

## **Social and environmental impacts of unregulated small-scale logging in Apo and Aluki Villages of Labuta LLG in the Nawaeb District of Morobe Province**

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### **Abstract**

Rural areas in Papua New Guinea (PNG) experience deforestation resulting from forest clearance for various activities, especially logging. Recent years have observed an increase in logging activities in Apo and Aluki villages in Morobe Province. This happened on an on-demand basis and was largely unregulated by the National and Provincial Governments. Consequently, there has been increased levels of deforestation and other negative effects. This paper discusses the social and environmental impacts of unregulated small-scale logging in Apo and Aluki villages of Labuta LLG in the Nawaeb District of Morobe Province. A qualitative research methodology was used, with purposive sampling of 14 participants. Participants included representatives from landowner groups, logging company employees and community members. Key themes identified include: illegal logging, social impacts, environmental impacts, semi-literacy and fast cash. The study identifies a typical “tragedy of the commons” situation, where humans exploit natural resources held in common until they are significantly depleted.

**Key words:** small-scale logging, social impacts, environmental impacts, tragedy of the commons.

### **Introduction**

PNG’s forests are globally significant as the island hosts the third largest tropical forests in the world (Shearman et al. 2008). However, PNG’s forests are currently at risk of degradation because of human activities, especially small and large scale logging. The term logging describes the felling of trees in the process of harvesting timbers. Unregulated small-scale logging refers to the illegal harvesting of timbers in small quantities, especially in rural villages. As highlighted in this paper, small-scale and commercial logging in PNG often occurs in the absence of environmental and forestry laws and regulations, often resulting in negative social and environmental impacts.

The impacts of logging encompass both the direct effects of the timber harvest, which is the removal of trees and forests, and wider disruptions caused by the logging operations such as the disruption of community harmony and the emergence of new social concerns. One problem facing local communities is that landowners are after fast money which can lead them to neglect potential long-term damages to the environment. Correspondingly, most small-scale

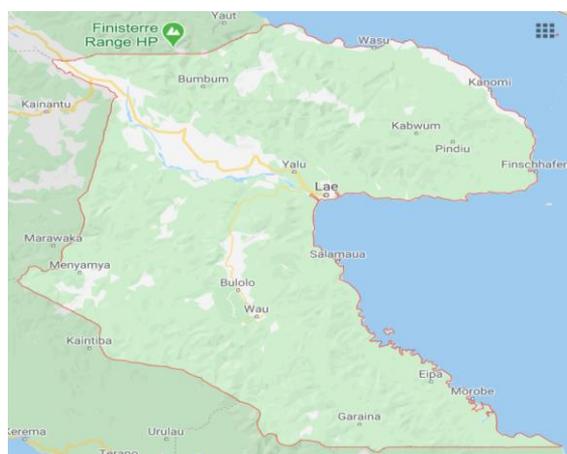
logging activities in PNG are unregulated due to the evasion of formal authorities prior to the commencement of logging.

Almost all timber harvested in PNG is required to be conducted under an official sanction in the form of a permit or license issued by a relevant authority (Forest Trends, 2006) such as the PNG Forestry Authority (PNGFA). Yet even in situations where logging operations are licensed, company compliance to social and environmental protections is a problem. Similarly, local clans can ignore the long-term impacts of logging in favor of “cheap”, short-term benefits. Although 97 per cent of land in PNG is under customary ownership, many landowners lack sufficient knowledge of forestry laws and proper legal processes and agreements which may offer them social and environmental protections. The end result is typically a rise in negative social and environmental issues affecting the community where illegal logging has taken place.

