

# Completion Report

## of FRIM-ITTO REDDES PROJECT



Reducing Forest Degradation and Emissions  
through Sustainable Forest Management (SFM) in Peninsular Malaysia

ITTO THEMATIC PROGRAMME REDDES  
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## **FRIM-ITTO REDDES PROJECT**

TYPE OF REPORT : COMPLETION REPORT OF THE PROJECT

TITLE : REDUCING FOREST DEGRADATION AND EMISSIONS THROUGH SUSTAINABLE FOREST MANAGEMENT (SFM) IN PENINSULAR MALAYSIA

EXECUTING AGENCY : FOREST RESEARCH INSTITUTE MALAYSIA (FRIM)

# COMPLETION REPORT OF THE PROJECT

## REDUCING FOREST DEGRADATION AND EMISSIONS THROUGH SUSTAINABLE FOREST MANAGEMENT (SFM) IN PENINSULAR MALAYSIA

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## Executive Summary

Malaysia has responsibilities to mitigate the impacts of climate change through the reduction of emissions from green house gases (GHG). An important sector that is currently being considered is the forestry sector. This is in line with the REDD+ (Reducing Emissions from Deforestation and Forest Degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks) mechanism being developed under the United Nations Framework Convention on Climate Change (UNFCCC) which Malaysia is party to. Under this mechanism financial incentives will be provided to developing countries that are able reduce emissions or enhance carbon sequestration above a baseline within the forestry sector. To enhance Malaysia's capacity in getting ready to implement REDD+ projects, the Forest Research Institute Malaysia (FRIM) was supported by the International Timber Trade Organization (ITTO) to implement a project under Thematic Programme on Reducing Deforestation and Forest Degradation and Enhancing Environmental Services in Tropical Forests (REDDES). The three-year project (began February 2013) entitled Reducing Forest Degradation and Emissions through Sustainable Forest Management (SFM) in Peninsular Malaysia generally aims to utilize SFM as a mitigation tool in combating climate change. Forest areas in this country are under management jurisdiction by the Forestry Departments.

Both FRIM and the Forestry Departments are under the Ministry of Natural Resources and Environment (NRE) thus providing a direct link between research and policy formulation that is based on existing government structures (thereby increasing sustainability). The REDD Unit under the NRE was also involved in the monitoring and implementation of the project. The Federal Forestry Department also provides an institutional avenue to link the project research activities into the Pahang State Forestry Department (FD Pahang). A Project Steering Committee (PSC) was established to govern the implementation of the project. The PSC provides guidance on matters pertaining to the implementation of the project and ensure that the project is directed towards achieving its intended goals. It will enable the coordination of different agencies involved in the project. A national Technical Working Group (TWG) was established to provide advice on technical issues as well as to provide the linkage with other relevant agencies. Throughout the project duration, number of meetings for PSC was four times and five times for the TWG.

General objective of this project is to utilize SFM as a mitigation tool in combating climate change. Specific objective is narrowed down to improve knowledge on reduction of forest degradation and enhance payments for ecosystem services (PES). As deforestation rate is stable in Malaysia, the emissions to be accounted for REDD+ mechanism would come from the reduction of forest degradation or enhancement of carbon stock in Peninsular Malaysia. As a note, forest operation in permanent reserved forest (PRF) is not considered as forest degradation as there are rules and regulations have to be followed in the operation under the forest management practices. In relation,

the forest would recover and stabilise in certain years after the forest operation. In addition, silvicultural treatments are applied to those forest areas to assist the recovery processes.

In general, the project assessed the current management practices based on the SFM in terms of its total carbon storage. In addition, improved silvicultural and management prescriptions were purposed based on project's outputs to further enhance the carbon stock in the forest. The amount of total carbon stock based on the SFM practices in this country and Pahang in particular is the critical baseline information for incentive calculation under the REDD+ mechanism. The project has also evaluated the economy aspect for PES such as carbon stock, watershed and ecotourism in State of Pahang. The project's outputs were discussed technically in the stakeholder's meetings/workshops and presented at the TWG and PSC meetings. All project's outputs and findings are reported in detail in Technical Report of the project. The project is among pilot projects of REDD+ related project in Malaysia in order to enhance its readiness to full implementation of the REDD+, once the mechanism takes place in this country. The outputs of the project are expected to enable better integration of climate change requirements into the improvement of the current forest management and practices.

## **1.0 Project Identification**

### **1.1 Context**

The implementation of activities under the project was in Peninsular Malaysia. A forest management unit, consisting of the State of Pahang was selected as the pilot area for implementation of activities. Pahang is the largest state in Peninsular Malaysia with an area of 35,965 square kilometres. The population of the state is 1.22 million ha and is mainly concentrated in the central zone of the state due to the existence of the state's capital (Kuantan) which is the main city of East Coast of Peninsular Malaysia. Wood-based industries are important industries in Pahang and Malaysia. In term of social aspects, it plays significant roles in generating employments for source of income to the peoples. Sustainable timber supply will sustain the wood-based industries in both countries that significantly contribute in term of economic growth as well as social benefits. Crucial matter needs to be addressed is to manage and utilize the timber resources in sustainable manner to support the physical economic and socio-economic development of the state and country and also to maintenance sound environment.

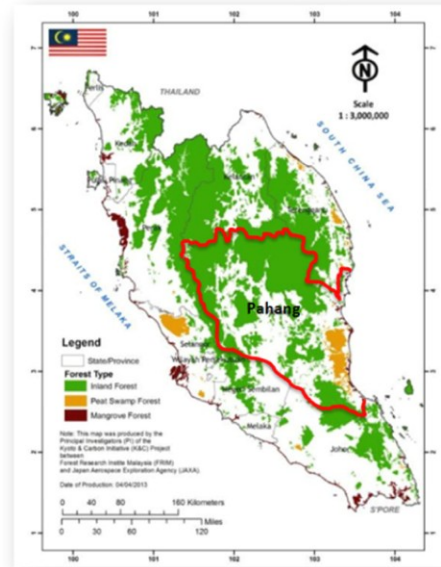
The Orang asli communities living around and close to the forests areas are also directly involved in forest-based jobs such as logging activities, enrichment planting and other restoration activities. The prosperity of the local community is also attainable through their involvement in wood industries, such as sawmill and other mills that produce some commercial finished products like moulding, dowels, joints, etc. At the same time, the forest is important for many local communities that depend on them for subsistence and cultural needs. As such the conservation and management of forests particularly production forests on a sustainable basis will have an impact on the local communities.

In particular, the project will provide policy recommendations on suitably implementing Sustainable Forest Management (SFM) in enhancing forest based carbon sinks, where the data will be made available to various parties, such as local communities, decision makers, private sectors and forest planners in developing relevant activities under SFM to reduce emissions from forest degradation as a whole. In addition, the success of the project will bring about increased knowledge and awareness on the importance of conserving forests, enhancement of carbon stock and the incentives available to achieve such goals.

## Project location

### Pahang

- Has the largest forest cover in Peninsular Malaysia.
- Forestry an important economic sector.
- Indigenous people/local communities .
- Large protected forests ~ national parks, watersheds, etc
- Various forest types: inland, peat swamp and mangroves



Forest category	Extent (ha)	%
Total Forested land	2,024,236	56.3
Permanent Reserved Forest	1,562,902	43.5
National Park	461,334	12.8

Total Land Area: 3.6 M ha

*The project's site in the State of Pahang*

## 1.2 Origin and problem

Malaysia recognises the concerns from various parties, both local and international, on the threats posed by climate change and the contribution of the forestry sector to emissions due to deforestation and forest degradation. In this respect, Malaysia's invaluable forests need to be conserved and managed on a sustainable basis to prevent depletion and degradation of forest resources. In this regard there is a need for a better understanding on the impacts of management policies and practices on the forest ecosystem and to overall emissions of carbon dioxide (CO<sub>2</sub>).

Deforestation is defined as the transition from any forest type to non-forest type which involves a land use change; whereas forest degradation describes the transition from closed forest to open or fragmented forest with no land use change. Malaysia has shown strong commitment in implementing SFM, where we support global efforts to curb deforestation and forest degradation; as well as to provide incentives for reducing deforestation and forest degradation.

In addition, Malaysia recognizes the relationship of the deforestation with the increase in emissions of greenhouse gasses (GHG) and the reduction of carbon sequestration potential. Thus Malaysia continues to emphasise the significance of sustainable

management of existing sinks and reservoirs, as fulfilling the commitment outlined in the Convention on Biological Diversity (CBD), which is ratified in 1994. Malaysia also developed its own Criteria and Indicators (MC&I) based on ITTO Guidelines for Sustainable Management of Natural Tropical Forests and Criteria for the Measurement for Sustainable Tropical Forest Management in the same year. Currently, Malaysia is implementing the MC&I as part of the measures to reduce emissions and improve sustainability.

Sustainable Forest Management (SFM) is one of the avenues proposed for reducing emissions from tropical deforestation and forest degradation. Under the SFM practices, forest degradation from harvesting activities occurs in permanent production forests is minimized. In this manner, the production forests within the permanent reserved forests (PRF) are managed sustainably under the Selective Management System (SMS) based on a 30 year cutting cycle. However, there is a gap in information pertaining to rates of deforestation at the national level, as well as the drivers of deforestation in the past and present. As such, it is expected that this project will provide a holistic approach with a better assessment of the situation.

The project was implemented in a pilot area involving a forest management unit such as the state of Pahang. Thus, the implementation of the project involved the Pahang State Forestry Department. Since the project deals with REDD (Reducing Emissions from Deforestation and Forest Degradation) which is headed at the Federal level by Ministry of Natural Resources and Environment (NRE), the involvement of REDD Unit at the Ministry and the Forestry Department Headquarters Peninsular Malaysia were essential.

Forestry is an important economic sector for Pahang and also Malaysia. As such it is to the advantage of the state and the country to manage the forest resources on a sustainable basis to ensure that economic benefits are accrued in the long run. Efforts have been undertaken to better manage the resource. However gradual degradation of the resources due to economic exploitation of production forests is a major concern. It is thus of great importance that the project assess the extent of forest degradation and identify approaches to address the issues. Reducing forest degradation or enhancement of carbon stock will also be economically advantageous in the long run to ensure forest remain productive and healthy. Indirectly, better retention of carbon stocks in the residual stand after logging will greatly reduce emissions and enhance sequestration potentials. The project will assess the effort made to reduce degradation and evaluate its costs and benefits under REDDES (Reducing Emissions from Deforestation and Forest Degradation and enhancing Environmental Services). Forest-dependent communities rely on forests for livelihood. Forests provide them source of food, other produce such as medicinal plants for traditional treatment, and employment. Changes or impediments in the ecological chain will affect the forest productivity and hence affect the economic gains of local community and the country.



