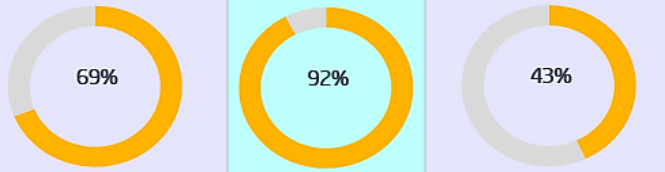
Procedures noted are fundamental precursors to the approval of licenses.

To determine whether the MLMR was compliant with procedures, files for 12 companies (32 %) with active licenses and 18 companies (25%) with expired licenses were randomly sampled and reviewed during our audit. Refer Table 4.4 for details.

[93] Department of Lands SOP on Extraction Licenses for Sand, Lime and Common-stone.
[94] State Lands (Leases and Licenses) Regulations 1980, Regulation 29.
[95] State Lands (Leases and Licenses) Regulations 1980, Regulation 30.
[96] State Lands (Leases and Licenses) Regulations 1980, Regulation 31.

Table 4.4: Assessment of MLMR's compliance with procedures for administering river gravel and sand extraction license applications, assessments and approvals

		Application	Assessment	Approval
1	Checklist for extraction application met			
2	Acknowledgement letter sent to applicant			
3	Approved EIA Report			
4	Waiver of Fishing Rights			
5	Inspection by Environment Division			
6	CEO endorsement on inspection report			
7	ADL endorsement on application			
8	Director Lands Approval			
9	License updated in Manual Register			
10	Licensee informs DL before commencing			



Source: OAG analysis based on assessment of files reviewed.

Assessment on receipt of *applications* cover procedures 1 to 4, *assessment* of applications covers procedures 5 and 6, while *approval* of applications covers procedures 7 to 10.

From our review, we found that the MLMR was generally in compliant with processes and procedures. However, we noted the following:

- None of the files were in full compliance to the procedural guidance.
- Although most of the files complied with the submission of TIN Letters, Company Registration Certificates and Photo ID of the Director(s), most of the submissions were not certified given that they were copied documents.
- Partial compliance to Procedure 1 were due to submissions of uncertified TIN letters, Company Registration Certificates and Photo ID of Directors as well as submission of unendorsed Locality Maps by registered surveyors.
- 24 (or 80%) of the files we sighted did not contain acknowledgement letters sent to the applicant as indicated in the SOPs.
- Licenses issued were maintained in a typical database and not in a manual register as required by the SOPs.
- We could not sight notifications from the proponents prior to commencement of extraction operations.

It is to be noted that the department's procedural guidance is primarily concerned with administrative requirements. Therefore, our analysis provides assurance over these administrative requirements and not the overall quality of decisions.

Causes

While the high degree of non-compliance to Procedures 2, and 9 might be viewed as less risky, it reflects the level of conformity of staff responsible for ensuring procedures are

followed. Moreover, explanations for high level of non-compliance to Procedure 10 were not provided by MLMR at the time of finalizing this report.

Effects

The remaining procedures are fundamental pre-requisites that should be obtained prior to issuing a license for extractions. If not addressed, there is potential risk of approving licenses to commence extraction work without meeting the mandatory requirements.

Good Practices

Overall compliance by MLMR is set at an average of 68%. This level of compliance is acknowledged.

The MLMR agreed[97] to the audit findings and recommendations.

Recommendations

6. The MLMR should ensure that its procedural guidance is implemented consistently.

Expected Benefits

Compliance to procedures ensures compliance with regulations which can promote consistency in the operations of the MLMR. It can also improve stakeholder confidence in the approval process.

Theme 6: Significant Environmental Baseline Data

Description of the situation found

We could not sight significant environmental baseline data in some reviewed files. This may imply that proponents are not held accountable for significant impacts as data are not benchmarked and monitored against the state of the environment pre and post extractions.

[97] Exit meeting dated 14 September 2021.

Criteria

Environmental Baseline Study is vital in predicting and evaluating potential environmental impacts prior to any development. It generally includes an entire range of pre-project studies and are carried out to, amongst others, provide baseline data against which the results of future monitoring programs can be compared.[98]

Criteria for New License Applications[99]

Once a river gravel or sand extraction file is received by the assigned Scientific or Technical Officer for assessment, he/she will ensure that the file has been logged, and the actions to be taken be as per the Chief Environment Officer (CEO) or Principal Environment Officer's (PEO) directives noted in the file.

Inspections are carried out if none is recorded in the file or filed with the Environment Division (this may be the case if the EIA report was received, reviewed and assessed prior to receiving the file). If an inspection is to be carried out, the proponent/applicant is notified on the date and time of the intended inspection and the officer is responsible for all arrangements. Site assessment carried out will include noting information such as:

I. *GPS locations of the proposed area of extraction (start and end point);*
II. *Location Map;*
III. *Site locality descriptions including details such as existing communities, site access river usage and any other relevant information;*
IV. *Water Quality Measurements;*
V. *Sample collection and GPS locations of sampling points;*
VI. *Resource assessment taking into account, the nature of deposits, gravel sizing and relevant descriptions to ascertain availability;*
VII. *River measurements ; length, width and depth of proposed excavation for estimation of total volume of resources and bond calculation (if it is not in the EIA);*
VIII. *Identification pits for extraction with GPS locations;*
IX. *Buffer zone measurements; and*
X. *Determining of possible environmental damages to be addressed in recommendations and way forward.*

For water analysis, a request is to be forwarded to the laboratory followed with submitting water samples collected.

[98] Best Practice: Kubo, B.M, Were J.O & Wetang'ula G.N 2009, 'Environmental Baseline Studies for Geothermal Developments, Kenya', Geothermal Development Company & Kenya Electricity Generating Company Ltd.
[99] MLMR's Environment Division's SOP for receiving of river gravel and sand extraction files.

For Rock Resource Assessments, the Geological Survey Division can be consulted for comments and recommendations.

Criteria for License Renewal[100]

Once a river gravel or sand extraction file is received by the assigned Scientific or Technical Officer for assessment, he/she will ensure that the file has been logged and the actions to be taken be as per the CEO or PEO directives noted in the file. Inspections are carried out if none is recorded in the file or filed with the Environment Division for the purpose of license renewal. If an inspection is to be carried out, the proponent/applicant is notified on the date and time of the intended inspection and the officer is responsible for all the arrangements. Officer is to refer to its respective file under the Environment Division for previous inspections carried out noting all issues encountered to assist assessment.

Officer must conduct a thorough assessment on the volume of extractable resources available onsite.

Officer must carry out water quality tests and sample collection on the initial recorded sample collecting points. For water analysis, a request is to be forwarded to the Laboratory followed with submitting water samples collected. If there is a further Rock Resource Assessment the Geological Survey Division can be consulted for comments and recommendations.

Evidence and Analysis

Kubo, Were and Wetang'ula (2009) suggest that the study scope should cover, but not limited to issues such as climatic conditions, drainage and water resources, soils, flora, fauna, air quality, noise, land use, land tenure and socioeconomic aspects. Thus, based on current work practices for the processing of extraction applications, we have identified the following components as requiring baseline information:

- Volumetric Aggregate Assessments;
- Rock Resource Assessments; and
- Baseline Water Quality tests.

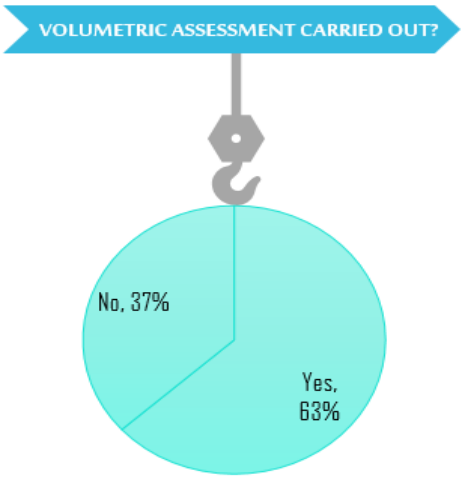
The collection and analysis of the above baseline data are usually covered in the EIA process by an independent accredited consultant.[101] Since the environmental consultant are contracted by proponents/companies, we tried to determine whether the MLMR through DoL/DMR carried out independent assessments to assist with decision-making.

[100] MLMR's Environment Division's SOP for receiving of river gravel and sand extraction files.

[101] Terms of Reference (TOR) for EIA dated April 2013 for one of the rivers in the Western Division.

Are volumetric assessments carried out?

Figure 4.37: Conducting volumetric assessments



Source: OAG analysis based on assessment of application files

The purpose of the volumetric assessment was to determine the quantity (volume) of aggregate resources (river gravel, sand and stones) available on selected aggregate deposit sites in or along the river channel.[102]

As indicated in Figure 4.37, we could not sight volumetric assessment results in 11 (or 37%) of the files we reviewed during the audit. Volumetric assessments are carried out in either one of the following methods:

- Incorporated during inspections at the extraction site by the MLMR's Environment Division who are situated at DMR; or
- Assessments conducted as a separate exercise (these are usually conducted at the request of LOU members living adjacent to the river channel).

For those that carried our volumetric assessments (19 or 63% of company files reviewed), we noted instances where results significantly varied from approved volumes by DoE. Table 4.5 to 4.8 shows the variances.

Tables 4.5 – 4.8: Volumetric Assessments – Comparison between DMR and DoE (m³)

File No.	DMR	DoE	Variance
47/1/359	41,714	104,174	(62,460)
47/12/6	225,000	5,000	220,000
47/2/34	16,222	40,000	(23,778)
47/2/21	66,982	Not Stated	N/A
47/1/350	182,000	Not Stated	N/A

File No.	DMR	DoE	Variance
47/1/357	5,000	Not Stated	N/A
47/14/11	16,250	24,375	(8,125)
47/14/12	636,000	39,000	597,000
47/2/42	2,610	4,000	(1,390)
47/2/32	12,750	6,000	6,750

File No.	DMR	DoE	Variance
47/1/356	29,165	Not Stated	N/A
47/2/17	147,500	20,000	127,500
47/1/349	3,486	Not Needed	N/A
47/14/9	72,308	5,475	66,833
47/12/1	45,000	3,000	42,000

File No.	DMR	DoE	Variance
47/2/20	9,850	20,000	(10,150)
47/14/13	23,550	20,000	3,550
47/12//2	3,150	2,500	650
47/2/33	16,000	20,763	(4,763)

Source: OAG analysis based on assessment of application files

[102] Department of Mineral Resources volumetric assessment report for one of the creeks in the Central Division dated January 2016, sighted in the file of one of the extracting company's in the Central Division.

The variances indicate differences of an average of 65,275m³ between MLMR volumetric assessments with that of the approved extraction volume as per EIA report. This shows significant disparities which should be investigated further before licenses are approved. Contrary to this, we noted that the MLMR through DoL proceeded with license approvals.

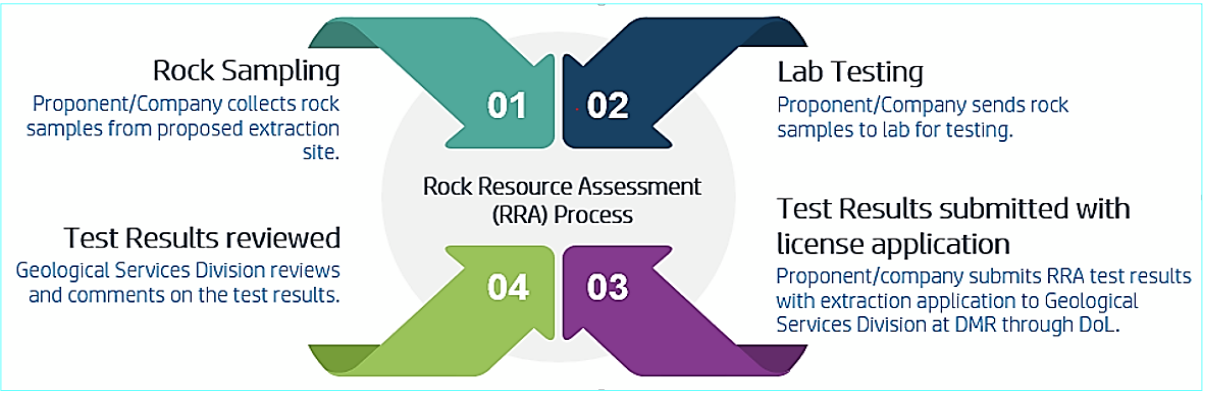
We further noted that, except for one instance[103], the MLMR's Environment Division did not provide comments on the EIA reports regarding the differences in volume estimations. This was following the division's independent inspections at the extraction site. This was due to inspections being carried out much after the EIA approval. Application files for proposed river gravel extractions received by Director of Lands would already contain the EIA approvals, clearly stating the volume to be extracted based on the EIA report submitted to DoE by the consultant.

The UNDP 2018 baseline assessment report of Fiji's development minerals, also commented along these lines. The report noted that only one out of the 58 EIA's observed during the study attempted to quantify the sustainable rate at which gravel could be extracted from the system.

Are Rock Resource Assessments carried out?

A component of the river gravel extraction licensing process is the Rock Resource Assessments (RRA).[104] The purpose of the RRA is to determine the engineering properties of the river gravel aggregates to ensure that the properties are compliant with its intended purpose (i.e. for construction or road developments etc.)[105] Figure 4.38 shows the general RRA process.

Figure 4.38: Rock Resource Assessment Process

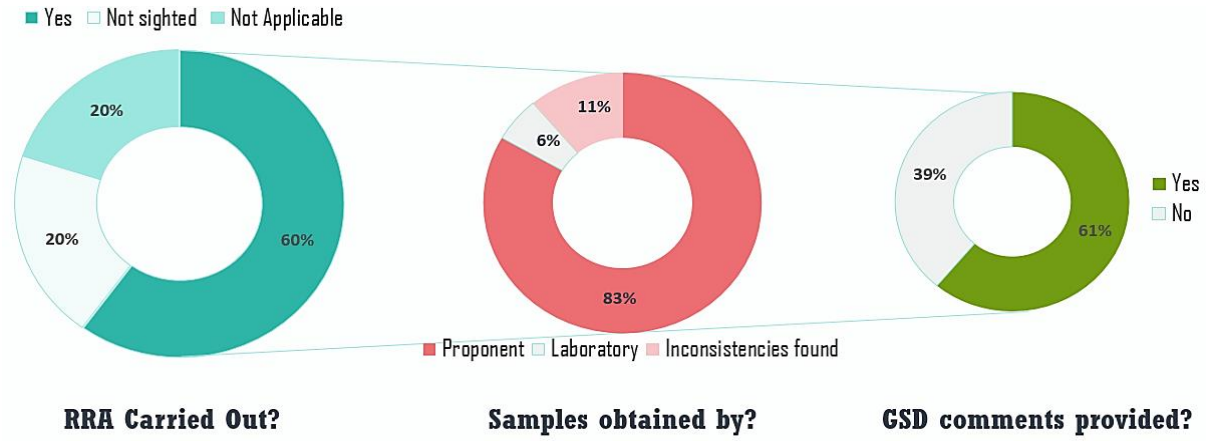


Source: Confirmation from Geological Services Division at MLMR on 02 March 2021.

