



ANNUAL ENVIRONMENTAL MONITORING
PROGRAMME (EMP) REPORT
FOR TIMIMBANG-BOTITIAN SUSTAINABLE
FOREST MANAGEMENT PROJECT
FOR THE YEAR 2019

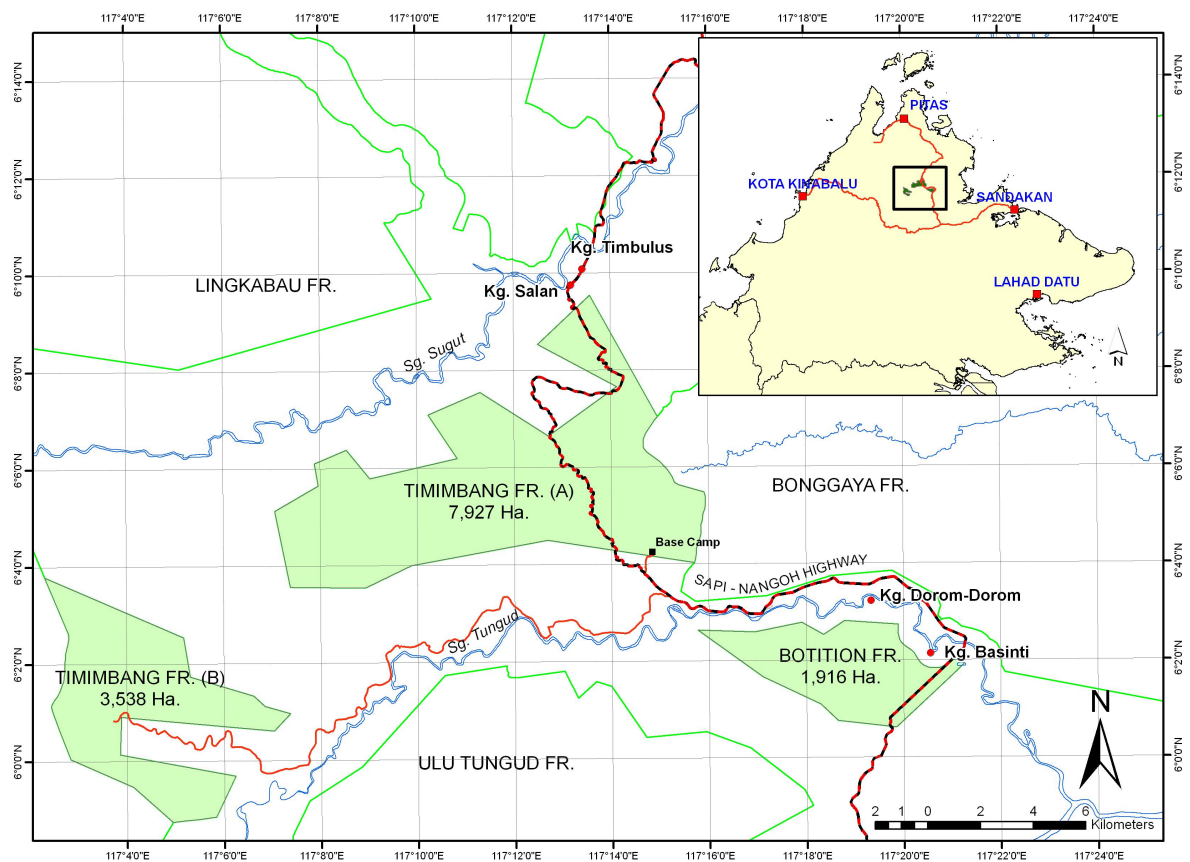
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1.0 INTRODUCTION

The Timimbang-Botitian Forest Management Unit (FMU) covering 13,394 ha, comprises a cluster of 3 forest reserves located in the northeastern portion of Sabah. The management of all these reserves comes directly under the jurisdiction of the Beluran Forestry District of the Sabah Forestry Department. The vegetation of the area is broadly classified as logged-over mixed dipterocarp forest. It was logged between the period 1987 to 2007. Today the forest of Timimbang-Botitian is a mosaic of regenerating forests, relatively intact on the steeper slopes but characterized by pioneer vegetation on the flatter areas where logging was more intense. Nevertheless, the forest still represent an important repository of native biodiversity that is worth protecting. Under a protective management strategy, it can be expected to recover and provide suitable habitat for certain wildlife communities.

The Timimbang-Botitian FMU is planned to be managed primarily as a protected area where commercial logging is prohibited. The primary long-term goal of forest management focuses largely on the conservation and protection of wild flora and fauna. Given this focus, direct financial benefits is not an important requirement in the management of this FMU. The main activities for this 10-year planning period focus on wildlife management, forest restoration and protection, and developing opportunities for forest recreation.