Sustainable Forest Management (SFM) will provide alternatives to manage forests for sustainable production for present and future. Although the forest is relatively resilient ecosystem, its regenerative capacity will be greatly affected if disturbances incurred are beyond its withstanding limits. When this happens, the overall sustainability of the forest will be jeopardised. Thus, stringent measures must be taken so that the detrimental effects on the environment arising from forest production are kept minimum. The implementation of REDDES is expected to bring about positive impacts to the environment with lower impact management prescriptions and logging systems being tested.

Outputs of the project provide some guidance in formulating environmental-related policies relevant to climate change, nature conservation and protection in near future. There will be more initiatives in protecting the forests through activities such as tree planting and use of recycled paper. Malaysia has been experiencing relatively rapid economic growth and is expected to continue its economic growth. Expected gross domestic product was 7.2 % in 2010 is expected to exceed a healthy 4% growth in 2016 even under the current uncertain global economic scenario. An area that will be expected to expand is in the agricultural sector and the palm oil and rubber plantation sectors. This will add further pressure on natural forest lands. Pahang which is the largest state and the state with the largest forest area in Peninsular Malaysia will be expected to have the greatest pressure. The forests in Pahang are indeed highly diverse and rich in flora and fauna. There needs to be increased awareness on the need to conserve and better manage the forests for multiple benefits. There needs to be enhanced promotion of the value of retaining forests not only for biodiversity but also for socio-economic gains. Thus the incentives under REDD+ (Reducing Emissions from Deforestation and Forest Degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks) or REDDES will complement efforts to ensure that the forests are protected and managed well. Efforts are being made by various agencies such as the NRE as well as the Forestry Departments to promote the sustainable management of forests. This is being done through the implementation of forest certification schemes. However, such efforts increase the costs of planning and management of forests in the country particularly the State of Pahang where the forests sector is seen as important economic sector. Opportunity cost to convert forests particularly the state land forests to palm oil and rubber is very high as investments in these commodities have been enjoying high financial returns. Consequently, current efforts to conserve and better manage the forests resources will be expected to be significantly enhanced through the incentives under REDD+ and REDDES.

Forest degradation could be minimised through improved forest management that results in reduced damage to the residual stand following forest harvesting, and improved forest recovery both in terms of productivity (carbon stocks) as well as biodiversity within the cutting cycle. The improved forest management would require

implementation of better planning, reduced removal of the large sized commercially valuable trees (while remaining economically viable) and reduced impact logging practices. Such efforts are expected to increase the cost of forest management and thus pose a constraint for State Governments to implement effectively. The financial incentives under a REDD+ or REDDES mechanism will be expected to encourage State Governments to implement these improved management practices.

## **2.0 Project Objectives and implementation strategy**

General objective of this project is to utilize SFM as a mitigation tool in combating climate change. As deforestation rate is stable in Malaysia, the emissions to be accounted for REDD+ mechanism would probably come from the reduction of forest degradation or enhancement of carbon stock in Peninsular Malaysia. The specific objective is narrowed down to improve knowledge on reduction of forest degradation and enhance payments for ecosystem services.

Development objective and impact indicators:

The ecosystem services of tropical forests include mitigation of climate-change impacts, conservation of biodiversity, protection of watersheds that supply forest-dwelling and urban communities with high-quality water, provision of amenity and recreation services, and production of biomass as an alternative source of energy for fossil fuels. These and other services, including disaster prevention such as flood control and protection against landslides and tsunamis, and the maintenance of the overall resilience of ecosystems may be achieved simultaneously through SFM. Since the PRF is well protected under the law, deforestation of such reserves would not be expected to be significant in Malaysia. As such, the main source of emissions will come from conversion of forests outside the PRF (stateland forests) and through degradation of production forests within the PRF mainly through commercial logging activities. Since, production forest constitute the bulk of the forest reserves in Malaysia (10.8 million ha), addressing forest degradation of production forests would thus contribute significantly to reducing emissions of GHG from the forestry sector. As such, this aspect is the key area addressed under this project. The expected reduced emissions from the implementation of the project will be properly assessed and documented. By implementing this project, it is expected that by the year 2020, improved forest management practices have reduce forest degradation in production forests by at least 10%. It is also expected that by 2020 further capitalization of payment for environmental services in productions forests will be materialised.

Specific objective and outcome indicators:

Improvement of knowledge on reduction of forest degradation and enhance payments for ecosystem services is essential. The project had identified drivers of deforestation and forest degradation through consultations with experts and key stakeholders. Ideas were also been sought from stakeholders of how best to address such drivers in the short and long-term periods. Addressing climate change issues would require a concerted effort at all levels and by everyone. In this regard, the project endeavoured to undertake programs to enhance the understanding and awareness in climate change issues particularly those related to forestry. Efforts was made to assess forest degradation under the current forestry practices as well as develop improved protocols to achieve SFM and further reduce emissions and enhance ecosystem services. The

improved protocols will bring additional incentives in implementing SFM to reduce emission from forest degradation in Pahang by at least 5% by the end of the project. It is expected that the project will encourage Pahang State Government to implement REDD+ or REDDES project to reduce forest degradation through the financial incentives provided. By the end of the project at least one incentive mechanism for payment for environmental services including reduction in CO<sub>2</sub> emissions will be introduced in Pahang. An important requirement to ensure that REDD+ and REDDES is implemented in Pahang or in Malaysia is to enhance the awareness and increase knowledge at all levels on climate change such as the lack of knowledge on CO<sub>2</sub> emissions from forest degradation and the need to reduce the emissions through improved emissions. There is also a lack of awareness of REDD+ and REDDES to address these issues. The project will address this through capacity building activities to various levels involving policy maker, forest managers, administrators, researchers and NGOs. Based on the project proposal, at least 120 professional as others at various relevant agencies will be involved in capacity building activities by the end of the project.

All activities based on four components/outputs were conducted accordingly as planned in the project proposal;

Component/Output 1: National forest degradation estimated.

Component/Output 2: Forest degradation reduced at the forest management unit.

Component/Output 3: Incentives for carbon and ecosystems services established.

Component/Output 4: Capacity of major stakeholders and communities where relevant is strengthened.

Component/Output 1: National forest degradation estimated

In addition to deforestation, forest degradation or enhancement of carbon stock has also been identified as important source of emissions from the forestry sector. Continuous and unabated degradation will lead to deforestation. In most tropical countries including Malaysia, there are concerns that production forests set aside to be managed on a sustainable basis often will experience degradation due to poor management systems and poor logging practices. In this regard, the forest area will experience degradation after each cutting cycle. In many cases the forest will not be fully recovered before the subsequent cut is carried out, thus resulting in a depletion of the carbon stock. In Malaysia, the extent of forest degradation in terms of carbon stocks is still not well defined. In this output research activities would be conducted to ascertain the extent of forest degradation. Baseline information on the level of forest carbon stocks as well other values such species composition and forest structure will be assessed before and after logging under current forest management prescriptions and logging techniques. Assessment of carbon stocks will also be made to assess changes in forest carbon stocks for forest of various temporal categories such second and third cutting cycles. Data on

the extent of forest degradation in Peninsular Malaysia will be made available to all major stakeholders.

#### Component/Output 2: Forest degradation reduced at the forest management unit

Attempts were made to measure the extent of forest degradation at the selected pilot project forest management unit, which is the state of Pahang. As a note, Malaysia considered forest operation in the permanent reserved forest (PRF) not contributes to the forest degradation as the forests under PRF remain as forest areas and undergo recovery processes. Although forest operations are conducted in the production forests by compartments, often the year after logging will not be sufficient to indicate the degree of forest recovery or the level of forest degradation. Since the logged forest are being managed on a 30-year cutting cycle, measures of degradation will have to take into consideration the age after logging and the ability of forest to recover within the cutting cycle. In addition, improved protocols would be introduced and tested to enhance carbon retention and reduce degradation in the Pahang one forest management unit. In particular, reduced impact logging systems which reduce the construction of skid trails and maintaining forest structure will be tested to assess its potential in enhancing current management practices towards achieving sustainable forest management and enhancing carbon stocks. This represents a strong element of additionality and complementarity of the REDDES Programme under the ITTO. Changes in carbon stocks under the improved forest management prescriptions and logging techniques will be assessed and compared with current practice. Other aspects such as forest structure and species composition will also be assessed to better understand the value of forest in additions to carbon stocks.

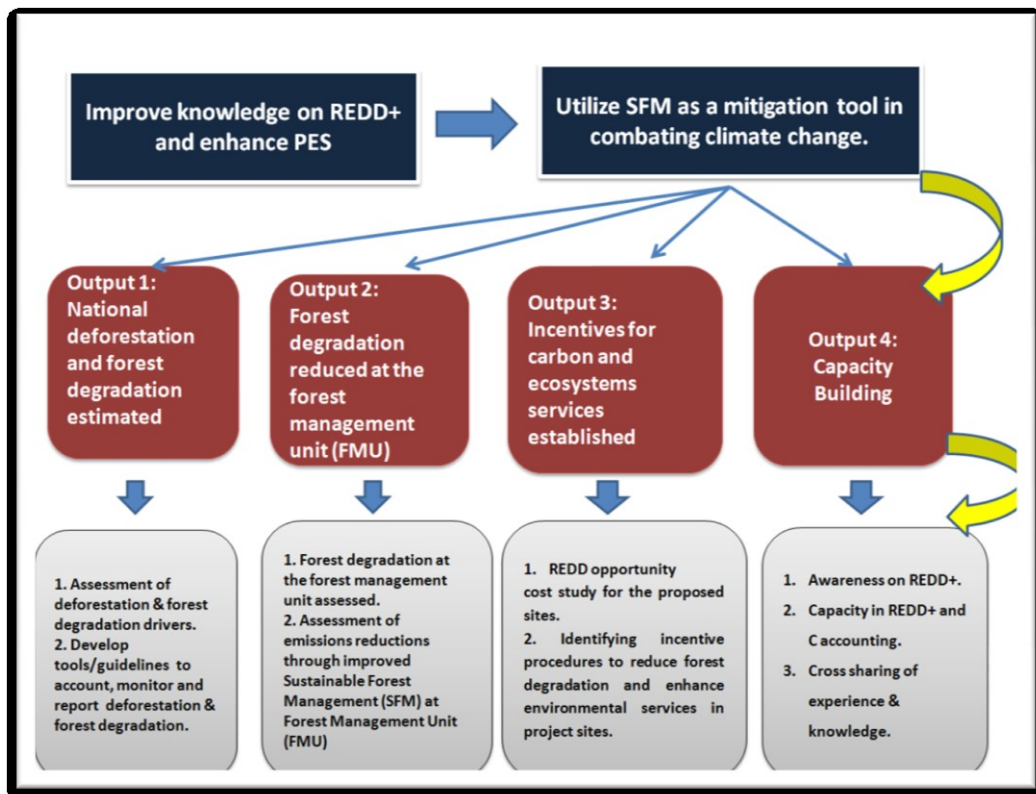
#### Component/Output 3: Incentives for carbon and ecosystems services established