[103] Department of Mineral Resources Inspection reports as per inspections carried out on 30 May 2018 for one of the creeks in the Western Division.
[104] Discussions with Geological Survey Division dated 02 March 2021.
[105] Discussions with Geological Survey Division dated 02 March 2021.

The assessment requires the collection of rock samples from the extraction site which is then taken for testing at an accredited laboratory. Our findings relating to the RRA process is noted in Figure 4.39.

Figure 4.39: Carrying out Rock Resource Assessments



Source: OAG analysis based on assessment of application files.

We sighted RRA results in 18 (or 60%) company application files reviewed, while RRA's were deemed not applicable for 6 (or 20%) of the 30 application files, as they pertained to sand extractions. We could not sight RRA results for the remaining 6 (or 10%) companies.

As indicated in the RRA process illustrated in Figure 4.38, rock samples are usually collected by the proponents/companies applying for the license to extract. We noted that majority (i.e. 83%) of the proponents/companies collected the rock samples themselves and provided it for testing. This raises concerns on the reliability of the samples. There is risk of proponents/companies providing rock samples that would favour their application for extraction license. For instance, if rock sources from a particular river is not as conducive for the intended use of the resource, then the proponent/company could provide samples from another river or hard rock

Case Study 4.3 & 4.4: Inconsistencies found in RRA Report.[106]
Application for a company in the Central Division dated 20 January 2017 was lodged at the MLMR's Department of Lands. As per the RRA process, rock samples were provided to a laboratory on 21 December 2016 for testing. The RRA report articulated that the sample source and plant was from Nasinu Quarry and Nasinu respectively, yet the application was for river gravel extraction at the Waidina River in Naitasiri. The Geological Survey Division provided comments on the report and the application was approved on 03 July 2017.
A company in the Western Division lodged two applications with the MLMR's Department of Lands dated 20 January 2017 and 04 May 2017. Rock samples were provided to a laboratory for testing. The RRA report noted that samples were provided by

[106] Case sighted during audit file reviews.

source that would support the approval of their application. This can be linked to the two cases of inconsistency we found as discussed in Case Studies 4.3 and 4.4.

client, yet the client name did not match the name of the applicant lodging for gravel extraction license. The Geological Survey Division provided comments accordingly and the application was approved on 16 May 2018.

Comments on the RRA results from the Geological Survey Division (GSD) at the DMR are necessary to establish compliance to the intended use of the resource. These comments assist the Director of Land's decision to approve or decline an application. For those companies/proponents that carried out RRA's, we noted that the GSD did not provide comments or recommendations on 7 (or 39%) of the companies/proponent's RRA results, yet applications were still approved.

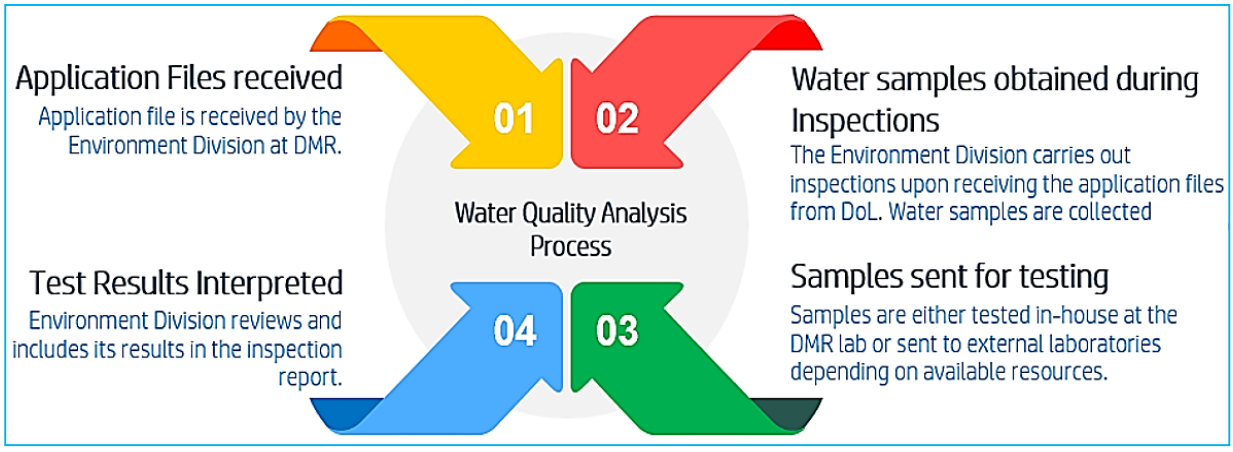
The MLMR generally agreed[107] to the findings related to rock resource assessments.

Are water analysis carried out?

Baseline water quality analysis are to be used for monitoring purposes during and after extractions.[108]

Figure 4.40 illustrates the general water quality analysis process.

Figure 4.40: Water Quality Analysis Process



Source: Confirmation from MLMR's Environment Division on 11 June 2021.

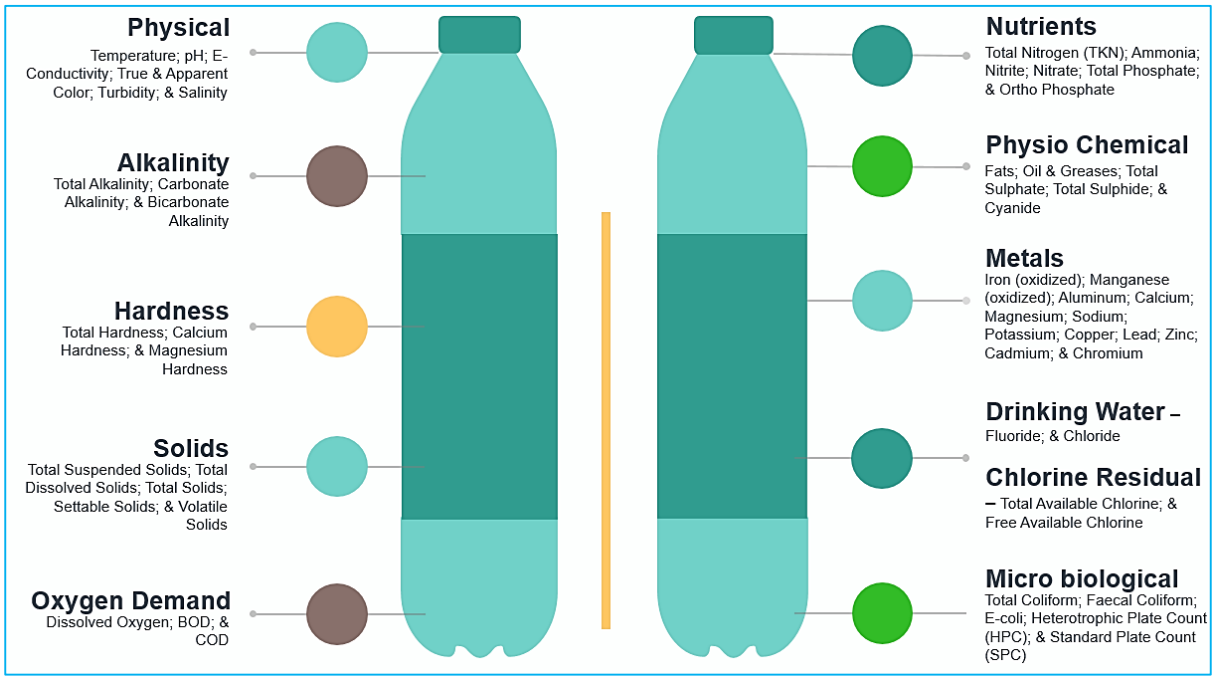
Water samples could be subject to the following determinant and parameter tests[109]:

[107] Exit meeting dated 14 September 2021.

[108] EIA report for one of the companies in the Central Division.

[109] National Water Quality Laboratory price list.

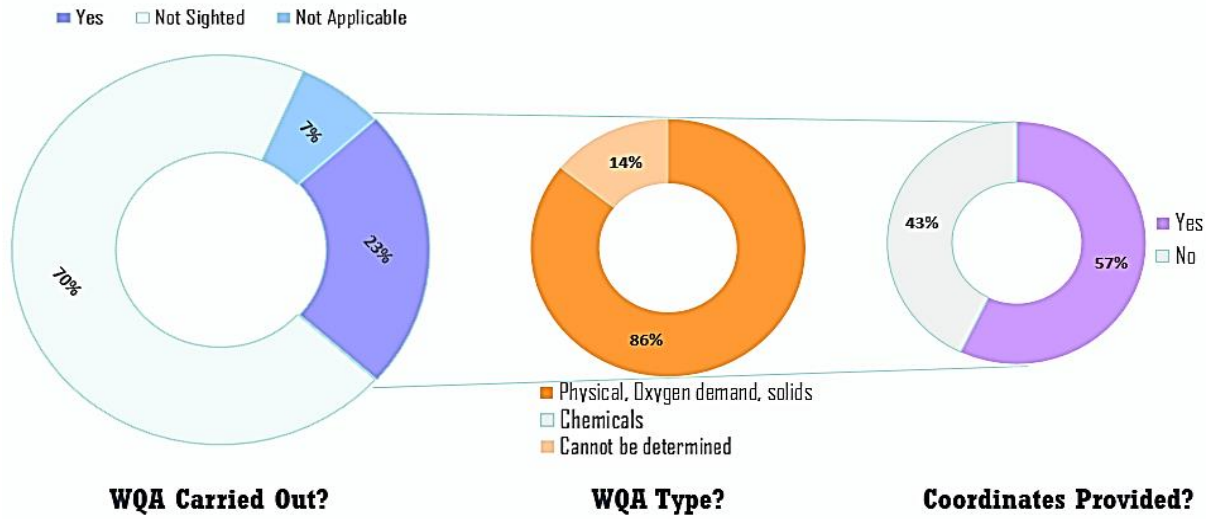
Figure 4.41: Water Quality Testing determinants and parameters



Source: National Water Quality Laboratory price list.

Our findings relating to the water quality analysis is noted in Figure 4.42.

Figure 4.42: Conducting water quality analysis



Source: OAG analysis based on assessment of files reviewed

We could not sight water analysis results in 21 (or 70%) of the files reviewed. Carrying out water quality analysis was not applicable for two (or 7%) application files as they related to extraction of sand readily stockpiled. Thus, for the remaining seven companies, we found that the MLMR's Environment Division mostly carried out physical, oxygen demand and solid tests

for the applications. There were no chemical or heavy metal testing's carried out to determine chemical composition of water prior to any extractions.

Causes

Volumetric Assessments

The MLMR noted[110] that volumetric assessments for EIA is done by the EIA Consultants as per the TOR issued by DoE. The MLMR further noted[111] that they can only comment on the volumetric assessment when the EIA report is received through DoL/DMR for review as part of the EIA process.

We noted during file reviews that the license to extract would be issued based on the more conservative volumes of extraction, that is, the lower of the two volumes. Table 4.5 to 4.8 shows six cases where the MLMR's volumetric assessments were lower than the DoE approved volume. We found that these volumes were approved for extraction. Furthermore, as depicted in Table 4.5 to 4.8, there were four cases where the MLMR undertook volumetric assessment even though the volumetric assessment for DoE was not stated.

Rock Resource Assessments

The requirement for Rock Resource Assessment was a recent requirement under the revised checklist.[112]

Water Analysis

The MLMR noted[113] that the EIA report would include all the required baseline analysis issued by the Department of Environment including baseline water quality. However, upon verification we found that some EIA reports did not have water quality analysis carried out. Therefore, if the MLMR as the licensing authority, places sole reliance on the EIA report for baseline information, in instances where the EIA is lacking water quality test results, monitoring exercises by the MLMR through the Environment Division would be futile as subsequent results would not have baseline data to benchmark against.

[110] Matrix for comments received from MLMR on 13 September 2021.
[111] Matrix for comments received from MLMR on 13 September 2021.
[112] Meeting held on 24 March 2021.
[113] Matrix for comments received from MLMR on 13 September 2021.

Effects

Absence of sufficient fundamental baseline data prevents sound decision-making arising from effective monitoring. This can be achieved, if information is available to benchmark and monitor against pre and post extraction operations.

Good Practices

Apart from the above findings, we noted that inspections have been carried out for almost all files reviewed during the audit. This level of commitment by the MLMR is commended and acknowledged.

Recommendations

7. The MLMR should ensure that adequate baseline information such as volumetric assessments, rock resource assessments and water analysis is obtained prior to recommending the approval of license issued to proponents.

Expected Benefits

Having adequate environmental baseline information ensures that proponents are held accountable when drastic changes to the environment are noted.

Theme 7: Land Owning Unit (LOU) Consultations and Consent

Description of the situation found

LOU consultations and their consent through the waiver of fishing rights are essential components of the EIA and the license approval process, respectively. The absence of community representation (usually the LOU members for extraction on rivers adjacent to i-Taukei Land) at the EIA consultation meeting is a concern that needs to be addressed by the responsible authorities.