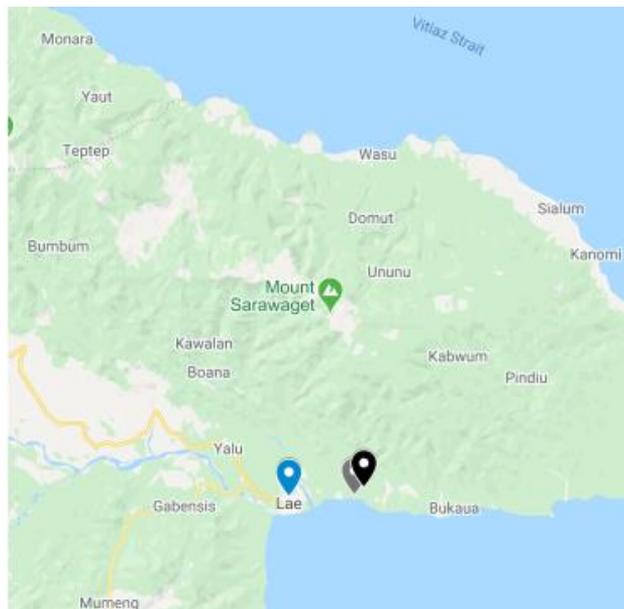
The ongoing risks and concerns associated with unregulated small-scale logging on PNG communities demonstrates the need for further research (Forest Trends, 2006). Previous studies on logging in PNG reveal that landowners do not receive long-term benefits (Filler, 2011). The income generated from deforestation is often too small to increase living standards. This can be exacerbated by the limited financial literacy of villagers and spending of the “cash rush” on alcohol and drugs. Therefore, not only does logging accelerate environmental degradation, it also gives rise to unprecedented social issues as rural economies struggle to handle the newfound cash incentive – a problem also noted in the mining, oil and gas sector in PNG and elsewhere (McKenna, 2016).

### **Background: study location**

The location of this study is in the Apo and Aluki Villages of Nawaeb District, Morobe province (see Figure 1 and 2 below), where villages observe that logging activities have occurred without regard to notions of conservation.



*Figure 1: A map of the Morobe Province*



**Figure 2: An extract from the Morobe Provincial Map to indicate the location markers of Apo and Aluki villages, the location of the research study**

From descriptions by villagers, a lot of the social and environmental impacts are a result of exploitative direct dealings between logging companies and landowner groups. Therefore, this research study sought to obtain perceptions from community members and those directly involved and/or affected by logging practices. Furthermore, the aim of the study was to identify levels of conservation literacy and sustainable practices among locals, landowner groups and logging companies, as most of these logging activities seem to focus on quick cash at the expense of forest conservation.

### **Method**

This research study employed a qualitative method and inductive approach. 14 in-depth interviews (one-on-one, face-to-face) were conducted with adults from the ages of 25 to 75. The targeted group interviewed in the research are from three different categories;

1. Clan leaders of the landowner groups
2. Community members
3. Logging company employees.

From a total of 14 participants, five were male chief clan leaders of the landowner group known as the *Konigi* of respective village clans, five were community members (three men, two women) and four were employees of various logging operations. To maintain confidentiality of the participants, codes are used in association with the participants' responses. The table below outlines the coding convention used in this paper:

Category	Code
Landowner Participant	LP
Logging Company (Employee) Participant	LCP
Community Member Participant	CMP

Semi-structured open-ended questions were used during the interviews as a guide to obtain participants' responses. The researcher sought ethical clearance and was granted approval from the Divine Word University research and ethics committee, prior to data collection. Data collection occurred during the months of November 2019 to early January 2020. One limitation of the data collected is that there were only two female participants. When asked if the researcher could interview a larger number of females, the women declined because they felt they did not have enough knowledge of the issues associated with logging. This may be an implication of the patriarchal social structure in which decisions to do with resource ownership and usage in PNG often lies with men. The data was analyzed using the thematic data analysis method. Questions and participant responses were organized in a table format and then categorized into themes and sub-themes as depicted in Figure 3.

