



Modular Training on

Green Freight and Logistics Management in Mekong Countries

September 17-21, 2018

Mekong Institute
Khon Kaen, Thailand

COMPLETION REPORT



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Report of the Training Program

Acknowledgements

We acknowledge the spontaneous active engagement of the 33 participants from the Greater Mekong Subregion (GMS) countries (Cambodia, Laos, Myanmar, Thailand and Vietnam: CLMTV) in the Modular Training on Green Freight and Management in Mekong Countries. The participants successfully completed all the program activities during the training program, actively participated in the discussion, group work and discussions and came up with the Action Plans (APs) which they will implement in their respective countries from November 2018 to March 2019. Active engagement by the participants resulted in the success of this training program.

This training program could not have been accomplished without the kind and generous support from the Mekong Korea Cooperation Fund.

Lastly, our sincere appreciation also goes to the Project Team of Trade and Investment Facilitation (TIF) Department and all the Mekong Institute (MI) staff members for their support and assistance to ensure the successful completion of this regional training program.

Trade and Investment Facilitation (TIF) Department
Mekong Institute

Khon Kaen, Thailand
November 2018

Executive Summary

Mekong Institute (MI) conducted a one-week regional training on “Modular Training on Green Freight and Management in Mekong Countries” on September 17-21, 2018 at its residential training center, Khon Kaen, Thailand. The training program is one of the activities of a three-year project on “Green Freight and Logistics Development in Mekong countries’ funded by the Republic of Korea through the Mekong - Korea Cooperation Fund (MKCF). The long-term objective of the project is to reduce the cost of logistics and transport to improve economic performance in the five countries in Cambodia, Lao PDR, Myanmar, Thailand and Vietnam (CLMVT). This will eventually aid the transport sector to increase its contribution to economic development in the Mekong countries as well reduce its carbon footprint.

The objectives of the training program were to i) discuss tools to help logistics service providers (LSPs) to become more competitive and reduce cost of logistics and transport, ii) discuss the potential and benefits, and best practices in green freight and logistics and v) build capacities of the LSPs to comply with ‘green mark’ certification.

33 participants attended the training program, representing government agencies and the private sector of CLMVT from ministries of transport and companies engaged directly or indirectly in logistics business. The training program contents included four interrelated modules: 1) Introduction to and need for green freight and logistics (GFL) 2) GFL issues 3) Preparing companies for GFL 4) GFL certification process: recognition scheme and 5) GFL strategy – combining the actions/discussions.

The training program included a series of group work and discussions, which enabled the participants to share their thinking and experiences on various aspects of green freight and logistics.

For the purpose of “Knowledge Transfer” in practice, the participants jointly developed action plans (APs) on organizing national workshops / trainings in their respective countries. APs aim to transfer through the participants the new ideas, knowledge and learning points, which they acquired during the training, to related stakeholders at national level. APs are implemented in November 2018 – March 2019 with the support and assistance provided by a team from MI Trade and Investment Facilitation (TIF) Department.

To understand the effectiveness of the training program, different evaluation methods were employed. First, the result of pre and post assessment on competency of the training program showed that participants increased their knowledge and understanding on the trade events promotion through the training program.

The organizing team also conducted after event evaluation which evaluated the training program. Regarding learning program objectives, with overall average rating of 3.45, participants rated that the training program mostly met its objectives. As for program contents, participants reported that the modules of the training program were neutrally useful, met their expectations, the level of instruction was very appropriate, moderately increased their knowledge and skills, moderately relevant to their work and gained additional knowledge in the training. Finally, participants neutrally improved / developed additional specific knowledge and skills from the training program, especially on team / group work skills. For training methods, participants indicated that it was neutrally appropriate. As for monitoring and evaluation (M&E) methods, participants indicated that they were neutrally effective.

Overall, participants were neutrally satisfied with the training program, with the average

rating of 3.67. On the other hand, participants suggested that a site visit to a logistics park would have been useful. Participants also suggested inclusion of specific topics in the training curriculum such as waste management of trucks and solutions, application process for GFL certificates and a few failure cases.

Abbreviations / Acronyms

AP	Action Plan
ASIF	Avoid-Shift-Improve Framework
BODs	Board of Directors
CO ₂	Carbon Dioxide
CDS	Curriculum Design Statement
CNG	Compressed Natural Gas
GFL	Green Freight and Logistics
GHG	Green House Gas
CLMV	Cambodia, Lao PDR, Myanmar, Vietnam
CLMTV	Cambodia, Lao PDR, Myanmar, Thailand and Vietnam
GLEC	Global Logistics Emissions Council
GLSQS	Green Logistics Service Quality Standards
GMS	Greater Mekong Sub-region
KM	Kilometer
KPIs	Key Performance Indicators
LPG	Liquid Petroleum Gas
MI	Mekong Institute
MKCF	Mekong-Korea Cooperation Fund
M&E	Monitoring and Evaluation
NTB	Non-Tariff Barrier
RP	Resource Person
SFT	Sustainable Freight Transport
SMART	Specific, Measurable, Actionable, Realistic and Time-Bound
S&E	Synthesis and Evaluation
TIF	Trade and Investment Facilitation
UNCTAD	United Nations Conference on Trade & Development
UNFCCC	United Nations Framework Convention on Climate Change

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1. Introduction

Freight transportation is critical to businesses, consumers and the world economy. The freight sector moves vast volumes of goods, commodities, materials and food domestically and globally and is primary factor in economy and growth. But a goods movement comes with an impact on the global environment. It contributes a significant portion of air pollution and its contribution is expected to grow significantly in the coming years. Globally, carbon dioxide (CO₂) emissions from freight transport are growing more quickly than those from passenger vehicles. In particular, heavy duty vehicles are expected to be the largest emitter of CO₂ from all transport modes by 2035.

As the Asian economy continues to grow at a rapid pace, an increase in freight transport activity is also expected. It is estimated that by the year 2050, medium and heavy freight trucks worldwide will consume 1,240 billion litres of fuel, which is estimated at 138% more than 2000 levels. The global share of trucks operating within Asian countries is expected to increase from 19% in 2000 to 34% in 2050.

Against this background, the Mekong Institute (MI) is implementing a three-year project on “Green Freight and Logistics Development in Mekong countries’ funded by the Republic of Korea through the Mekong - Korea Cooperation Fund (MKCF). The long-term objective of the project is to reduce the cost of logistics and transport to improve economic performance in the five countries in Cambodia, Lao PDR, Myanmar, Thailand and Vietnam (CLMTV). This will eventually aid the transport sector to increase its contribution to economic development in the Mekong countries as well reduce its carbon footprint.

As part of this project, MI organized a training program on Green Freight and Logistics Management on September 17-21 in Khon Kaen, Thailand.

2. Training Objectives

1. Discuss tools to help LSPs to become more competitive and reduce cost of logistics and transport for improvement in economic performance in the Mekong countries
2. Build capacities of the LSPs on green freight and logistics to comply with the ‘green mark’ certification.
3. To discuss the potential and benefits of green freight policies,
4. To identify opportunities that can be developed into actions and projects,
5. To form a knowledge base to complement efficient logistics and green freight programs in the countries.
6. To share best practices green freight and logistics to promote learning and exchange among various stakeholders in green freight and logistics.
7. Introduce the participants to software on the Green Logistics Service Quality Standards (GLSQS) for the logistics companies to monitor the performance of the set standards.
8. Meeting of the core group of the project “Green Freight and Logistics Development in Mekong countries’ to devise mechanism on adopting of the green logistics standards in their respective countries.

3. Training Outcomes

At the end of the training, the participants should have acquired knowledge and practical skills on a variety of pertinent topics. They would have a deeper understanding of the significance of “Green” or more generally sustainable practices in the transport and logistics industry.

Moreover, this training aimed to have the following outcomes:

- Greater understanding of procedures, formalities, and practices in transport and logistics activities and management in the Mekong countries.
- Develop strategies for transport and logistics planning and management to complement efficient logistics and green freight programs in the Mekong countries.
- Enhanced participants’ knowledge on effective implementation of green logistics procedures and logistics management.

- Enhanced capacities of national ministries and logistics associations on green freight standards and certification
- Improved information on access to green freight technologies
- Improved mechanism to share and promote collective action on green freight and logistics development in Mekong region

4. Project Approach

The project approach consists of

Prior to the Modular Training

- A baseline study has been conducted to establish baseline data on keys aspects of logistics and green freight among the logistics service providers (LSP) which will be used to monitor the progress and measure the outcomes of the project.
- Three categories of labels to measure green logistics and freight service standards on core logistics services such as cargo/freight handling, transportation, warehouse, ICD, cold chains etc. have been decided upon and agreed by GMS - FRETA members, government agencies (e.g ministries of transport) in all the 5 Mekong countries.
- A software program has been developed on the Green Logistics Service Quality Standards (GLSQS) for the logistics companies to monitor the performance of the set standards.
- Country workshops are being held in the five Mekong countries to provide training key personnel of departments of land transport and logistics associations on the use and application of the software program.

At the Modular Training

- A modular training is being conducted for national level agencies and logistics service providers involved in logistics development.
- A meeting of the core group of project was held to devise mechanism on adopting of the green logistics standards in their respective countries.

After the Modular Training

- Technical assistance is being provided to implement action plans decided upon by participants themselves at the modular training.
- A synthesis and evaluation workshop will be conducted to evaluate the results of the action plan implementation, share the best practices, challenges and identify the way forward.

The different activities for the participants of the training are explained in the charts below.