Figure 1: Map showing the Project Area



Management Policies and Development Goal

The Timimbang-Botitian FMU is planned to be managed mainly as a Class I Protection Forest where commercial logging is prohibited. The primary long-term goal of forest management provides for the non-destructive use of forest resources, focusing largely on the conservation and protection of wild flora and fauna. Given this focus, direct financial benefits is not an important factor in the management of this FMU. The public is becoming increasingly aware of the importance of forest conservation. Therefore, it is important that the management of public lands like forest reserves is seen as serving the demands of society.

In achieving the stated management goals and objectives, the Forestry Department subscribes to the following policies and strategies:

- Management of the area ensures the sustainable management of forest resources over the long-term in such a way as to optimize socio-economic benefits to the state;
- All field operations give due consideration to environmental protection so as to minimize any negative impact on the natural environment;
- The FMU shall be protected from fire, illegal felling, illegal settlements, and other unauthorized activities;
- High conservation value forests (HCVF) are maintained and enhanced;
- Third party certification of forest management under an accredited scheme would be a desirable objective to aim for;
- All contractors working within the FMU must also comply with the Principles, Criteria, and Indicators of responsible management under which scheme the management is certified;
- Research and educational opportunities aimed at improving the management of the FMU are given due attention;
- Preferences in employment and service contracts are given to local/rural communities wherever possible.

2.0 KEY ENVIRONMENTAL COMPONENTS IN THE ENVIRONMENTAL MONITORING PROGRAMME (EMP)

The Environmental Impact Assessment (EIA) documentation for TBSFM Project was prepared in 2014 to assess the impact throughout the implementation of the 10 year Forest Management Plan (FMP) . The TBSFM Project involves wide range of activities, of which some of it may pose negligible impact to the environment. The severity of impact varies depending on the scale of the disturbance. The project implementation may not have severe impact to the environment since no logging will be carried out and the focus of the management will be on conservation.

However, the implementation of this project may result in some of disturbance to the environment from within the project itself or from the adjacent activities. Forestry developments in TBSFM project that may generate impact to the environment consists of infrastructure development (construction & maintenance) of roads and build-up area and forest conservation activities. In addition, illegal encroachment may also result disturbance to the environment.

Therefore, an Environmental Monitoring Program (EMP) was established to mitigate and minimize the scale of impact within the Timimbang-Botitian SFM Project area. The key environmental components that were identified in the EMP are as follows:

- a. Forest Fire
- b. Poaching
- c. Waste Generation and Management Issues
- d. Traffic and Transportation Safety
- e. Forest Restoration
- f. Silviculture
- g. Soil Erosion
- h. Ecology
- i. Water Quality

2.1 FOREST FIRE

Impact of forest fire could be significant due to the presence of silviculture workers within the project area, the neighbouring plantation estates and trespassers especially illegal hunters / poachers if not controlled. Based on previous records until present, there was no forest fire incident within the project area, however, precautions should made to the unattended open burning for agricultural plantation and shifting cultivation activity in the surrounding area that could lead forest fires.

In the year 2019, there was a lot of programme related the prevention of forest fire organised by Sabah Forestry Department. The forest fire programme were participated with the local communities and stakeholder mainly from the neighbouring plantation estates. Besides, continuous monitoring of the hot spot also had been conducted by the SFD mainly from the Head Quarters. Any hot spot detected inside and right near the project area will be notified immediately for further action. At the project level, all data required in the weather monitoring such as the humidity, temperature, wind velocity and so forth are delivered to the Head Quarters every day for the purpose of the Fire Danger Rating System.

Table 1 Issues of Forest Fire within TBSFM Project

No	Location	Impact					
		2014	2015	2016	2017	2018	2019
1	Timimbang-Botitian SFM Project areas	No	No	No	No	No	No
		Forest	Forest	Forest	Forest	Forest	Forest
		Fire	Fire	Fire	Fire	Fire	Fire

2.2 POACHING

Impact of poaching or illegal hunting is expected to be significant if not control as it will affect the wildlife population within the project area.

Table 2 Issues of Poaching within TBSFM Project

No	Location	Impact						
		2014	2015	2016	2017	2018	2018	2019
1	Timimbang-Botitian SFM Project areas	No	No	No	No	No	No	No

There is no poaching incidents occur from the year 2014 to 2019. The implementation of Forest Checking Station (FCS) at the Botitian Forest Reserve and FSC at the Malsa. Sdn. Bhd contributed in curbing of poaching activity within TBSFM area as well as conducting regular patrolling. In addition, three gates had been installed at three locations in the TBSFM Project area to lockout people from outside the forest reserve since the both OP's road were not longer used. The communities and stakeholder, silviculture and forest restoration workers were informed verbally during a course conducted by the SFD about the do's and don't within the TBSFM areas.

2.3 WASTE GENERATION AND MANAGEMENT ISSUES

Silviculture and forest restoration program has been actively implemented within the TBSFM Project area, as well as the infrastructure development of two FCS located at Botitian Forest Reserve and FCS at Malsa. Sdn. Bhd. Road maintenance is also implemented within TBSFM Project area.