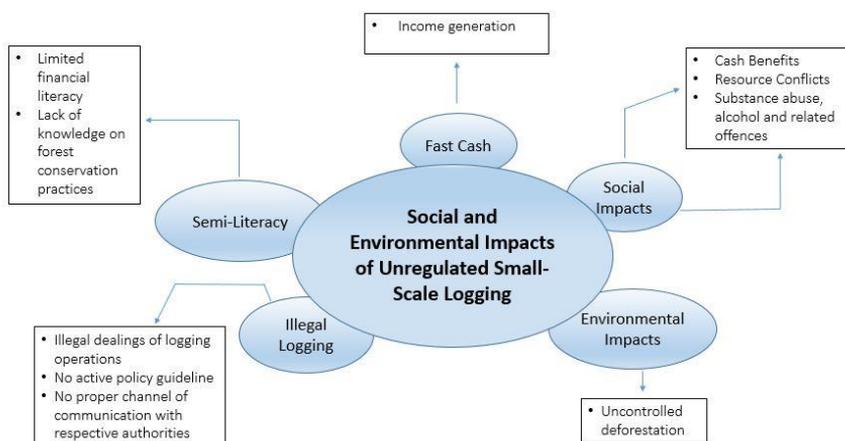


Figure 3: The thematic framework that entails themes and subthemes

## Findings and discussion

### Theme 1: Illegal dealings of logging operations

The Forest Legal Institute (2013) confirms that there are laws protecting the forest resources of PNG. The principal forestry legislation is the Forestry Act of 1991. It allocates forest responsibilities and rights through Forest Management Agreements between customary landowners and the government. The expected process is for landowners to sell their cutting rights to the PNG Forest Authority in exchange for royalty payments. However, for the case study examined in this paper, the research participants claim that there has

never been any Forest Agreements signed between the local landowner, the Forest Authority and the logging company. Therefore, the study has identified that the logging operation is illegal and is not operating in accordance with active policy guidelines.

Illegal dealings of logging operations are when logging companies begin their operations without proper consultation with respective authorities and without obtaining ‘informed’ consent of the traditional resource owners, given that most local resources are communally owned. Previous research indicates that almost all logging in PNG is unlawful, due to the failure of the logging companies to obtain ‘consent’ from traditional indigenous owners of forest to make definite yielding of the timbers (National Research Institute, 2007).

Yet most of the landowners involved in this study acknowledge that they are the ones that approach logging company workers to negotiate deals to cut timbers on their land, motivated by potential income. As one landowner said: -

*“bikos mi needim money lo helpim mi na family blong mi wantaim ol hevi long ples na tu mi laikim gudpla sindaun”*. (Because I need money to help my family and myself with problems at home and also I want better living) (LP7).

### **Theme 1.1 Illegal logging**

From the perspective of the logging company employee participants in this study, most stated that the logging operations are illegal in accordance with landowners’ requests. The logging company employees consider this to be a major contributing factor negatively affecting the environment and the lives of people. For example, one logging company employee (LCP1) stated,

*“Em taim ol papa graun kam lo mipla wantaim ol hevi na shortages blong ol kain olsem family issues, school fee problems, house conditions na ol needs blo ol long em ya ol save kam sindaun wantaim mipla ol logging company wokman na bosman blong company na kamapim tok wanbel or deal. Long singout blong ol wanwan papa graun ikam long em. So mipla save go na wok katim timba lo bus graun blo ol. Ol yet save kam long mipla ol logging company employees”*.

(English interpretation: We do not approach the local landowners and ask to cut deals on doing our logging operations in their local land areas, it is the other way around, the landowners themselves who walks into our office and asked to sign agreements in cutting deals with our company upon their shortages and needs. In signing of the agreements the logging company states its terms and conditions on how they will operate and on when we will have to pay the local landowners and so the landowners just go by it in complying. The bottom line is the landowners they want money and so is the company).

Company employee perceptions of landowner agreement to illegal approaches is confirmed by the landowners involved in this study. As the following quote illustrates:

*“I as a landowner I have not thought about engaging with the logging companies yet but from observation, other landowners have already engaged in cutting deals with the logging companies. Deals were sealed mainly because of quick money and maybe some needs as the landowners seem to say they have something to settle and they need money and that is the reason why they bring in lots of small logging companies into the local area (LP9).”*

*“The initiating of contacts and engaging with the logging company is through our short comings, our needs and shortages. We intentionally get involved in engaging with the logging company in carrying out their operation in the hope of receiving financial benefits, we ourselves knock at their doors asking if we could cut deals and they can come and operate on our land (LP5).”*

Community members shared similar responses, highlighting limited transparency and few significant benefits from logging operations:

*“The engagement of logging companies by the landowners or the clan is not a good business. Still, after so many years of operation there has never been any significant benefits of tangible outcomes in the community. The whole agreement or deal between the landowners and the clan from the start to the finish are never transparent. A proper assessment is necessary to evaluate the cost-benefit issues of the type of operations (CMP11).”*

Based on these findings, small-scale logging operations in the focal villages examined in the study appear to be illegal and unregulated. Most participants indicate that the logging operations on their land are not regulated by the forest authority and are perceived by landowners and community members to disrupt the community and negatively affect the natural environment. Yet the study suggests that landowners often follow illegal processes as they are after fast money and have limited knowledge on forestry regulations and damage caused to the environment.