The success of participation and implementation of projects under the REDD+ in mitigating climate change will depend on the modalities still being negotiated under the UNFCCC as well as the costs involved. It is thus pertinent to understand the costs involved in implementing REDD+ projects. Since additional efforts are being carried out to further reduce degradation and enhance sustainable forest management, the cost involved and opportunity cost foregone by forest owners will have to be accounted. Such information will also be useful for requesting incentives for the protection of ecosystems services. In this output all these costs will be accounted for based on the pilot study area. Enhanced ecosystems services from the forest from improved management will also result in an increase in the benefits rendered to forest dependent communities. An improved residual stand will result in better conservation of flora and fauna as well as improve forest recovery. This will result in added benefit to the forest communities. A document on the provision of incentives for carbon and services was developed and presented to key stakeholders including the Pahang State Economic Planning Unit, Pahang State and Federal Forestry Departments as well as relevant

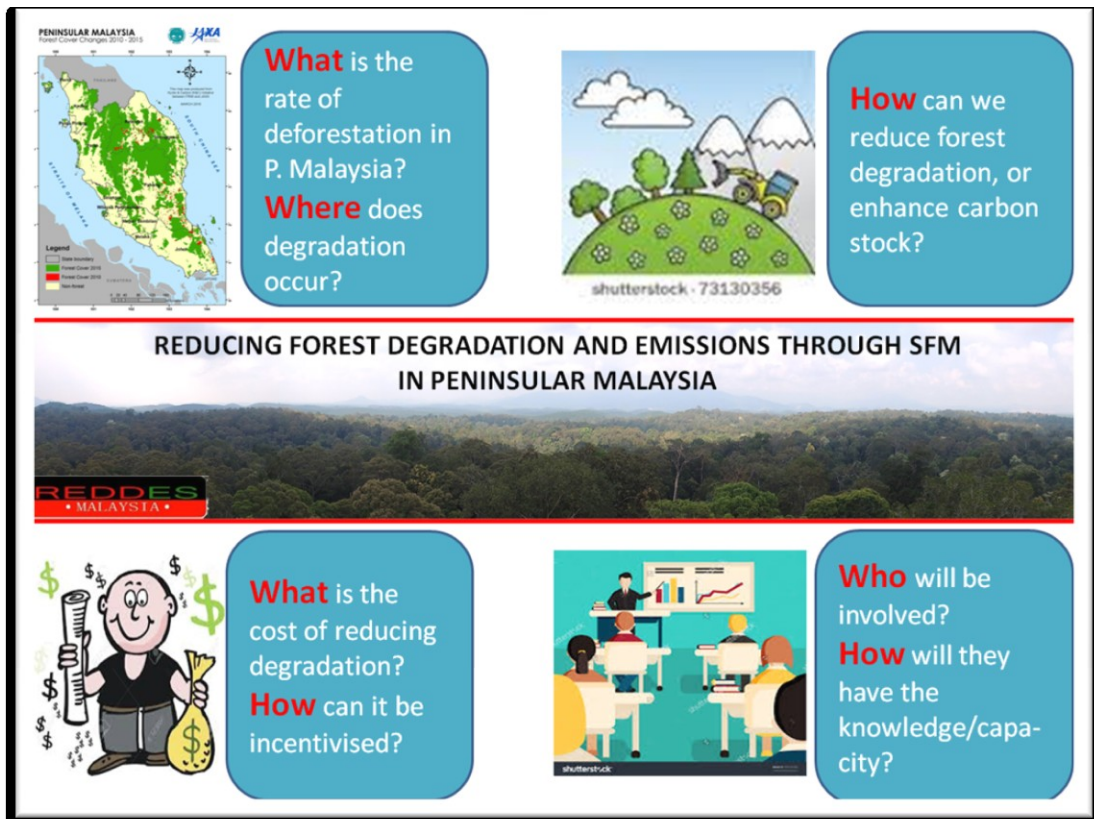
Federal Ministries. Based on the feedbacks received, the incentive mechanism will be finalised and submitted to the Pahang State Government for consideration.

Component/Output 4: Capacity of major stakeholders and communities where relevant is strengthened

As the research project involves exploring new areas in the planning and management of forest in relation to climate change it is expected many new skills and capacity can be built. The input from external experts working together with local experts will be very valuable in the exchange of skills and experience. It is thus important that the project be implemented focusing on this capacity building both via on-the-job training as well as more formal classroom training involving not only FRIM personnel but also relevant people from other agencies and organisations. The project was undertaken in such a manner that by the end of the project, sufficient skill been built locally to enable effective implementation of nation-wide climate change policies and action plans. Trained personnel will also be able to transfer knowledge and technologies to be applied in other parts of the country and the region. This was achieved by providing training in awareness of REDDES and carbon accounting to at least 120 participants. All training activities have been documented. Proper evaluations of the training by the participants were conducted to ensure continuous improvements. As a record, more than 150 participants/personnel locally and internationally had undergone related activities conducted under this project.



*Project's framework of implementation based on the project components*



*Simplification of project's activities of the project components*

### 3.0 Project Performance (Project elements planned and implemented)

Project performance of project planned and implementation was based on the project proposal is as in Table 1. As a record, there are no new activities added in the project.

**Table 1.** Project’s workplan and implementation

Outputs and Activities	Responsible Party	Schedule (in months: 36 months + 5 months)											
		3	6	9	12	15	18	21	24	27	30	33	41
<b>Output 1: National Forest Degradation Estimated</b>													
1.1 Assessment of drivers of deforestation.	Ministry of Natural Resources and Environment (MNRE), Forest Research Institute Malaysia (FRIM), Forestry Department Peninsular Malaysia (FDPM) & Forestry Department of Pahang (FD Pahang)	■	■	■	■	■	■	■	■	■			
1.2 Develop tools/guidelines to account, monitor and report deforestation and forest degradation.	FRIM, FDPM, FD Pahang & consultant/LEAF					■	■	■	■	■	■		
<b>Output 2: Forest Degradation Reduced at the Forest Management Unit (FMU)</b>													
2.1. Forest degradation at the FMU assessed	FRIM, FDPM, FD Pahang & consultant/LEAF	■	■	■	■	■	■	■	■	■	■		
2.2. Assessment of emissions reductions through improved Sustainable Forest Management (SFM) at FMU	FRIM, FDPM, FD Pahang, National Expert & consultant/LEAF					■	■	■	■	■	■	■	■
<b>Output 3: Incentives for Carbon and Ecosystems Services Established</b>													
3.1. REDD opportunity cost study for the proposed sites	FRIM, FDPM, FD Pahang, National Expert & consultant/LEAF					■	■	■	■	■	■		
3.2. Identifying incentives procedures to reduce forest degradation and enhance environmental services in project sites	FRIM, FDPM, FD Pahang, National Expert & consultant/LEAF						■	■	■	■	■	■	■
<b>Output 4: Capacity of Major Stakeholders and Communities Where Relevant is Strengthened</b>													
4.1. Developing awareness programmes amongst policy makers and forest managers	FRIM, Government agencies, NGO, Communities Group & Private Sector		■	■	■	■	■	■	■	■	■	■	■



4.2. Develop capacity in REDD+ and carbon accounting	FRIM, Government agencies, NGO, Communities Group & Private Sector												
4.3. Cross sharing of experience and knowledge with other REDD projects	FRIM, FDPM, FD Pahang, National Expert & Government agencies												

#### 4.0 Project Outcome, Target Beneficiaries Involvement

The project had organised for team members and relevant stakeholders three main training, stakeholders' consultation workshop and regional study visit to other ITTO REDDES projects in this region as follows:

No.	Program	Date	Participants
1	Training Needs Assessment (TNA) for Effective Implementation of FRIM ITTO-REDDES Project.	17–18 April 2013	FD Pahang, FDPDM, LEAF & FRIM
2	Stakeholders' Consultation Workshop for FRIM ITTO-REDDES Project in Kuantan.	23 April 2013	DoE, JAKOA, EPU Pahang, MNS, WWF, UMP, UiTM, FD Pahang, FDPDM & FRIM
3	Regional Technical Training on Carbon Assessment, FRIM, Kepong, jointly organised by FRIM-ITTO REDDES, Forestry Department Peninsular Malaysia (FDPDM) & Lowering Emissions in Asia's Forests (LEAF).	31 March - 4 April 2014	FD Pahang, FDPDM, UKM, LEAF/USAID, Cambodia, Vietnam & FRIM
4	Technical Training on Logging Emissions, Pahang FD Training Centre, Kuantan, Pahang, jointly organised by FRIM-ITTO REDDES, Forestry Department of Pahang, LEAF & FDPDM.	Date: 7–11 April 2014.	FD Pahang, FDPDM, UKM, LEAF/USAID, Cambodia, Vietnam & FRIM
5	Regional study tour to ITTO REDDES project in Meru Betiri, East Java, Indonesia.	22-26 September 2014	FD Pahang, FDPDM, EPU Pahang & FRIM

There were three learning visit/discussion of project sharing that related to the project as follows:

No.	Program	Date	Venue/visited site
1	Discussion with GiZ (Germany) on FORCLIME Project (Carbon Mapping in Kalimantan, Indonesia).	8 September 2014	FRIM, Kepong
2	Learning Visit to FRIM-ITTO REDDES Project by Myanmar FD-ITTO REDD Project Team.	20-25 October 2014	FRIM, Kepong, NRE, Putrajaya & Lipis, Pahang
3	Field Learning Visit to Malaysia on Sustainable Management of Forests by UNDP/GEF-SFM Project of Cambodia.	26 –31 October 2015	FRIM, Kepong, FDPDM, Kuala Lumpur & Taman Negara, Pahang