Figure 1: Modular Training on Green Freight and Logistics Management

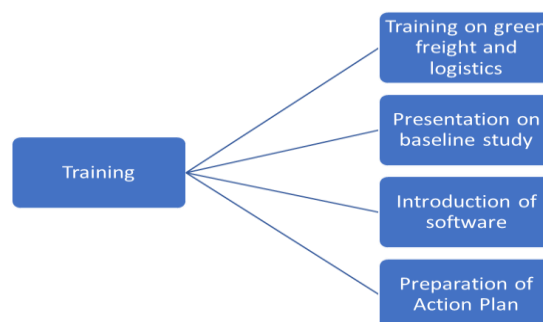
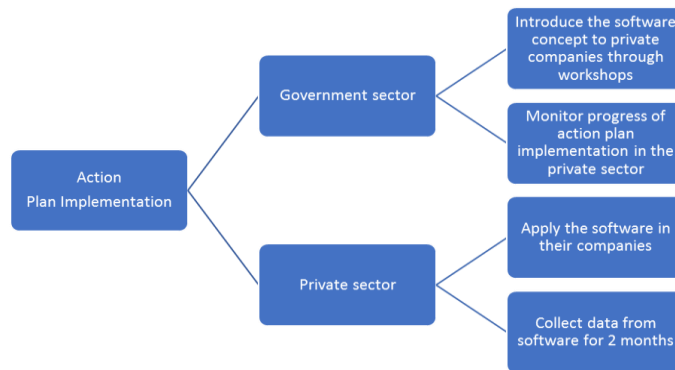


Figure 2: Action Plan Implementation



5. Target Group

The training was attended by mid-level officials from ministries of transport that included departments in ministries such as department of logistics, port authorities etc, other government agencies such as special economic zones promotion authorities, companies directly or indirectly involved with logistics, members of logistics, trucking and other associations from CLMTV.

There were 32 participants from the five countries, representing about 30 different organizations. The composition of participants from different countries was as following:

Figure 3: Country Breakdown of the participant

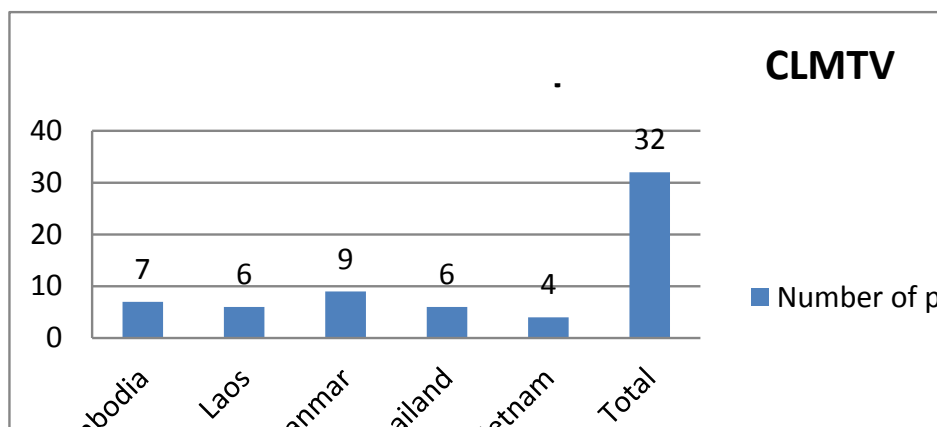
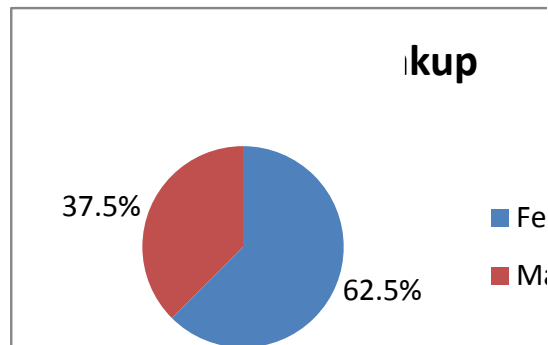


Figure 4: Gender Breakdown of the Participants

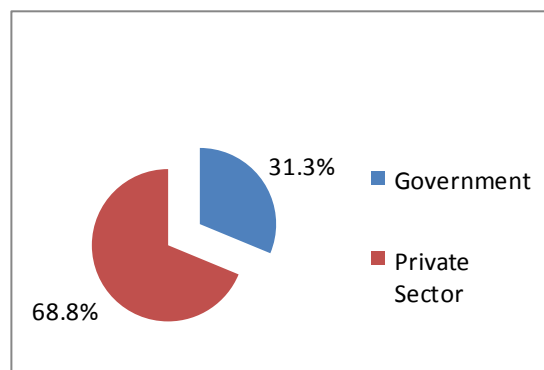


The organizations represented by the participants were as following

- Ministries of transport from Cambodia, Laos and Myanmar;
- Ministry of Planning, Laos;
- Thakek Specific Zone, Laos;
- Private Companies, which are directly and indirectly involved in the logistics sector;
- Transport and trucking, and other associations

10 participants were from the government agencies and 22 represented the private sector.

Figure 5: Percentage Breakdown of Participants



6. Resource Persons (RPs)

The main resource person for the training was Mr. Sudhir Gota, who is an independent consultant adviser on transport and logistics issues based in Bengaluru, India. The other RPs were experts from the Trade and Investment Facilitation Department of MI, who along with the other resource persons made presentations and, facilitated plenary discussions and group work / discussion. MI resource persons also introduced the participants to the action plans and helped them to develop their individual APs.

7. Program Contents

7.1 Welcome, Opening remarks and Project overview

Mr. Madhurjya Kumar Dutta, Director, Trade and Investment Facilitation (TIF) Department, Mekong Institute (MI)

Mr. Dutta started the presentation by informing the Capacity Development Need Assessment study was conducted by MI on 2013.

The current project is of three year's duration, funded under Mekong-Republic of Korea Cooperation Fund (MKCF). The key message of the project is the importance to promote efficient, environmentally sustainable and safe freight transport. Later, the project may bring changes in the transport sector to increase its contribution to economic development in the sub region as well as reduce its carbon footprint.

The long-term objective of the project is to reduce cost of logistics and transport for improvement in economic performance in the Mekong countries.

Finally Mr. Dutta explained the different components/activities to be carried out under the project.

7.2. Getting to Know Each other, Training Overview and Setting Norms and Expectations

Mr. Robby Rosandi, Program Officer, TIF, MI

Ms. Sanchita Chatterjee, Program Specialist, TIF, MI

Mr. Rosandi and Ms. Chatterjee facilitated the session on getting to know each other in which each participant and organizer introduced themselves and explained their role in green freight and logistics.

Mr. Rosandi presented the overview of the Modular Training on Green Freight and Logistics Management in Mekong Countries. He talked about the objectives, expected outcomes, contents, methodologies and evaluation method / feedback of the training program. Mr. Rosandi also discussed the modular training approach MI adopts, which is '**Phase 1: Learning Stage,**' '**Phase 2: Knowledge Transfer**' and '**Phase 3: Review and Feedback.**'

Next in the setting norms and expectations session, the participants were divided into four groups which were mixed among four nationalities from CLMTV. Each group responded to each question put forward by Mr. Rosandi and Ms. Chatterjee. The participants discussed their expectations on the training program, from the co-participants, and ways to share acquired knowledge and practical experience to people in their respective provinces.

Participants also discussed the norms and consensus to be set for the whole training program to ensure the good quality of the classes and participations.

All their inputs were given due serious consideration throughout the training program. The questions and participants' expectations are summarized as below.

Table 1: Setting Norms and Participant's Inputs and Expectations

<p>1. What do you expect from the training program?</p>	<ul style="list-style-type: none"> • Criteria of green freight and logistics (GFL) standard • How to apply GFL in operations of companies/private sector • Upgrade info to improve GFL • Learn from practice • How to decrease carbon dioxide and decrease cost of logistics and transportation • Expand network among participants • Building relationships • Expand business
<p>2. What do you expect from your co-participants?</p>	<ul style="list-style-type: none"> • Improve knowledge by sharing info • Lower cost • Improved networking • Future collaboration • Team work • Building long-term relationships • Share each other's culture
<p>3. How do you intend to share the acquired knowledge and practical experience to others? (Co-workers, supervisors, friends etc.)</p>	<ul style="list-style-type: none"> • "Learn to do, do to learn and learn to share" • Through social media • Share among co-workers and partners • Share case studies • Provide training to staff and colleagues • Informal discussion on GFL with colleagues and staff • Set up training course • People in logistics field should update knowledge in closed group • Create application (iOS and Android) to share with others
<p>4. What should be the norm / consensus during the training program</p>	<ul style="list-style-type: none"> • Mobile phones should be on silent mode – if there is an emergency, participants should step outside for using mobile phones • Pay attention when the instructor/co-participants speak • Group members should take responsibility of assigned tasks • Participants should share knowledge • Time schedule should be followed • All should actively participate • Participates should respect each other and be cordial to each other

7.3. Board of Directors (BODs) Explanation

Mr. Toru Hisada, Program Officer, TIF, MI

The participants were introduced on the concept of Board of Directors (BODs), a frequently used evaluation tool that aimed at getting the full engagement of all the participants, and facilitating the program implementation. To this end, the participants selected BODs daily to work as the internal and external coordinators and facilitators to collect the feedback from other participants, lead the warm - up games and activities at beginning of each training day, and recapture the knowledge learned. The BODs played important roles in contributing to the success of the training program

8. Technical Sessions

8.1 Monitoring Company Operational Efficiency through Green Logistics Quality Standard Software Program

Mr. Saurav Dahal, TIF, MI

Ms. Sanchita Chatterjee, Program Specialist, TIF, MI

Ms Chatterjee introduced certain activities of the project: “Green Freight and Logistics Development in Mekong Countries”

Figure 6: Activities of the Current Project - 1

Activities of the current project – (1)

- Establish green logistics and freight service quality standards (GLSQS) or ‘green mark’ on core logistics services - agreed by GMS-FRETA members, government agencies (e.g ministries of transport) and introduced in the five Mekong countries
- Introduce three categories of ‘green mark’: intermediate, moderate and high; based on the level of performance



Figure 7: Activities of the Current Project - 2

Activities of the current project – (2)

- Develop a software program on the GLSQS categories or 'green mark' for logistics companies to monitor the performance of the set standards
- The core standards cover relevant aspects fuel reduction, measures for emissions besides non-technical aspects of management and operations efficiency



Ms. Chatterjee explained the concept of Green Logistics Service Quality Standards (GLSQS) or Green Mark, as promoting reduction of carbon emissions and energy use from goods transit as well as improving performance such as fuel-efficiency, effective transport operation, etc for logistic companies