Logging company employees involved in this study agree that their companies do not operate in accordance with regulatory procedures. They primarily attribute this to inadequate communication with the forestry department and their business motives. As the following quotes illustrate:

*“company sampla taim save toktok wantaim forestry department tasol most of the taim em nogat na ansa em no company ino bihainim ol policies blong forestry gut”.* (Occasionally, the logging companies communicate with the forestry department, but most of the time they do not, so no the company does not properly comply with forestry policies) (LCP1).

*“mipla save katim diwai long laik blo mipla, mipla save katim ol undersized timber na displa mi ting em illegal logging tasol mipla katim tasol bikos em wok blo mipla as the logging companies’ operators”.* (We cut trees however we see fit, we cut undersized trees for timber and in my view that is illegal logging but we still do it anyway because it is our job as the logging companies’ (chainsaw or mill) operator) (LCP4).

### **Theme 1.2 No proper channel of communication with respective authorities**

“Do you consult forest authorities (such as the department of forestry) to have dealings with the local landowners? Do you think the logging companies, the landowners and the government work collaboratively together in that area?” All four logging company employee participants shared similar responses saying,

*“Nogat, logging company, landowner na government no save wok bung wantaim”.* (No, logging companies, land owners and the government do not work together).

### **Theme 2: Social impacts**

Community members acknowledge some benefits of logging including, *“cash flow and improved living standards, most suggest there have been noticeable negative changes”.*

As one participant said:

*“Social fabric of the community is falling apart, rising of social disputes amongst clan members and family over perceived cash benefits and imbalance of resource use and distribution, unprecedented social problems of alcohol and drug abuse amongst youths, unwanted pregnancies, forced and outside of community marriages”* (CMP12).

#### **Theme 2.1 Cash Benefits**

When asked about positive social impacts, most landowners, community members and the logging company employee participants focused on cash benefits. As one landowner stated:

*“The logging operation is good, we tend to earn income, and not only us the resource owners but it is also the youths who receive cash benefits from the operations. They are being employed by the logging companies and they have an income by means of wages earned and that is good”* (LP9).

However, other participants felt that the income generated is unsustainable as they only receive a one off payment from the sale of timbers. In most cases,

logging companies are also believed to be underpaying landowners for the amount of timbers they extract. As one landowner stated:

*“I received royalty payments of timbers from the one operation and sales, a K1500.00 flat rate no more and no less, they never paid us properly ol save givim nogud (They do not give/pay well)” (LP5).*

The proper regulatory processes of logging operations is where the natural forests are sold to a forest authority which regulates logging operations and pays a continuous royalty to the resource owners. In this study, the landowner participants seem to have misunderstood the concept of royalty payments. The landowners could be benefiting from continuous royalty payments overtime, instead of K1500 one-off payment after each sale of timbers.

### **Theme 2.2 Resource conflicts**

Nearly half of the total participants involved in this study claimed that perceived cash benefits lead to conflict amongst clans and sub-clan members. Disputes arise when one or two clan members cut independent deals with the logging company to come and operate on their land. In many cases, resource conflicts are a result of individual or segregated dealings with logging companies, without proper consultation of all clan and sub-clan leaders. As one landowner stated:

*“Clan members having disputes over the sharing of money given to them as landowner payments by the logging company.” LP5, 6 and 8 shared various related responses,*

*“disputes amongst families, community members and clan members, social impacts currently experienced are related mostly to the disputes over land and the amount of money shared amongst us (LP9).”*

### **Theme 2.3 Substance abuse, alcohol and related offences**

Still on the social impacts, most community member participants focussed on the negative consequences of new-found income, especially substance abuse.

*“Youths employed by the companies, have an income and we’ve seen those incomes earned were not wisely used by the youths. They tend to drink alcohol, use bad mouthing when drunk in public places and harass the community. There have been incidents of minor offences because of a rise in alcohol and substance abuse” (CMP10).*

Data from the study has indicated that, as a result of increased logging operations, local village youths are exposed to a new lifestyle. They earn fast cash, whilst possessing little or no financial literacy and adherence to community expectations of responsibility. This leaves them vulnerable to substance abuse, the implications of which affect the community.

### **Theme 3: Environmental impacts**

Environmental impacts are the effects of the logging operation on the surrounding ecosystem and the inhabitants of the area. Data from the study suggest that the logging operations had negative impacts on the environment. Although the logging has resulted in noticeable changes in the economic development in the community in terms of income generation, this came at cost to the environment.

