



# Responsibility and Accountability of Private Companies in Resource Extraction:

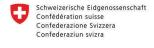
A Case Study of Quarrying in Mon State, Myanmar

February 2019



Funded by





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# Introduction to LCG's Youth Capacity Development Program

This research paper is one of three reports conducted in 2018 by aspiring youth through Land Core Group's youth capacity development program on "Research and Advocacy related to Land Governance and Land Issues in Myanmar". LCG initiated this program out of the belief that youth can play an important role in land policy reform and land governance in Myanmar. The program targets urban and rural youth across Myanmar, including ethnic nationalities. Some are interns working under the LCG research team, and others are youth from CSOs working in partnership with LCG on land issues.

#### The objectives of this program are:

- To build the capacity of youth and CSOs on research and advocacy to help them document land issues in a systematic way in their regions the purpose of advocacy with their regional governments.
- To promote the role of youth in land law and policy reform processes to positively impact smallholder farmers, landless people and women through conducting advocacy research related to land issues as well as land governance and establishing engagement with the government for policy dialogue processes.

To enable them to conduct the research, the youth are provided training through a series of four sessions, on: (1) basic research concepts and proposal writing, (2) data collection methods, (3) data analysis, and (4) report and policy brief writing. The training is given by Dr. Philip Hirsch, a former professor at Sydney University. In addition to the training on research, they also receive training on advocacy, land-related laws and policy, facilitation, case study writing, and systems thinking.

The youth are assigned to conduct research studies on land issues in the regions where selected CSOs are working. They work together in teams, comprised of two LCG interns and three youth from the respective CSO. Together with a leader from the CSO, they identify a research problem and site for their study. Using their theoretical and practical training, they develop proposals, design data collection, collect data, analyze the data, and write reports and policy briefs – all under the guidance of the trainer, as well as LCG's Research Coordinator, who is present throughout the process.

Six youth interns, divided into three teams, participated in the program in 2018. Two of the interns, together with three members of two Shan State CSOs - FLU and ECFD - conducted research on "Land Grabbing around Myanmar: processes, impacts, and compensation issues in Southern Shan State." in Ywar Ngan Township at Southern Shan State. Two other interns and three members of a Mon State CSO – MRLUN (Mon Region Land User Network)- conducted research on "Responsibility and accountability of private companies in resource extraction: a case study of quarrying in Mon State, Myanmar" in Paung Township in Mon State. The third project was carried out by another two interns with the coordination support of a Kayin state-based CSO - Hsar Mu Htaw. The research was

on "Customary land tenure and security in Mixed authority Areas: Case Studies from Kayin State, Myanmar" in Than Daung Gyi Township, Karen State.

The teams can all be proud of the skills they have acquired and the reports they have produced.

Yi Yi Win Research Coordinator Land Core Group

# **Acknowledgements**

LCG's activities during 2018 included the initiation of the program of "Research and Advocacy for Youth Capacity Development on Land Issues" in order to support youth leadership. In this program, young people who are from different parts of Myanmar and selected CSOs were given training on research throughout the year and conducted the research where the chosen CSOs come from. We are proud of having had a great opportunity to contribute our efforts for the whole of this process.

We would like to thank LIFT which is supported by the European Union and governments of Australia, Denmark, France, Ireland, Italy, Luxembourg, the Netherlands, New Zealand, Sweden, Switzerland, the United Kingdom, the United States of America for their kind contributions to improving the livelihoods and food security of rural people in Myanmar. We would also like to thank the Mitsubishi Corporation, as a private sector donor and SDC (Swiss Agency for Development and Cooperation) for giving support to complete the research paper, to the trainer Professor Philip Hirsch and co-trainer Dr Tubtim Tubtim, to the Executive Director U Shwe Thein for giving suggestions for selecting the research study area, to Research Coordinator Yi Yi Win for monitoring closely throughout the process, to Program Officer Ko Ye Min Paing for giving information to help understand issues related to law, to MRLUN coordinator Naing Aung Mon for giving suggestions in discussion, engagement with government and providing required information since the research study has started, to IT Officer Ko Tun Tun Soe for assisting with design and to GIS Officer Ko Ye Lin Htun from One Map Myanmar for drawing maps.

Furthermore, we would like to thank the Village Administrator from Ohntapin village tract when we went to the field for engaging with villagers and companies, 100 Household Leaders and 10 Household Leaders, local residents, the companies' responsible persons, Chief Officer Ko Hein Lin Soe from ECD, Dr. Min Kyi Win from MONREC, responsible persons from FD, DICA and other respective departments.

We would also like to thank the LCG family for giving us the chance to participate in other office activities such as all staff meetings, Land Forum and Workshops.

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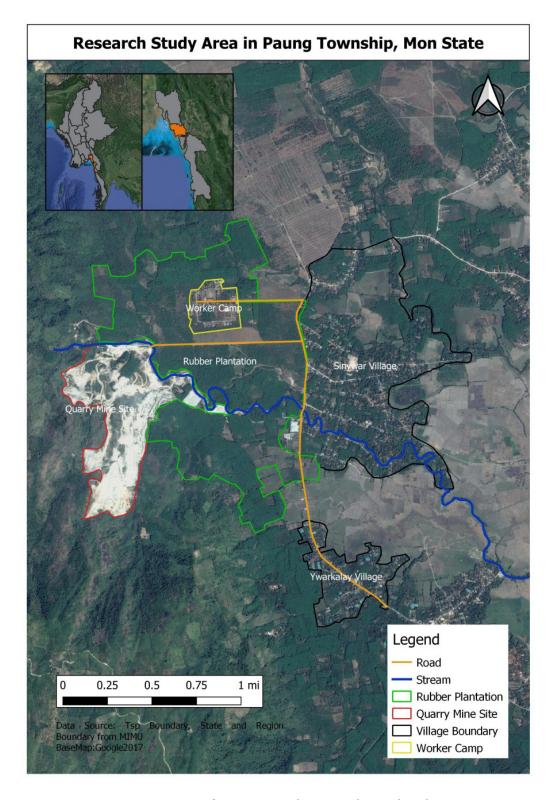


Fig- 1 Location of operation site where research is conducted

## **Executive Summary**

Myanmar has many natural resources, but at the time of transition, it can be seen clearly that the extraction of natural resources has grown dramatically within the space of a few years. Even though resource development has many benefits for the national economy, excessive extraction of natural resources creates many effects that impact on the local community.

To explore the impacts of resource extraction and to investigate issues of company accountability, this research took the case study of companies operating on land along the Kalama upland in Mon State for intensive resource extraction. The specific case under investigation is granite quarrying. The report identifies many types of damage that this activity has created for local people and the natural environment. The eco-system has changed as a result of such impacts, causing not only damage to the natural environment but also affecting human activities through flooding, drought, ruination of houses and loss of income and assets of affected people.

The study also identified community desires for the company to show greater concern over the impacts, to find ways to reduce the impacts, for greater transparency and corporate social responsibility (CSR). The study went on to investigate the roles and actions of respective government departments and how they monitored the quarrying companies.

The data was collected by learning and observing through living in the village, interviewing the companies' owners and respective government departments, observation at operation sites and villages, and through secondary published reports, laws, and media articles.