The project has published some of the outputs as parts of and sharing and awareness approaches as follows:

**Papers/journal:**

1. ISMAIL PARLAN. 2013. Reducing Forest Degradation and Emissions through Sustainable Forest Management (SFM) in Peninsular Malaysia. Paper presented at Workshop on Management Techniques for Sustainable Forest Management in a Changing Climate. 1–12 July 2013, Kunming, China. Organised by Asia-Pacific Network for Sustainable Forest Management and Rehabilitation (APFNet), APFNet Kunming Training Center (APFNet-KTC), South West Forest University (SWFU) and Faculty of Forestry, University of British Columbia (UBC).
2. ABDUL KHALIM, A.S., ISMAIL, P. & NORHAIDI, Y. 2014. Involvement of Forestry Department of Pahang on Project of Reducing Forest Degradation and Emissions Through Sustainable Forest Management (SFM) In Peninsular Malaysia. Paper presented at FFPRI Seminar, 7-9 February 2014, Tokyo, Japan.
3. NORSHEILLA, M.J.C., HAMDAN, O. & ISMAIL, P. 2014. Identifying drivers of deforestation in Peninsular Malaysia by using satellite imagery. Paper presented at Malaysia Geospatial Forum, 11-12 March 2014, Kota Kinabalu, Sabah. 6 pp.
4. HAMDAN OMAR, NORSHEILLA MOHD JOHAN CHUAH, ABDUL KHALIM ABU SAMAH, ISMAIL PARLAN & SAMSUDIN MUSA. 2014. Identifying Drivers of Deforestation in Pahang by Using Multi Temporal Satellite Images. Paper presented at International Symposium and Exhibition Geoinformation (ISG 2014). Putra World Trade Center, Kuala Lumpur. 14-15 October 2014.
5. HAMDAN OMAR, NORSHEILLA MOHD JOHAN CHUAH, ISMAIL PARLAN, ABDUL KHALIM ABU SAMAH & SAMSUDIN MUSA. 2014. Assessing Carbon Pools in Dipterocarp Forests of Peninsular Malaysia. Paper presented at Conference on Tropical Resources and Sustainable Sciences 2014 (CTReSS 2014), Faculty of Earth Science, Universiti Malaysia Kelantan, 17600 Jeli, Kelantan, Malaysia. 17-19 October 2014.
6. HAMDAN O, NORSHEILLA, MJC, ABDUL KHALIM AS, ISMAIL P & SAMSUDIN M. 2014. Assessing rate of deforestation and changes of carbon stock on mangroves in Pahang, Malaysia. Paper presented at International Conference on Mangroves of Asia-Pacific Countries in View Of Climate Change (MAPCVCC-2014), 11-13 November 2014.
7. ISMAIL, P., SAMSUDIN, M., ZAHARI, I., ABDUL KHALIM, A.S., NORHAIDI, Y., HAMDAN, O., AZIAN, M., NURHAJAR, Z.M., FLETCHER, C.D. & NADIA, C.I. 2014. Utilizing sustainable forest management (SFM) practices in Peninsular Malaysia under the REDD+ mechanism in mitigating climate change. Proceedings of the Conference on Forestry and Forest Products Research (CFFPR) 2013. Forestry R&D: Meeting National And Global Needs. 12–13 November 2013, Kuala Lumpur. S Rahim Sudin, HF Lim, MM Huda Farhana & S Mahmudin (Eds.). FRIM. Pp. 78-82.
8. HAMDAN O., ISMAIL P., NORSHEILLA, M.J.C., SAMSUDIN M. & NORHAIDI, Y. 2014. Identifying Drivers of Deforestation and Developing

- Reference Emission Level for REDD+ In Peninsular Malaysia. Paper presented at International Workshop on REDD+ and Sustainable Landuse Management , 16-18 Dec 2014, Forest Department, Nay Pyi Taw, Myanmar.
9. AZIAN, M., NORAI SHAH, S., NUR HAJAR Z.S, ISMAIL, P., SAMSUDIN, M., ABD. RAHMAN, K. & A RAHIM, O. 2015 Preliminary results on assessment of carbon stock changes using low impact logging in Lipis, Pahang. Paper presented at Malaysian Science and Technology Congress 2015 (MSTC2015), Universiti Putra Malaysia, Serdang, Harnessing Science and Technology Resource for National Advancement. 19-21 January 2015.
  10. NORAI SHAH, S., AZIAN, M., SAMSUDIN, M., ISMAIL, P. & A. RAHIM, O. 2015. Assessment of forest carbon stocks on selective Logging in Lipis, Pahang. Paper presented at Malaysian Science and Technology Congress 2015 (MSTC2015), Universiti Putra Malaysia, Serdang, Harnessing Science and Technology Resource for National Advancement. 19-21 January 2015.
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4. Component 2: Forest degradation reduced at the forest management unit. Awareness material for FRIM-ITTO REDDES 4/2015.



5. Component 3: Incentives for carbon and ecosystems services established. Awareness material for FRIM-ITTO REDDES 5/2015.
6. Component 4: Capacity of major stakeholders and communities where relevant is strengthened. Awareness material for FRIM-ITTO REDDES 6/2015.
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**Facebook (fb):**

<https://www.facebook.com/pages/FRIM-ITTO-REDDES/277076555767504>

**Website:**

<http://www.frim.gov.my/frim-itto-reddes>



*Learning Visit to FRIM-ITTO REDDES Project by Myanmar FD-ITTO REDD Project Team on 20-25 October 2014*



*Technical Training on Logging Emissions, 7 – 11 April 2014*



*One of the field works by the team members in the project site*



*Project's calendar as promotion materials of the project*

## Workshop on Identifying Drivers of Deforestation, 8 December 2014

Yang Hormat Dato' Hj. Mohd Paiz Kamaruzaman, Director of Pahang State Forestry Department presenting his officiating speech at the workshop opening ceremony



*One of the stakeholder workshops organised by the project*

## International Workshop on REDD+ and Sustainable Landuse Management , 16-18 Dec 2014, Forest Department, Nay Pyi Taw, Myanmar.



*Team members participated in workshop organised by Forest Department Myanmar in Nay Pyi Taw*

Participating in International Seminar REDD+ Finance Mechanism and Its Optimum Use-How to Incentive Forest Conservation in Tokyo on 3-4 February 2015. Sponsored by FFPRI, Japan.



 **FRIM-ITTO REDDES** added 6 new photos.  
February 9 · 🌐

Three of team members from FRIM together with one forest officer have been sponsored by Forestry and Forest Products Research Institute (FFPRI), Japan to attend the International Seminar REDD+ Finance Mechanism and Its Optimum Use-How to Incentive Forest Conservation in Tokyo. It was organised by the FFPRI at Tokyo University on 3-4 February 2015. Technical papers related to REDD+ finance mechanism had been presented by speakers from various agencies. Further info please refer to <http://www.ffpri.affrc.go.jp/.../.../schedule/2015/02/03/01.html>



*Team members participated in seminar of REDD+ in Tokyo, Japan*

Coaching session on economic valuation of ecosystem services. 9-11 Mac 2015.  
Bangi-Putrajaya Hotel, Malaysia.



*Coaching process as part of capacity building of the project; Prof. Awang Noor of UPM shared his knowledge and expertise on PES during the coaching session*



*Project's bunting (at the back) as awareness materials of the project*

Executive Director of ITTO, Mr. Emmanuel Ze Meka was in Kuala Lumpur last week in preparation of the next ITTC meeting on this coming November. He took this opportunity to visit FRIM on 26 March 2015. There were briefing on FRIM in general and few on-going ITTO projects, including FRIM-ITTO REDDES project during his visit. We also took him to visit FRIM's R&D Gallery and Keruing trail, the famous nature trail in FRIM.



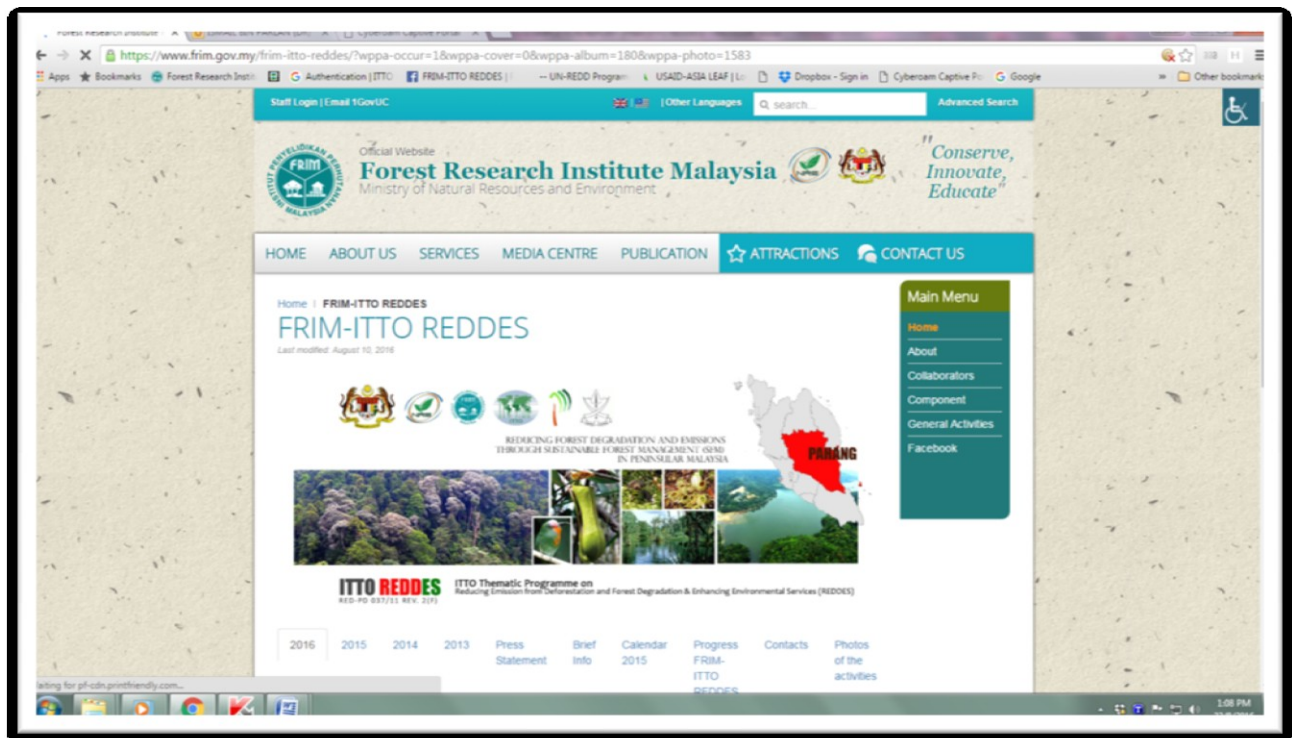
*Visit by Executive Director ITTO, Mr. Emmanuel Ze Meka to FRIM in 26 March 2015 was facilitated by the project*