#### **Theme 3.1 Uncontrolled deforestation**

Uncontrolled deforestation is the primary cause of environmental disruption in the local area, including important impacts on ecosystem services and biodiversity. As one participant stated,

*“The logging operations had caused enormous environmental destruction, the removal of primary rainforests with little or no consideration towards forest rehabilitation, destruction and disturbance of foraging land and catchment areas, implications of natural disasters like soil erosion and landslides, water and river destruction (blockage of water ways, uncontrollable flooding), destroying of hunting grounds and land areas for gardens and the loss of animal habitats and extinction of indigenous animal species (CMP13).”*

Other research studies indicate that uncontrolled deforestation threatens the world’s biodiversity, endangering wildlife and species by destroying their habitats, damaging water holes for rivers and streams and hastening climate change (Barraclough & Ghimire, 1995; Dudley et al., 1995).

### **Theme 4: Semi-literacy**

One third of the logging company employees and landowner participants interviewed in this study are semi-literate. In most cases, such levels of literacy and lack of awareness of proper forestry regulation have placed them in a position whereby they are unable to ascertain if they are being paid reasonably or if the timbers are being valued correctly. Therefore, it has become a normal trend that they agree to whatever offers of payment the logging company proposes.

#### **Theme 4.1 Limited financial literacy**

The research study found that in most cases, the logging company has underpaid landowners for the timber they have exploited. However, due to limited financial literacy, the landowners cannot determine if the timbers have been valued incorrectly. As one landowner stated:

*“money mi kisim long timber operation ya sapos lo bikpla mo bikos ol katim planti diwai tasol ol i baim mi liklik na em ino gudpla mi no*

*wanbel*". (The money I received from the timber operation was supposed to be more because they have cut down many trees, but they have paid me little and that is not fair, I am displeased) (LP5).

Local communities in PNG are the key stakeholders in forest governance, as all forests are owned by kinship groups and are managed through local customs (National Research Institute, 2007). This should mean that the financial exploits of such operations like the ones described in this study (logging) should be beneficial to the clans and sub-clans. In most similar cases, such benefits could be in the form of an investment or a business venture that all kinship groups can have a stake in. This is not the case in communities focused on in this study, because landowners have limited financial literacy and do not seem to be able to capitalize on the opportunities presented by the logging operations. Because these logging operations are seemingly unregulated, there are no checks and balances and after many years of such operations, there appears to be no tangible long-term benefit.

#### **Theme 4.2 Mixed knowledge on forest conservation practices**

When asked if participants are aware of forest conservation practices, the responses indicate mixed interpretations. The majority of the landowner participants said they have a basic idea on the concept of forest conservation practices.

*"I have a fair idea on how to go about negotiating in and looking after the land and forest as I operate" (LP9).*

*"I have listened to some news through the radios and have heard things about conservation and sustainability issues but it is difficult for me to understand and relate it to my way of life in the village" (LP8).*

Yet other participants responded saying, they know that there are forestry laws on conservation and sustainability, but they never practice this.

#### **Conclusion**

This study on unregulated small-scale logging found that landowners can be eager to pursue logging motivated by fast income generation. However, with limited knowledge of forest regulations, financial literacy and proper forest conservation practice, these efforts often result in various social and environmental impacts. In addition to uncontrolled deforestation, an increase in social problems such as substance abuse and resource conflicts became persistent, as the newly introduced cash flow in the local economy seemed to become unmanageable. This income was earned at the expense of forest conservation practices and squandered soon afterwards.

In light of the findings of the study, the researcher makes recommendations for awareness on conservation practices and financial literacy.

There is a need for proper regulation of the logging industry in PNG so that exploitation of these resources can be managed and forests be conserved.

It is also recommended that there be a proper and active policy guideline and communication between relevant stakeholders, such as logging companies, land owners and forest authorities. In this way, the interests of all stakeholders can be upheld but protected from completely irresponsible exploitation.

Another important recommendation is the need for financial literacy skills. Currently, all returns from small-scale logging activities are one-off. There seems to be no plan or priority on investing the financial benefits for long-term gain.

It is also hoped that the perceptions of landowners, community members and logging companies could be used in the development of regulations that can help manage usage of forest resources and control the rates of deforestation and its implications.

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