The findings from interviews with the local community showed significant changes in livelihoods due to investments, environmental impacts close to the operation site, impacts on farmland and a situation of crop production decline due to these impacts, decline in wildlife affected by damage to mountains and streams, decline in customary practices and scarcity of job opportunities.

## **Abbreviation**

LIFT : Livelihood and Food Security Trust Fund

SDC : Swiss Agency for Development and Cooperation

MRLUN : Mon Region Land User Network

EIA : Environmental Impact Assessment

SIA : Social Impact Assessment

EMP : Environmental Management Plan

MIC : Myanmar Investment Commission

ECD : Environment Conservation Department

MONREC : Ministry of Natural Resources and Environmental Conservation

DISI : The Directorate of Industrial Supervision and Inspection

IEE : Initial Environmental Examination

CSR : Cooperative Social Responsibility

### Introduction

Political reform undertaken by the incumbent government has opened up the widespread opportunities for investment in the natural resources sector. At the same time, this is contributing to livelihood insecurity, health problem, and environmental degradation for local communities. Prior to 2016 domestic investments were made by complying with the descriptions of Myanmar citizen investment law (2012), but the revised investment law (2016) has attracted more investment projects from both home and abroad. There are 141 types of investment in Myanmar, and among them 10 types of investments are made in the mining sector. According to the list made by the Myanmar Investment Commission (MIC), the mining sector attracted more investment than any other, accounting on average for 16% of investment proposals approved monthly. Investments made in extractive industries can have major impacts on the environment and local communities.

Though high levels of investment have a profound role to play in moving toward the economic development of the country, their negative impacts upon the local people should not be left behind in considering whether to approve them or not. Most of the investment projects benefit a handful of people but most of are suffering from depletion of natural resources, loss of traditional enterprise, land grabbing, farmland deterioration, displacement (loss of home), environmental degradation, natural disasters and other hardships. It does not come at a surprise that the most vulnerable and affected groups are those living in rural communities.

The political reform made in the four pillars; Executive, Judiciary, Legislature, Media, of the country ensures transparency and accountability, and the media sector, CSOs and NGO movement have become stronger. Therefore the local people are informed about the consequences of the investment, while some activists or volunteers from among affected people are getting involved in seeking plausible solutions for these problems throughout the country.

Many investments from both home and abroad in Mon State have helped develop local communities but local people are also reportedly affected in a negative way. Public movements against the investment projects that are reportedly witnessed in Mon State include public protest against a coal fuel based cement factory in Kyaikmaraw Township, a protest march against a coal plant in Ahnan Din area, Yale Township, and a public protest over mining in Paung Township.

The underlying cause of this public resentment is the government agencies who have authority to grant permits/ license. It is due to past periods when they failed to appreciate the crucial role of environment and had a strong focus on collecting tax from the private sector. There had been an inadequate amount of supervisory activities taken by the government department on the company's work program as they had given priority to budget requirements and did not have enough human resources for monitoring activities.

<sup>1</sup> Procedure for Environment Impact Assessment

<sup>2</sup> https://www.dica.gov.mm/en/total-number-companies (Directorate of Investment and Company Administration)

"Though the revenues accruing to subnational government budgets from natural resources remain relatively minor, the administrative structures and natural resources management responsibilities of subnational government are important, as they form the beginnings of institutions, practices and structures for managing natural resources. The setup of subnational environmental agencies also represents an important development, which will have to be handled carefully to strengthen the enforcement of protections and improve a accountability for the costs of resource extraction."

The local communities are compensated financially for the suffering they had been caused by the company. Despite compensation made by the company, the communities are still suffering from the loss of long-term job opportunities that they had accessed in the past. It is also needs to be considered that some have been satisfied with the financial compensation made by the company for the loss of the livelihood due to the mining operations. Some are therefore supportive of these companies as it benefits them in this way.

It is clear that environmental degradation is something that all the community members have witnessed so far. Some environmental activists are protesting against the mining operations, while others are in favor of them. As the communities are convinced of the fact that the private sector has financial capabilities and political connections, they feel reluctant to protest against these companies unless their business interests are not affected.

The objectives of this study include to understand about the impacts of investment upon the local communities, to study the accountability and responsibility of these investment companies, to encourage potential investors to be responsible in doing business, and to strengthen the oversight activities of the responsible government departments. This research about granite quarrying was conducted in Sinywar Village and Ywarkalay Village located in Paung Township, Mon State.

## **Research Problem**

Investment projects in different sectors from both abroad and home have been implemented in the country due to the economic reform undertaken by the incumbent government after the 2010 election. The total number of companies that made investments in the country during the 2010-2011 fiscal years is 2714 and it grows in number up to over 6000 by 2017.<sup>4</sup> The investment companies had received permissions smoothly as it is in the early stage of the reform process, and the prevailing legislations remain to be enforced accordingly. The Ministry of Natural Resources and Environmental Conservation was formed in 2012 and the environmental conservation law was enacted in the same year, while the environmental conservation rule was finalized in 2014. The companies were informed to comply with this legislation in implementing investment projects, but they failed to do business in

<sup>3</sup> Subnational Governance in Myanmar Discussion Paper Series Natural Resources and Subnational Governments in Myanmar key consideration for wealth sharing.

<sup>4</sup> https://www.dica.gov.mm/en/total-number-companies (Directorate of Investment and Company Administration)

accordance with the existing legislation.

In ASEAN Business and Investment Summit – 2018 held in Singapore, State Counsellor, H.E Daw Aung San Suu Kyi addressed and encouraged foreign investors to do business in Myanmar, urging them to be responsible and accountable<sup>5</sup>. It highlighted that government is urging the private companies to be responsible and accountable and further investments are yet to come as a result of the institutional reforms that have been undertaken by the government.

A total of 127 rock quarrying companies were granted licenses in Mon State during 2017-18 fiscal year, and there are 27 companies that received permissions in Paung Township. Some are not operating any more while others are trying to get new licenses. This case study was conducted in Sin Ywar Village and Ywarkalay Village, Ohmtapin Village Tract, Paung Township of which two quarrying companies are operating while totally 27 companies are running in Paung Township. During the E/SIA and EMP reports development process, the companies did not seek public opinion or arrange consultation workshops, with the result that the local people have no ideas about the environmental impacts caused by the investment projects. Moreover, the companies do not perform operations or work programs in accordance with the existing legislation in the country. Prior to giving a green light, the line government agencies failed to consider the local people's interest and the potential impacts the company will have upon the communities. There have thus been inadequate oversight, monitoring and evaluation activities.

In the study area of Sin ywar and Ywar kalay Village, the community members have lost their livelihood opportunities, local resources that they have conserved traditionally, subsistence income generating activities, especially of those who depend on forest, suffered from health problems, seen their waterways endangered, and noted reduced wildlife species due to the rock extractive industries.

Some companies do not allow anyone to visit their operation sites, while others take social responsibility, supporting to local development programs. But the fact that their contributions do not really compensate for the impacts they had caused should be considered, as should the possibility that they are attempting to have the communities favor them. It is reasonable to consider and question feedback of the communities on companies before and a few years after the companies have done their activities.

The research is conducted to ensure the environmental responsibility and accountability of the investment projects and to identify the effective measures for the government to monitor and oversee the potential investments properly.