Criteria

The Environment Consultant must conduct one or more public consultations (meeting) during the EIA study within the vicinity of the area of the proposed development. Notice of

the public consultation must be given by the proponent at least 7 days before the meeting on every radio or television station that broadcasts in the area of the site and in every newspaper that circulates in the area of the site in the indigenous and commonly used languages of the area.[114]

The Minister for Lands and Mineral Resources be authorized to waive Fishing Rights in respect of Special Projects undertaken: by Government, Charitable Organizations or Statutory Bodies where:-[115]

a) *The beneficiaries of the projects are the owners of the fishing rights;*
b) *The developers or co-developers are the owners of the fishing rights; and*
c) *The owners have consented in writing to waive their rights.*

Evidence and Analysis

One of the major components of the EIA process is community consultations. Central to the purpose of community consultations is to provide the opportunity for community members to voice opinions regarding the proposed development, and thus establish the foundation from which mitigation measures are formulated to manage concerns.[116]

For gravel extractions on i-Taukei Land, public consultations would undoubtedly involve the village/mataqali/yavusa dwellers living adjacent to the river subjected to the extraction operation. Usual practice by most Environment Consultants during the EIA process is calling for meetings with village/mataqali/yavusa members in order to identify concerns which should be addressed before, during or after the course of the extraction operation if approved. These concerns are captured in the meeting minutes which is usually appended to the EIA report for submission to Department of Environment. [117]

In addition, a pre-requisite to the licensing approval process is the waiver of fishing rights.[118] The village/mataqali/yavusa living adjacent to the extraction site (i.e. river) are usually the "qoliqoli" or fishing rights owners. Prior to approving any gravel extraction license, the fishing rights owners need to waive their rights to the fishing ground (i.e. extraction site) by consenting to do so in writing. Thus, we gathered that there would be a close correlation between the number of village/mataqali/yavusa members present at the public consultation during the EIA process and the number of persons signing on the waiver of fishing rights form. We nonetheless, noted that the number of village/mataqali/yavusa members attending

[114] Terms of Reference (TOR) for one of the EIA reports of an extraction company in the Western Division.
[115] Cabinet on 18th July 1978 (CP (78)) 185.
[116] UNDP 2018 baseline assessment report of Fiji's development minerals.
[117] Confirmed through file reviews.
[118] SOP for Extraction licenses for sand, lime and common-stone.

the EIA consultation and the number of persons signing the waiver of fishing rights significantly varied.

Tabulated below are examples of differences noted during file reviews.

Table 4.9: Community Participation in EIA consultation process compared to signatories on waiver of fishing rights forms

	Participants in EIA Consultation	Signatories to the waiver of fishing rights
FN 47/1/359	10	29
FN 47/1/350	27	100 plus
FN 47/12/6	6	38
FN 47/2/25	6	25
LIC 13/2016	6	13
FN 47/14/11	7	10
FN 47/12/1	25	3
FN 47/14/12	18	50
FN 47/2/33	1	19
FN 47/1/358	8	1
FN 47/2/34	4	42
FN 47/2/21	31	10

Source: OAG analysis based on assessment of application files

(FN: File Number)

We noted 9 out of 12 of the examples above have more members signing the waiver of fishing rights form compared to number of members attending the EIA consultation.

Firstly, the lack of community representation at the EIA consultation meeting is a concern. Most meeting minutes we sighted had less than 10 community members present at the EIA meeting.

Secondly, given the lack of representation at the EIA meetings, it raises concerns on the validity and authenticity of the signatories in the waiver of fishing rights. Case Study 4.5 illustrates a forgery case that was noted during file reviews.

Case Study 4.5: Allegations of Applicant forging signatures for waiver of fishing rights owners.[119]

An application was received by MLMR through DoL from a company on 12 August 2020. Accompanying the application was, amongst other required documents, the endorsed waiver of fishing rights form. The waiver form contained signatures of sixty-one (61) supposedly mataqali members. It was witnessed by the Roko Tui for the Provincial Council in whose jurisdiction the extraction site was located. The waiver form further indicated that the fishing rights owners meeting was conducted on 14 February 2020. The signatures were also ratified by i-TLFC. The issuance of the river gravel license was endorsed by the Director of Lands on 23 September 2020. On this approval, the Department of Lands prepared the offer letter to the applicant for which the appropriate fees were paid by the applicant on 16 October 2020. However, a minute dated 16 October 2020 was received by the Department of Lands from Police advising of an alleged fraud committed by the applicant. The report was lodged by one of the mataqali members. A meeting was conducted at the village on 29 October 2020. A DoL officer and a police officer was also present in the meeting. In the meeting, the applicant confessed about signing on behalf of some of the mataqali members living abroad due to the COVID 19 crisis and he sought forgiveness and was accepted by the complainant and the remaining members of the mataqali. A reconciliation was done after the meeting whereby "yaqona" was presented by the applicant which was accepted by the mataqali members. A memo dated 06 November 2020 was forwarded to the Commissioner of Police requesting confirmation if the complainant had cleared his police report from the police station where the complainant had lodged his police report. Following a correspondence received from the police station where the complainant had lodged his police report on 23 November 2020, the license was approved accordingly. The license document was signed by all relevant parties on 26 November 2020 in which extractions were to commence from 24 November 2020.

The MLMR commented[120] that this is the normal process for consultations with the landowners in which all consultations are done through the Office of i-Taukei Lands & Fisheries Commission (i-TLFC). In this regard, the MLMR further noted[121] that all signatures

[119] Case sighted during audit file reviews.

[120] Matrix for comments received from MLMR on 13 September 2021.

[121] Matrix for comments received from MLMR on 13 September 2021.

are vetted and verified by i-TLFC with the Chairman of i-TLFC ensuring all signatures are in order and that any case of forgery would need to be verified from their office.

The Commission merely confirms the number of members signing, ensuring that it is equal to or more than the required percentage threshold of signatures to be obtained. The names of the mataqali members signing on the waiver of fishing rights form is also crossed checked with the Commissions records.

In addition, the MLMR commented[122] that the communities have a channel of communication in place, in which issues are raised through the respective Turaga Ni Koro's (TNK's) and directly through the Roko Tui's at the Provincial Offices, as well as at the tikina level during tikina meetings. Also, the MLMR noted[123] that for all EIA consultations, which is set out in the EMA and is under the jurisdiction of DOE, the Provincial Offices are the focal point for notifying communities about EIA Consultations for any proposed developments.

Causes

Lack of community representation at the EIA Consultation meeting

The 2018 UNDP Baseline assessment report of Fiji's development minerals revealed that the *"Community members have expressed concerns regarding the advertisement of consultations. The typical method of notifying community members is via advertising the meeting in one of Fiji's two main newspapers. Community members have argued that many Fijians do not buy newspapers, and when they do, they do not read through every advertisement looking for notifications of EIA consultations. Therefore, it is likely that many relevant community members do not get the opportunity to voice their opinion at community consultations simply because they are unaware of the consultation taking place."*

The MLMR noted[124] that, as the licensing authority, they should carry out consultations with the community likely to be impacted by the proposed river gravel and sand extraction activity. This would be carried out by their community development team.[125] The team looks at mineral explorations, thus, in the same way, they can be engaged to carry out community consultations as soon as applications for extraction licenses are received.[126] The consultations should be a means of informing the community, who will likely be affected by

[122] Matrix for comments received from MLMR on 13 September 2021.
[123] Matrix for comments received from MLMR on 13 September 2021.
[124] Exit meeting dated 14 September 2021.
[125] Exit meeting dated 14 September 2021.
[126] Exit meeting dated 14 September 2021.

the extraction activity, and gather views on the proposed activity.[127] The MLMR revealed[128] that the EIA consultations largely address environmental issues, whereas the consultations carried out by them, would take into account other concerns including environmental issues. Thus, it is separate from the EIA consultation.[129]

Risk of Forgery

The waiver of fishing rights form requires signatures to be witnessed by the Roko Tui for the Provincial Council in whose jurisdiction lies the extraction site. The signatories would be obtained at the fishing rights owners meeting.[130] A witness, in this case, the Provincial Council Roko Tui, is needed to confirm that the correct party has signed the agreement and no fraud has occurred, such as someone signing the agreement on another person's behalf.[131] The generally accepted approach is that the witness watches the signatory sign.[132] This would require the presence of the Roko Tui or his/her representative at the fishing rights owners meeting to appropriately witness the signatories.

Case Study 4.5 shows that though the Roko Tui has signed, supposedly witnessing the signatories, there is clear indication that the witnessing protocols are not adequate due to the forgery incident. We were not able to confirm whether the Roko Tui or his/her representative were present at the fishing rights owners meeting to appropriately witness the signatories.

Effects

The lack of community representation at the EIA consultation meetings results in potential societal issues not being captured during the EIA process, thus necessary mitigating measures are not formulated and managed accordingly. In addition, inadequate witnessing practices increases risk of fraud as there is sufficient opportunity for forgery.

Good Practices

The MLMR's Environment Division have been instrumental in reviewing the EIA reports and commenting and making recommendations when appropriate. However, we could not find any current practice that comes close to mitigating the issues discussed above.

[127] Exit meeting dated 14 September 2021.

[128] Exit meeting dated 14 September 2021.

[129] Exit meeting dated 14 September 2021.

[130] Requirement sighted in the waiver of fishing rights form.

[131] Charles K, Taylor C, Marshall J n.d., *Signing agreements – what makes a good witness?*, Carpmaels & Ransford, viewed 10 June 2021, < https://www.carpmaels.com/signing-agreements-what-makes-a-good-witness/>

[132] Charles K, Taylor C, Marshall J n.d., *Signing agreements – what makes a good witness?*, Carpmaels & Ransford, viewed 10 June 2021, < https://www.carpmaels.com/signing-agreements-what-makes-a-good-witness/>

Recommendations

8. The MLMR should appropriately action proposals to carry out community consultations through their community development team when applications for extractions are received.

9. The MLMR should liaise with the i-Taukei Affairs Board responsible for the Provincial Councils in ensuring that the signatures of fishing rights owners are appropriately witnessed at the fishing rights owners meeting.

Expected Benefits

The proper engagement of a fully represented LOU ensures that members voice their opinions regarding the proposed extraction operation. This ensures that adequate mitigating measures are developed and formulated in order to manage the concerns raised by LOU members.

Establishing proper controls to mitigate risk of fraud resulting from forgery ensures that license for extraction operations are approved based on valid and authenticated consent from LOU members.

Theme 8: Environmental Impact Assessments

Description of the situation found

Though we found EIA reports in most of the application files that we reviewed, its quality is questionable due to inconsistencies noted in the report. Therefore, these inconsistencies should be addressed through a proper review process.

Criteria

Part 2 of Schedule 2 of the Environment Management Act 2005 requires, inter alia, that the proposal for general commercial development are to be approved by an approving authority where interpretations to the Act refer quarries, amongst others, as general commercial development.[133]

[133] Environment Management Act 2005, Schedule 2, Part 2 ((1) (e))

Commercial or industrial facility means-

a) A person (including Government) who engages in-

i. Providing services; or

ii. Manufacturing, production, processing, transportation, storage and packaging, mining, quarrying, sand extraction, coral mining, tourism, commerce, the preparation or processing of any agricultural produce or food or any other activity undertaken for financial gain, including any such services or activity conducted at or in residential premises;

b) The place, land or premises on, at or from which the activities mentioned in paragraph (a) are carried on.[134]

If a development proposal is subject to the EIA process, the approving authority must not approve the proposal or exercise any power, duty, function or responsibility that will permit the activity or undertaking to be carried out unless the EIA report has been approved.[135] *The chief executive officer of a Ministry, department, statutory authority or local authority may, if required by the Department, establish a unit responsible for environmental management.*[136]

A unit established under subsection (1) must consist of employees who can effectively undertake-

a) for a Ministry and department, processing of environmental impact assessments;

b) formulation and implementation of environmental and resource management policies and implementation programmes;

c) surveys, inspections and collation of geographic and natural resource information for the purpose of the Natural Resource Inventory;

d) education and awareness; and

e) Any other duties, functions and responsibilities prescribed by the regulations.[137]

Without prejudice to subsection (1), an environmental management unit in an approving authority is responsible for-

a) scoping a development proposal if it is to be processed by the authority;

b) assisting the EIA Administrator in scoping a development proposal if it is to be processed by the EIA Administrator;

c) reviewing or assisting in reviewing a completed EIA report on the proposal and making comments and recommendations on any management plan, enhancement plan or protection plan in the report;

d) monitoring and, if necessary, enforcing any environmental or resource management conditions of an approved EIA report; and

[134] Environment Management Act 2005, Section 2.

[135] Environment Management Act 2005, Section 27, Subsection 5.

[136] Environment Management Act 2005, Section 15 (1)

[137] Environment Management Act 2005, Section 15 (2)

e) *Processing any development proposal at the request of the EIA Administrator.*[138]

An EIA report on a proposal must, to the extent appropriate, include –

a) *the name and location of the proposal and details of the proponent, the approving authority, the date of preparation of the proposal and the person or body responsible for the preparation;*
b) *the identity of the person or persons who prepared or participated in the TORs, with full contact details;*
c) *a description of the purpose and scope of the proposed development activity or undertaking, including the background and rationale for the activity or undertaking and its intended goals and objectives;*
d) *a description of the environmental setting of the site of the proposal, including a statement of environmental resources and conditions in the area before the implementation of the activity or undertaking, and a projection or estimation of changed environmental circumstances that may occur as a result of the activity or undertaking;*
e) *a description of the possible environmental and resource management impacts of the activity or undertaking, including any pollution or waste that may be generated, and impacts occurring during construction, operation, decommissioning, and abandonment phases of the activity or undertaking;*
f) *a statement of the various alternatives that have been considered for the activity or undertaking that are reasonably foreseeable and technically and economically appropriate, including the option of taking no action, and an outline of the reasons for choosing the proposed action;*
g) *a statement of the mitigation action proposed in respect of any adverse impacts identified under paragraph (e);*
h) *details of individuals, organisations, government offices, ministries, non-governmental organisations, villagers, local councils, and others who have an interest, expertise, or jurisdiction regarding the proposal and who have been consulted;*
i) *a summary of the results of public consultations held on the proposal;*
j) *recommendations on the selected alternatives, mitigation measures, monitoring, other studies, analysis, and any additional consultation that may be required; and*
k) *an environment management plan if one is required by the TORs;*
l) *a recommendation as to whether an environmental bond should be taken from the proponent, and the nature and amount of such bond;*
m) *Any other matter specified in the TORs.*[139]

[138] Environment Management Act 2005, Section 15 (3)
[139] Environment Management (EIA Process) Regulations 2007, s 25(1)

An EIA report on a proposal must make particular mention of any hazardous substances and pollutants that might be discharged by the proposed development and of any GMOs and LMOs involved in the construction or operation of the activity or undertaking.[140]

An EIA report must –

a) be signed and dated by or on behalf of the proponent;

b) have attached to it all reports, plans, analyses and other documents that are needed or appropriate to assist readers of the report to understand it.[141]

Evidence and Analysis

The MLMR commented that their Environment Division was established as an Environment Management Unit (EMU) under Section 15 of the Environment Management Act (EMA) 2005.[142]

The European Commission published a guidance document in 2017 titled *"Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report"*. The guidance document suggested the following characteristics of a quality EIA report:

- A clear structure with a logical sequence that describes, for example, existing baseline conditions, predicted impacts (nature, extent and magnitude), scope for mitigation, proposed mitigation/compensation measures, significance of unavoidable/residual impacts for each environmental factor;
- A table of contents at the beginning of the document;
- A description of the development consent procedure and how EIA fits within it;
- Reads as a single document with appropriate cross-referencing;
- Is concise, comprehensive and objective;
- Is written in an impartial manner without bias;
- Includes a full description and comparison of the alternatives studied;
- Makes effective use of diagrams, illustrations, photographs and other graphics to support the text;
- Uses consistent terminology with a glossary;
- References all information sources used;
- Has a clear explanation of complex issues;
- Contains a good description of the methods used for the studies of each environmental factor;
- Covers each environmental factor in a way which is proportionate to its importance;

[140] Environment Management (EIA Process) Regulations 2007, s 25(2)

[141] Environment Management (EIA Process) Regulations 2007, s 25(3)

[142] Exit meeting dated 14 September 2021.