*Field visit to Perak (Matang Mangroves and PES project) in June 2015*



*Project's website house background information of the project and documented progress and training reports (<http://www.frim.gov.my/frim-itto-reddes>). The website will be remain opened until end of 2016*



*Project/FRIM as co-organizers of The 1<sup>st</sup> Regional Workshop on ITTO Voluntary Guidelines for the Sustainable Management of Natural Tropical Forests held in Kuala Lumpur, Malaysia on 17<sup>th</sup> – 20<sup>th</sup> August 2015*



*Project participated in The 51st session of the International Tropical Timber Council (ITTC) on 16-21 November in Kuala Lumpur*

## 5.0 Assessment and analysis

Some activities of the project need to be extended due to additional time were required to complete the activities. The activities were involving many stakeholders (via consultation/meeting/discussion approaches) as therefore extra time was required to complete the activities. Despite some delays, the overall project generally was completed in conducting all activities and achieving objectives within the project period of three years (additional of five months extension).

Strong and committed project team (permanent and contract staffs) was essential to ensure smooth coordination and implementation of the project as it involved many activities and stakeholders. Moreover, climate change issue and forestry is relatively new issue in Malaysia that warrants more attention by the team members to build their capacity and knowledge. In fact, the project had collaboration and seek advised from Lowering Emissions in Asia's Forests (LEAF) based in Bangkok, Thailand on some technical issues to ensure methodology and results of the projects are internationally recognized. In addition, involvement of the main stakeholders from beginning of the project also played very important factor of the success of implementation of the project, in particular on the ground.

In general, the project had achieved all project objectives as listed in the project proposal. There were four project components which organized and mobilized their own team in conducting specific activities related to the objectives of the project. Meanwhile, Project Support Unit (PSU) was responsible to manage overall project implementation and provide general assistance to the project's components.

There were regular reporting to ITTO via online (OLMS) and hardcopy reports to the Projects manager on the progress and implementation status of the project. The project was exempted for mid-term evaluation by ITTO as there was no substantial deviation of the project structure and implementation and financial auditing problem. Nonetheless, ex-post evaluation will be conducted two or three years after project completion as requested by the ITTO.

In addition, FRIM as executing agency was conducting its internal project evaluation called as Project Evaluation Monitoring (PEM) twice a year to ensure smooth implementation of the project in terms of physical and financial progress. There were six PEM for this project throughout the project duration. In general, the PEM found that the project was implemented accordingly as planned in the project proposal. One of the reports by PEM for this project is as follow:

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**From:** NORSAIDATUL AKMAL BT. MOHAMAD GHAZALI

**Sent:** 12 May 2016 13:40

**To:** ISMAIL BIN PARLAN (DR)

**Cc:** SAMSUDIN B. MUSA (DR); ISMAIL BIN PARLAN (DR); FRIM\_repp; NOR SHAHIDAH BT. HUSSIN; ZANARIAH BT. NASARUDDIN

**Subject:** Komen Panel Viva 1/2016

Assalamualaikum Dr,

Dengan hormatnya perkara di atas adalah dirujuk.

Bersama-sama ini disertakan laporan komen panel Viva/PEM R&D 1/2016 yang telah diadakan pada 3 Mei 2016 di Bilik Mesyuarat Hevea untuk rujukan, tindakan dan simpanan rekod Dr.

**Table 3. Summary Of Assessment For Individual Project**

Project Leader	Achievement on project objectives	Milestone achievement	Utilisation of human resources	Utilisation of research equipment	Timing performance	Financial performance	Project outcome	Overall assessment
Dr Ismail Parlan	5	5	5	5	5	5	5	5

**Table 4. Suggestions And Recommendations By The Evaluation Panel**

VIVA ASSESSMENT FORM	
<b>Project leader</b>	Dr Ismail Parlan
<b>Project number</b>	ITTO-CCF-0911-01
<b>Project title</b>	Reducing Forest Degradation And Emissions Through Sustainable Forest Management (SFM) In Peninsular Malaysia
<b>Comments and Recommendations</b>	<b>Project Assessment</b>
<p><b>A. Past panel comments and recommendations:</b></p> <p>1. Monthly progress to ITTO to be submitted to RePP for records.</p> <p>2. PL needs to submit memo to RePP for project extension until June 2016. Extension need for the stakeholder workshop &amp; regional seminar.</p> <p>3. Four publications by June 2016, to be added in planning.</p> <p>4. At least one book to be published before next Viva (April 2016).</p> <p>5. Data to be deposited into MyERnet by March 2016.</p> <p><b>B. Current panel comments and recommendations:</b></p> <p>1. Monthly progress to ITTO to be submitted to RePP for records – submitted</p> <p>2. PL needs to submit memo to RePP for project extension until June 2016 – done</p> <p>3. Stakeholder seminar to be conducted this</p>	<p><b>A. FINANCIAL (tick (✓) whichever relevant)</b></p> <p><input checked="" type="checkbox"/> Spending according to plan</p> <p>Low / High spending</p> <p>Reason :</p>
	<p><b>B. MILESTONE (tick (✓) whichever relevant)</b></p> <p><input checked="" type="checkbox"/> Milestone achieved on time</p> <p>Milestone not achieved on time</p> <p>Original date:</p> <p>Revised date:</p> <p>Reason:</p>
	<p><b>C. OUTPUT</b></p> <p>C1. Publication (Number of publication to date)</p> <p>7/18 Journal / Article</p> <p>1 Book</p> <p>3 Chapter in book</p> <p>18 Presentation/ Poster</p> <p>C2. Data (details of data)</p> <p>C3. Product/Prototype (details of product/prototype)</p> <p>C4. IP/ ID (details and of IP/ ID)</p>
	<p><b>D. PROJECT STATUS (tick (✓) whichever relevant)</b></p> <p><input checked="" type="checkbox"/> Project continuation</p> <p>Project modification</p> <p>Project expansion</p> <p>Project completed</p> <p>Project termination</p>

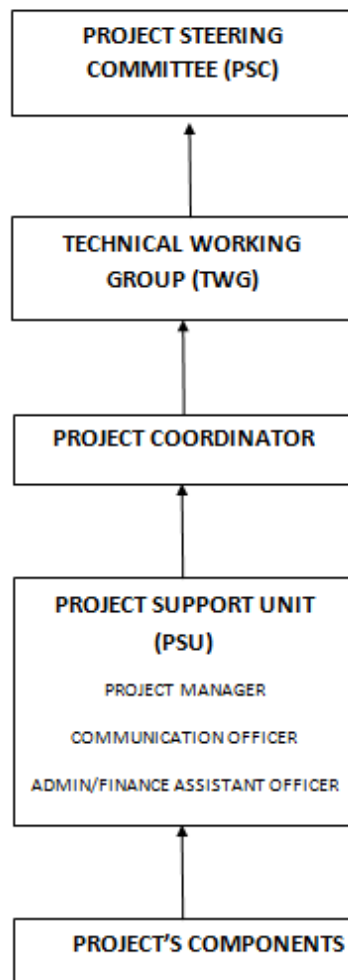
year.		Project to be reviewed again with additional information
4. Regional Seminar - PL to confirm after discussion with ITTO in 13 May 2016		Payment to be differed until next assessment
5. Four publications by June 2016, to be added in planning – done		<b>E. ADDITIONAL MATTERS</b>
6. Forest Reference Emission Level for REDD+ in Pahang draft completed and ready for printing by end of year 2016.		E1. Project extension Original end date: February 2016 New end date: June 2016 Reason:
7. Data to be deposited into MyERnet by March 2016 – completed.		E2. Revision/ Change of V-series Details: Reason:
		E3. End of project report (EOPR) Date to be submitted :
		<b>F. SUMMARY OF ASSESSMENT (Score 1-5)</b>
		F1. Achievement on project objectives 5
		F2. Milestone achievement 5
		F3. Utilisation of human resources 5
		F4. Utilisation of research equipment 5
		F5. Timing performance 5
		F6. Financial performance 5
		F7. Project outcome 5
		F8. Overall assessment 5
		<b>Note:</b> i. Score : 1 – Inadequate; 2 – Satisfactory; 3 – Moderate; 4 – Good; 5 – Very Good ii. If overall assessment (item F8) score equal or less than 2, project will be terminated iii. If milestone achievement (item F2) and financial performance (item F6) score equal or less than 2, payment will be deferred.
<b>Name of panel members :</b>		1. Dr Sim Heok Choh (Chairman) 2. Dr Norwati Muhammad 3. Dr Christine Fletcher
<b>Date of assessment :</b>		3 May 2016



## 6.0 Lesson learned

Some of lesson learned from this project are as follows:

- i) Clear project management structure
  - The involvement of main stakeholders such as NRE and Forestry Departments in project's main committees; Technical Working Group (TWG) and Project Steering Committee (PSC) has smoothed the project coordination and implementation. The TWG and PSC also comprise other important agencies from government and NGO for better understanding within the agencies on implementation of the project. In fact, officer of FD Pahang and Forestry Department Peninsular Malaysia (Headquarters) had also actively involved in the project implementation as team member/counterpart of each project's component (full list in the section of Project Technical and Scientific Staffs).