Potential benefits of the Green Mark Program:

Getting a partnership program, which evaluates, assesses, benchmarks performance and seeks points of improvement

Can be used as a tool to improve transport operations

Getting attention and earning public recognition on 'Green Mark' certification

Figure 8: Green Mark Level

Levels of Green Mark

'Green Mark' certification is classified into 3 levels;





Key Performance Indicators




KPIs (Key Performance Indicators) are tools to measure carbon assessment and foot printing

Figure 9: Examples of KPI and their Management






Example of KPIs and their measurement




Yard Operation

			#	Yard Operation
0	/	/	1	Waste from maintenance truck / chassis
0	/	/	2	Engine oil
0	/	/	3	Tires
0	/	/	4	Consumable of the truck
0	0	/	5	Waste from office
0	0	/	6	Waste water
0	0	/	7	Electricity

Maintenance

			#	Maintenance
0	/	/	1	Tire management
0	/	/	2	If yes, Optimal pressure and Tire Thickness
0	/	/	3	Refrigerant type
0	0	/	4	Planned/Preventive maintenance
0	0	/	5	Vehicle maintenance improvement
0	0	/	6	Vehicle breakdown record
0	0	/	7	Vehicle breakdown improvement

Procurement

			#	Procurement
0	0	/	1	Procurement strategy for low-carbon emission
0	0	/	2	RFQ for low-carbon emission
0	0	/	3	Euro standard compliance

Organization

			#	Organization
/	/	/	1	Safety policy (safety office)
/	/	/	2	Training (driver/support function)
/	/	/	3	Government requirements
0	/	/	4	Liability insurance (third party)
0	/	/	5	Procedure for operations
0	/	/	6	Communication (two way and good communication)
0	/	/	7	Auditing (internal)
0	0	/	8	Environment policy
0	0	/	9	Auditing (external)
0	0	/	10	Environmental insurance and all others
0	0	/	11	Engagement /Motivation/Commitment
0	0	/	12	Funding/ budgeting

Mr. Saurav Dahal introduced software on the GLSQS for the logistics companies to monitor the performance of the set standards. **The outcomes of the GLSQS software are as following**

- A robust and precise tool for calculating Green House Gas (GHG) emission indicators of an individual /fleet of vehicle
- Raised awareness of fleet managers on the environmental impacts of their vehicles
- Enable fleet managers to carry out rough estimation of pollution loading from vehicles
- Assessment of the impact of various strategies and technologies.

The companies would have to feed inputs in the software on arrange of indicators similar to the KPIs explained above. The software would provide them a report which would demonstrate to the companies their status in terms of GHG emissions in particular and levels of pollution in general.

Figure 10: Green Logistics Service Quality Standard Report

Green Logistics Service Quality Standard Report	
Of	
ABC Company Pvt. Ltd.	
Date:	29-08-18 13:55
Address:	Cambodia Phnom Penh
Phone No:	12548745
Email:	abc@company.com
Level:	Moderate
Key Performance Indicators (KPIs):	Status:
Maintenance:	
Refrigerant Type Used:	R-22
Average Tire Thickness of Vehicles:	3
Optimal Tire Pressure:	56
Organization:	
Performs Internal Audit:	Yes
Follows procedures for operations:	No
Office Safety Policy in place:	Yes
Two way and good office	No
Compliance with Government's	Yes
Liability Insurance (third party):	Yes
Yard Waste Management:	
Waste management from	No
Waste management from Engine Oils:	Yes
Waste management from Tires:	No
Waste management from Truck	No
Transport Operations:	
Fleet data is maintained:	Yes
Records of engine type is maintained:	No
Records of fuel types is maintained:	Yes
Monitoring of Customer feedback:	No
Records of Driver's incentives:	Yes
Fleet List is maintained:	No
Accident records are maintained:	Yes
Have embraced KPIs:	No
Vehicle Inspection done (Pre or Post):	Yes
Use of standard fleet management	No
Total fuel consumption by fleets:	1252
Total vehicle operating hours:	2563
Total distance travelled (KMs):	4582
Total vehicle breakdown hours:	45545
Total empty trips:	4545
Total Backhauling distance:	9856
Total utilization measurement (Hours):	5656
Time utilization (Hours):	78
Average capacity utilization of vehicle	9
Average age of fleet (Years):	45
Drop size vs. trip frequency ratio (%):	R-22

The software would be presented to the Core Group of the project (formed of key experts on green freight and logistics from the Mekong region and Republic of Korea).

The participants were asked to comment on the usefulness of the software. In particular the participants were asked to deliberate on the following questions.

Figure 11: GLSQS Software - Issues for Discussion

GLSQS Software -Issues for Discussion

Private Sector

- Usefulness of software
- Similar other tools?
- Contribution to green logistics
- How will it help your company?
- Value proposition

Government

- Connection with SDGs
- Similar initiatives undertaken by govt
- Monitoring environmental performance
- Mechanism to work with private sector
- Recognizing environmental performance through incentives
- Working with agencies to recognize environmental performance



8.2 Green Freight and Logistics Management in Mekong Countries

Mr. Sudhir Gota, Consultant, MI (Independent Consultant, Bangalore, India)

The Green Freight and Logistics (GFL) modular curriculum consists of about four modules with about 600 PowerPoint slides focusing on the modular step-by-step methodology to plan, design, develop and implement tailored green freight and logistics strategies. The Green Freight and Logistics are a set of strategies, policies and practices targeted at the movement of goods with minimal environmental, climate and public health impacts.

Through a participative training approach, participants identified barriers and solutions for CLMTV's freight transport sector for saving costs, energy and emissions. The Green Freight and Logistics (GFL) modular curriculum is based on the United Nations Conference on Trade and Development's Framework for Sustainable Freight Transport (UNCTAD Sustainable Freight Transport (SFT) Framework). The UNCTAD SFT Framework features a modular step-by-step methodology that details how to plan, design, develop and implement tailored sustainable freight transport strategies.

The workshop was arranged as a mix of predefined Green Freight and Logistics (GFL) modular curriculum presentations (as plenary sessions), as well as through facilitated peer learning and exchanges (breakout discussion sessions) among the key stakeholders active in freight and logistics sector in CLMTV countries.

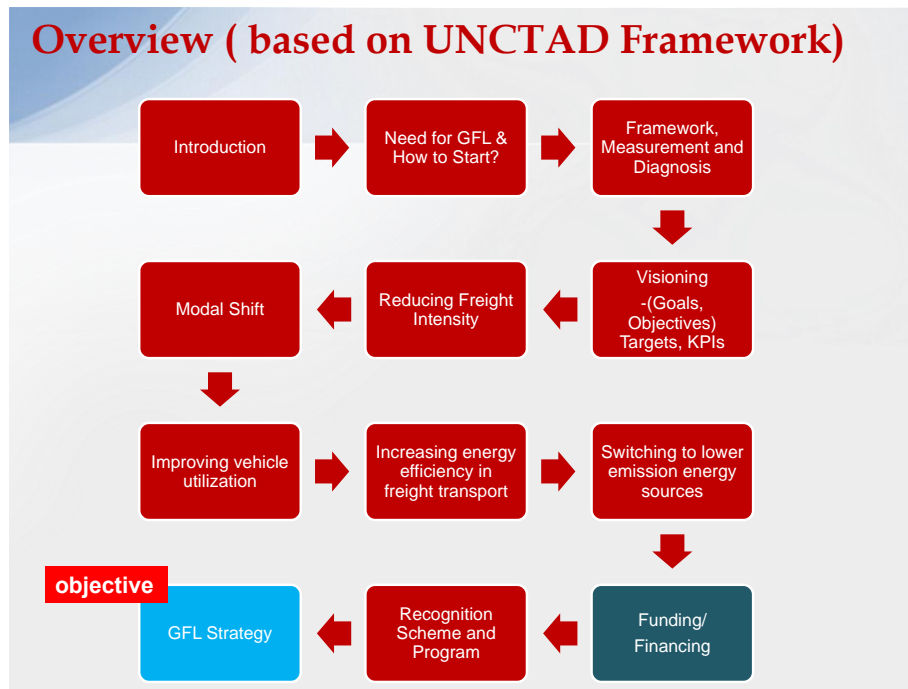
In the training modules, different transport modes i.e. roads, railways, and waterways were discussed, and global examples of the private sector and the government sector initiatives were highlighted.

The Plenary sessions consisted of the following modules.

8.2.1 Module 1: Introduction to the Green Freight and Logistics Management

The training curriculum followed UNCTAD framework as given in Picture 11.

Figure 12: UNCTAD Framework on Green Freight and Logistics



This session introduced the concept of freight and logistics emphasizing the “economic”, “environmental”, “social” dimensions and steering through various terminologies associated with the green freight and logistics (Picture 2).

Figure 13: What is Green Freight/Logistics



The Official definitions of sustainability used in the context of freight transport/logistics generally involve reconciling economic, environmental and social objectives in a fair and balanced manner. In this training, the main emphasis was primarily with the environmental effects of freight transport (see details below), however, frequent reference was also made, to the economic efficiency of freight deliveries reflecting the close alignment of economic and environmental objectives in this sector.