- Provides evidence of effective consultations (if some consultations have already taken place);
- Provides basis for effective consultations to come;
- Makes a commitment to mitigation (with a programme) and to monitoring;
- Contains a Non-Technical Summary which does not contain technical jargon;
- Contains, where relevant, a reference list detailing the sources used for the description and assessments included in the report.

We reviewed 30 application files with its accompanying EIA reports. From our review, we noted the following:

- Inconsistencies in reports prepared for two set periods;
- Volume of extraction not disclosed in report;
- Incomplete presentation of water sampling results;
- Sources of pictures and photographs not adequately acknowledged in report.
- Inadequate representation of flora and fauna.
- Inappropriate Cost Benefit Analysis; and
- Same information on environmental impacts noted across various EIA reports prepared by the same consultant.

Issues noted in the EIA reports are discussed below as case studies.

Case Study 4.6: Inconsistencies in reports prepared for two set periods

File No. 47/1/358 There were two copies of EIA reports found in the file for the years 2015 and 2018 respectively. The 2018 report was a re-submission following advice from the Solicitor General's (SG's) Office (who had been requested by MLMR through DoL to vet the license conditions) to clarify inconsistency noted between the name on the license document and the name on the EIA report. A review of the two different EIA reports noted that contents of the reports were identical. We were of the view that this is acceptable as the 2018 report was a mere re-submission, yet we noted two major changes.

Page 11 of the 2015 EIA report proposes an approximate volume of 200,000m³ of sand spoils to be extracted. On the other hand, page 10 of the 2018 EIA report indicates a proposed approximate volume of 600,000m³ to be extracted. It is worthy to note that these approximations are volumes to be extracted as per intentions of the proponent. Though the consultants mention that the proposed volume takes into account the sustainable replenishment of the river-bed sand supply, due to the sedimentation and siltation processes that takes place upstream during heavy rainfall periods and the resultant floods that transport and dispose sediments along the river channel and towards the river mouth, they do not provide quantifiable replenishment rates of the materials. The increase in proposed volume between the two periods raises questions on the method used by the consultant in determining the volume of materials to extract. By this assessment, we note the extent

of inconsistencies in the report. Nonetheless, it is pleasing to see that the approved volume by the DoE was not based on neither of the proposed volumes but were on a significantly lower value of 12,000m³. In addition, we noted that the consultant had changed the site locations on the 2018 EIA report where water samples were obtained, yet using the same water analysis results that was used in 2015. Changes in the site locations are noted in **Appendix 2.**

There was no justification in the EIA report on the rationale behind the change in site locations, reasons behind the yielding of the same water analysis results for the two years and if there were any disturbances or developments that had taken place over the years on the abovementioned site.

Case Study 4.7 & 4.8: Volume of extraction not disclosed in report, incomplete presentation of water sampling results, sources of pictures and photographs not adequately acknowledged in report.

File No. 47/2/21 Company in the western division with license effective and commencing 10 May 2019. Issues noted with EIA report:

- Volume to be extracted not stated in EIA report.
- Coordinates were not noted for sites to which water samples were collected. Also, only physical, solids and oxygen demand were tested. There was no documentation to justify the absence of chemical or heavy metal testing to determine chemical composition of the water quality prior to any extractions being carried out.
- Sources of pictures and photographs were not appropriately acknowledged.

File No. 47/2/25 Company in the western division with license effective and commencing 12 November 2018. Issues noted with EIA report:

- The EIA report sighted in the file was a photocopied version. Thus, pictures were not clear.
- Only physical, solids and oxygen demand were tested. There was no documentation to justify the absence of chemical or heavy metal testing to determine chemical composition of the water quality prior to any extractions being carried out.

Case Study 4.9: Inadequate representation of flora and fauna, inappropriate Cost Benefit Analysis and same information on environmental impacts noted across various EIA reports.

FN 47/2/34 Company in the western division with license effective and commencing 28 March 2019. Issues noted with EIA report:

- The section on biological environment which includes terrestrial and aquatic flora and fauna did not have any pictures or photographs to show the state of the environment prior to any extraction operations.
- Sources of pictures and photographs of maps have not been acknowledged in the EIA report.

- Cost Benefit analysis is not appropriate for EIA. Cost and benefit analysis is supposed to illustrate the cost and benefits of the extraction operations. Instead, analysis done in the section noted the potential revenues and costs of the operation to the proponent.
- The same environmental impacts noted in the report were sighted in other EIA reports done by the same consultant.

Causes

The UNDP 2018 baseline assessment report of Fiji's development minerals noted discussions with the environmental consultants indicating the current quality of EIA reports and depth of scientific studies is dictated by the market (the extraction companies), as the Department of Environment's approval process does not subject reports to a comprehensive review process. Therefore, EIA consultants are offered insufficient budgets to conduct thorough scientific studies, thus the quality of EIA's, as supporting the assessment, is substandard.

The MLMR noted[143] that the EIA approval is a requirement under the licensing process where the approved EIA report and approval conditions is submitted to DoL. The MLMR further noted[144] that the review process for EIA is prescribed under the EMA which is the jurisdiction of DoE. They only provide their comments on the EIA report with the final decision resting with the Department of Environment.

Effects

Substandard reports do not appropriately address the environmental impacts associated with extraction activities.

Good Practices

The pro-active review of the EIA reports by the MLMR's Environment Division is commendable. Case Study 4.10 reveals a situation clearly indicating the extent of "copy and paste" that we were privy to, during the audit conduct.

Case Study 4.10: Issues detected through the review process by the Environment Division at MLMR.

The EIA report for a company proposing to extract at the upper Dreketi river was received by the Environment Division at MLMR on 21 October 2020. During the review process, serious issues were noted with the EIA report which were communicated to the Department of Environment through email on 26 October 2020. Issues noted included:

[143] Matrix for comments received from MLMR on 13 September 2021.

[144] Matrix for comments received from MLMR on 13 September 2021.

- They can confirm that the EIA report was the same as the EIA report for TN (Laqenipusi) Creek, Seaqaqa District which was prepared by the same consultant for the same company in August 2018.
- The following information is evidence that the report has been copied without the consultant undertaking any site verification for the purpose of EIA:
    - ✓ All the pictures and maps used in the current report is the same as the one from the August 2018 EIA report.
    - ✓ The pictures on page 13 of the EIA report identifying the availability of the resource is the same as the August 2018 EIA report. The Mineral Resources Department had undertaken site assessment and resource verification in October, 2019 and had confirmed that the area had been depleted of gravel resources.
- The community consultation conducted and the information provided was not valid for the EIA report.
    - ✓ Appendix VII of the EIA report noted a participants list dated 31/07/18 which was the same as the list in the August 2018 report.
    - ✓ The consultation meeting minutes is not signed or verified. Furthermore, the content is the same as the meeting minutes of the August 2018 report.
    - ✓ The officer representing the Ministry that was mentioned in the report had retired in July 2019 and has confirmed upon enquiry that he did not attend the consultation.
- The Consent Letter in Appendix II of the EIA report is dated 22/12/2017 and is the same letter in the August 2018 EIA report.
- The Waiver of Fishing Rights in Appendix III of the EIA report is dated 22/12/2017 and is the same waiver in the August 2018 EIA report.
- The GPS coordinates of sampling (water & sediment) points illustrated on a map has not been provided for reference.
- The TOR of the EIA does not include rehabilitation plan. This must be included in the EIA report as it is a critical component for restoration of the extraction area to its near natural state.

Based on the findings above, the DMR strongly recommended that the EIA report be declined.

Recommendations

10. The MLMR, through the Environment Division, should thoroughly scrutinize EIA reports as an EMU established under Section 15 of the EMA, providing relevant comments and recommendations in order to remedy any issues noted in the EIA report.

Expected Benefits

Proper scientific reviews of current and future EIA reports would ensure that environmental impacts associated with extraction activities are properly addressed and mitigated.

5.0 MONITORING OF EXTRACTION OPERATIONS

Summary of main findings of the Chapter

This chapter examines the monitoring and reporting processes and procedures of the DoL with regard to extraction of river gravel and sand. Firstly, the chapter assess the actions taken against non-compliance of companies to laws, terms and conditions governing river gravel and sand extractions. It further evaluates the processes in place by the DoL to verify information provided by extraction companies. The chapter also tries to determine the extent on use of technologies to assist with the monitoring exercise. Finally, the chapter evaluates the effectiveness and regularity of monitoring work carried out by DoL.

Theme 1: Dealing with non-compliance to the terms and conditions of a contract/license agreement or Illegal Operators

Description of the situation found

We found that while there are actions being taken against illegal extraction of river gravel and sand, there is a need for relevant stakeholders to coordinate in order to impose harsher penalties on offenders to send clear messages on the consequences of not abiding to laws, terms and conditions.

Criteria

Government should review compliance intensively and implement sanctions on non-complying companies, to send clear signals that deter companies from ignoring the rules. Visit mine sites frequently. Pursue criminal charges against officials who are severely jeopardizing public health or the environment.[145]

Fines serve as sanctions against companies that do not comply with their obligations. Fines also have a deterrent effect—companies are more likely to comply if they risk being fined for non-compliance. The U.S. EPA recommends that fines should be fair and proportionate to

[145] Erin S, Peter R. Enforcing the Rules: Government and Citizen Oversight of Mining, New York (USA): Revenue Watch Institute; 2011, p 82.

the offense and should, at a minimum, recover "the economic benefit of noncompliance plus some appreciable portion reflecting the gravity of the violation.[146]

The responsibilities of the Environment Unit within the Ministry of Land and Mineral Resources have been broadened to include the assessment and monitoring of river-gravel extraction, fine-sand dredging, and all foreshore development leases and licenses.[147]

Environmental impact assessments, compliance monitoring, consultations and rehabilitation work will also be part of the expanded role of the unit.[148]

Evidence and Analysis

We determined the State Lands Act 1945, Rivers and Streams Act 1880 and Subsidiary Legislation (i.e. the State Lands (Leases & Licenses) Regulations 1980) as being applicable to regulating river gravel and sand extraction operations. **Appendices 3 to 5** identifies the applicable sections of the mentioned legislation and regulations.

We noted the following:

- Section 2 of the State Lands Act 1945 states that included as part of State Land is the foreshore and the soil under the waters of Fiji. Foreshore refers to the beachfronts. They are different from rivers and streams. The legislation does make reference to the soil under the waters of Fiji, but it does not mention rivers and streams.
- The Rivers and Streams Act 1880 through sections 2, 3, 5 and 6 specifically states that the rivers and streams all belong to the State.
- Any person that wants to use the State Land (which includes the foreshore, soil under the waters of Fiji, rivers and streams) they would have to get a license. Hence, the provisions for the issue of gravel and sand extraction licenses is in the State Lands Act 1945.
- As per the Subsidiary Legislation – State Lands (Leases & Licenses) Regulations 1980 - for the removal of sand, lime and common stone, the Director of Lands issues the licenses. These licenses are valid for a year. The Regulation focuses on conditions for those operating with a license. The Regulation does not mention of any penalty for illegal operators who operate without the extraction license. However, there are provisions in place for licensee's who breach conditions of the license.
- Under the State Lands Act 1945, the MLMR may forfeit a license based on its terms and conditions.

[146] Erin S, Peter R. Enforcing the Rules: Government and Citizen Oversight of Mining, New York (USA): Revenue Watch Institute; 2011, page 82.
[147] Ministry of Economy, 5 & 20-Year Development Plan, 2017, p 119.
[148] Ministry of Economy, 5 & 20-Year Development Plan, 2017, p 119.

- Moreover, for every offence under the State Lands Act 1945 for which no penalty is specially provided an offender shall be liable to a fine of $100 or to imprisonment for six months or to both such fine and imprisonment. Also, the provision for penalties against offenders is rather broad. There is no prescribed penalty that is precisely for illegal gravel and sand extractions (that is, operators extracting without license or with a license but extracting more than they are required to or extracting out of their boundaries or extracting in an unsustainable manner causing harm to the environment).
- The Rivers and Streams Act 1880 - mostly focused on public rights for accessing rivers and streams. It does not make any references to river gravel and sand extractions.

Further to the above, the MLMR[149] had highlighted during the audit that there is no clause in the Rivers and Streams Act 1880 to penalize operators on the illegal activity (in terms of the dollar value) or for the Director of Lands to take them to court or arrest them. However, the MLMR refers all these matters to the Police.

The MLMR[150] had mentioned that the Rivers and Streams Act 1880 is currently under review. Under the Act, they can only penalize those who are given licenses. For those who do not have licenses, the MLMR usually issues stop work notices to the offenders and files a copy of the same notice with the police.