*The project's management structure for clear and easier of active involvement by the main stakeholders*

- The committee, members/ representatives of relevant agencies, responsibilities and number of meetings throughout the project are as follows:

<b>Committee</b>	<b>Members</b>	<b>Responsibilities</b>	<b>Number of Meetings</b>
Project Steering Committee (PSC)	<ul style="list-style-type: none"> <li>• NRE – Secretary General of NRE as Chairperson</li> <li>• FRIM – Director General as Secretary</li> <li>• ITTO</li> <li>• REDDES donor countries</li> <li>• Ministry of Commodities and Plantation Industries</li> <li>• Forestry Department Headquarters</li> <li>• Pahang State Forestry Department</li> <li>• World Wide Fund for Nature (WWF) Malaysia (NGO)</li> <li>• JAKOA (Department of Aborigines Development)</li> <li>• Pahang State Economic Planning Unit</li> </ul>	<ul style="list-style-type: none"> <li>• Provide Policy guidance on matters pertaining to the implementation of the project.</li> <li>• Monitor and evaluate the implementation of the project towards fulfilment of the objectives stated in the project document.</li> <li>• Approval of project activities and budget.</li> <li>• Review and comment on each year proposed work plan and budget.</li> <li>• Initiate remedial actions to overcome all constraints in progress of the project.</li> <li>• Review and approve relevant changes to the project design.</li> <li>• Coordinate the roles of the various organisations involved in the execution of the project and ensure harmony with related activities.</li> <li>• Review and approve progress and technical reports.</li> <li>• Establish a Technical Working Committee</li> </ul>	<p>Four Times:</p> <ul style="list-style-type: none"> <li>• No. 1/2013 – 17 June 2013.</li> <li>• No. 1/2014 – 8 October 2014.</li> <li>• No. 1/2015 – 4 June 2015.</li> <li>• No. 1/2016 – 13 May 2016.</li> </ul>

		<p>to oversee technical details related to the project.</p> <ul style="list-style-type: none"> <li>• The NSC operates and makes decision by consensus.</li> </ul>	
Technical Working Group (TWG)	<ul style="list-style-type: none"> <li>• FRIM - Chairperson</li> <li>• REDD Unit, NRE</li> <li>• Economics Department, Universiti Putra Malaysia</li> <li>• LESTARI, National University of Malaysia (UKM)</li> <li>• Forestry Department Headquarters</li> <li>• Pahang State Forestry Department (FD Pahang)</li> <li>• World Wide Fund for Nature (WWF) Malaysia (NGO)</li> <li>• Wildlife Department</li> <li>• Pahang Timber Associations</li> <li>• Department of Environment</li> <li>• Department of Drainage and Irrigation</li> <li>• Department of Town and Country Planning</li> <li>• Pahang State Economic Planning Unit</li> <li>• JAKOA</li> </ul>	<ul style="list-style-type: none"> <li>• Reporting to the PSC on the technical progress of the Project and research activities in the project area.</li> <li>• Advising the PSC on the technical aspects of the implementation of the project.</li> <li>• Reviewing and reconciling all relevant technical reports and information produced by the project.</li> <li>• Ensuring that the research remains relevant to State and National forestry planning processes.</li> </ul>	<p>Five Times:</p> <ul style="list-style-type: none"> <li>• No. 1/2013 – 24 October 2013.</li> <li>• No. 1/2014 – 26 June 2014.</li> <li>• No. 2/2014 – 23 December 2014.</li> <li>• No. 1/2015 – 26 May 2015.</li> <li>• No. 1/2016 – 13 May 2016.</li> </ul>

	(Department of Aborigines Development)		
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*Project Steering Committee (PSC) Meeting at NRE, Putrajaya*



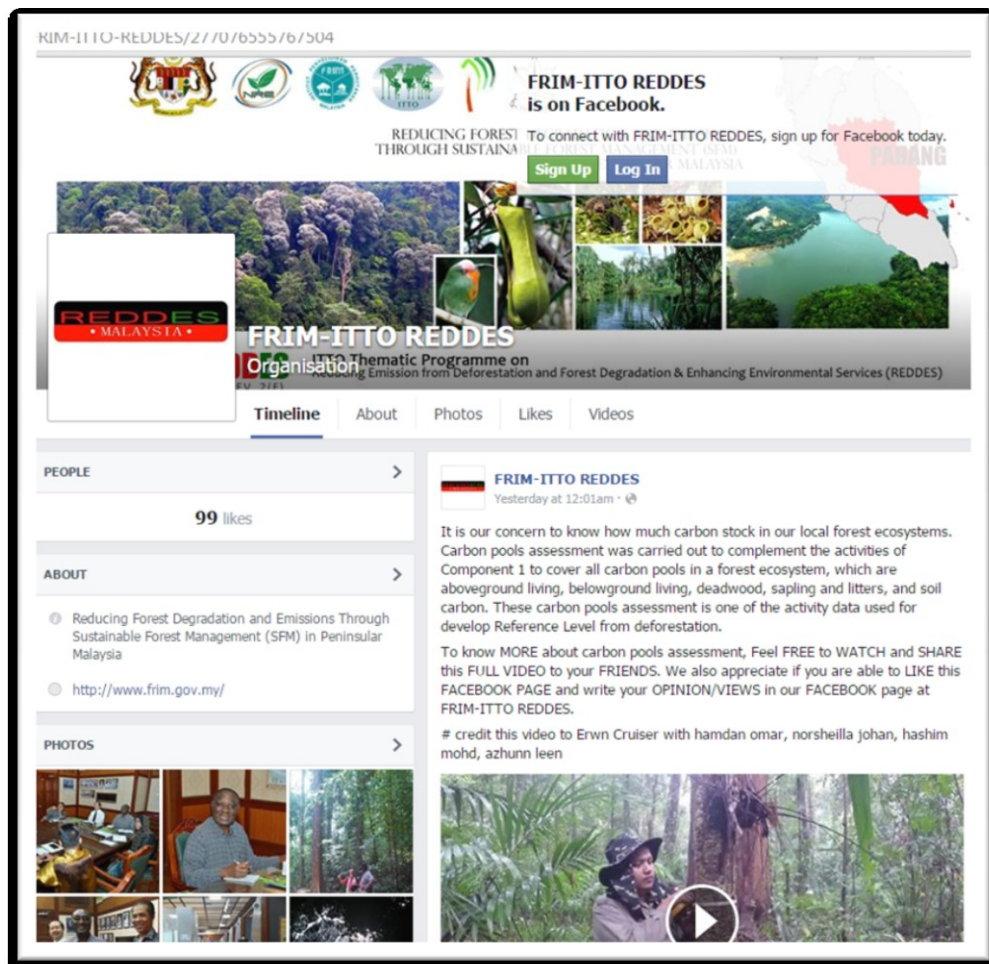
*The third PSC meeting on 4 June 2015*

On 23 December 2014, the FRIM-ITTO REDDES was conducted the second Technical Working Group (TWG) meeting of 2014 at Seri Pacific Hotel, Kuala Lumpur. The meeting was chaired by Dr Ismail Harun, the Director of Forestry and Environmental Division, FRIM. It was well attended by representatives of department/agency of federal and state of Pahang, universities and NGOs. The meeting discussed technically the progress made by the project, especially Components 1 and 2. Next meeting was tentatively been set to be conducted in April 2015.



*The second Technical Working Group (TWG) Meeting for 2014 was conducted on 23 December in Kuala Lumpur*

ii) Project's facebook - facebook as one of important media social plays easier and cheaper tool for information dissemination. The project has created its facebook since beginning of the project, along with project website that stored more lengthy documents. The facebook was updated regularly and also was used as sharing platform with other similar projects in the region. The FRIM-ITTO REDDES project's facebook had been used as a model for other facebook of REDDES projects in this region. In relation, the project has been advised to maintain the facebook even after the project completion.



*Project's progress is being uploaded regularly into project's facebook  
(<https://www.facebook.com/pages/FRIM-ITTO-REDDES/277076555767504>)*

iii) International collaborations - the project had collaboration with Lowering Emissions in Asia's Forests (LEAF) based in Bangkok, Thailand. They are focusing on awareness program and provide technical guidelines and advise on related issues of emission and forest in this region. Numbers of project's activities were jointly conducted with LEAF. This is to ensure this project is using proper methodologies, particularly on some new aspects such as carbon counting and determinations of reference level. In relation, it is to ensure results and outputs of the project are internationally recognized as relevant international experts were involved in giving technical advice in this project.







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INSTITUTE  
MALAYSIA

**ITTO**

**PAHANG**


**REGIONAL TECHNICAL TRAINING ON  
CARBON ASSESSMENT**

31 MARCH – 4 APRIL 2014  
FRIM KEPONG



**ITTO REDDES** Thematic Program  
RED-PD 037/11 REV. 2(F) Reducing Emission from Deforestation and Degradation & Ecosystem Services

**REGIONAL TECHNICAL TRAINING ON CARBON ASSESSMENT  
MORINDA/GARCINIA (FRIM)  
31 MARCH – 4 APRIL 2014**



The training was officiated by FRIM Director General, Dato' Dr Abdul Latif Mohmod (centre). Speeches were also presented by Brian Bean (left), Deputy Chief-of-Party LEAF and Dr Samsudin Musa (right), FRIM-ITTO REDDES Project Coordinator

*One of the training co-organized by LEAF*

iv) Learning visit to other similar project – this project managed to visit REDD project in Meru Betiri, Indonesia and also been visited by others. The visit has important role as parts of learning process and was used in strengthening connection with other similar projects in particular in this region.



*Regional study visit to ITTO project in Meru Betiri, East Java and PES project in Lombok, Indonesia*



v) Internship – the project has received number of local [Ms. Syahidah, Mrs. Nor Haslinda Bokti – FDPM & Ms. Dhanya Lakshmi– Universiti Malaysia Kelantan (UMK)] - and one international internship students (Mr. Julian Backa, from University Eberswalde, Germany). The internship was used as hands on capacity building for the students and as well as to fulfill their study requirement. In other hands, the project got extra manpower as the interns were utilized to conduct certain aspects in the project.



*Mr. Julian Backa on of the interns with Project Manager, Dr Ismail Parlan at the end of his internship*

## 7.0 Conclusion and Recommendations

The project was executed by the Forest Research Institute of Malaysia (FRIM). The three-year project was started since February 2013 and was officially ended in 30 June 2016 (with five months extension). The general objective of this project is to utilize SFM as a mitigation tool in combating climate change. The specific objective is narrowed down to improve knowledge on reduction of forest degradation and enhance payments for ecosystem services. The project was completed by achieving the project's objective as described in previous sections. Even though the project was officially completed in June 2016, relevant guidelines related to the project's outputs and more publication will be developed or published. In fact, some of the information on the project's findings had been disseminated via publications and related seminars. Details on the project's outputs are reported in the Technical Report of the project.