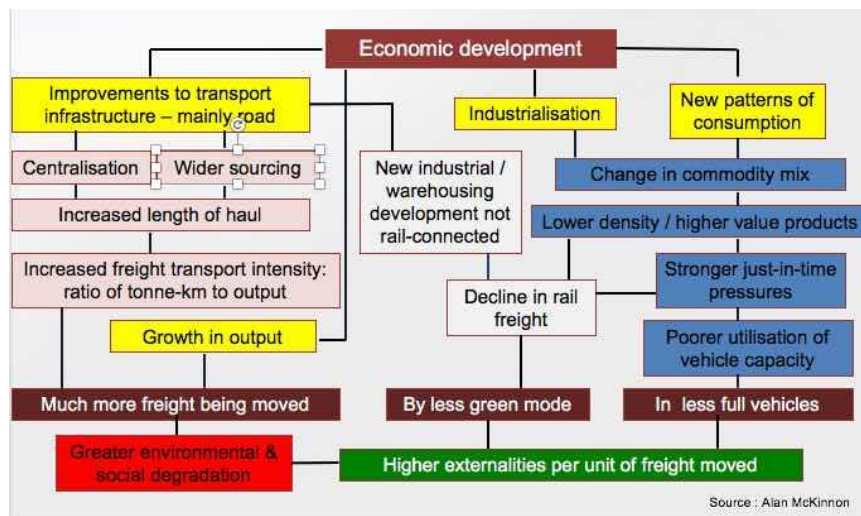
Environmental effects of freight transport

- Air pollution
- GHG emissions/ CO₂ Emissions/Climate Change
- Water pollution
- Resource depletion
- Land use and habitat fragmentation
- Waste
- Biodiversity and ecosystems
- Noise and vibration
- Soil quality
- Climate resilience
- Aesthetic impacts &
- Traffic Accidents

The participants were exposed to concepts such as

- Difference between freight transport and logistics and “green freight and logistics” (GFL)?
- The link between economic growth, freight transport and international processes and commitments (Picture 3)

Figure 14: Economic Development and Freight Transport



- Key sustainability-related terminologies such as externalities and external costs

Some basic definitions

1. Externality: Environmental and social costs not borne by the stakeholder causing it and hence external to decision making
2. Tonne-km = one tonne of product over one kilometer
3. Modal split = freight traffic split between transport modes (by tonnes or tonne-kms)
4. Average payload = ratio of tonne-kilometers to vehicle kilometers
5. Freight transport intensity = ratio of tonne-kms to GDP
6. Productivity = ratio of tonne-kms per vehicle or driver
7. Energy efficiency = ratio of tonne-km or vehicle kilometers to energy consumed

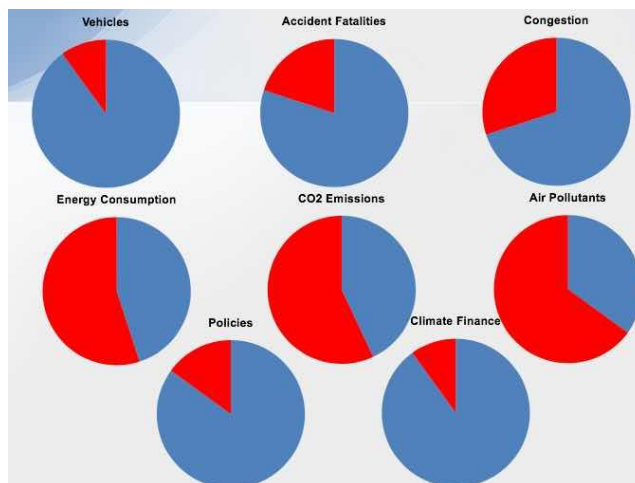
8. Energy Intensity = ratio of energy consumed to tonne-km
9. Carbon efficiency = ratio of tonne-km or vehicle kilometers to carbon emissions
10. Emission intensity = ratio of emissions per tonne-km
11. Utilisation = ratio of the capacity actually used to the total capacity available
12. Gross value density = ratio of the total weight of the economy material output to GDP
13. Handling factor = ratio of tonnes-lifted by weight of goods produced or consumed (through the supply chain, products are 'lifted' onto vehicles several times)
14. Average length of haul = ratio of tonne-km to tonnes-lifted
15. Empty running = ratio of empty km to total kms

Group work and discussion: The main outcome of the discussions in the session was that the good environmental practice is often simply a good business practice because it reduces energy consumption and operating costs.

8.2.1.a Need for Green Freight and Logistics

This session focused on the status of the freight sector in the CLMTV countries, emphasizing high freight sector related externalities – high logistics costs, high accident fatalities, high emissions, congestion and subsequent freight restrictions and high fuel costs. There are disproportionate environmental and social impacts of freight sector.

Figure 15: Freight-related externalities



The participants were exposed to concepts such as

- What are the key barriers for the development of Green Freight in CLMTV?

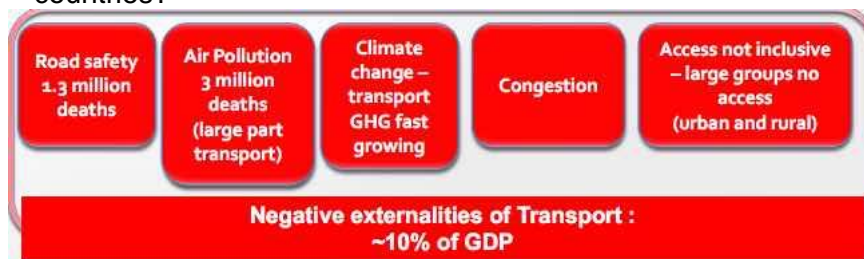
Barriers in Scaling-up Green Freight and Logistics

- It's too expensive.. Who will pay for it?
- Stakeholders won't support it
- It wouldn't work here.. These solutions are applicable for OECD countries
- It will impact economic growth. Our economy will collapse
- What's in it for me? Why should I take the lead?
- If these solutions are so good, why it is not being implemented in neighbouring countries?
- Trucks don't vote.. We don't have a voice
- How do we know what to do first?
-

- What is the regional policy related green freight drivers?



- What are the main freight transport related externalities in the CLMTV countries?



Group work and discussion: The main outcome of the discussions in the session was that the environmental concerns have now begun to play an increasingly important role in the formulation of freight transport policy in the CLMTV countries.

8.2.1.b Green Freight and Logistics - How to start?

The participants were introduced to a comprehensive framework to help freight stakeholders (both public and private) build their skills and knowledge on green freight transport and provides a step-by-step guide for the development of a green freight transport strategy, i.e. UNCTAD Reference Framework for SFT, which provides a step-by-step methodology on how to plan, design, develop and implement tailored green freight transportation strategies.

Table 2: Strategies on Green Freight and Logistics in Different Countries

	Japan	Thailand/Vietnam?	Cambodia/Lao PDR/Myanmar
Infrastructure	High quality for all modes where possible	Infrastructure development is top priority among all modes possible	Infrastructure development for roads currently beginning to be prioritized
Trucks	Trucks with better technologies	High share of old trucks and few better technologies models	High share of old trucks
Energy Efficiency	Is an important criteria for private sector	Awareness on energy efficiency improving	Not a priority
Operations	High optimized & high share of 3PL's	Inefficient and low share of 3PL	Highly inefficient
Urban freight	High emphasis on city logistics	High emphasis on urban infrastructure / High restrictions	Funding/Financing challenge for urban logistics infrastructure
Technology	High technology use	Few isolated initiatives on promoting technology	Low awareness on technologies
Partnerships	established	Being established?	No active partnerships
Data	Priority data available	limited	Very limited
Recognition Scheme	For all stakeholders	?	?

8.2.2 Module 2 – GFL Issues

8.2.2.a Diagnosis, including framework and measurements

The session started with a question as to how do we know if the freight and logistics sector is becoming green in the CLMTV countries?

This session considered challenges related to the diagnosis and measurement of freight and logistics emissions. The participants were exposed to evaluation techniques to identify the main challenges confronting the sustainability aspect of the freight sector and to examine their underlying causes.

Diagnosis- key questions

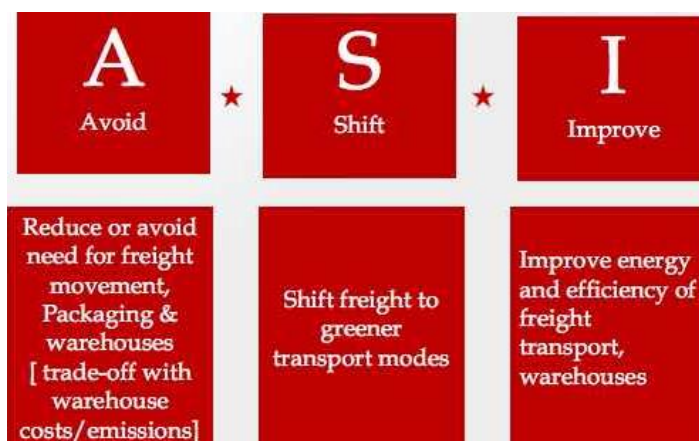
- How much cargo or freight is being moved?
- Where is cargo going?
- What is the relative use of different transport modes?

- What is the quality of freight transport infrastructure?
- How efficiently is cargo being transported?
- What conflicts exist between system users and impacted communities
- What is the external impact of the freight transport activity?
- Are the systems safe and compliant with relevant standards and regulations?
- What transportation service characteristics are most important to our shippers and receivers? – Cost? Time? Efficiency? Safety/Security? Reliability? Competitiveness? Intermodal?
- How does freight transport performance compare between neighbouring countries/cities/corridors/transport and logistics service providers, supply chain manager, and shippers?
- Who are the stakeholders?
- What agencies are involved in regional freight policy, planning, and programming activities?
- Who are the champions and advocates for freight and freight planning
- What kind of freight-related data do we use or have access to?

The participants were introduced to concepts such as

- Frameworks for assessing the strategic opportunities for improving the environmental performance of freight transport and logistics.