All of the activities mention above may potentially generate waste which may also lead to pollution if not controlled. As for the sewage and septic tank, all of it was constructed 50 meters away from any river or stream. The usage of oil material within the project area is minimal as it is limited for the use of grass cutter and the generator set provided at each Base Camp. All the used oil particularly generated from the generator set once the maintenance conducted are commonly taken out from the project area by the maintenance contractor. While, briefing of the SOP of the oil spillage also conducted continuously by the SHO. Spill kit also available at the lubricant store and genset house.

2.4 TRAFFIC AND TRANSPORTATION SAFETY

As the transportation route does not pass major human settlements, the potential socio-economic impact is expected to be minimal.

2.5 FOREST RESTORATION

Forest restoration activity has been actively implemented within TBSFM project area as for the rehabilitation of the forest condition. This activity requires the use of fertilizers for its growth rate. However, the uses of pesticides were not applied. Due to the use of fertilizers, it may somehow leads to pollution particularly on any nearest watercourses if not controlled or monitored. On the other hand, contractor involved with this activity were aware of the rules and regulations pertaining forest rules as well as the concept of SFM towards the project area.

There is no pollution issues pertaining restoration activity within TBSFM project area particularly on the use of fertilizers and pesticides as well as the presence of contractors involved with this activity.

2.6 SILVICULTURE

Silviculture activity has been actively implemented within TBSFM project area to ensure the growth of the trees is not affected by the roots of climber. On the other hand, contractor involved with this activity were aware of the rules and regulations pertaining forest rules as well as the concept of SFM towards the project area.

There is no environmental issue pertaining the silviculture activity within TBSFM project area particularly on the trees growth conditions, the presence of wildlife or insects which depending on certain roots climber as its food source and the presence of contractors involved with this activity.

2.7 SOIL EROSION

As there is no major land clearance and earthwork activity within the project area, the impact of soil erosion, slope stability were expected to be minimal. In 2019, there was a road maintenance conducted but still under control since the was no land slide occur.

In the year 2017, there was a land slide occurred right near by the TBSFM Office. The SFD had managed to control the land slide by constructing the retaining wall.

2.8 ECOLOGY

The trespassers especially illegal hunters / poachers should be monitored and controlled.

Table 3 Issues of Ecology within TBSFM Project

No	Location	Impact					
		2014	2015	2016	2017	2018	2019
1	Timimbang-Botitian SFM Project areas	No	No	No	No	No	No

There is no poaching or illegal felling of trees incidents occur from the year 2014 until 2019. The implementation of Forest Checking Station (FCS) at the Botitian Forest Reserve and FSC at the Malsa. Sdn. Bhd contributed in curbing of poaching activity within TBSFM area as well as conducting regular patrolling. The communities and stakeholder, silviculture and forest restoration workers were informed verbally during a course conducted by the SFD about the do's and don't within the TBSFM areas.

2.9 WATER QUALITY

The impact were not significant since no river passing through the project area.

3.0 CONCLUSION

1. **Forest Fire** – There was no forest fire since the year 2014 until year 2019. TBSFM Unit have implemented a fire management procedure which consists of conducting regular patrolling, training and awareness programme, acquire outside assistance particularly Jabatan Bomba dan Penyelamat, nearest company adjacent to the project area and implement the Forest Fire Prevention and Control Plan. Mitigation measures such as regular patrolling, training and awareness programme, acquiring assistance from relevant authority and from the adjacent companies and implementing fire prevention plan must be run continuously.
2. **Poaching** – There was no illegal hunting incidents since the year 2014 until year 2019 and therefore no further action were taken. However, mitigation measure such as regular patrolling must be conducted continuously.
3. **Waste Generation and Management Issues** – All waste generated from the project site had been managed in a systematic manner.
4. **Traffic and Transportation Safety** - As the transportation route does not pass major human settlements, the potential socio-economic impact is expected to be minimal.
5. **Forest Restoration** – There is no environmental issues regarding of restoration activity since the year 2014 until year 2019. However, continuously monitoring shall be implemented to ensure the contractor involved with these activity followed all rules and regulations pertaining forest rules as well as the limits of using fertilizers especially any blocks located near any watercourses.
6. **Silviculture** – There is no environmental issues regarding of silviculture activity since the year 2014 until year 2019. However, continuously monitoring shall be implemented to ensure the contractors involved with these activity followed all rules and regulations pertaining forest rules.
7. **Soil Erosion** – The land slide had been tackled with the construction of the retaining wall.
8. **Ecology** – There is no poaching or illegal felling of trees incidents since the year 2014 until year 2019. Continuous monitoring shall be done especially patrolling, stakeholder consultation with the adjacent companies, contractors involved with silviculture and forest restoration activity and the communities of birds' nest collector.
9. **Water Quality** – The impact were not significant since no river passing through the project area.