One the concern by the ITTO is sustainability of the project after its completion. As for this project, the sustainability after its completion is covered as follows:

**Social Sustainability** - main stakeholders are directly involved from beginning of this project. Series of training courses, workshops, meetings, study tour, etc. were organised with involvement of all stakeholders, in particular from State of Pahang. In fact, the main stakeholders which are the Forestry Departments have been involved actively as project team members. All data are made available to the all stakeholders for their references and use. There should be ownership to the project due to such involvement. There is no gender issue on this project as involvement of genders are been treated equally.

**Technical Sustainability** - FRIM also has a strong workforce representing almost all fields expertise related to natural forest management, plantation forest management, forest environment and biodiversity, medicinal plant, timber technology, non-timber forest products, and economy. The total number of permanent staff within FRIM amounts to 556, of which 151 are research officers. There are all together 64 research officers qualified with Masters Degrees and 56 with Doctorate in various fields. This project complements the efforts of the Malaysian Government in enhancing capacity and enabling activities for the implementation of REDD+ and other emission reduction activities. Consequently, there are parallel efforts being undertaken by various ministries and departments on climate change related to REDD+ and PES. FRIM and the NRE has made proposals to obtain funding from the government in our 11<sup>th</sup> Malaysia Plan 2016-2020 for assessing vulnerability of forest to climate change and identifying and implementing mitigation and adaptation strategies within the forestry sector. Consequently, the results of this project may be able to contribute to those on-going activities where REDD+ and PES are also key components. However, the project will also look for funding opportunities to expand this project to a second phase preferably under ITTO or other sources of external funding. The subsequent phase may

see wider application of REDDES within the current State of Pahang and to also include other states.

Institutional Sustainability - FRIM will ensure that institutional stability will be realised. FRIM today has the facilities and expertise to provide technical services to the industries in addition to the research and development activities that it was established to carry out. Institutional sustainability will also be ensured by the linkages created between the project, FRIM and the State and Federal Forestry Departments. Although the “designated institution” for the project is FRIM, NRE also plays a role as the Executing Agency – assuming overall responsibility and accountability. The NRE is home to both FRIM and the Federal Forestry Department, providing a direct link between research and policy formulation that is based on existing government structures (thereby increasing sustainability). The Federal Forestry Department also provides an institutional avenue to link the project research activities into the Pahang State Forestry Department. Existing organization structure of FRIM has several programs been assigned to conduct R&D related on climate change, among others Natural Forest Program, Climate Change & Forestry Program, Geo-information Program and Eco-hydrology Program. These programs have their own R&D activities, whereby activities related to climate change studies are being supervised and monitored by Task Force on Climate Change chaired by the Director of Forestry and Environment, FRIM.

Some recommendations from the project are as follows:

- To conduct similar projects in particular on determination of inter relation on SFM and forest carbon stock in other important big-sized states on forest areas in Peninsular Malaysia; Perak, Kedah, Kelantan and Terengganu. In relation, results of the project will be presented to Forestry Departments for their understanding and consideration of implementation.
- To share some of relatively new information in particular on forest and water aspect under the PES with relevant water authorities. In relation, the project would have further discussion with the relevant agencies on the matter.
- To share outputs of the project with other tropical countries. ITTO may organise seminar on REDDES thematic projects conducted in this region as the platform of the sharing within the tropical countries.

**Responsible for the report;**



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**(DR ISMAIL PARLAN)**

Project Manager

FRIM-ITTO REDDES PROJECT

Date: 31 August 2016

## Annex 1: Project financial statements

Project financial statements are as shown in the following tables.

### i) Project financial statement by ITTO (in US dollar)

Project No.: RED-PD 037/11 REV. 2(F)				Period ending on: 30/6/2016	
Project Title: REDUCING FOREST DEGRADATION AND EMISSIONS THROUGH SUSTAINABLE FOREST MANAGEMENT (SFM) IN PENINSULAR MALAYSIA					
Component	Original	Expenditures To Date			Available
	Amount	Accrued	Expended	Total (D)	Funds (E)
	(A)	(B)	(C)	{ B + C }	{ A – D }
<b>1. Funds managed by executing Agency</b>					
<b>10. Project personnel</b>					
11. National Experts (long term)	24,000.00	-	24,000.00	24,000.00	-
11.1 Project Coordinator	-	-	-	-	-
11.2 Forester 1	-	-	-	-	-
11.3 Market/industry expert etc.	-	-	-	-	-
11.4 Administrative/Finance Assistant	36,000.00	-	36,000.00	36,000.00	-
12. Other Personnel	2,000.00	-	2,000.00	2,000.00	-
12.1 Assistant 1	750.00	-	750.00	750.00	-
12.2 Other Labour	-	-	-	-	-
12.3 Person Day Of Field Work Crew	30,000.00		30,000.00	30,000.00	-
13. National Consultant(s) (short term)	18,750.00	-	18,750.00	18,750.00	-
13.1 Consultant 1	-	-			
13.2 Consultant 2	-	-			
14. International Consultants	15,000.00	-	15,000.00	15,000.00	-
14.1 Forest Inventory Expert	-	-	-	-	-

14.2 Consultant 2	-	-	-	-	-
15. Fellowships and training	35,000.00	-	35,000.00	35,000.00	-
15.1 Training 1 (specify beneficiaries)	-	-	-	-	-
15.2 Training 2	-	-	-	-	-
<b>19. Component Total</b>	<b>161,500.00</b>	<b>-</b>	<b>161,500.00</b>	<b>161,500.00</b>	<b>-</b>
20. Sub-contracts		-			
21. Sub-contract (Topic e.g. mapping, etc.)	6,000.00	-	6,000.00	6,000.00	-
22. Sub-contract (Digital land use map)	3,500.00	-	3,500.00	3,500.00	-
<b>29. Component Total:</b>	<b>9,500.00</b>	<b>-</b>	<b>9,500.00</b>	<b>9,500.00</b>	<b>-</b>
<b>30. Travel</b>					-
31. Daily Subsistence Allowance	-	-	-	-	-
31.1 National Experts Consultants	77,550.00	-	77,550.00	77,550.00	-
31.2 International Consultants	17,000.00	-	17,000.00	17,000.00	-
31.3 Others	59,000.00	-	59,000.00	59,000.00	-
32. International Travel	60,000.00	-	60,000.00	60,000.00	-
32.1 National experts Consultants	4,000.00	-	4,000.00	4,000.00	-
32.2 International consultants	7,000.00	-	7,000.00	7,000.00	-
32.3 Other	-	-	-	-	-
33. Local Transport Costs	10,000.00	-	10,000.00	10,000.00	-
33.1 National Experts Consultants	14,400.00	-	14,400.00	14,400.00	-
33.2 National Consultants		-	-	-	-
<b>39. Components Total</b>	<b>248,950.00</b>	<b>-</b>	<b>248,950.00</b>	<b>248,950.00</b>	<b>-</b>
<b>40. Capital Items</b>					
41. Premises	-	-	-	-	-

42. Land	-	-	-	-	-
43. Vehicles	21,200.00	-	21,200.00	21,200.00	-
44. Capital Equipments	-	-	-	-	-
44.1 Computer Equipment (specify)	5,000.00	-	5,000.00	5,000.00	-
44.2 Forest Equipment (specify)	5,500.00	-	5,500.00	5,500.00	-
44.3 Others	-	-	-	-	-
<b>49. Component Total:</b>	<b>31,700.00</b>	-	<b>31,700.00</b>	<b>31,700.00</b>	-
<b>50. Consumable Items</b>		-			
51. Raw Materials	24,000.00	-	24,000.00	24,000.00	-
52. Spares	-	-	-	-	-
53. Utilities	5,000.00	-	5,000.00	5,000.00	-
54. Office Supplies	3,000.00	-	3,000.00	3,000.00	-
<b>59. Component Total:</b>	<b>32,000.00</b>	-	<b>32,000.00</b>	<b>32,000.00</b>	-
<b>60. Miscellaneous</b>					
61. Sundry	21,500.00	-	21,500.00	21,500.00	-
62. Audit Cost	3,000.00	-	3,000.00	3,000.00	-
63. Contingencies	-	-	-		
<b>69. Component Total:</b>	<b>24,500.00</b>	-	<b>24,500.00</b>	<b>24,500.00</b>	-
<b>70. National Management Costs</b>					
71. Executing Agency Management Costs	-	-	-	-	-
72. Focal point monitoring	-	-	-	-	-
<b>79. Component Total:</b>	-	-	-	-	-
<b>100. GRAND TOTAL :</b>	<b>508,150.00</b>	-	<b>508,150.00</b>	<b>508,150.00</b>	-

**ii) Project financial statement by GoM (in US dollar)**

Project No.: RED-PD 037/11 REV. 2(F)				Period ending on: 30/6/2016	
Project Title: REDUCING FOREST DEGRADATION AND EMISSIONS THROUGH SUSTAINABLE FOREST MANAGEMENT (SFM) IN PENINSULAR MALAYSIA					
Component	Original	Expenditures To Date			Available
	Amount (A)	Accrued (B)	Expended (C)	Total (D) { B + C }	Funds (E) { A – D }
<b>1. Funds managed by executing Agency</b>					
<b>10. Project personnel</b>					
11. National Experts (long term)	-	-	-	-	-
11.1 Project Coordinator	108,000.00	-	108,000.00	108,000.00	-
11.2 Forester 1	-	-	-	-	-
11.3 Market/industry expert etc.	-	-	-	-	-
11.4 Administrative/Finance Assistant	18,000.00	-	18,000.00	18,000.00	-
12. Other Personnel	-	-	-	-	-
12.1 Assistant 1	-	-	-	-	-
12.2 Other Labour	-	-	-	-	-
13. National Consultant(s) (short term)	-	-	-	-	-
13.1 Consultant 1	21,000.00	-	21,000.00	21,000.00	-
13.2 Consultant 2	36,000.00	-	36,000.00	36,000.00	-
14. International Consultants	32,000.00	-	32,000.00	32,000.00	-
14.1 Forest Inventory Expert	20,000.00	-	20,000.00	20,000.00	-