<sup>5</sup> Aung San Suu Kyi Speech at ABIS Singapore

## **Research Question**

Question 1	How does quarrying affect the environment, livelihood and health of the communities?
Question 2	What do the people suffering from social, and environmental impacts of rock extractive industry want the company to do to alleviate their physical and mental suffering?
Question 3	What are the regulations and instructions the government had enacted for rock mining companies?
Question 4	Do the companies comply with these existing regulations, instructions and procedures?
Question 5	How do government departments monitor and oversee their compliance with the existing legislation? And what actions does government take against those who do not abide by these regulations?

# **Research Methodology**

The environmental impacts and social (livelihood and health) impacts of the rock extractive company on the communities, and the remedial measures that the communities want the company to take accordingly were identified by conducting random survey and participatory observation method.

In conducting a random survey, the moderately and severely affected households are selected randomly and surveyed by using semi-structured interview method. Participatory observation was done in the village in order to assess farmland, orchards, the sedimentation status of waterways, rock extractive daily routines including the number of trucks that carried rock and when they use explosive materials, and customary practice such as bamboo cutting and bamboo shoots collection.



Fig-2 Field Data Collection

In order to study how relevant government departments oversee the rock mining companies and what actions they have taken against those who fail to comply with regulations, the personnel working for Environment Conservation Department, Forest Department, Ministry of Natural Resources and Environmental Conservation (MONREC), Myanmar Investment Commission (MIC) were questioned by using semi-structured interview method.

Secondary data such as EMP, EIA, SIA, Myanmar Investment Law, related publications and news were collected, studied, and used as references where necessary. Photocopies of some instructions made by government departments and documents which belonged to the company were requested.

Field survey was performed in July, 2018 for a period of two weeks followed by interviews with local people, visits to companies, and meetings with the government personnel.

Table-1 showing study area, village, household and survey participants

State	Town- ship	Village	No of houses	No of Households	Male	Female	Total Population
Mon	Paung	Sinywar	430	430	1196	1432	2528
		Ywarkalay	161	167	480	496	976

#### Government Departments at State Level in Mon

- Village head (General Administration Department)
- Environmental Conservation Department
- Ministry of Natural Resources and Environmental Conservation (MONREC)
- Myanmar Investment Commission (MIC)
- Forest Department

Local people	Company				
Sinywar households (40)	• (2) Companies which have been				
Ywarkalay households (30)	operated near those two villages				

The two Companies are based in Sinywar and Ywarkalay Village, Ohntapin Village Tract. In selecting interviewees and villages, Sinywa whose community members had suffered the most and moderately affected Ywarkalay were chosen. Totally 40 households from Sinywa were questioned while the total number of interviewees from Ywarkalay was 30 households because the numbers of households, population, and affected people of Sinywar are larger than that of Ywarkalay. According to the research method, it was necessary to interview both affected and potentially affected people (those who will likely to be affected), and therefore totally 30 households from Ywarkalay Village were questioned.

In conducting semi-structured interviews with relevant government agencies, companies, and the communities, quantitative and qualitative questions were included.

Findings from this research were prepared by doing data entry, data analysis, and assessing the information collected.



Fig-2.1 Interview to village elders

#### **Constraints and Limitations**

As the study was conducted in the rainy season, interviews were postponed on the days it rained heavily. Most of the interviewees were family members but not head of the family since they were away working during the day time. In terms of age class, the interviewees included elder people, and middle-aged ones. Some were very pleased to participate in interviews, but others declined to be interviewed. Some interviewees could not provide full answers to some of the questions when they had strong emotional feelings about the topic and they requested the interviewers to come back later on.

As many community members are PaOh and Kayin ethnic minority people, communication problems arose. Some of them believed that the survey team could help stop the operations taken by the company as they had learned that this research was about quarrying.

In meetings with government departments, respondents felt reluctant to answer every question and

gave an overall account of what the discussion is all about rather than replying to specific concerns raised. Their availability was quite unpredictable, and sometimes they did not want to be interviewed. The company declined to be interviewed by giving many different excuses, and they did not want to answer all the concerns raised accurately and transparently.

Open-ended questions and random selection methods were planned, but it turned out to be done in a different way. Some interviewed households referred the research team to other affected households as they had learned that this research is based on quarrying activities. A snowball method was therefore used to select the households, targeted on the basis of having been affected by the quarrying.

### **Research Context**

#### Quarrying in Mon State

Quarry Projects have started around 2012 and 2013 in Mon State. Quarry Projects are mostly in the region of Kyaik Hto and Paung Township. In Paung Township, That-on district, up to 2018, 24 Quarry Companies were granted licenses and amount of rock production is 159710 while one Quarry Company has been rejected to run the operation. There were three Quarry Companies near Sin Ywar and Ywar Kalay village and there are only two Companies that run projects. These quarries run their projects along the upland of Kalama Mountain. Area of operating the project is not the same from one Company to another. For granite extraction companies, if they operate in an area of below 200 acres and have production rate of below 100000 tons per annum, they have to conduct an IEE, and if above 200 acres and above 100000 tons, they have to conduct an EIA.

#### Study Area

This research was conducted in Sinywar and Ywarkalay Village located in Paung Township, Mon State where 3 rock mining companies were operated in the past and one company had stopped their operations. Due to the political reforms undertaken by the incumbent civilian government, many investment projects have started running across Mon State in 2013.

The scope of this research includes how rock extractive companies compensate for the undesirable effect they have caused, and what impacts the communities have suffered from this operations. Sinywa and Ywarkalay Village located around the extraction site were selected as study area. Prior to mining (extraction) operation, the sound environment benefits the local people in many ways, but they started to face some challenges such as inaccessibility to operation area, shortage of water resource after the companies have operated in the area.

## 3. Findings

# 3.1 Findings from village interviews and observations

#### 3.1.1 Livelihood

# 3.1.1.1 Livelihood status of the local people after implementation of quarrying projects

The main livelihood activities of the Ywarkalay and Sinywar communities include agriculture, orchards, causal work, shopkeeping, livestock breeding, and outmigration. The majority of the income generating activities the interviewees have engaged in is covered by migrant work, casual laboring, shopkeeping, agriculture and orchards.

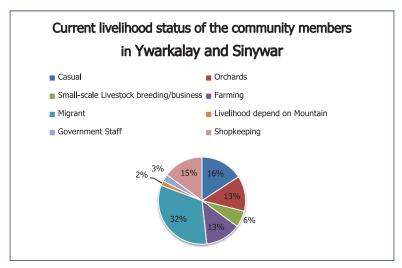


Fig- 3 Current livelihood status of the community members in Ywarkalay and Sinywar

As shown in Figure 3, among the 70 participants of the interviews in the two communities, the main occupations included migrant workers (32%), daily casual laborers (16%), shop-keeping (15%), agriculture (13%), orchards (13%) and own business (6%) respectively.

#### **Migrant Workers**

The reasons behind migrant laboring are livelihood difficulties, lack of job opportunities, and loss of local resources. There are not many job opportunities, even though investments and other enterprises are running in the area. Due to loss of local resources including water and soil, villagers find it difficult to depend on forest resources and do farming activities as they had done before. In the past they had to depend on forest resources such as firewood and bamboo shoots, but they cannot collect them anymore.