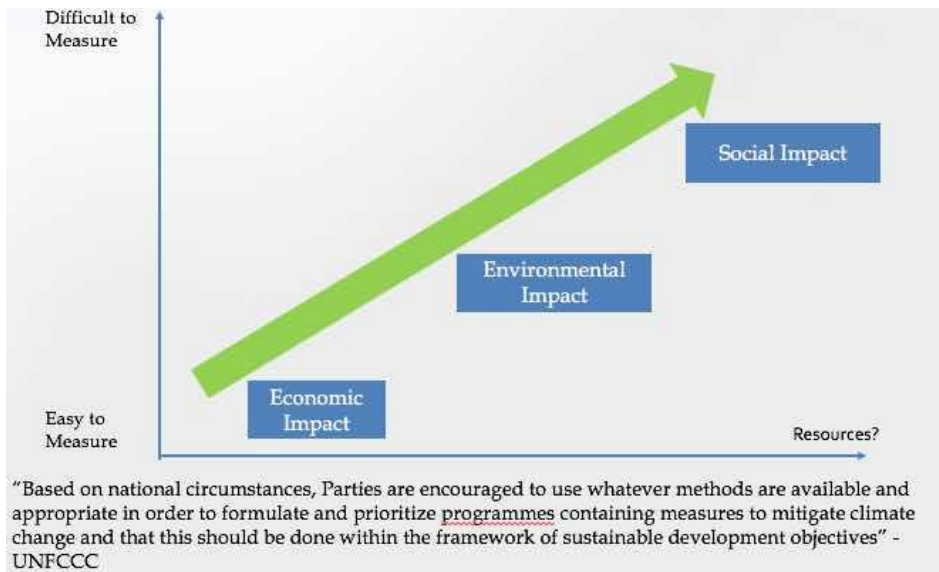
Figure 16: ASI Framework



- Measuring the environmental performance of freight transport

- Qualitative and quantitative assessments

Figure 17: Quantifying Impact



- Data and the need for quantifying the external costs
Why is important to calculate the cost of freight transport’s externalities?
 - to model the trade-offs between economic, social and environmental objectives using a common metric
 - to conduct cost-benefit analyses of measures
 - to assess by how much taxes on freight transport would have to rise to recover the cost of the environmental/social damage it causes
 - to calculate a financial rate of return on investments
 - to estimate by how much greener transport modes should be subsidised for environmental reasons

Quantifying GHG emissions (example):

Truck Population: 10 Trucks (diesel)
 Average Fuel Efficiency: 2 km/liter
 Total Fuel Consumed /year: 50,000 Liters for fleet

How much is the annual travel/truck? = 10,000 Km

Group work and discussion: One of the main outcomes of the session was that the policies and measures in the freight and logistics sector could be mainly grouped into three major categories - Avoid policy/strategies reduce the need to travel or to reduce the travel distance for road freight vehicles. Avoid reduces either tons or kilometres travelled or both tonne-km. Shift policy/strategies refer to those which transfer freight activities to more energy-efficient and/or environmental-friendly modes. Shift reduces emissions per unit freight activity. Improve policy/strategies are the ones which improve the energy efficiency of the current road freight transport modes, their operations, and technologies. Improve reduces emissions per unit freight activity.

8.2.2.b Vision, targets and KPIs

This session emphasized the need to establish a comprehensive vision, targets and key performance indicators for the freight sector in the CLMTV countries. Participants were exposed to several public and private sector examples from diverse countries.

The session focused on the importance of

- The need for establishing a comprehensive vision, goals and objectives

It was explained a set of “goals” should support the vision statement to provide strategic direction to the sustainable freight transport strategy. These goals should be framed as broad statements that describe the desired end-result.

Further, objectives should be SMART i.e.

- S: Specific i.e. specific enough to guide the formulation of policies, investments, and actions for achieving the objective without dictating the approach.
- M: Measurable i.e. facilitate quantitative or even qualitative evaluation, saying how much should be achieved.
- A: Agreed i.e. stakeholders come to a consensus on a common objective.
- R: Realistic i.e. the objective can reasonably be accomplished considering the limitations of resources and other demands.
- T: Time-Bound i.e. the objective identifies a timeframe within which it will be achieved (say by 2030).
- Setting targets with a view to improving the environmental performance of the freight sector
- Identifying KPIs to monitor progress towards GFL

A good indicator should meet the following standards:

1. The indicator is needed and useful.
 2. The indicator has technical merit.
 3. The indicator is fully defined.
 4. It is feasible to measure the indicator.
 5. The indicator has been field-tested or used operationally.
 6. Weighted (relative importance in comparison to other indicators)
 7. Comparable (quantified in all organizations in the same way)
 8. Mutually exclusive and collectively exhaustive
 9. Sensitive to the company's classified information
 10. Easy to use & communicate
- How diverse freight transport perspectives can best be integrated into the green freight transport planning process by identifying consensus-driven vision, objectives and targets

The group work and discussion focused on the following questions:

1. What are the “Opportunities/drivers” for development of the GFL?
2. What are the barriers in development of the GFL?
3. What environmental externalities should be included in the GFL strategy?
4. Which freight related externalities are currently being monitored?
5. What GFL measures are currently being implemented?
6. Who are the stakeholders?
7. What could be the likely co-benefits of greening freight transport and logistics?

8.2.3 Module 3 – Preparing Companies for Green Logistics

8.2.3.a Freight Intensity

The participants were exposed to CLMTV countries’ economic dependence on freight transport using a parameter – freight intensity which is a ratio of freight tonne-km to an economic output measure i.e. GDP. The session discussions focussed on

- What is freight transport intensity?
Freight transport intensity is a measure that relates two key indicators:
 - the volume of freight transport (measured in tonne kilometres) and
 - the economic output (GDP).
 - Ratio of freight movement to economic output

However, variables like Vehicle-kms, TEU-kms, Annual Sales, Employment etc could also be used to measure freight transport intensity.

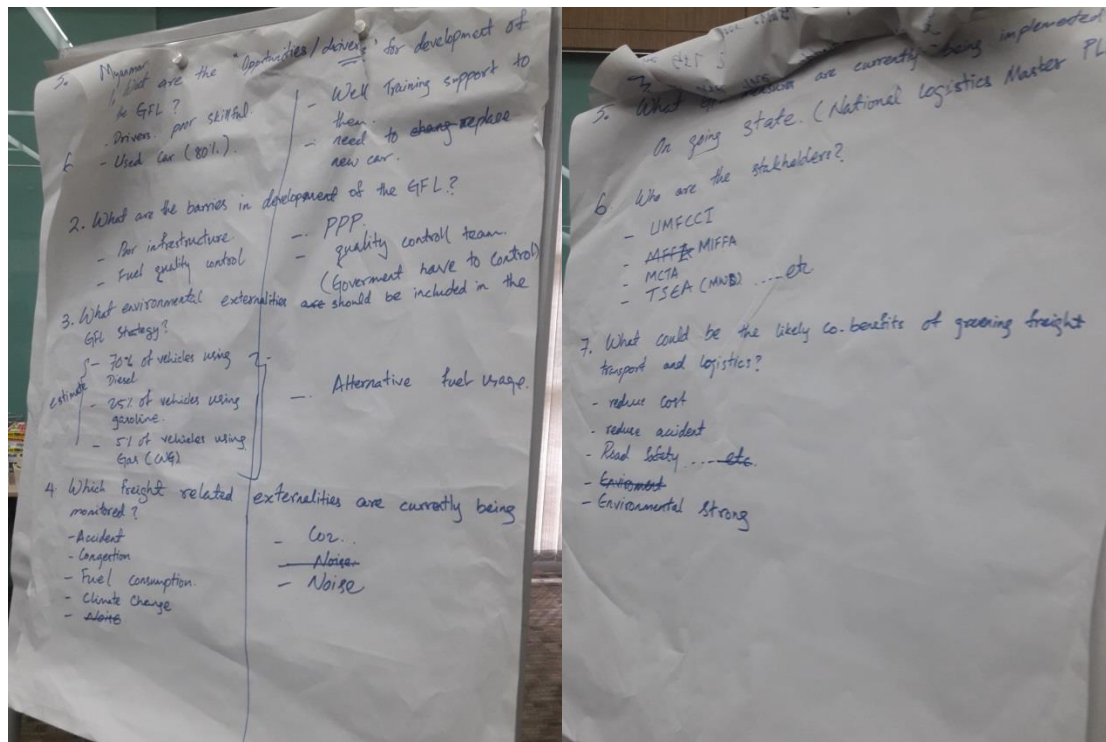
Drivers influencing freight transport requirements over time can be summarised as follows:

- Configuration and design of commodities
 - Manufacturing processes
 - Land use policy
 - Warehousing and handling technology
 - Information technology
 - Logistics management
 - Technology of transport systems
 - Regulation
-
- The need to decouple freight externalities with economic growth
 - Current role of trade in freight growth
 - The trade-off between freight transport and other logistics elements (handling/warehouse)
 - Impact of oil prices on logistics cost
 - Solutions to decouple freight externalities with economic growth

Breakout discussions - The participants were asked to work on groups on the following questions: Diagnosis, What are the "Opportunities" and "Barriers" for development of the GFL in the GMS region?

What environmental externalities should be included in the GFL strategy?

The participants suggested that for the CLMTV countries, the priority should be to decouple freight emissions from economic growth rather than reducing freight transport demand with economic growth.