14.2 Consultant 2	-	-	-	-	-
15. Fellowships and training	-	-	-	-	-
15.1 Training 1 (specify beneficiaries)	-	-	-	-	-
15.2 Training 2	-	-	-	-	-
<b>19. Component Total</b>	<b>235,000.00</b>	<b>-</b>	<b>235,000.00</b>	<b>235,000.00</b>	<b>-</b>
<b>20. Sub-contracts</b>					
21. Sub-contract (Topic e.g. mapping, etc.)	-	-	-	-	-
22. Sub-contract (topic 2)	-	-	-	-	-
29. Component Total:	-	-	-	-	-
<b>30. Travel</b>					
31. Daily Subsistence Allowance	-	-	-	-	-
31.1 National Experts/Consultants	-	-	-	-	-
31.2 International Consultants	-	-	-	-	-
31.3 Others	-	-	-	-	-
32. International Travel	-	-	-	-	-
32.1 National experts/Consultants	-	-	-	-	-
32.2 International consultants	-	-	-	-	-
33. Local Transport Costs	-	-	-	-	-
33.1 National experts/Consultants	-	-	-	-	-
33.2 National Consultants	-	-	-	-	-
33.3 Others					
<b>39. Components Total</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>40. Capital Items</b>					
41. Premises		-			-

	3,000.00		3,000.00	3,000.00	
42. Land	-	-	-	-	-
43. Vehicles	-	-	-	-	-
44. Capital Equipments	-	-	-	-	-
44.1 Computer Equipment (specify)	-	-	-	-	-
44.2 Forest Equipment (specify)	-	-	-	-	-
44.3 Others	-	-	-	-	-
<b>49. Component Total:</b>	<b>3,000.00</b>	-	<b>3,000.00</b>	<b>3,000.00</b>	-
<b>50. Consumable Items</b>					
51. Raw Materials	-	-	-	-	-
52. Spares	-	-	-	-	-
53. Utilities	-	-	-	-	-
54. Office Supplies	-	-	-	-	-
<b>59. Component Total:</b>	-	-	-	-	-
<b>60. Miscellaneous</b>					
61. Sundry	-	-	-	-	-
62. Audit Cost	-	-	-	-	-
<b>69. Component Total:</b>	-	-	-	-	-
<b>70. National Management Costs</b>		-	-	-	-
71. Executing Agency Management Costs	35,700.00	-	35,700.00	35,700.00	-
72. Focal point monitoring	-	-	-	-	-
<b>79. Component Total:</b>	<b>35,700.00</b>	-	<b>35,700.00</b>	<b>35,700.00</b>	-
<b>100. GRAND TOTAL :</b>	<b>273,700.00</b>	-	<b>273,700.00</b>	<b>273,700.00</b>	-

## Annex 2: Project cash flow statement

Cash flow statement as shown in following table.

Project No.: RED-PD 037/11 REV. 2(F)				Period ending on: 30/6/2016
Project Title: REDUCING FOREST DEGRADATION AND EMISSIONS THROUGH SUSTAINABLE FOREST MANAGEMENT (SFM) IN PENINSULAR MALAYSIA				
Component	Reference	Date	Amount in US	Local Currency (RM)
A. Fund receive from ITTO:				
1. First instalment	G0123551806301	20/12/2012	150,000.00	449,350.29
2. Second instalment	G0141210196401	1/5/2014	95,300.00	308,295.50
3. Third instalment	G0142170337101	8/5/2014	80,000.00	253,127.51
4. Fourth instalment	G0143440269101	12/10/2014	80,000.00	277,970.68
5. Fifth instalment	G0151320274201	12/5/2015	102,850.00	365,709.71
			508,150.00	1,654,453.69
B. Expenditures by executing agency				
<b>10. Project personnel</b>			-	-
<b>11. National experts (long term)</b>			24,000.00	78,140.09
11.1 Project coordinator			-	-
11.2 Forester 1			-	-
11.3 Market/industry expert etc.			-	-

11.4 Administrative/Finance Assistant			36,000.00	117,210.13
<b>12. Other personnel</b>			2,000.00	6,511.67
12.1 Assistant 1			750.00	2,441.88
12.1 Assistant 2			-	-
12.2 Other labour			-	-
12.3 Person Day Of Field Work Crew			30,000.00	97,675.11
<b>13. National consultants (short term)</b>			18,750.00	61,046.94
13.1 Consultants 1			-	-
13.2 Consultants 2			-	-
13.3 Consultants 3			-	-
<b>14. International Consultants</b>			15,000.00	48,837.56
14.1 Forest inventory expert			-	-
14.2 Consultants 2			-	-
<b>15. Fellowships and training</b>			35,000.00	113,954.30
15.1 Training 1 (specify beneficiaries)			-	-
15.2 Training 2			-	-
15.3 Training 3			-	-
<b>19. Component total:</b>			<b>161,500.00</b>	<b>525,817.68</b>
20. Sub-contract			-	-
21. Sub-contract (topic e.g. mapping, etc.)			6,000.00	19,535.02
22. Sub-contract (Digital land use map)			3,500.00	11,395.43
<b>29. Component Total</b>			<b>9,500.00</b>	<b>30,930.45</b>
<b>30. Travel</b>			-	-
31. Daily subsistence allowance			-	-
31.1 National experts/consultants			77,550.00	252,490.16

31.2 International consultants			17,000.00	55,349.23
31.3 Others			59,000.00	192,094.38
<b>32. International travel</b>			<b>60,000.00</b>	<b>195,350.22</b>
32.1 National experts			4,000.00	13,023.35
32.2 International consultants			7,000.00	22,790.86
32.3 Others			-	-
<b>33. Local transport costs</b>			<b>10,000.00</b>	<b>32,558.37</b>
33.1 National experts			14,400.00	46,884.05
33.2 International consultants			-	-
33.3 Others			-	-
<b>39.Component Total:</b>			<b>248,950.00</b>	<b>810,540.62</b>
<b>40. Capital item</b>			-	-
41. Premises			-	-
42. Land			-	-
43. Vehicles			21,200.00	69,023.74
44. Capital equipment			-	-
44.1 Computer equipment (specify)			5,000.00	16,279.19
44.2 Forestry equipment (specify)			5,500.00	17,907.10
44.3 others			-	-
<b>49. Component Total</b>			<b>31,700.00</b>	<b>103,210.03</b>
<b>50. Consumable item</b>			-	-
51. Raw materials			24,000.00	78,140.09
52. Spares			-	-
53. Utilities			5,000.00	16,279.19
54. Office Supplies			3,000.00	9,767.51
<b>59. Component Total</b>			<b>32,000.00</b>	<b>104,186.78</b>

<b>60. Miscellaneous</b>				
61. Sundry			21,500.00	70,000.50
62. Audit costs			3,000.00	9,767.63
63. Contingencies			-	-
<b>69.Component Total</b>			<b>24,500.00</b>	<b>79,768.13</b>
<b>70. National Management costs</b>			-	-
71.Executing agency management costs			-	-
72. Focal point monitoring			-	-
79. Component Total				
<b>Total expenditures to-date</b>			<b>508,150.00</b>	<b>1,654,453.69</b>
<b>Remaining balance of funds</b>			<b>0.00</b>	<b>0.00</b>

PROJECT NUMBER : RED-PD 037/11 REV. 2(F)  
STARTING DATE : 1 FEBRUARY 2013  
PROJECT DURATION : 36 MONTHS + 5 MONTHS  
PROJECT NUMBER : RED-PD 037/11 REV. 2(F)  
PROJECT COSTS : US\$ 864,622.00  
TYPE OF REPORT : COMPLETION REPORT OF THE  
PROJECT

## PROJECT TECHNICAL AND SCIENTIFIC STAFFS

### **Project Support Unit (PSU):**

Project Coordinator : Dr Samsudin Musa  
Project Manager : Dr Ismail Parlan  
Communication Officer : Ms. Nadia Che Idris  
Administrator/Finance Assistant : Mr. Mohd Safuan Sulaiman  
Forest/Ecology Officer : Mrs. Noraishah Safee  
RS/GIS Officer : Ms. Norsheilla Mohd Johan Chuah

### **Project's components:**

1) Component 1: National Forest Degradation Estimated

Head: Mr. Hamdan Omar (FRIM)

Advisor: Dr Khali Aziz Hamzah (FRIM)

Members: Ms. Norsheilla Mohd Johan Chuah & Mr. Azhan Shah Idris (FRIM)

Counterpart:

- Pahang State Forestry Department:
  - Dato' Norhaidi Yunus
  - Mrs. Aimi Mardhiah Makhtar
- Forestry Department Peninsular Malaysia:
  - Mr. Wan Abd Hamid Shukri Wan Abd Rahman
- Lowering Emission in Asia's Forests (LEAF)

2) Component 2: Forest Degradation Reduced At The Forest Management Unit

Head: Mrs. Azian Mohti (FRIM)

Advisor: Dr Abd Rahman Kassim (FRIM)

Members: Mrs. Noraishah Safee, Mrs. Nur Hajar Zamah Shari (FRIM)

Counterpart:

- Pahang State Forestry Department:
  - Dato' Lim Kee Leng
  - Dato' Norhaidi Yunus
  - All District Forestry Officers – 7 Forest Districts
    - Mr. Mohd Khairul Anuar Rahim
    - Mr. Mohd Hakimi Zakaria
    - Mr. Mohd Hafiz Samsudin
    - Mr. Mohd Khairul Abdullah
    - Mr. Norddin Noor
    - Mr. A. Rahim Omar
    - Hj. Zulfakar Hj. Ali
- Forestry Department Peninsular Malaysia:
  - Mr. Yusoff Muda
- Lowering Emission in Asia's Forests (LEAF)

### 3) Component 3: Incentives For Carbon And Ecosystems Services Established

Head: Mrs. Nur Hajar Zamah Shari (FRIM)

Advisor: Dr Ismariah Ahmad (FRIM)

Members: Mr. Salleh Mat, Mr. Mohd Parid Mamat, Dr Noor Aini Zakaria & Mrs. Norliyana Adnan (FRIM)

Counterpart:

- Pahang State Forestry Department:
  - Dato' Norhaidi Yunus
- Forestry Department Peninsular Malaysia:
  - Mrs. Tuan Marina Tuan Ibrahim
- Lowering Emission in Asia's Forests (LEAF)

### 4) Component 4: Capacity of Major Stakeholders and Communities Where Relevant is Strengthened

Head: Dr Christine Fletcher (FRIM)

Counterpart:

- Forestry Department Peninsular Malaysia:
  - Mr. Abdul Khalim Abu Samah
- Lowering Emission in Asia's Forests (LEAF)



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Project's Facebook : [www.facebook.com/pages/FRIM-ITTO-REDDDES/277076555767504](https://www.facebook.com/pages/FRIM-ITTO-REDDDES/277076555767504))

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