### Daily casual worker

As casual laborers, the community members have engaged in farming, orchard work, collecting and selling bamboo, subsistence fishing, and other miscellaneous activities.

#### **Orchards**

Orchards are normally grown at the base of the mountain, and the perennial crops include betel-nut palm, durian, watermelon, rambutan, and Guadeloupe.

#### Subsistence enterprise and livestock breeding

Selling timber, bamboo, and animal husbandry are carried out as subsistence income generating activities. Others include sewing clothes, making bricks, taxi driving, hairdressing, steeling, truck driving, and serving as porters.

#### **Farming**

The Marin variety of rice is grown in the rice fields, both for subsistence and as a cash crop.

### Livelihoods which depend on forest resources

The activities which depend on forest resources include cutting bamboo, collecting firewood and bamboo shoots, collecting fruit and cutting trees. Prior to mining operations, the local people were engaged in these activities without having any problems, but they seldom do these activities as the extractive operations have expanded their land for ensuring workplace safety which is why they are not allowed to pass the area and hence can no longer access forest resources.

#### Staff

There are two different kind of staff; government staff such as village administrator and teachers, and company staff including those who are working for the quarrying company.

### **Shop-keeping**

Some households by the road of the village are running grocery stores, small shops, and stores at schools respectively. Some of the shop owners were forest dependent people, farmers who had received financial compensation due to loss of their property and who had been migrant workers in the past.

# 3.1.1.2 Livelihood of the local people prior to quarrying

A decade before this study, before the quarrying company had started running, the livelihood of the community members were as casual laborers, orchard owners, subsistence business, livestock breeding, agriculture, migrant jobs, forest-dependent activities, and government staff. Forest dependent livelihood was found to be the most common one among others, which is followed by agriculture, causal labor, and orchard consecutively.

According to the response of 70 interviewees, prior to mining operations there 24 % relied on forest-dependent activities, agriculture (22%), general labor (21%) and orchards (20%) in these two village (Figure 3). This demonstrates the changes that have occurred in the livelihoods before and after the company had operated in the area.

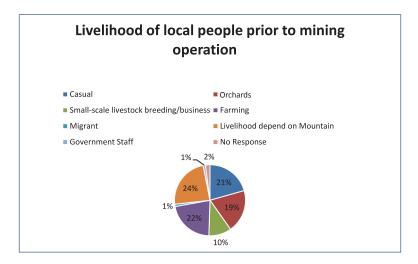


Fig-4 Livelihood of local people prior to mining operation

## 3.1.1.3 Current basic needs of the local people

When it comes to studying the current basic needs of the local people, some said that their basic needs are met, some claimed they are not satisfied, while others do not see any particular changes in meeting their basic needs. Most claimed that they find it difficult to satisfy their basic requirements, while other mentioned no difference between the past and the present. Some families report that they have their needs satisfied.

43% of the interview respondents reported that their basic needs are rarely met, 37 % claimed that they did not see any difference, and the remaining 20% said their basic needs are as well satisfied as they were before. Those who claim their basic needs are met are found to be shopkeepers, farmers, home gardeners.

According to the response of the interviewees, 31% of the shopkeepers are doing well while 23% of the farmers and gardeners are making a good livelihood. The majority of those who find it difficult to meet their basic needs are farmers, gardeners, and casual laborers. 26% of the farmers, 24% of the general workers, and 18% of the gardeners are facing challenges in meeting their basic needs.

Those who have a good normal life, having their basic needs satisfied include shopkeepers, gardeners, and casual laborers.

## 3.1.2 Impacts

According to the findings, the quarrying industry seems to have negative impacts on livelihood, health and safety of local people and on the environment as well.

## 3.1.2.1 Environmental Impacts

Environment impacts were clearly witnessed after the company started operating. Based on the response made by the local people, the following problems have reportedly arisen: shortage of water or water scarcity during the dry season due to deforestation, water pollution due to litter the rubbish by mine labors from the operation site, sedimentation on farmland, and loss of wildlife species caused by frequency of blasting.



Fig-5 Alluvial flow through rubber garden

## 3.1.2.1.1 Damage to stream, pond, and water resource

Sinywar and Ywarkalay Village, Ohmtapin Village Tract is located in Paung Township, Mon State and depending on the stream which is regarded as the borderline between two villages and ponds as major water sources for household use and commercial purposes.

50% of the interviewees claimed that they have depended on rivers. Among them, 20 % mentioned that it is alright to use the water from rivers and ponds, and 63% claimed that they are not comfortable in using that water while the remainder replied that it is normal.



Fig-5.1 Alluvial flow through stream

The reasons why they feel uncomfortable about using the water from rivers and ponds are sedimentation, alkaline water, water pollution, sewage, shortage of clean water, water scarcity (due to climate change), livelihood difficulty (as they no longer able to do fishing in the river), and flooding of farmland.

## 3.1.2.1.2 Damage to lake and well

These communities mainly depend on wells as drinking water sources. Some households and monasteries have collected drinking water in other ways, for example harvesting water flowing down from the mountain. In assessing the conditions of accessing drinking water, many mentioned that it is safe and fine to consume drinking water from the well. Some expressed the difficulties they have witnessed.

Based on the responses of the 70 interviewees, 83% said that it is fine to consume water from the well, 3% said that it is moderately safe and the remainder claimed they had faced some challenges. In asking about accessibility of water for the whole year round, 67% said that it is alright to use water while the rest 33% mentioned that they faced some problems.

A detailed explanation of the specific content of Figure (5) is given below.

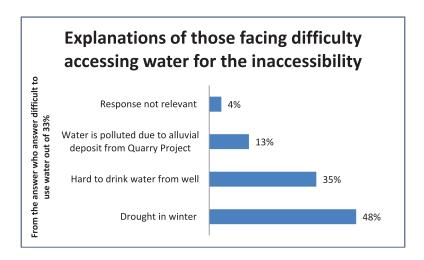


Fig-6 Explanations of those facing difficulty accessing water for the inaccessibility

Based on the 33% of respondents who reported that water resources have become inaccessible, 48% said it has become inaccessible due to the dry season, 35% claimed it is because of water turbidity, and 13% pointed out that it is because of sewage from mining operations.

The reasons why the water becomes inaccessible for a year-long period include destruction of the mountain environment due to mining operations, deforestation, water shortage during the dry season, water scarcity, sedimentation in the well caused by flooding during the rainy season, loss of wells, shortage of drinking water in the well (the water from the well becomes unsafe for drinking

purposes), odor of water (which becomes unpleasant or musty), salinization of well-water (especially, wells located around small streams), unpleasant color of water, alkaline water (which occurs due to the frequency of the mining operation).

## 3.1.2.2 Impacts on livelihood conditions

The community members are suffering from decline of fish catch due to sedimentation in the waterways caused by quarrying activities, decline of frog catch due to flooding over farmland, flooding of farmlands, loss of farmlands, hardening of arable land, decreased productivity of rice farming, decline of rubber sap productivity, reduction of crop productivity. They find it difficult to do collection of bamboo shoots, fishing, firewood gathering, and cutting bamboo as they feel unsafe to pass around the operation site where the activities include using explosive materials and other dangerous processes. According to the response, those who had engaged in activities depending on forest resources are in search of other additional jobs so as to meet their basic requirements. The local people have lost long term interest and job opportunities by giving their orchards and rubber plantations located around operation site up to those who had requested them to sell at higher price as they need to construct roads where necessary for their business activities.