Environment Management Act 2005

Under this act, the Director of Environment has powers in terms of charging fines, sentencing imprisonment, prosecuting the offenders, etc. It is noted that the penalties for any breach of the Act are hefty. The provisions and conditions for harsh penalties are evident in sections 11, 19, 21, 43, 44, 45, 46, 47, 51, 53, 60 and 61.

We selected and tested a sample of 17 monitoring reports to ascertain if there were instances of:

- non-compliance and actions taken against the non-compliance; and
- Any inconsistencies where non-compliance issues posing severe social and environmental impacts were given lesser penalties or none at all.

After review of the 17 monitoring reports, it was established that only one report did not have any non-compliance issue while the other 16 reports had non-compliance issues. Refer **Appendix 6** for details.

[149] E-mail dated 03 February 2021

[150] Entry meeting 02 March 2021

Based on our examination, it was noted that generally for any environmental impacts (sediments flowing in the river, unsustainable method of extracting, un-stabilizing the river banks etc.), no penalty was imposed on the operators. Also, there were instances whereby despite being given the instructions, the company continued to do what they are not supposed to and yet, for theses repeated acts, no fines had been charged.

There was also no evidence of follow ups undertaken to ensure that the recommendations in the reports were implemented or actioned.

The MLMR commented that their Environment Division is established as an Environment Management Unit (EMU) under section 15 of the Environment Management Act 2005. Through this, the Environment Division reports any breaches to the Department of Environment. The Department of Environment will acknowledge and take necessary actions.[151]

Moreover, upon analysis of the monitoring reports, it was noted that there were inconsistencies in the calculation of the penalties. The calculation of penalties for illegal extraction of sand/gravel to Company D Company E and Company R, was made using the market price per cubic meter of sand/gravel which is shown below:

- Calculation used: [Total Volume x Royalty Rate of $2.18] + [Total Volume x market price x 20%]

However, for the penalties calculated on illegal extraction to Company I, Company V and Company A1 does not include the market price per cubic meter of sand/gravel which is shown below:

- Calculation used: [Total Volume x Royalty Rate of $2.18].

The MLMR has stated that the reason for the inconsistency in the calculation was that:

- If market value was being used in the formula, then maybe it meant that the inspectors were referring to the extractions that were made some years back and current market price was being used to bring it back to the monetary value as of today.
- The various land officers had a different understanding on carrying out the assessment, hence, applying the two different formulas.

The MLMR has mentioned that the standardization of the formula is currently being discussed between the Director Lands and Director Minerals. Moreover, it was highlighted that

[151] Matrix for comments received from MLMR on 13 September 2021.

companies are required to pay the environment bond to the Ministry of Waterways and Environment for any environmental damages caused.[152]

Causes

The findings is attributed to the lack of co-ordination between the Ministry of Lands and Mineral Resources and the Ministry of Water Waterways and Environment. Both Ministries could explore ways in which illegal operations could be referred to the Ministry of Waterways and Environment on the possibility of imposing penalties under the Environment Management Act 2005 for damages and pollution to the natural environment.

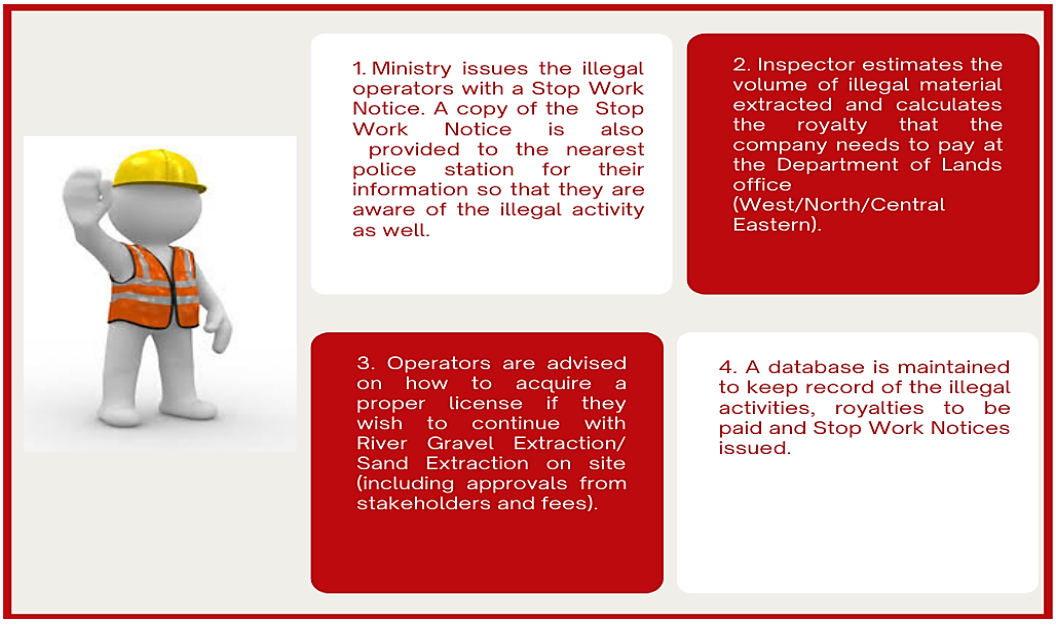
Effects

The absence of coordinated efforts in exploring avenues under the relevant Ministries and Departments means that the Illegal operations that cause harm to the natural environment will not be penalized in a timely manner.

Good Practices

The MLMR informed us that at present the actions that are taken on illegal operations are as follows:

Figure 5.1: Current practice by Ministry of Lands and Mineral Resources on any illegal operations



Source: OAG info graphic based on the response gathered from Department of Mineral Resources on 3 February 2021

[152] Exit meeting dated 14 September 2021

Further confirmation was also gathered from the MLMR for actions taken on over extraction and for illegal operators as follows:

- For over extraction – royalty is paid as per normal rate. The royalty rate is under review and currently with SG's Office for vetting.
- For illegal operators – the MLMR cannot penalize these operators as they do not have any license issued. However, the MLMR's legal team is working with the SG's Office to prosecute these illegal operators under the Penal Code. The MLMR also plans to liaise with the Fiji Police Force on an MOU for monitoring purposes.

Recommendations

11. The MLMR to collaborate with the Ministry of Waterways and Environment and establish a MOU whereby the MLMR will be able to notify Ministry of Waterways and Environment of the illegal and unsustainable sand and gravel operations for them to take actions under the EMA 2005 to prosecute and penalize offenders.

12. The MLMR should consider engaging environmental experts to quantify environment damage into monetary terms to penalize illegal operators who have breached license or EIA conditions and brought severe harm to the environment.

13. The MLMR should collaborate more and follow up with the Fiji Police to penalize offenders through their penal code.

14. The MLMR should ensure that follow ups are done to monitor that their recommendations are implemented and actioned.

Expected Benefits

Harsher penalties will discourage operators from breaching any conditions of the license and will also discourage operators from extracting gravel and sand illegally.

Theme 2: Verification Process on Licensee's Self-Reported Information

Description of the situation found

The MLMR has not been collecting and verifying self-reported information of extraction activities by the Licensee such as tally records from river gravel and sand extraction companies. The MLMR has also acknowledged that this is something that needs to be improved on as it is a part of the license conditions which needs to be complied with.[153]

Criteria

Monthly returns are to be submitted to Director Lands on the first week of every month by the Lands Officers.[154]

Government agencies should review company reports and assessments to ensure the company's self-reported information indicates compliance with its obligations and that assessments meet the country's required standards.[155]

Evidence and Analysis

The audit noted that the MLMR is not undertaking proper verification of self-reported information of the gravel extraction companies as necessary evidences were not provided during the audit. The MLMR acknowledged the audit findings and informed audit that the verification of monthly returns is a very critical component of monitoring that is not really enforced.[156]

The MLMR in its response stated that gravel licenses are not confined to companies but also include individuals and land owning units. As such applicants must meet the requirements of the checklists.[157]

[153] Exit meeting dated 14 September 2021

[154] Lands Division SOP 2015 – Ministry of Lands and Mineral Resources, provision (n), page 27.

[155] Erin S, Peter R. Enforcing the Rules: Government and Citizen Oversight of Mining, New York (USA): Revenue Watch Institute; 2011. 82 p.

[156] Exit meeting dated 14 September 2021

[157] Matrix for comments received from MLMR on 13 September 2021.

Causes

The MLMR commented that this verification process is not fully enforced. The submission of monthly returns to the MLMR is left to the discretion of the operators. The MLMR does not follow up with operators. Submission of monthly returns is part of the operator's license conditions which they need to be complying with. The main reason for not carrying out stringent monitoring of the monthly returns is because the MLMR does not have the capacity in terms of staffing and other resources, to be monitoring full time. They also do not have access to the operator's registers. The MLMR acknowledged the audit finding and noted that it would be taken into consideration when improving their monitoring process. [158]

Effects

The non-provision of monthly returns means that transparency and accountability is not being administered. Thus the MLMR will not have access to vital information that will be useful for making informed decisions in the future.

Good Practices

Upon scrutiny of the monitoring reports, audit confirms that MLMR through their Technical Assistants Natural Resource Duty Officers (TA/ NRDO) prepare reports to document the monitoring exercise. This is also a requirement in their Job Descriptions.

Audit also confirms the availability of a standard reporting template where monitoring exercises are documented.

Recommendation

15. The MLMR must ensure that vital information is well kept to enable the management in making informed decisions with respect to river gravel and sand activities and helps in fulfilling the roles and responsibilities of the government.

Expected Benefits

The maintenance of proper records by the government of the day ensure that proper accountability is exercised in keeping vital information that would be useful for planning sustainable development activities in the future.

[158] Exit meeting dated 14 September 2021

Theme 3: Use of Technology to Detect Unregulated/ Illegal River Gravel and Sand Extractions

Description of the situation found

We noted that the monitoring mechanism of the Ministry of Lands and Mineral Resources includes physical checking together with the use of certain technologies by site inspectors. Usually, these technologies are used to confirm illegal operation after any unregulated river gravel and sand extraction has been detected by site inspectors during their routine monitoring or after complaints have been received by the MLMR through communities or bystanders. The use of technology for effective monitoring can assist the MLMR detect unregulated/ illegal river gravel and sand extractions.

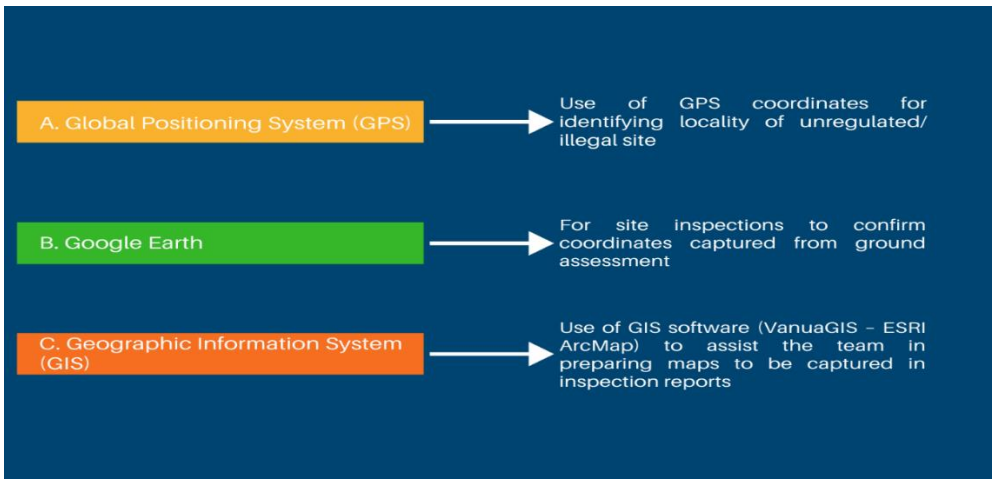
Criteria

Technology always plays an important role in process improvement, process monitoring and control and in any course of action that aims to increase transparency.[159]

Evidence and Analysis

The MLMR has confirmed that they make use of technologies to identify unregulated/ illegal river gravel and sand extractions. These technologies include GPS, Google Earth and the GIS Software. The illustration below depicts how the MLMR makes use of the mentioned technologies:

Figure 5.2: Technologies utilized by MLMR for monitoring



Source: OAG analysis based on assessment of MLMR responses gathered on 24 February 2021

[159] Government of India – Ministry of Mines, Sand Mining Framework - March 2018, Section 4.3, Paragraph 1, page 137.

The efforts of the MLMR is acknowledged. Nonetheless, more can still be done to take full advantage of the benefits of available technology, especially for those requiring the most minimal manual application. The use of Google Earth Imagery also fits this description.

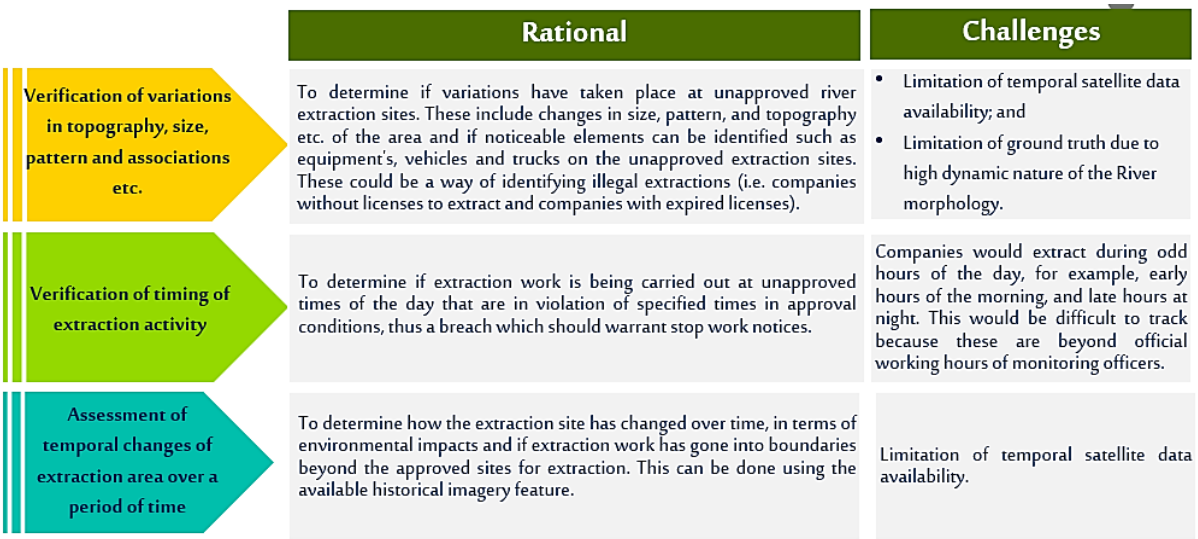
This assessment was based on the use of Google Earth Imagery in the following works:

- Work carried out by the study team for the UNDP 2018 baseline assessment report on Fiji's development minerals;
- A study published in the Asian Academic Research Journal of Multidisciplinary titled "*Mapping of river sand mining zones using remote sensing and GIS: A case study in parts of Papagni and Pennar River Beds, YSR District Andhra Pradesh*"; and
- The technology driven audit by the Comptroller and Auditor General of India in their audit of Sand Mining Operations in Tamil Naidu.