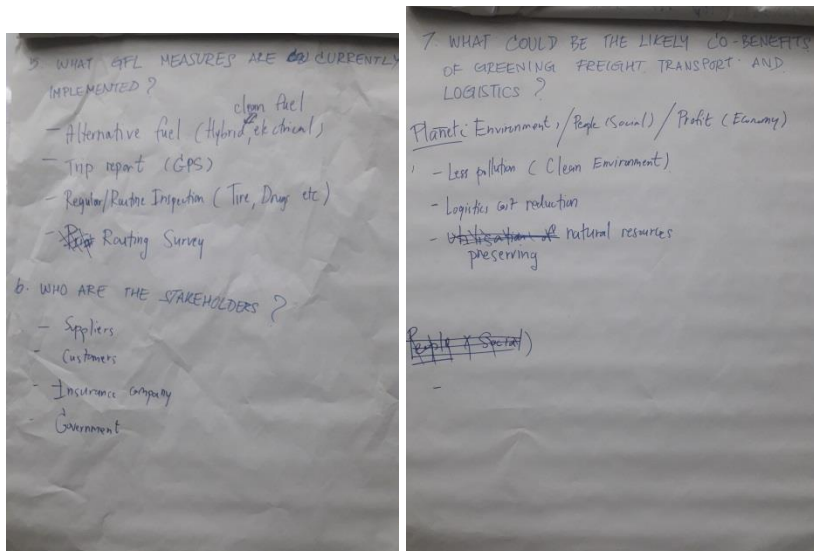


Group work: Myanmar

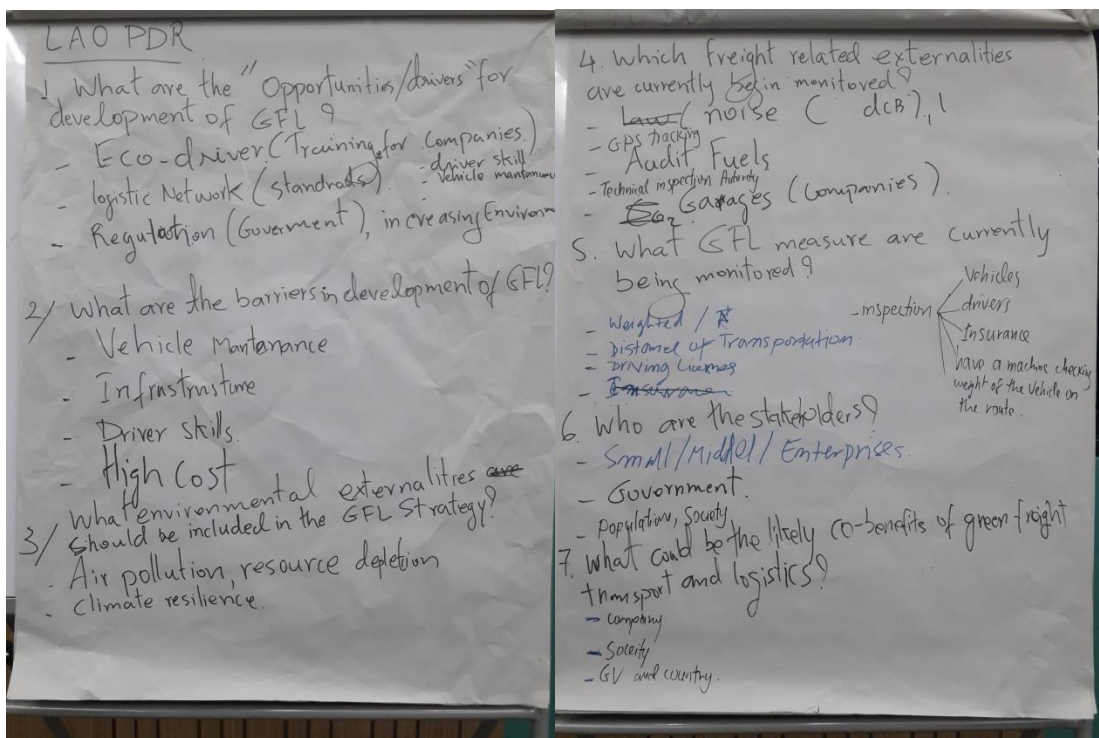
<p>1/- Lack of human resources</p> <ul style="list-style-type: none"> - Lack of infrastructure - Lack of transportation/Logistics Data - There are specific operations - Budget for this action - Collaboration among GMS Countries (different standard) 	<p>1/-</p> <ul style="list-style-type: none"> - Lack of infrastructure - Manual implementing on logistics - Global trend - High product & service cost - Economic growth - There included in Logistic Master plan
<p>4) In the process</p>	<p>3/-</p> <ul style="list-style-type: none"> - Air pollution (Air, water, etc.) - congestion - regulation
<p>7) Globally</p> <ul style="list-style-type: none"> - Environmental - Social/Economic 	<p>5) No (policy, Regulation - Not yet implementing)</p> <ul style="list-style-type: none"> - Railway improvement - Truck Driver Training
<p>6-) Government - Private Sector - Development partners</p>	

Group work: Cambodia

<p style="text-align: center;">IH</p> <p>1. WHAT ARE THE OPPORTUNITIES/BENEFITS FOR DEVELOPMENT OF THE GFL?</p> <ul style="list-style-type: none"> - BY TO PUSH FORWARD TO BE THE GOVERNMENT'S POLICY TO PROMOTE GFL (EXAMPLE: INCENTIVE, REWARDS, ETC.) <p>2. WHAT ARE THE BARRIERS IN DEVELOPMENT OF THE GFL?</p> <ul style="list-style-type: none"> - GOVERNMENT POLICY - AWARENESS - HIGH COST - MOTIVATION - HUMAN BEHAVIORS 	<p>3. WHAT ENVIRONMENT EXTERNALITIES SHOULD BE INCLUDED IN THE GFL STRATEGY?</p> <ul style="list-style-type: none"> - AIR POLLUTION - ACCIDENT - CO₂ EMISSION - FUEL COST <p>4. WHICH FREIGHT RELATED EXTERNALITY ARE CURRENTLY BEING MONITORED?</p> <ul style="list-style-type: none"> - FUEL CONSUMPTION <ul style="list-style-type: none"> resource depletion CO₂ emission (air pollution)
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Group work: Thailand



Group work: Laos

8.2.3.c Modal-Shift

The focus of the session was mainly towards as to why the modal shift is extremely important in the CLMTV countries and how to achieve it. The participants were exposed to global data on modal shift and environmental efficiency of different modes i.e. modes which are much 'cleaner' than others in terms of the environmental damage they cause per tonne-km of freight movement.

The participants were exposed to the following discussion points-

- Why mode shift is important?

- Is modal shift in current political and private sector global agenda?
- What are the constraints for a modal shift in the CLMTV region?

For example, constraints on the use of rail freight services

- Low accessibility of the network: *factories and warehouses not rail-connected*
- Need to timetable services: *lack of flexibility , lack of punctuality*
- Strong price competition with road freight hauliers
- Competition with passenger services for available pathways
- High level of track access charges on the rail network
- Relatively short lengths of haul in many countries
- Need large volumes of freight flow to be viable – *especially for trainload traffic*
- Lack of 'inter-operability' between country's rail networks – e.g. signalling, locos
- Infrastructural constraints on - track and loading gauge, maximum axle weight, length of passing loops
- Restrictive working practices/ Existing administrative procedures
- Legacy of inefficiency and poor customer service – *poor commercial image*

- How effective are the current modal shift strategies?

Reasons for international differences in freight modal split

1. Size of country
 2. Geographical distribution of economic activity and population
 3. Structure of the economy
 4. Physical geography – e.g. mountainous terrain, river systems
 5. Relative quality and accessibility of the modal infrastructures
 6. Amount of international transit traffic
 7. Competitiveness of the companies operating the services
 8. Government freight transport policy and pricing
- Government policy measures to support the freight modal shift? **For example, economic instruments:**
 1. Tax road more heavily: *through fuel duty, vehicle excise duty or road tolls, internalise more of the environmental costs – penalises road*
 2. Reduce tax on greener modes: e.g. *lower fuel duty*
 3. Financial incentives for greener modes: *grants, low interest loans, subsidies*
 4. Need to link financial support to environmental benefit

Qualitative Regulation on Roads

- Imposing stricter operating practices on road haulage requiring higher levels of competence
- Tougher enforcement of regulations on road haulage

Land Use Planning

- Encourage, through the planning system, the location of industrial / logistics facilities on sites well served by rail (and / or waterborne) services
- Prioritise planning approval for rail- and water-related freight terminals

Advice and Encouragement

- Campaigns to increase industrial awareness of the benefits of shifting mode
- Development of tools which allow companies to objectively compare the economic and environmental consequences of using different transport modes

Group Work: What is currently restricting stakeholders (country/city/companies) from increasing modal share of “green” modes?

Most of the participants confirmed that there exists high political priority of the modal shift strategies in the CLMTV countries.

8.2.3.d Vehicle utilization

This session emphasized the need to improve vehicle loading. The participants were exposed to co-benefits of improving vehicle utilization i.e. for a given amount of freight movement, raising vehicle load factors reduces vehicle-km, cutting transport costs, congestion levels, energy consumption, and emissions. The session focused on topics such as:

- Why productivity & utilization matters?
Utilization is defined as the ratio of the capacity actually used to the total capacity available.
- Measurement of vehicle utilization: key parameters

Figure 18: Measurement of Vehicle Utilization - Key Parameters



- What are the constraints on truck utilization/productivity (especially focussing on constraints such as the spatial pattern of trade, regulatory constraints, equipment related constraints, infrastructure-related constraints etc.)
 - Restriction regulations (size, time, route, parking)
 - Traffic congestion/ NTB's (police/border/weighbridge..)
 - Truck age/condition
 - Fragmented industry
 - Demand fluctuations

- Uncertainty about transport requirements
- Health and safety regulations
- Unreliable delivery schedules
- Just-in-time delivery
- Nature of packaging / handling equipment
- Limited storage capacity at destination
- Incompatibility of vehicles and products for back loading
- Poor coordination of purchasing, sales and logistics

Access restrictions

- By zone, size, route and / or time of day
- Objectives:
 - to relieve congestion (esp. by delivery vehicles)
 - to reduce noise during the night – London night lorry ban
night delivery curfews
 - to divert trucks from environmentally-sensitive routes
- Problems:
 - enforcement can be difficult
 - concentrates traffic on other periods and routes
 - most urban roads are 'environmentally-sensitive'
 - reduces efficiency of urban delivery – can increase traffic
 - conflicting objectives: daytime congestion v. night-time quiet
- What could countries and companies do to improve productivity and utilization?

Group Work and Discussion

- Is vehicle utilization important in the GMS context?
- How effective are current GMS government policies in improving utilization and productivity?
- What are the main constraints on vehicle loading in the region and how can they be overcome?

The main outcome of the session was that many freight vehicles in the CLMTV countries were either under- or over-loaded. When they are under-loaded, more trips were required to deliver the goods, generating more traffic, using more fuel and emitting more pollution. Overloading reduces the number of trips required, but, by causing damage to the vehicle and the engine, reduces fuel efficiency and increases emissions per km. Damage to the road surface caused by overloaded axles also reduces the fuel efficiency of all categories of traffic. Optimized vehicle loading should, therefore, be a major goal of a green freight policy in the CLMTV countries.

8.2.3.e Energy Efficiency and Emission standards

This session emphasized the need for improving energy efficiency and vehicle emission standards. The main topics of the discussion were

- Why fuel efficiency is important?
- What are the current barriers to energy efficiency improvements?