## 3.1.2.3 Health problems

There has been rock dust, particles which are dispersed by the wind from the trucks as it did not get wet enough from watering in those sections not covered with weatherproof materials. The road connected between the mining site and village is built with soil, so the households living by the road breathe dust whenever the companies transport rock, with the result that they suffer from suffocation and asthma. Wells are not accessible during the rainy season due to flooding, have unpleasant odors, face salinization (especially in wells around waterways), alkalinity, turbidity. People suffer from kidney and other infections. Therefore some community members have to rely on the purified drinking water sold at the market.

## 3.1.2.4 Safety of local people

Two blasting activities take place throughout the day: at 11:00 and 17:00 respectively. Due to the intensity of explosions, respondents report that their houses shake and are damaged, witnessing the shaking of the earth's surface to some extent. Family members such as children, the aged and the pregnant women are prone to injury these activities occur on a daily basis.

Rock loaded trucks have been going from the village to Paung Township every day. Therefore parents who are concerned about potential accidents take and fetch their childrem to and from school. Some people have reportedly died due to quarrying accidents.

# 3.1.2.5 Reduced productivity of crops grown on farmland and orchards due to site operations

Crop productivity is said to decline seriously because of undesirable effects that the extractive activities have caused on the farmland.

55% of responding households reported that productivity has declined, 27% believed it has increased, while the rest mentioned no change in productivity. The productivity has increased because of the application of fertilizer and insecticide, good transportation, and modernized machinery.

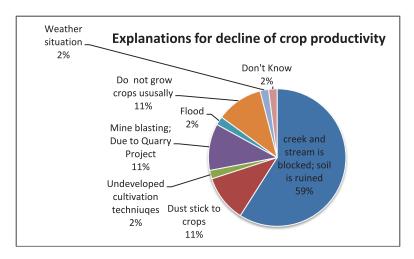


Fig-7 Explanations for decline of crop productivity

The reasons why crop productivity has declined include reduction in waterways due to sedimentation, destruction of farmlands caused by sedimentation, hardening of soil, decline of crop productivity of the orchards by the road due to dust from the trucks loaded with rock, decline of rice productivity of the farmland around the quarrying operation area, decrease of rubber sap productivity, flowing down of silt from mining areas (upstream area) into farmlands, unsteady productivity due to weather conditions.

Some of the interviewees are not farming and thus some claimed that they have no idea about the changes in farmland conditions.

# 3.1.3 Comparison of livelihood activities between before and after the extractive operation

Many community members find it difficult to meet their basic needs, and those who claim themselves to have suffered are found to have been engaged in activities which depended on the existence of the forest resource a decade ago. Livelihood of others who are also struggling for meeting basic needs include farming and casual labor.

Table- 2 Showing the Comparison of livelihood activities between before and after the extractive operation has ruined

Comparison of livelihood activities between before and after the extractive operation has ruined				
Occupation	Prior	Now		
Casual	21%	16%		
Orchard	20%	13%		
Subsistence enterprise and livestock breeding	10%	6%		
Farming	22%	13%		
Migrant worker	1%	32%		
Livelihood which depend on forest resources	24%	2%		
Staff	1%	3%		
Shop Keeping		15%		

<sup>\* 15%</sup> of the interviewees are making a living by running a shop/grocery store, changing their income generation activities. 24% of the interviewees were depending on forest resources for their subsistence income in the past but only 2% appear to depend on the forest at the present moment. Only 1% of the interviewees were migrant workers in the past, while the proportion increased to 32% at present. There is no significant change in other livelihood activities such as general labor, orchards, subsistence jobs, or government staff.

# 3.1.4 Communities' claims and responses to impacts

In assessing how the communities sought help in solving these problems, it is found that most communities did not seek assistance from the local authorities and were unable to solve problems associated with quarrying impacts. They also expressed that they did not feel able to pursue solutions to these problems.

Based on the results of the interviews, 48% were inactive in solving the problems, 19% had asked for government help, 15% were satisfied with the compensation made by the company, and the remaining 6% solved their problems in their own way.

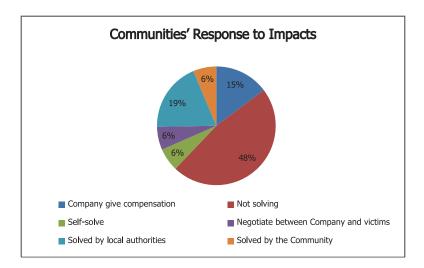


Fig-8 Communities' Response to Impacts

Some mentioned that they had asked for other help in solving these problems. 14% of those being interviewed asked for village head assistance, 14% had sought assistance from the Township authorities, while 3 % solved problems in their own way.

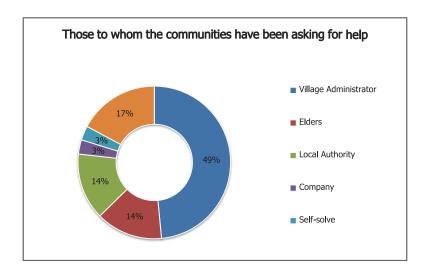


Fig-9 those to whom the communities have been asking for help

Some community members have no idea about to whom they should be asking for help. There are some people who have giving help and these people are village head, household leaders and township officials.

The means by which they had solved the problems include coordination by village head for compensation (79%), sending notification letter by government departments to the company (8%), reporting to the line agencies (5%) and being helpless (8%).

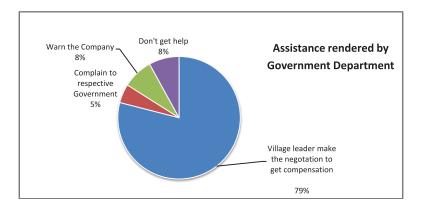


Fig-10 Assistance rendered by Government Department

According to the findings, some have remained silent about the problems while others asked for help. Sometimes, they do not get any help and those who do not try to solve the problems have no ideas about how to get help of others.

# 3.1.5 Openness of the company about mining operation to the communities

In assessing communities' understanding on extractive operations, 69% of the interviewees mentioned that they do not know about the operation, 16% said they had learned about background and activities of it, 7% had learned about consequences of the operation, and 1% had made responses to the extractive operations.

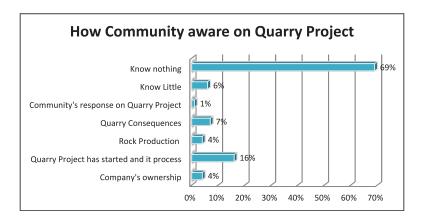


Fig-11 Community understanding of the quarrying company

According to the understanding of the community members, the mining operation solely belongs to Mon New State Party (without partnering with foreigners) and only one company has an operating license. Regarding the background of the company, they mentioned that in 2013 the experts visited the area to measure the air quality, the company bought the rubber plantation located at the base of the mountain at a high price. Respondents have learned about the blasting timetable, they believed that it is 30 year long project which started in September 2013. They understood that the company has extracted rock and transported it to the market. They claimed that their income generating activities such as collection of bamboo shoot, cutting trees, and fishing have been lost, suffering from destruction of waterways, sedimentation in the streams, and causing damage to homes. They understand that there is some protest against the company in the communities.