From our review, we have identified parameters that have been assessed as going beyond the conventional use of Google Earth Imagery. This can be useful if it is ingrained into the monitoring process of the MLMR.

The parameters are noted in Figure 5.3 below.

Figure 5.3: Parameters for using Google Earth Pro Imagery as part of monitoring



Source: OAG analysis based on assessment of published work relating to use of Google Earth Pro Imagery

However, although the above remote sensing technology is a cost-effective method of monitoring compared to intensive field-based surveys, its utilization is still susceptible to challenges. These have also been highlighted in the figure above.

Acknowledging the above challenges, there is another option to purchase more sophisticated remote sensing satellite products.

Investing in technologies that guarantee high resolution and world class remote sensing technologies can also be used for monitoring cross-cutting land use issues, such as forestry, infrastructure, mining and extraction of development minerals etc.

We were also informed by a Technical Assistant Natural Duty Officer (West), that on one instance the Divisional Lands Office (West) had engaged a company that provides drone services. It was highlighted that the use of the drone for inspection had been a good experience. The Divisional Lands Office (West) was able to clearly capture river boundaries where individuals and vehicles had difficulty in finding access. The use of the drone had helped them gather multiple information and images for further site inspections.

Figure 5.4: Route of drone mapped to follow and current image display

Source: DMR Inspection Report dated 25/05/2020 – Illegal Operation of gravel in Yavuna Village

The monitoring team within the Divisional Lands Office (West) had gathered information of an allegation of illegal operation of river gravel and sand extraction in Yavuna Village along part of the Mosi River and the transfer of the old stockpile near the village. The team had mapped a plan to conduct an investigation in Yavuna Village which was based on the expiry of license, interview of villagers and an aerial survey. It was the first time for the team to invite the drone services company to conduct the survey for a portion of the Mosi River to capture a detailed aerial view.[160] Figures 5.5 to 5.9 shows the inspection photos captured through the drone survey.

[160] Mineral Resources Department, Inspection Report dated 25/05/2020 – Illegal Operation of gravel in Yavuna Village.

Figure 5.5 Image of the aerial survey covered by the drone

Source: DMR Inspection Report dated 25/05/2020 – Illegal Operation of gravel in Yavuna Village

Figure 5.6: Aerial survey capturing the old crusher and stockpile area

Source: DMR Inspection Report dated 25/05/2020 – Illegal Operation of gravel in Yavuna Village

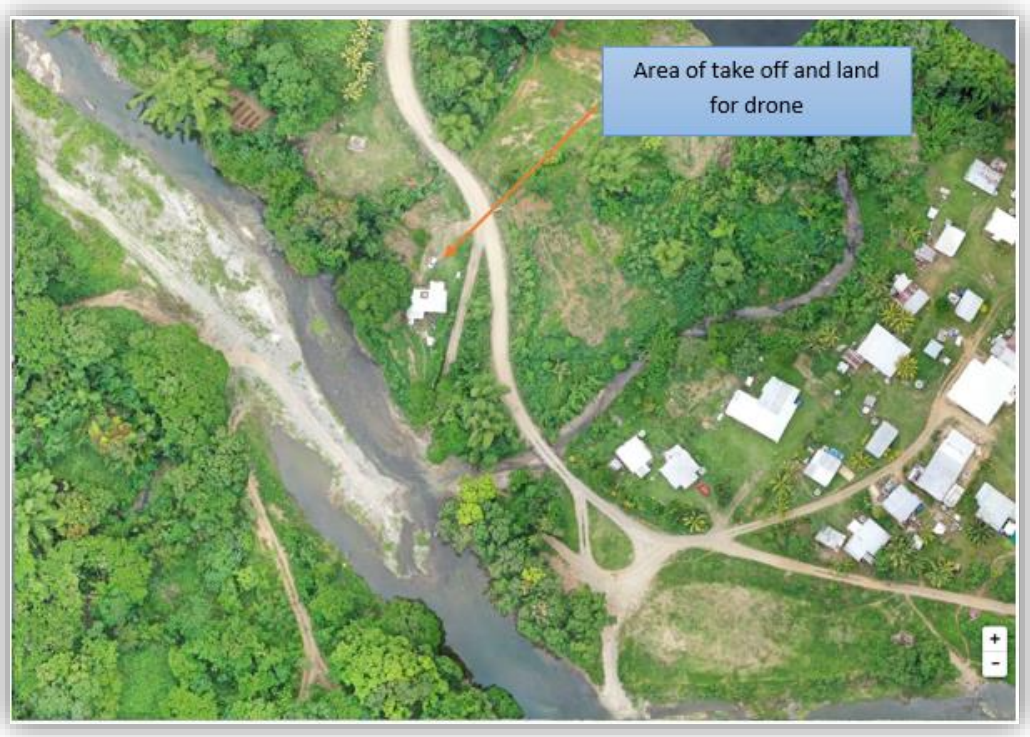
Figure 5.7: Drone survey capturing a detailed image of an excavator near the river adjacent to the stockpile area

Source: DMR Inspection Report dated 25/05/2020 – Illegal Operation of gravel in Yavuna Village

Figure 5.8: After confirmation from the drone survey, site visit was conducted whereby the excavator was captured near the river

Source: DMR Inspection Report dated 25/05/2020 – Illegal Operation of gravel in Yavuna Village

Figure 5.9: Base Site - Area of drone take-off and landing



Source: DMR Inspection Report dated 25/05/2020 – Illegal Operation of gravel in Yavuna Village

The MLMR stated that the Company were marketing themselves as such were providing free services for the use of their drone in the Western Division and the MLMR had used their services for the complaint in Yavuna to help gather information for their investigation and to justify their recommendation for the use of drones in the monitoring exercise.

Causes

The MLMR may not have had to consider the usage of new technologies due to the lack of funds and resources.[161]

Effects

The absence of up-to-date technology can hinder the monitoring of illegal gravel and sand extractions as it is not practical for the MLMR to be at the site on a real-time basis since most illegal gravel extractions are occurring during odd hours of the night or whenever the opportunity presents itself.

[161] Matrix for comments received from MLMR on 13 September 2021.

Good Practices

We acknowledge the efforts made by the Ministry of Lands and Mineral Resources in using the above mentioned technologies for carrying out site inspections. However, there is more potential for the MLMR to utilize technology that will assist them in detecting unregulated/ illegal river gravel and sand extractions proactively.

The MLMR also get notified of the unregulated/ illegal river gravel and sand extraction sites through:

- Receiving complaints from local communities or bystanders via formal letters, emails, phone calls and landowning dispute on non-issuance of gravel license.
- Regular monitoring carried out by the Technical Assistant Natural Resources Duty Officers who are situated in the Lands Divisional Offices – North (Labasa – 2 staffs), West (Lautoka – 2 staffs) and Central (Department of Mineral Resources – 1 staff).

Furthermore, there are measures put in place to deal with complaints received from local communities or bystanders and these have been documented in the SOPs for "Receiving of Illegal River Sand and Gravel Extraction Complaints – Environment Division". Moreover, actions that are taken on the illegal operations are illustrated in Figure 5.1 of this section of the report.

The MLMR mentioned that they are looking into intensifying aerial survey and possibly the Lidar system to monitor and clamp down on unregulated gravel extractions.[162]

Recommendations

16. The MLMR should consider the use of drones as part of their monitoring operations or request assistance from the Fiji Police Force.
17. The MLMR may consider using any other technology that seems feasible to assist them in monitoring such as investing in more sophisticated remote sensing satellite products that guarantee high resolution and world class images.

Expected Benefits

The benefits of using drones for site inspections are as follows:

- Will provide quick detailed aerial view of vast stretches of land and water. This can be cost-effective and reduce time taken by site inspectors travelling to several individual sites. Drones can also assist in capturing images of a large portion of the area that can

[162] Matrix for comments received from MLMR on 13 September 2021.

show most of the nearby river gravel and sand extraction sites. And if there is a sign of any suspicious activity or the site inspector finds it necessary then a physical check can also be conducted.

- Assist in capturing images of the areas in which the monitoring team may not be able to cover.
- Able to clearly capture river boundaries where vehicles cannot access.
- Assist in identifying remote areas where unregulated river gravel and sand extraction maybe taking place.

The benefits of more sophisticated remote sensing satellite products are as follows: (i) allows for real-time tracking of areas; (ii) more real-time images are obtained which covers a wide area; and (ii) saves time for man power to be diverted to other areas of work and allow for site visits only if it necessary.

Theme 4: Regular and Effective Monitoring of River Gravel and Sand Extraction Sites

Description of the situation found

It was found that regular and consistent inspection of the sites are not being carried out for effective monitoring.

Criteria

Enforcing the Rules: Government and Citizen Oversight of Mining, by Erin Smith with Peter Rosenblum examines the gaps in effective monitoring in the context of mining. The report highlights the need for Government inspectors across disciplines (whether tax, occupational health and safety, and environment) to visit mining companies regularly to supervise operations and to identify possible gaps in compliance. The report suggests that though there is no established guidance on how often mining sites should be inspected, most sources recommend a regular schedule, ensuring each mine is inspected at once during a specified time frame. The authors further noted that some countries use a risk-based approach to determine how often a particular mine should be inspected, visiting higher risk mines more frequently and lower risk mines less frequently.[163]

[163] Erin S, Peter R. Enforcing the Rules: Government and Citizen Oversight of Mining, New York (USA): Revenue Watch Institute; 2011. 82 p.

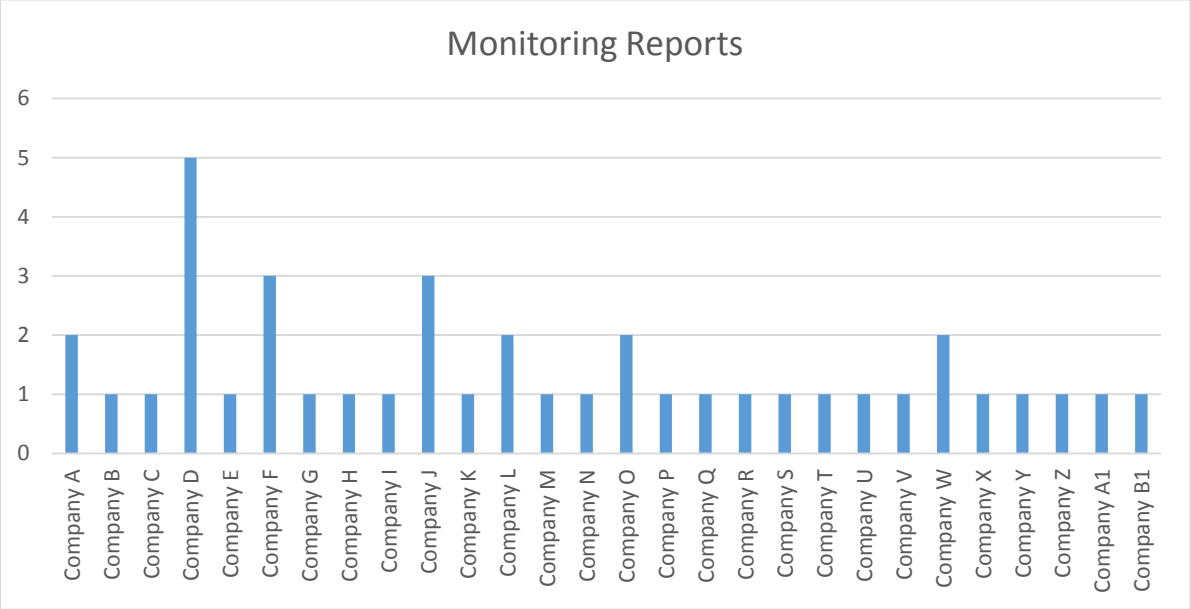
Evidence and Analysis

The Technical Assistant - Natural Resources Duty Officers (TA/NRDO) carry out monitoring inspections and are stationed in the Lands Divisional Offices and report to their respective Divisional Managers. Details of inspections work carried out are as follows:

- The Technical Assistant Natural Resources Duty Officers based in each division (central, western and northern) submit work plan to be approved by the Divisional Managers so they can conduct monitoring of legal operations.
- However, monitoring for illegal operations is conducted whenever complaints have been received but in some instances, the monitoring for illegal operations is conducted during inspections for legal operations.
- Inspection reports are submitted by the team's post-inspections with recommendations for follow up in subsequent inspections.
- Inspections are carried out on a monthly basis with illegal operations inspection conducted as per complaints received.

We carried out a review of monitoring reports to analyze the frequency at which the monitoring exercises are carried out for a number of companies/ extractors. While we requested for monitoring reports from the year 2015 till 2021 for the selected companies/ extractors, the graph below shows the number of monitoring reports that was provided for our review.

Figure 5.10: Number of monitoring reports received for each extraction company



Source: OAG analysis based on assessment of MLMR's monitoring reports

Depicted below are the dates of inspections that were gathered from the monitoring reports for companies provided by the Ministry of Lands and Mineral Resources. It was noted that the monitoring is not being carried out frequently and consistency.