- The need for system approach, i.e. link fuel efficiency standards with vehicle emission standards?
- What can stakeholders do to improve energy efficiency in the freight transport and logistics sector?

Group work and discussions

1. Is energy efficiency improvement important in the GMS region?
2. How effective are current GMS government policies in improving energy efficiency in the freight transport and logistics?
3. To what extent is energy efficiency constrained by congestion, age of vehicles, awareness, driving quality, infrastructure etc.

The Participants acknowledged that by operating freight vehicles more fuel efficiently, emissions could be reduced. However, the main benefit of improving fuel efficiency is higher profits.

8.2.3.f Low emission fuels

This session introduced the concept of clean fuels in the freight and logistics sector. The focus was on four general categories of clean fuels: improving fuel quality (reducing sulphur content), cleaner fossil fuels (such as liquid petroleum gas (LPG) or compressed natural gas (CNG)), biofuels (such as biodiesel or bio-methane) and electricity generated by renewables, nuclear power or cleaner carbon-based fuels. The main topics of the discussions were

- Why decarbonizing fuel is important?
- What are the current barriers to decarbonizing fuel?

Dilemma

“Drivers will not adopt alternative-fuel vehicles until such fuel is convenient to purchase. But, the fuel won’t become widely available until there are enough vehicles to support the infrastructure”

Current barriers

- Conflicting policy roadmaps
- More expensive vehicles – *higher capital cost*
- Additional retrofitting cost – *if modifying existing vehicles*
- Risk of invalidating manufacturer’s warranty (with fuel blends)
- Uncertainty about the future residual value of the vehicle when resold
- Lack of refueling / recharging points - *inadequate infrastructure*
- Inadequate / unreliable supply of alternative fuels
- Variable quality of the alternative fuels

- Higher price of alternative energy sources / lack of tax rebates or subsidies
- High subsidy to conventional fossil fuels in some countries
- What are the measures and policies to decarbonise fuel in the freight transport and logistics sector?

Group work and discussions

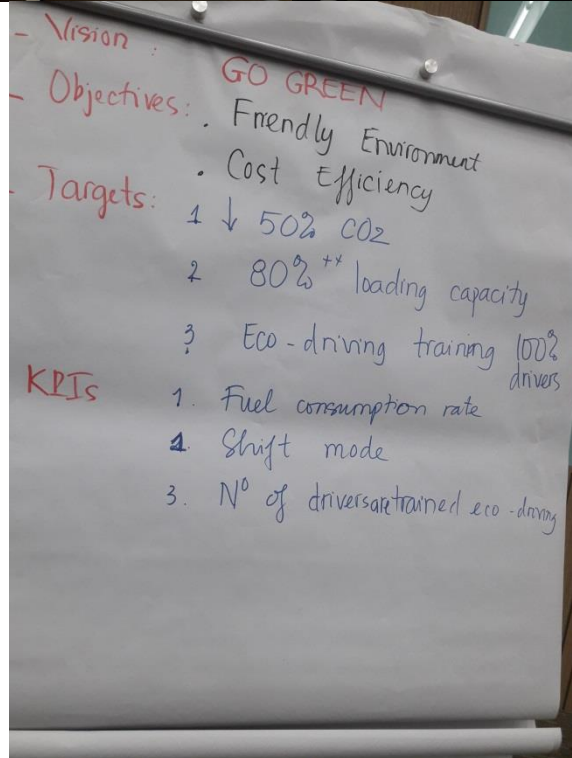
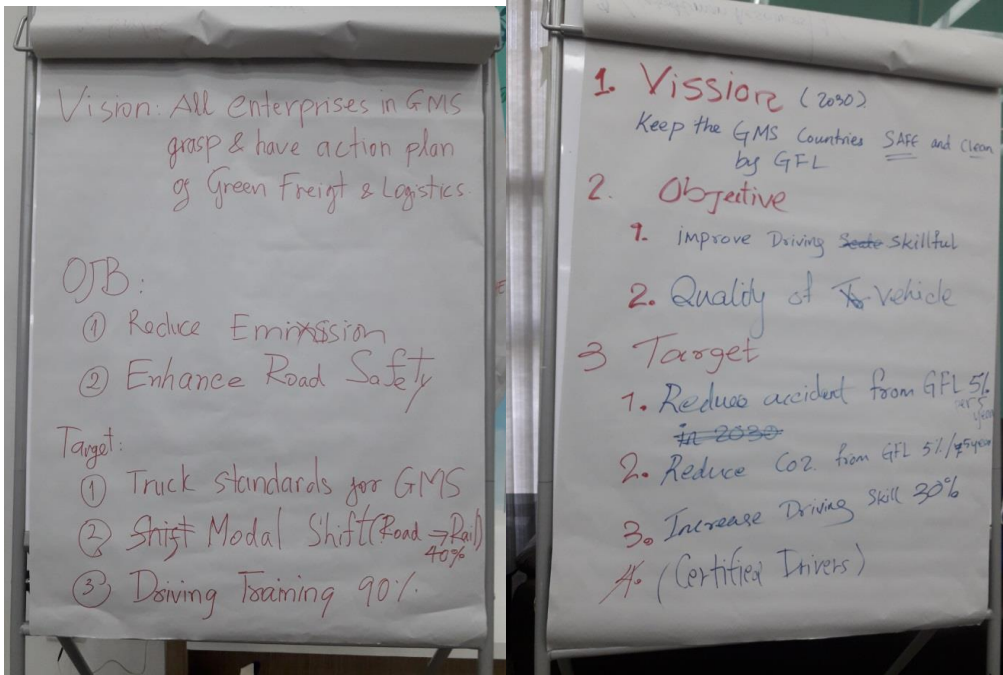
1. Is decarbonizing fuel important in the GMS region?
2. How effective are current GMS government policies in decarbonizing fuel in the freight transport and logistics?
3. Which alternative, cleaner energy sources are the most promising for the GMS region and why?

The Participants confirmed that switching to cleaner fuels is a key element of the sustainable logistics policy and the two options are of great interest in the CLMTV countries i.e. electric and hydrogen.

Group work and discussions:

1. Identify vision (2050)?
2. Identify suitable objectives?
3. What would be realistic targets for the GFL by 2030 and by 2050?
4. What contributions can the various stakeholders make to realizing this vision?
5. What data and KPI's will you consider?
6. What data is currently being collected?
7. What are likely to be the main challenges to the realization of these vision/targets?
8. What is the role of different stakeholders in achieving the targets?

The participants' responses demonstrated their understanding as well as similarities and differences between the countries' situations and approaches to green freight and logistics.



Group Work: Participants' responses

8.2.4 Module 4 – GFL Standards and Certification Scheme

8.2.4.a Recognition Scheme

In the final module, the participants learned the importance of implementing a recognition scheme, i.e. a mechanism for motivating a defined set of stakeholders to change their behaviour or performance in the direction strategically set by the organizer of the recognition program. The main topics of the discussions were

- Why recognition scheme is important?
- What are the different types of recognition schemes?
- Introduce “green mark” standards in logistics service operations

A GMS or ASEAN GFL label

- Which supports the exchange of best practices between members.
- Which develops community-driven practical tools and guidelines for applying international emission calculation standards.
- Which actively cooperates with standardization bodies such as the GLEC to bring the voice of the community in the discussions.
- Which is practical, data driven and evidence based, with community driven labels.
- Which supports confidential, anonymous and competition-proof benchmarking on a voluntary basis between members, within closed user groups.
- Which supports the incorporation of various national/private sustainability programs into a single label.
- Which supports the development of dependable and usable indicators and references, based on community experiences.
- Which is positioned as a strong brand, recognized by authorities, with a clear vision on the path how companies can lower footprints to sustainable levels

Group work and discussions: Since the main objective of the workshop was to promote peer learning and best practice exchanges among key stakeholders active in freight and logistics sector, several breakout discussions (roundtables, flip chart orientation) were carried out. **The breakout exercises** were tailored to provide participants with hands-on experience with the detailed steps involved in developing a GFL strategy with inputs from diverse stakeholders. The workshop delegates were divided into six groups (country and regional) to address the following questions

- a. What are the main drivers for GFL in the CLMTV countries?
- b. What environmental factors should be included in the GFL strategy?
- c. What stakeholders should be involved in the development, implementation, monitoring, evaluation and review of the environmentally-sustainable strategy?
- d. What should be the role of the government/public authorities, the private sector/business in developing, implementing, monitoring, evaluating and reviewing the GFL Strategy?
- e. Can freight emissions growth be decoupled with economic growth?
- f. How should the distribution of freight among transport modes be changed to improve environmental sustainability?
- g. What is the potential for increasing the level of loading?
- h. How is transport (truck, rail, maritime) fuel efficiency in this region constrained?
- i. What are the barriers to switching freight transport modes to cleaner energy sources and how can they be overcome?

The participants identified following barriers for the development of the GFL solutions

1. High Fuel Costs
2. Old Trucks with poor technology
3. Infrastructure bottlenecks and lack of harmonization of design standards
4. Poor Intermodal infrastructure (railways, waterways)
5. Lack of awareness and stakeholder participation in the decision making
6. Lack of harmonization of fuel quality and vehicle emission standards
7. Lack of access to finance (low-interest finance)
8. Low profits
9. Fragmented industry
10. The absence of sustainability-related recognition schemes among the private sector companies

The participants identified the following solutions useful for CLMTV countries

Table 3: GFL Solutions

Typology	Description
Reduce freight transport intensity	Decoupling economic growth and freight growth (without adversely affecting development prospects) by reducing tonne-kilometres in an expanding economy. CLMTV countries can implement it by optimising supply chains and by encouraging private sector shippers and carriers to rationalize their logistics operations.
Shift freight to greener transport modes	From road to railways and maritime transport, relying on efficient intermodal facilities and infrastructure as well as incentives and regulation to make mode shifting more attractive. Costs are the main drivers and hence greener modes need more subsidies.
Improve vehicle utilization	Measures to facilitate a reduction of empty truck trips and optimized loading of vehicles can reduce vehicle-kilometres travelled. CLMTV countries could improve collaboration among stakeholders.
Increase energy efficiency	Can be promoted through a combination of carrots and sticks such as: raising fuel duties, subsidizing driver training schemes, enforcing speed limits, enacting higher standards for new vehicles, incentivizing scrapping of older vehicles, conducting awareness campaigns and labelling. Driver training is of the highest priority in CLMTV countries.
Switch to less polluting energy sources and vehicles	e.g. higher EURO standards, LPG, CNG, Hydrogen and electric vehicles.
Recognition Scheme	Piloting Green marks standards (currently being developed by Mekong Institute)

The main conclusion of the discussions was that there is no single optimum green freight solution for all countries and regions. The package of measures must be tailored to the particular circumstances of a country(/company)'s geography, the level of economic development, industrial structure, transport and communication infrastructure, transportation and energy markets, logistic labour force and degree of urbanization. Based on the discussions, the participants developed individual action plans for implementation over the next few months.