Respondents believe that regulations stipulate that the license renewal could be done only after the public opinion and consent have been collected/acquired. In reality, they understand that the company reportedly paid a visit to the nearby village but no one heard that the company had asked for their opinion.

## 3.1.6 Employment status due to investment project

Only 1% of the 70 interviewees are employed by the quarrying company. This implies that there are limited job opportunities created by the company. The majority of those working for the company are not the locals staying in the area but people from upper Myanmar.

The local people work for the company as security staff, cooks, and rock grinding workers. Other community members who were not interviewed also work at the mining site. Most of the job opportunities created by the company are physical laborers such as truck drivers, cooks, security staff, rock collecting and rock grinding workers.

The local people are mostly recruited as watchmen or security workers by the company. The reasons why the communities do not work at the operations site include lack of educational qualifications, information inaccessibility, lack of interest, low pay, having alternative jobs, favoritism toward outsiders, and unavailability of time. Many people do not know about the process of job recruitment and the technicians are normally recruited by the company.

# 3.1.7 Community Attitudes toward the quarrying operation

There is some difference in attitude toward the company among the villagers. Some do not like the company, while others favor it. There are some local development activities taken by the company, but the local people find it difficult to be satisfied with the company because it does not operate transparently.

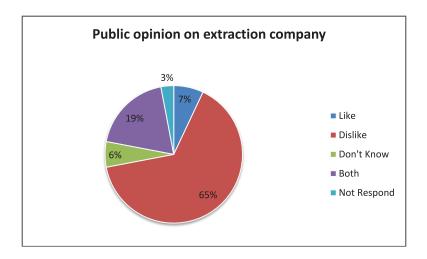


Fig-12 Public opinion on Extraction Company

When it comes to asking their attitudes toward the extraction company, some said they like it, some do not, some mentioned they are neutral, and others said nothing. Some tried to remain neutral because they cannot handle the problems. They claimed that the company has superior financial resource and political clout so they cannot cope with the consequences of the problems.

The reasons why the villagers are not supportive of the company include impairing their interest, affecting environmental integrity, inaccessibility to the area, and increasing health problems. It was found that the communities express dislike for and seldom communicate with those who are working for the company.

According to the responses who answer dislike out of (65), the reasons why they are not supportive of the company include loss of livelihood (28%), environmental deterioration (23%), inaccessibility to the area (17%) and health problems (8%).

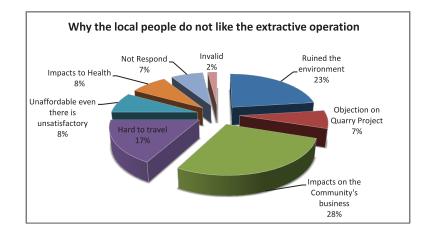


Fig-13 Why the local people does not like the extractive operation

Environmental impacts include natural resources depletion, air pollution, and damage to waterways, deforestation and forest degradation. Interests of the local people are impaired because the extractive operation affects farmlands, their livelihood activities, drinking water access, bamboo shoots collection, and makes their surroundings dirty with the dust. There has been change in number of vehicle accidents prior to and after the operations. Some cannot stand seeing an extractive company running in their area but they end up remaining silent without doing anything in that regard. The communities are concerned about the drinking water access as drinking turbid water caused by the operations have undesirable effects on their physical integrity. These are reasons for expressed dislike of the extractive company.

The communities claimed that they will be pleased if the company takes remedial actions for the resources depleted responsibly and accountably. Some seem to be pleased to have the extractive company in their area because they believe it creates job opportunities, supports the local development activities and helps develop the infrastructure of the area.

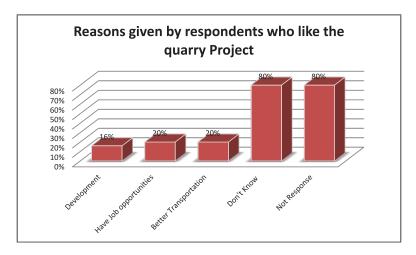


Fig-14 Why some local people favor extractive operation

As discussed in Figure 14, 16% of the interviewees who liked the company mentioned that they are pleased to have company because it contributes to local development activities, 22% favor the company because it creates job opportunities, and 20% consider it is good due to its support for the road construction projects. According to the survey, 80% of the interviewees who liked the project are pleased to see the company running in their area without any reason.

# 3.1.8 Community's desire/recommendations on extractive operation

The extractive company contributes to the local development activities while having undesirable effects on the communities. It has already been mentioned that 66% of the interviewees do not like the extractive company and 7% are pleased to have the company in their region. When it comes to asking about their desire / recommendation for the company, the recommendations are as follow: financial compensation should be made by the company if disputes occur or problems are raised and accidents happened, mutual agreement should be reached between the company and the communities without affecting anyone, the company should be implementing CSR programs by contributing to local development activities, the operation site, if possible, should be debarred, no mining projects are allowed to be implemented in the region, the company should comply with the regulations and instructions strictly (the activities such as transportation should be done responsibly, considerations should be given in performing other activities as it affects their farmland badly, rock should not be extracted for foreign exchange earning purposes), the maintenance activities on waterways should be implemented (environment should be restored), legal actions should be taken if problems have arisen, and collective action/voice should be sought in solving these problems as they do not have any resources.

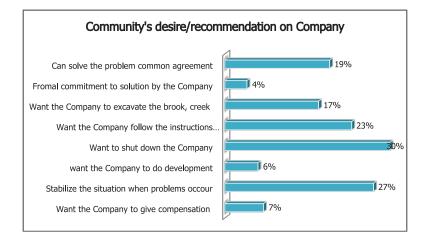


Fig-15 Community' desire/recommendation on company

As mentioned in the table, most people want the company to be halted. It includes those who would like the company to be halted (30%), those who want a peaceful solution if problems arise (27%), those who want the company to follow the instructions systematically (23%), those who believe collective voice should be sought in solving problems (19%), those who urge waterways to be rebuilt (17%), those who want the company to pay compensation if injury is caused (7%), those who want the company to contribute to local development projects (6%), and those who want to settle disputes legally (4%).

# 3.2 Findings from interview with the Company

The company that has operated in the reserved forest has to pay tax to the Forest Department, Department of Mining, General Administration Department and other departments as necessary. The General Administration Department is entitled to decide the amount of rock to be extracted when the company renews its license at GAD. The company needs to pay 25% tax depending on the amount of rock they are allowed to extract. Some companies extract the amount of rock as mentioned in the license or permits, while others do over-extraction of rock intentionally. The type of rock the company has extracted includes chipping, topping and fine grades.

# 3.2.1 Transportation of rock

The average number of rock truckloads transported on a daily basis is over 100. These loaded are using this village road which is not wide enough, so the trucks cause traffic congestion. The trucks usually load rock that has been watered, but due to overloaded trucks, some rock dust scatters along the roads these trucks pass.

# **3.2.2** Public safety announcements made by the company Transportation of rock

The company uses explosive material two times a day. The company has a noticeboard set up in front of the company where time of blasting activities will be conducted. Large companies have done explosion activities below ground at depths of up to 45 feet.