Figure 5.11: Frequency of monitoring each extraction company

Company/ Extractor	Date of Inspections						
Company A					16.11.2020	14.12.2020	
Company B					21.10.2020		
Company C							12.02.2021
Company D	02.09.2019	08.11.2019	28.11.2019	05.03.2020	08.07.2020		
Company E					16.07.2020		
Company F			28.06.2019	14.10.2020	27.11.2020		
Company G					21.01.2020		
Company H							20.01.2021
Company I							18.03.2021
Company J		03.12.2019	08.11.2019		08.07.2020		
Company K					17.11.2020		
Company L					18.11.2020	16.12.2020	
Company M					01.12.2020		
Company N							11.02.2021
Company O					16.11.2020	14.12.2020	
Company P					20.11.2020		
Company Q			12.06.2019				
Company R					04.02.2020		
Company S					17.12.2020		
Company T							09.02.2021
Company U					21.05.2020		
Company V							05.01.2021
Company W			05.03.2019		08.12.2020		
Company X					19.11.2020		
Company Y							21.01.2021
Company Z					21.05.2020		
Company A1	26.09.2018						
Company B1					13.01.2020		

Source: OAG analysis based on assessment of MLMR's monitoring reports

We also noted that the tallyman is appointed from the qoliqoli owners or the landowners to record loads of gravel or sand extracted to carry out real-time monitoring to ensure that stockpiles are valued and quantified correctly.

MLMR highlighted that for every approved licenses, the usual requirement is to have one tallyman that represents the Land Owning Units (LOU) and one for the company. In terms of initiative, the MLMR emphasizes to them that when the royalties get paid to the MLMR, one part of it goes back to i-Taukei Affairs Board that is kept in trust for the qoliqoli owners that sign. This arrangement plays an important role on the correct reporting from the tallyman, that they don't under report the volumes of materials that is extracted.[164]

Moreover, we enquired whether the MLMR carries out real-time monitoring when stockpiles are being valued and quantified by the companies and if independent officers from the MLMR are present during the exercise. Listed below is what was gathered:

[164] Exit Meeting dated 14 September 2021

- River gravel and sand extraction is under the responsibility of the Director of Lands. The companies who were granted licenses have a pre-determined estimated volume of gravel and sand in their license area. As per the condition of the license, all companies with river gravel and sand license need to record loads of gravel and sand extracted and also have the tallyman from the qoliqoli owners or landowners to record loads of gravel or sand extracted from the river to the quarries for processing or for direct use. This is then verified during inspections and also against the volume estimated prior to issuance of license.[165]

- During the entry meeting with the MLMR on 02/03/21, the MLMR had also mentioned and confirmed the above statement that the rivers gravel and sand extractions are monitored by the resource officers based in the Divisions. Also, the report on the volume of extraction is submitted by the companies on the 5th of every month along with the payment of due royalties. The tally man is hired by the company. A person from the community/ village should also be present when the tally is being taken.

- The above statement is confirmed through the Lands Division SOP 2015 – MLMR (Appendix 4F – Special Condition number 5):
    - The Licensee shall submit a return to the Licensor by the 5th day of every month, showing the amount of material extracted during the previous month and at that time shall pay the royalty due thereon.

- As per the reports received from the TA/NRDOs, only stockpiles from legal operations are quantified by the MLMR officials to confirm volume of extracted gravel and sand. In cases of illegal operations, stockpiles are quantified by the MLMR staff for royalty payment payable by the illegal contractor to the MLMR for illegal resources extracted.

Causes

Irregular and Inconsistent monitoring by MLMR

There are 107 rivers in the Central, Eastern, Western and Northern Divisions. Out of these 107 rivers, only 13 rivers are active for extracting gravel and sand. To monitor these rivers, two TA/NRDO's from the Lands Divisional Offices have been allocated for the Western Division (Lautoka), two for the Northern Division (Labasa) and only one for the Central/ Eastern Division (DMR - Suva).

[165] Verbatim notes of the meeting of the standing committee on public accounts held in the committee room (east wing), parliament precincts, and government buildings, on 25th march, 2019 at 1.04 p.m.

The MLMR had informed us that the monitoring of extraction sites would depend on the risks involved. The higher risk sites are monitored frequently and lower risks sites less frequently although teams try to see that visits are conducted every month to ensure that the license approval conditions are not breached.

Awareness of extraction companies of scheduled inspections

Furthermore, we queried the MLMR that when carrying out their monitoring, if they informed the extraction companies beforehand that the MLMR will be coming for their monitoring, to which the below response was gathered:

- For River Gravel Extraction, it will be just phone calls to advise them that officers will be inspecting site and requesting for a company representative to be at site during inspection.
- Also, under EIA approval condition they can come in any time to carry out inspection. However, the MLMR still calls them as some companies cannot be reached through email in a timely manner.

Effects

While the audit acknowledges that the MLMR are being professional in terms of informing the companies of the site inspections beforehand, it is equally important to note that this practice may give the leeway for companies to be well prepared for the site inspections.

A clear example of the above was experienced by the audit team during the audit tour of the selected river gravel and sand extraction sites. It was noted that the MLMR had informed the companies earlier that the DMR team and the audit team would be coming for site inspections. We were informed by the quarryman at the Company 8 in Dawasamu on the 10th of March 2021 that Company 8's river gravel extraction license had expired, however, they were still continuing to extract. It was highlighted that the day before the audit team came for the site visit at Company 8 which was the 9th of March 2021, the company had been extracting gravel from the river on this day but as soon as the company was made aware that the site inspection will be carried out, they had moved the excavator out of the extraction sites.

The above was confirmed as upon the audit's site visit, it was evident that the extraction had been taking place because fresh excavator track/ trail marks were present on the ground.

Refer to images below:

Figure 5.12 & 5.13:Excavator tracks towards the river with muddy sediments being discharged in the river

Figure 5.14 & 5.15: Excavator tracks leading towards the river

Figure 5.16 & 5.17: Gravel scrapped off from the river bank

Source: Pictures taken by OAG on 10/03/2021

Even though the above pictures clearly depict that the Company had been extracting gravel despite their license being expired, the MLMR could not penalize them based on these observations because the jurisdiction does not allow them to do so. The MLMR would rather have to catch them in action or obtain a picture from a bystander that shows that the company is extracting with the excavator in order to issue a stop work notice and report this to police.

Good Practices

The work of the MLMR is also commendable given the huge responsibilities that the Ministry has to undertake in terms of monitoring river gravel and sand extraction for the whole of Fiji, the Ministry is still trying to carry out its duties to monitor and inspect these river gravel and sand extraction activities.

The MLMR has indicated that collaborations are done with the Fiji Police Force to strengthen the monitoring of river gravel and sand extractions with their assistance. A Memorandum of Understanding with Fiji Police Force had been proposed and the Ministry will revisit this once the Covid-19 restrictions are eased.[166]

Recommendations

18. The Ministry of Lands and Mineral Resources should consider:
    - Hiring more TA/NRDO's for carrying out site inspections based on the number of rivers that needs to be monitored.
    - Carrying out spot checks on the activity that is being carried out by the companies at the extraction sites.
    - Notifying the Ministry of Waterways and Environment on instances where they cannot penalize as they have not caught the company in action but the observation of the aftermath clearly depicts that the activity has taken place. Ministry of Waterways and Environment through the Environment Management Act 2005 has powers to penalize and prosecute any breach of license conditions or illegal activities.
    - Establishing a MOU to work in conjunction with the Fiji Police so that the divisional police officers or community police officers can be engaged with the tallyman every month for real-time monitoring of the volume of gravel and sand extracted.
    - Making it compulsory for the TA/NRDO's to physically inspect the volume of extraction twice a month and then compare this with the tally records that the companies and the tallyman provide for the next 11 months. Comparisons can

[166] Matrix for comments received from MLMR on 13 September 2021.

be made with the initial record with the next 11 months on whether there are huge discrepancies in the tallies provided.

- Consider using a combination of well-coordinated monitoring technologies with physical manpower to conduct surprise checks to deter illegal extraction of gravels.

Expected Benefits

- Regular and consistent monitoring of sites.
- Help identify and record any breach of extraction conditions or illegal operations.

6.0 APPENDICES

Appendix 1: FRA Media Release

Fiji Roads Authority

MEDIA RELEASE

FRA TO BAN THE USE OF RIVER GRAVELS IN ROADWORKS FROM 2020

23 August 2019

Fiji Roads Authority (FRA) is planning to ban the use of river gravels in roadworks from 2020.

Confirming this, FRA Chief Executive Officer Jonathan Moore says with river gravel material the consistency of the stone is uncertain, and it also causes irreparable damage to the environment.

"The FRA is intending to move in the direction of managed land-based extraction rather than river gravel extraction because of environmental and social impacts."

The FRA aligns itself to SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation and SDG 11: Make cities and human settlement inclusive, safe, resilient and sustainable.

Mr Moore said sustainability remains a serious consideration for the Authority and they would be implementing this change as soon as sufficient hard rock sources were available to meet the demand.

"We need to consider about sustainability in our work to avoid over-exploitation of natural resources. We also recognise the limitations that we face in Fiji on resource availability and we take this into account by re-using materials wherever possible."

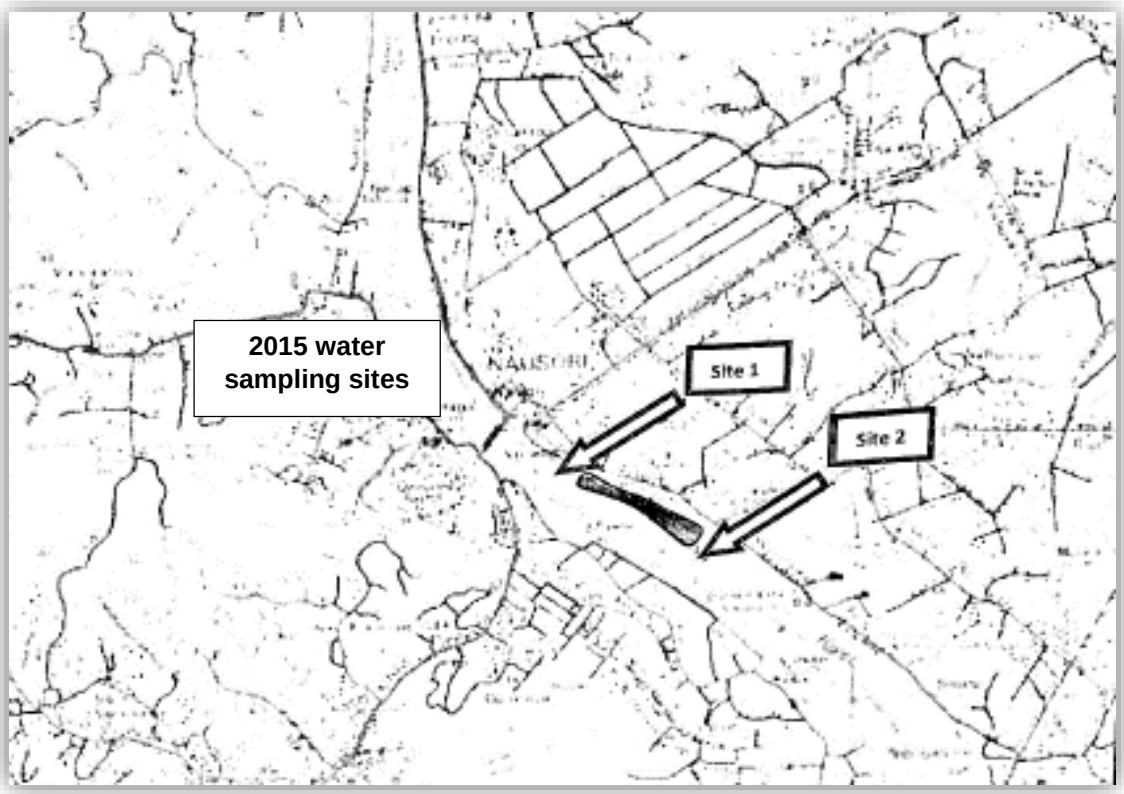
He said the sub-grade materials could be re-worked, with minimal need for additives, to provide the foundation for a new road surface.

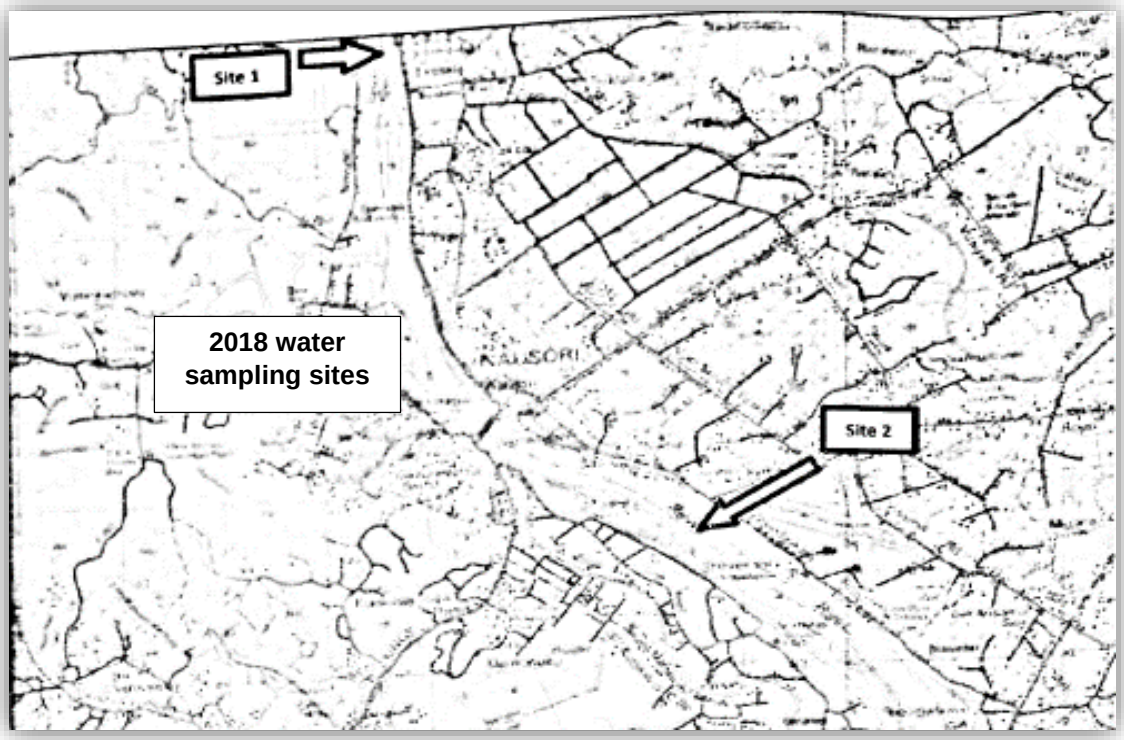
Mr Moore said that a future FRA strategy will be to obtain quarry licenses and then manage the rock extraction and crushing activities under third party operation.