# 3.2.3 Actions taken by the company dealing with impacts

The extraction company needs to comply with the regulations of the line government agencies such as General Administration, Environmental Conservation Department, Forest Department, and Mining Department. The department who can grant permissions and its instructions differ on different land. The extraction company is located 3 miles from the village, road, and orchards.

According to the response of company personnel, the local people seldom cut trees and bamboos due to the mining operation and they were recruited in accordance with the labor demand. Their affected rubber plantations were compensated financially by the company. Some negotiations between farmers and the company were made with the facilitation of village head and Forest Department, especially in buying/selling land located in front of the company. The local people find it difficult to do excavation activities on farmlands covered by silt as the company does not allow their vehicles to pass the operation site.

In conducting this research, some operation sites are inaccessible. The company needs to seek public opinion in renewing a license. And the company claims to have collected the feedback/ opinion of the local people.

# 3.2.4 Corporate Social Responsibility of the extraction company

There are some CSR activities taken by the companies donating money, mostly rock not only the village which is near the operation site but also to the village which is far away from the operation site for making contributions to local development activities, supporting village electrification works, road building, and donating to schools, monasteries, etc.

## 3.2.5 Environmental Impact Management

The sewage and excrement from the extractive operations are disposed of properly by having some filter system for silts. Recovery arrangements for potential impacts have been made and an environment management plan has been submitted to the General Administration Department and Forest Department.

Currently, the company is organizing to do planting in the damaged area, repairing the destroyed land. The company needs to have a filter system and grow trees and ornamental plants on up to 20% of the surrounding area. An Environmental Management Plan (EMP) was developed by a third party company in order to assess the environmental impacts such as level of particulate materials, noise pollution, and study settlement area conditions. The descriptions, information, and illustrations contained in EMP were prepared in the English language.

# **3.3 Findings regarding Government Departments**

## 3.3.1 Role of government departments in quarrying

Prior to the formation of the Myanmar Investment Commission (MIC) and Environmental Conservation Department (ECD), the General Administration Department and Directorate of Industrial Supervision and Inspections (DISI) took responsibility for granting operating permits in collaboration with other line agencies. After ECD and MIC were established, the rights and responsibilities of private investors were developed in detail, paying heed to conservation of natural resources and ensuring environmental integrity.

Until 2012, GAD and DISI reviewed and granted work permits to investment companies without considering environmental conservation issues. Starting from 2012, the established companies and potential ones have followed the requirement that investors have to perform an Initial Environmental Examination (IEE) or Environmental Impact Assessment (EIA) depending on the project type and size. For granite extraction companies, if they operate in an area of below 200 acres and have production rate of below 100000 tons per annum, they have to conduct an IEE. And if above 200 acres and above 100000 tons, they have to conduct an EIA. EMP should be implemented during the operation period in order to reduce environmental impacts. EMP should be developed by an independent organization or Third Party company or stand alone and must be submitted to the line government agencies for review and approval. The companies are told to perform local development

work as CSR programs.

According to responses by government personnel, some companies have not yet submitted IEE, E/SIA, and EMP because they have no ideas about their impacts on the environment or to whom they should be asking for technical assistance in developing them. The company pays 25% tax depending on number of rock trough to the respective departments who administer the land. The tax income earned is reported to contribute to road construction projects.

## 3.3.2 Monitoring and Inspection

In granting a work license or renewing a license, the line government agencies conduct field visits, do inspections and give instructions as necessary in cooperation with the concerned organizations and technical experts. For example, an instruction may be given that trees should be planted on bare land, based on a check of the on-ground situation.

A Monitoring Task Force made of 8 members conducts ground checking twice a month, perform other inspections occasionally based on the reports, but they are not able to undertake the activities regularly. Due to financial and human resource limitations, the departments cannot perform ground checking, assessing whether the companies have taken actions mentioned in the EMP or not.

The companies are told to implement CSR programs before the operations regularly and to submit yearly reports on the activities they have undertaken. The companies are instructed to invest 2 % of profits earned in implementing CSR programs, but they fail to submit reports and do not fully understand about what CSR entails. Their CSR reports describe about arranging staff recreation activities, donating to religious events, organizing Kathina robe donation ceremonies, contributing rock to road construction, and selling the rock at a reasonable price. Therefore, ECD sends notification letters or warning letters to require the company to comply with the regulations strictly.

The extraction company will be granted an operating license, and those who fail to comply with the regulations are suspended, or their license is cancelled and work and debarred. Up to 2018, there are 24 rock extraction companies in Paung Township, Thaton District and total number of rock amount is 159710. Only one company has been debarred. The Environmental Conservation Law and Rule were enacted in 2012 and 2014 respectively. But the actions against those violators will be started in 2019.

As a future program, there is a national plan to increase forest cover to 40% of the national territory. This expansion of forest plantation will be established by 2030 and as part of this there is a requirement that the company must plant 20% of its operational area to forest.

### 4. Discussion

### Change in Livelihood activities

There have been changes in livelihood activities that the communities have engaged in due to the changing conditions over time, the improvement of transportation and local development, and the investment project.

The findings highlight that only a few people depend on the forest for their livelihood activities but many villagers had engaged in those activities in the past. They had satisfied their requirements by earning subsistence income from the forests at that time. After the investment projects have been implemented in the region, they have lost their traditional income generation activities and ended up running grocery stores, doing general labor in farmlands and orchards as they are not landholders. Landholders have earned enough annual income by selling crops from their farmlands and orchards, but the crop productivity has declined due to consequences of the quarrying operations. It was found that the villagers seldom engage in forest-dependent activities such as timber and bamboo cutting, bamboo shoots collection or edible fruit collection, because the companies have occupied the land around forests on which the villagers had depended before. It did not take much time to go and collect firewood or bamboo shoots from the forests prior to the investment projects, but they are no longer able to conduct these activities as easily as before.

Prior to the quarrying operation, the area was easily accessible to the villagers, but now they have limited access to these areas. With the difficulties faced in engaging in forest-dependent activities their alternative occupations include migrant work, casual labor (daily labor), and shop keeping.

According to the above-mentioned changes in livelihood activities of the villagers, the investment projects have adverse impacts on livelihood opportunities of the communities and it highlights that these investments are the main drivers causing changes in income generation opportunities and creating livelihood insecurity.

#### Environmental Impacts that the local people have suffered

The investment companies have taken environmental conservation measures in order to meet the requirements of the mining operations and to have less impact on the communities.

But the villagers are suffering from destruction of farmlands and orchards due to depleted waterways caused by sedimentation and flowing of silt into farmlands and orchards. Though the companies have deployed silt filtration tanks or systems in accordance with the instruction of line government agencies, the communities still face these challenges during the rainy season. The silt filtration system reduces the water resource that the villagers rely on, because less water from the upstream area flows into the streams or waterways due to sedimentation due to the silt filtration is in the upstream area.

It is of great importance that the government department should consider the potential environmental

impacts that the communities have suffered from in reviewing and granting work license.

#### Reviews on job opportunities created by the company

According to the response made by the interviewees, the rock mining only creates job opportunities for 1% of the community members. According to the Myanmar Investment Law (2016), Chapter II, Section (3), Sub-section (c), one of the objectives is "to create job opportunities for the people" and Chapter XIII (Employment of Staff and Workers), Section 51 sub-section (b) promotes local employment: "after providing for capacity building programs in order to be able to appoint citizens to different level positions of management, technical and operational experts, and advisors", the companies are required to recruit unskilled local people by providing them with capacity building training as necessary.

### Openness of investment projects to the communities

The local people's limited knowledge about the rock mining operation is one of the main reasons for causing misunderstandings and conflict between villagers and the company. The company needs to follow the instructions: IEE, EIA and EMP reports and the decisions taken should be accessible to the general public. Therefore the companies have to prepare these reports or provisions in a language that the villagers can understand. The villagers have limited knowledge on the investment projects because the company fails to make them publicly available.

The company needs to gain favorable public opinion and consent in renewing a work license. But the local people claim that their opinions have not yet been sought for renewing a license, while the companies say they had already got public acceptance and consent. It implies that there is a lack of adequate communication between the villagers and the companies, and the companies are not transparent enough in running their business.

#### **Environmental Management Plan**

Environmental Management Plans are only developed in English language. According to EIA procedure, Chapter VII, Paragraph 77: it mentions "The Project Proponent shall issue a letter of endorsement in a format prescribed by the Ministry according to the Article 63. Such letter shall be submitted to the Department prepared either in the Myanmar language, or in the English language or both." <sup>9</sup> This provision prevents the communities from learning about the regulations that the companies need to follow. In other words, this could create opportunities for companies to not follow the regulations accordingly.

## **Corporate Social Responsibility**

According to the response made by the community members, the company had undertaken

<sup>7</sup> Myanmar Investment Law

<sup>8</sup> EIA procedure

<sup>9</sup> EIA procedure

corporate social responsibility activities such as construction of roads, Katina robe donation activities and construction of schools. The company had conducted these activities in the first year of the investment projects but they did not contribute to these activities or programs in the following years. The government department had instructed the companies to implement CSR programs on an annual basis. The EMP states that 2% of the profits should be contributed to the local development activities. Moreover, the company fails to take recovery or remedial measures for loss of the local resources. It seems that the company does not comply with the existing legal frameworks and regulations strictly.

#### Government regulations on rock mining and their compliance

The General Administration Department has instructed the company that operates in forest land to meet four specific directional requirements. Among them two are as follow:

- 1. The proposed land should not encroach on farmlands and orchards
- 2. According to Lower Burma Land and Revenue Regulation, Section (107), subsection (c), the proposed land should be 600 feet away from the main road and 300 feet from the buildings.

As the company has operated in areas around roads, orchards and settlements, injury and deaths have been occurred. The rubber plantations were bought by companies as they needed to construct the road for transportation of rock. There is no doubt that the life and property of the communities are at risk as the companies fail to operate in accordance with the instructions and regulations prescribed by the government.

#### 5. Conclusion

This research on rock mining was conducted in Ywarkalay and Sinywar Village, Ohntapin Village Tract, Paung Township, Mon State in order to study and assess consequences of mining operations, their adverse impacts on local people, the community's desire/recommendations about the company, government intervention and regulations, environmental impact reduction and remedial measures undertaken by the company, and overseeing activities of government departments.

The quarrying operations are implemented without transparency, giving a large sum of money as incentives to the communities. In order to fulfill their own interests, the companies have extracted the natural resources excessively. Some companies do not allow others to visits to their operational sites, while others are located around roads and orchards. The undesirable effects of the rock mining on local people include environmental degradation, farmland destruction, narrowing of waterways and damage to orchards. Though the communities want to protest against the quarrying company, they ended up remaining silent about the environmental impacts until it became a serious threat to their livelihood activities as they believed the companies have superior financial resources.

This research paper has studied the social impacts of rock mining operations and identifies what

measures the communities want the company to take in order to restore the environment, health and social welfare of the communities. The remedial measures that the local people wish the company to take may differ in different places because the impacts of investment projects are not the same everywhere.

Though the impacts of quarrying operations, the measures or actions that need to be taken, and the responsibility and accountability of the company were being studied based on just two villages, the consequences and impacts that the quarrying has had seem to be very common in other quarrying operations.

The content of this research paper presents findings and discussion based on the field surveys and interviews. The impacts are identified based on the response of the communities but are not developed with any technical assistance. Further research on changes in air, water, land and wildlife conditions before and after the quarrying operation should be conducted. Only senior company staff (but not all employees) were interviewed, and therefore responsibility and accountability of the company for its staff are not assessed in this paper. The mining company needs to pay tax to different departments depending on the type of land on which it operates. This paper does not go into detail about the tax paid by the company.

In writing this paper, there were many delays in collecting data from government departments and the company. Other limitations included language barriers in communicating with local people, their time availability and nervousness in collecting information, difficulty in assessing to what extent the companies are responsible and accountable for what they have done, and difficulty in analyzing oversight mechanisms of line government agencies.

Investments are profoundly contributing to the economic development of the country while having adverse impacts on the general public. It can be concluded that investment projects should be implemented transparently, responsibly, and accountably, and relevant government departments should review applications for work licenses properly and conduct overseeing and monitoring activities during the implementation of investment projects in order to ensure greater transparency, responsibility, and accountability.

## Recommendations

### Recommendations for quarrying companies

- 1. It is essential that the company should deploy silt filtration systems properly to prevent flowing of silt into the waterways
- 2. Waterways such as rivers and streams should be restored by implementing excavation programs effectively.
- 3. Rock should be transported properly by taking precautionary measures to prevent dispersal of dust or rock particles.

- 4. Prior to the rock mining operation, there was a minor road that is now partly blocked by a rubber plantation. The company should avoid sending trucks close to houses by using this old road and by making financial compensation for those who are likely to suffer from loss of rubber plantations. It is recommended that the trucks loaded with rock should drive slowly when they are on the way from the operation site to the village.
- 5. The company should implement CSR programs effectively and systematically as stated in the reports.
- 6. The community members have limited understanding on basic information about the quarrying company including property, activities taken, etc. Myanmar Investment Law, Chapter 16 (Responsibilities of Investors), Section 65 (b) states that investor not only acquires permission of government but also "shall respect and comply with the customs, traditions and traditional culture of the ethnic groups in the Union." <sup>10</sup> It highlights that the activities the company is planning to conduct should be made publicly available. The new investors should hold consultation meetings with the local people to explain what work plan will be implemented, while at the same time seeking their consent.

#### **Recommendations for Government Departments**

- In granting work licenses, government departments should identify and delineate clearly the
  area allotted for the company in order to protect the area on which the local people are
  dependent for their livelihoods.
- The government departments should conduct inspections on operations of the company regularly and proactively by prescribing relevant instructions rather than reactively when receiving a reporting letter.
- It is crucial to assess whether or not the company applies guidelines mentioned in EMP. EMP should be developed in both Myanmar and English language, and if possible, should be prepared in the languages of local ethnic minorities.
- 4. Environmental Monitoring Committees are formed at state and regional level. It seems that they are not able to monitor all the investment projects regularly. Therefore, local level monitoring groups should be formed to monitor the investment projects regularly and constantly.

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