"We have taken the initiative in identifying potential aggregates sites all throughout Fiji. This process commenced in the Northern division and this strategy will be continued in the Central Eastern and Western Division.

For more information please contact Zafiya Shamim at Zafiya.Shamim@fijiroads.org or call 9275960.

Appendix 2: Changes in site location in 2015 & 2018 using same water quality test result





Appendix 3: State Lands Act 1945

PART 1 - SECTION 2

State land means all public lands in Fiji, including foreshores and the soil under the waters of Fiji, which are for the time being subject to the control of the State and all lands which have been or may be hereafter acquired by or on behalf of the State for any public purpose.

PART 4 - SECTION 11

Any lease of licence in respect of land under the provisions of this Act shall be made out from and in the name of the Director of Lands for and on behalf of the State, and such lease or licence shall be executed by the person then holding the office of Director of Lands as lessor or licensor, and the person for the time being holding the office of Director of Lands shall, while he or she holds such office, be deemed the lessor or licensor of such lease or licence.

PART 7 - SECTION 29

All actions, suits and proceedings respecting State land or respecting any lease, licence or permit relating thereto, or respecting the breach of any covenant contained in any such lease, licence or permit or respecting any trespass on such land or any damages accruing by reason of such trespass or for the recovery of any rents or fees or relating to any damage or wrong whatsoever in respect of such land , may be commenced, prosecuted and carried out on in the name and title of the Attorney-General.

PART 7 - SECTION 32

Any person not claiming bona fide under a subsisting lease or licence or otherwise under any Act relating to the occupation of State land who is found occupying any State land or is found residing or erecting any hut or building, depasturing stock or cutting any timber grown thereon, or clearing, digging up, inclosing or cultivating any part thereof, shall be liable to immediate eviction and shall be guilty of an offence against this Act, provided that nothing in this Act shall deprive the public of the right to quiet enjoyment, for, recreational purposes, of the foreshore.

PART 7 - SECTION 39

Any person who makes a false declaration in relation to any matter or thing required to be done by this Act or by any regulation made thereunder, or who produces any false declaration or certificate, knowing the same to be false in any material particular, shall be guilty of an offence against this Act.

PART 7 - SECTION 40

1) Every omission or neglect to comply with, and every act done or attempted to be done, contrary to the provisions of this Act or of any regulation or order made thereunder shall be deemed to be an offence against this Act.

(2) For every offence against this Act for which no penalty is specially provided an offender shall be liable to a fine of one hundred dollars or to imprisonment for six months or to both such fine and imprisonment.

PART 7 - SECTION 41

The Minister may make regulations not inconsistent with this Act providing for all or any purposes, whether general or to meet particular cases, that may be convenient for the administration of this Act or that may be necessary or expedient to carry out the objects and purposes of this Act, and, without prejudice to the foregoing powers, providing for all or any of the matters following, that is to say-

(d) regulating the issue of licences on State land in respect of-
(ii) the removal of sand, lime and common stone

(e) prescribing the form and term of licences and the conditions upon and subject to which licences may be issued or forfeited;

(l) prescribing the royalties to be paid in respect of sand, lime and common stone got and removed pursuant to licences issued under this Act

Appendix 4: State Lands (Leases & Licenses) Regulations 1980

PART 3 - REGULATION 29

Licences may be granted by the Director for a period not exceeding 12 months for the following purposes-

(b) the removal of sand, lime and common stone

PART 3 - REGULATION 33

A licensee shall not alienate or deal with the land comprised in his licence or any part thereof whether by sale, transfer, sub-licence or in any other manner whatsoever without the consent of the Director as licensor first had and obtained and any sale, transfer, sub-licence or other unlawful alienation or dealing effected without such consent shall be null and void.

PART 3 - REGULATION 37

A licence for the purpose of removing sand, lime or common stone shall be subject to the following special conditions in addition to any other conditions which the Director in the circumstances of any case may see fit to impose-

(a) that the land the subject of the licence shall be used solely for the removal of sand or the removal and crushing of lime or common stone;

(b) that no building shall be erected save and except such buildings as may be necessary for the temporary housing of employees and of implements and machinery for the crushing of lime or common stone;

(c) that the licensee shall pay such royalty as may be set forth in the licence at the times and places therein specified;

(d) that the licensee shall on or before the expiration of his licence, to the satisfaction of the Director, fill up or render safe all holes made and repair any other damage caused to the surface by his operations.

Appendix 5: Rivers and Streams Act 1880

SECTION 2

All waters in Fiji which the natives have been accustomed to traverse in takias or canoes, whether the same be navigable for vessels built on the European model or not, and whether the tide flows and reflows in the river or at the particular part thereof navigable by takias or canoes or not, which are hereinafter styled "rivers", and also those waters which are included by the term "rivers" by the law of England, shall, with the soil under the same, belong to the State and be perpetually open to the public for the enjoyment of all rights incident to rivers.

SECTION 3

The banks of the said rivers to the breadth of 20 feet from the ordinary water-line in the wet season and the highest spring tide shall be subject to an easement in favour of the public for all purposes necessarily incident to the free use of the rivers, provided that, if, in any area constituted under section 5 of the Town Planning Act as a town planning area, any land on the bank of a river which is subject to the easement created by this section be scheduled in a town planning scheme for any use other than use by the general public, or if interim development permission is granted in respect of such land for any use other than use by the general public, the easement created by this section shall thereupon cease.

SECTION 5

All streams, whether forming the effluents and feeders of rivers and streams or themselves flowing directly to the sea, with the bed thereof belong to the State, to be perpetually open to the public for all purposes for which streams may be enjoyed.

SECTION 6

The upper courses of rivers above the portions navigated or navigable by takias or canoes shall be considered as streams for the purposes of section 5.

Appendix 6: Monitoring Reports on Non Compliances

Company	Instance of non-compliance	Actions taken against non-compliance
APS- 18/03/2021	• Company's license was in process for renewal as their extraction license had expired in the year 2020 • Illegal extraction of sand	• Site inspectors charged the company to pay the royalty to Department of Lands for the volume extracted illegally (148.8 m3) before the issuance of the license.
CDNV - 02/09/2019	• The purpose for the inspection was to verify a Stop Work Notice issued by Ministry of Waterways and Environment to the company on the breach of the EIA approval conditions. • The EIA conditions that the company breached was that it had excavated the river banks, there was absence of sediment control measures and improper waste management.	• Based on the instructions given by the Ministry of Waterways and Environment after issuing the Stop Work Notice, the Ministry of Lands and Mineral Resources upon their site inspection confirmed that the company had adhered to the instructions of the Ministry of Waterways and Environment to completely restore (rehabilitate) the channel to its initial state by using the same overburdens material which was removed from the river bank when the channel was constructed.
CDNV - 08/11/2019	• The company was advised to rehabilitate the access instead; they have elevated it and has placed timber from the riverbank to prevent erosion. However, river bank erosion was evident along the river bank.	• No fine was charged for the river bank erosion. • Recommendation was given for strict inspection on a monthly basis.
CDNV - 05/03/2020	• Company had been extracting sand without a license.	• Royalty charges was imposed on the company for illegal sand extraction. • Based on the audit's analysis of the 3 monitoring reports for this company, it is noted that there has been

Company	Instance of non-compliance	Actions taken against non-compliance
		continuous non-compliance by the company. However, no separate penalty had been charged to the company for continuing to breach conditions despite authorities giving warnings.
QO - 05/01/2021	• The company was operating with a valid EMP compliance letter but without an extraction license for the removal of the stockpile from Lands Department.	• After several face-to-face conversations onsite, the team had stopped the operation and asked the company to vacate site for further investigation. • Work to be stopped immediately. • The company should pay for royalty as calculated before any issue of license by Director Lands. If the license has been granted to the proponent is to pay royalty as per cubic meter to Lands Department. • Audit noted that royalty on the illegal volume extracted was to be paid. However, no separate fixed penalty charged for operating without the license.
CD- 16/07/2020	• The inspectors assessed that there had been operations ongoing at the time of license expiry which was confirmed by the videos and pictures taken by the Company. In the videos it was also seen that the stockpile had been accumulating and that carting has been ongoing on site.	• Penalty fee was charged to the company on illegal sand extraction and selling; the Lands Department was to verify all costing for the correction of the penalty fee calculation.
LI - 03/12/2019	• The team noticed that the company has constructed bigger sediment ponds as was advised during the last	• The company was recommended to revise and upgrade their sediment pond as to avoid suspended

Company	Instance of non-compliance	Actions taken against non-compliance
	monthly inspection and have installed sediment traps along the sediment pond, however it is not effective as seen at the discharge outlet. This may have drastic effects to the environment and river habitat in the future if it continues to be ignored.	sediments being discharged to the river that will affect the aquatic biota in the near future • If the above is not effective, then a stop work notice should be issued to the company as soon as possible unless the sediment pond is well constructed. • Audit noted that no fines were charged for the sediments being discharged in the river.
LI - 08/07/2020	• A new outlet of discharged water was constructed by the company which leads to the seasonal creek at the site which has not been used yet by the company. • Company have reconstructed the sediment pond however water being drawn out or discharged are still dirty. • No silt fences or traps seen at the site or around the sediment pond for sediment control purposes.	• Recommendations were given to the company on how to improve on the site observations made. • Audit noted that from the previous monitoring report, it was noted that continuous instructions had been given to the company to ensure that sediments are not discharged into the river. However, despite being given the instructions, the company had continued to do this. And yet, for this repeated act, no fine had been charged.
MRD - 11/02/2021	• The inspection revealed that the sediments in the pond were not settling, therefore dirty water was being discharged directly into the drains. Clearing of sediment pond has been an ongoing issue with the company and they have been informed accordingly. The need for	• Recommendations were given to the company on how to improve on the observations made and a strict monitoring needs to be conducted on a monthly basis to improve environmental standards of the quarry site.

Company	Instance of non-compliance	Actions taken against non-compliance
	improvement is anticipated in the next inspection.	• Audit noted that the inspection report highlighted that clearing of sediment ponds had been an ongoing issue with the company. However, no fine had been charged for this continuous act.
NK - 20/11/2020	• The company was extracting when site inspections were undertaken. However, unsustainable method was used where the digger was all the way in the river. • Temporary access was constructed 3 meters from river bank. Vegetation and riparian area were affected by the construction of the temporary access road that can also affect bank stability.	• Recommendations were given to the company on how to improve on the observations made. The contractor to rehabilitate the temporary access to its initial state before license expires. • Audit noted that no fine was charged for the unsustainable method of extraction
TN - 04/02/2020	• TN's license had expired on the 9th of November, 2019 and evidence displayed that operations had continued. Thus, deeming the operation to be illegal. In addition, illegally extracted materials were being loaded from pervious operation for sale purposes. TN was guilty on many occasions of contracting multiple contactors but was willing to renew his license after several face-to-face interviews.	• TN was charged penalties for the illegal extraction of gravel/sand.
PQL - 09/02/2021	• The inspection indicated that there was poor drainage system, with improper discharge into the creek. Poor storm water drainage around the quarry vicinity was also noted.	• Recommendations were given to the company on how to improve on the site observations made. • Audit noted that no fine was charged for improper discharge into the creek.

Company	Instance of non-compliance	Actions taken against non-compliance
	• Oil tanks were left exposed resulting in spillage on the ground. Some oil had been discharged into the nearby creek from storm water runoffs, operation areas and into drainage facility.	
R - 05/03/2019	• Operations were done without a valid gravel extraction license. It was noted that the company did not have any documentation to prove that this operation was legal.	• Recommendation was made to charge penalty but no penalty calculation for illegal extraction of sand and gravel was documented in the monitoring report. • The inspectors mentioned that the company had caused huge environmental harm by extracting near the river banks as the banks were noted to be less stable. However, no fine was charged to the company for this.
R - 08/12/2020	• The license holder and its contractors were extracting outside the license boundary. • They had created a new access road which was approximately 1km away from the original proposed site in the license condition. • The previous access road was not well maintained and also severe environmental damages were made to the original proposed site. • Furthermore, the environmental disturbances caused was quite heavy.	• It was recommended that MLMR should not approve the license to the company until they rehabilitate the site since significant environmental damages were found on site. Thus, recommendation for a strict monitoring on a weekly basis and also during odd hours. • Audit noted that no penalty was charged to the company for extracting outside the designated boundary & for the environment damage.
SSS - 21/05/2020	• This was the inspectors' second visit for the year to Yavuuna Village since being issued with a Stop Work	• The MLMR had requested the intervention of the Nadi Police after the company failed to vacate the

Company	Instance of non-compliance	Actions taken against non-compliance
	Notice in March after they had extracted from the upper portion of the Mosi river though their license was expired. • Through interviews with villages, it was noted that SSS had been operating after the expiry of the license.	extraction site. Police officers from Nadi came and later were assisted by the surveillance police which took a report of the incident • Audit noted that no fines were charged.
VV - 26/09/2018	• Records from the company stated that last the last extraction was undertaken on the 15th of August. After interviewing the digger operator on site, it was found that the last extraction was done on 21st September, a week before inspections. Officers verified this with the company director and he agreed that extractions had been ongoing up till 21st September and the office might have misplaced the records. A verbal warning was given to the company on the need to keep accurate tally records and to abstain from falsifying information. • The company was extracting gravel from the river bank and did not adhere to the 4m buffer zone. • Extractions had been done continuously whilst the rehabilitation works were lagging as the company was nearing the license expiry date (31-10-2017). The company has not indicated that they would be renewing their license.	• Company was charged to pay for the unaccounted gravel extracted. It was recommended that the company pay the arrears for over extraction, as this could affect further renewal of its gravel extraction license. Also, it was mentioned that a fine be imposed on companies falsifying information on extracted amount. • The buffer zone of 1 – 2 meters from the river banks, was strictly to be implemented at the extraction site in order to prevent erosion. • The company had to immediately begin with rehabilitating and re-aligning work on the river, including clearing all access made to the pits. • License renewal were subject to clearance of all royalty in arrears and adhering to the above sanctions. • There was no fine charged for continuing extractions without rehabilitations.

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