9. Closing Session

9.1. Course Report Presentation

Mr. Robby Rosandi, Program Officer, Trade and Investment Facilitation (TIF) Department, Mekong Institute (MI)

Mr. Rosandi presented the outcomes the one-week training program. His presentation included participants' information, training methodologies, modular training approach, module contents adopted at this training program, training objectives and outcomes, and training atmosphere. Mr. Rosandi also presented the average result of pre and post assessment and the final assessment including relevance and improvement of knowledge and skills and overall assessment of the training program.

9.2. Participants' Speeches

In this session, representatives from CLMTV made brief remarks. All speakers expressed the importance of the knowledge and skills gained from the training program. They also expressed sincere thanks to MKCF and MI for their support in providing opportunity to take part in the training program.

9.3. Congratulatory Remarks

Mr. Minjun Cho, Second Secretary, Embassy of Republic of Korea in Bangkok

Mr. Cho congratulated the participants on successful completion of the training program and expressed hope that the learning from the program will be useful in their work. He also expressed hope the software that has been developed by MI is put to effective use by the companies. Mr. Cho wished the participants and thanked MI for organizing the training program.

9.4. Final Remarks and Way Forward

Mr. Sudam Pawar, Director, Innovation and Technological Connectivity, MI

Mr. Pawar congratulated the participants for the successful completion of the training program. He outlined the importance of innovation in GFL. Mr. Pawar emphasized the significance of the AP implementation and said that it is an opportunities for participants to apply knowledge and skills gained from the one-week training program and share transfer / knowledge to other stakeholders in respective countries.

9.5. Awarding of Certificates

Mr. Pawar and Mr. Cho jointly awarded the certificates for completing the one-week training to the participants.

9.6. Action Plan (AP)

As part of the training program, participants jointly developed Action Plans (APs) on organizing national workshops / trainings in their respective countries. APs aim to transfer through the participants the new ideas, knowledge and learning points, which they acquired during the training, to related stakeholders at national level. APs are implemented in November 2018 – March 2019 with the support and assistance provided by a team from MI Trade and Investment Facilitation (TIF) Department.

Regarding monitoring and evaluation (M&E) during AP implementation, TIF team will provide regular online coaching to support participants for the successful implementation of the AP. E-mail group of the participants (greenfreight2018@mekonginstitute.org) was also created in order for the participants to share updates on the AP implementation, other information and concerns.

Topics for the APIs, target participants and duration by country group are as follows:

Country	Topic	Target participants	Duration
Cambodia	<ul style="list-style-type: none"> ▪ Green Freight based on UNCTAD framework ▪ Green Freight Best Practices by private company 	<ul style="list-style-type: none"> ▪ Transport operators ▪ Freight forwarders ▪ Logistics service providers ▪ Shipping agencies ▪ Concerned government officials 	December 2018
Lao PDR	<ul style="list-style-type: none"> ▪ Green Freight Management ▪ Road safety ▪ Dry port and land transport of goods at Border 	<ul style="list-style-type: none"> ▪ Transport operators ▪ Freight forwarders ▪ Logistics service providers ▪ Shipping agencies ▪ Concerned government officials 	November 2018
Myanmar	<ul style="list-style-type: none"> ▪ Eco Driving ▪ Green Freight and Logistic 	Truck Drivers	December 2018
Vietnam	Green Freight and Logistic Management	<ul style="list-style-type: none"> ▪ Transport operators ▪ Freight forwarders ▪ Logistics service providers ▪ Shipping agencies ▪ Cargo trucking association 	December 2018
Thailand	<ul style="list-style-type: none"> ▪ The efficient and environmental friendly transportation ▪ Planning the safe and efficient usage of vehicles 	<ul style="list-style-type: none"> ▪ Transport operators ▪ Freight forwarders ▪ Logistics service providers 	December 2018

10. Program Evaluation

10.1. Evaluation Method

During the training program, a TIF facilitator conducted applicable evaluation methods to monitor and evaluate the performance and understanding levels of the participants.

Objectives

- To assess the achievement of the training program against participants expectations;
- To get feedback and inputs for improving the training program course in the future

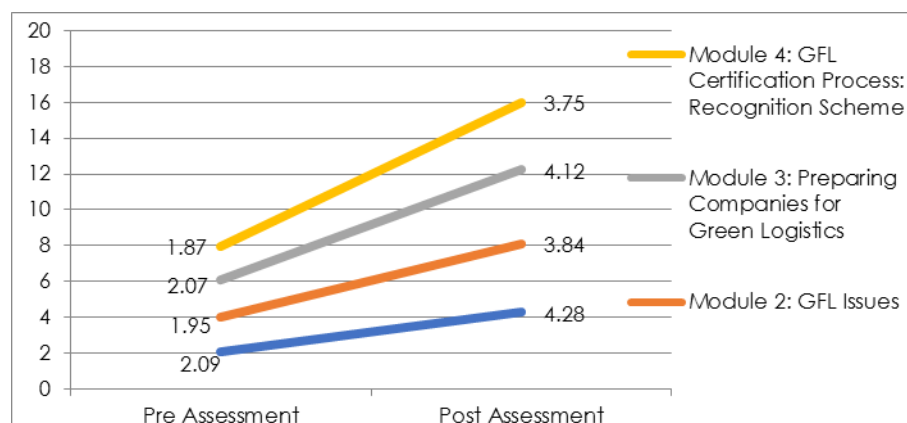
10.2 Evaluation Results

10.2.1. Pre / Post Assessments on Competency on Training Program

In order to evaluate the knowledge acquisition of participants during the training program, pre and post assessments were distributed to all participants to assess against the knowledge and skills before and right after the training program.

The same self-assessment form was used for both pre and post assessments. In the questionnaire, different components were rated on a scale of 1 to 5, where “5” was the highest and “1” was the lowest. The total average rating for pre-assessment of participants’ knowledge and skills on the training contents or modules were “2” which meant the understanding of participants towards all subjects of the Regional Training on Trade Events Promotion was between “I have heard about this topic but do not know enough about how to do / use it (rating at 2)” and “I have some knowledge on this topic, but could not do it now without further study (rating at 3).”

On the last day of one-week training program, post-assessment sheet was distributed to the participants with the same questionnaires to evaluate their understanding about acquired knowledge after being trained by the MI. The total average rating for post assessment of acquired competencies was “4” which meant between “I have some knowledge on this topic, but could not do it now without further study (rating at 3)” and “I have a good working knowledge & can do routine aspects now (rating at 4).” Table below shows the pre and post self-assessment results of participants’ competencies and understandings on each module of the program.



10.2.2. Board of Director (BOD)

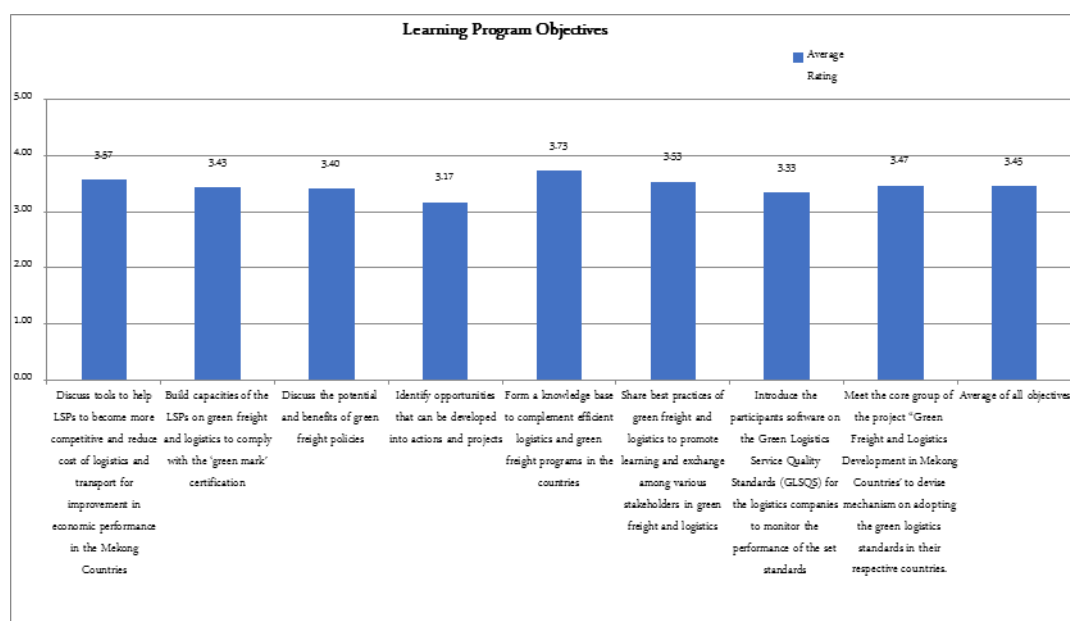
The BOD committee members were selected from participants to facilitate the training atmosphere and summarize the previous day session to the class.

10.3. After Event Evaluation

The After Event Evaluation was conducted by using a participatory method. This method allowed all participants to freely comment, without the scrutiny of instructors / facilitators and program staff. Different components were rated on a scale of 1 to 5, where “5” is the highest and “1” is the lowest.

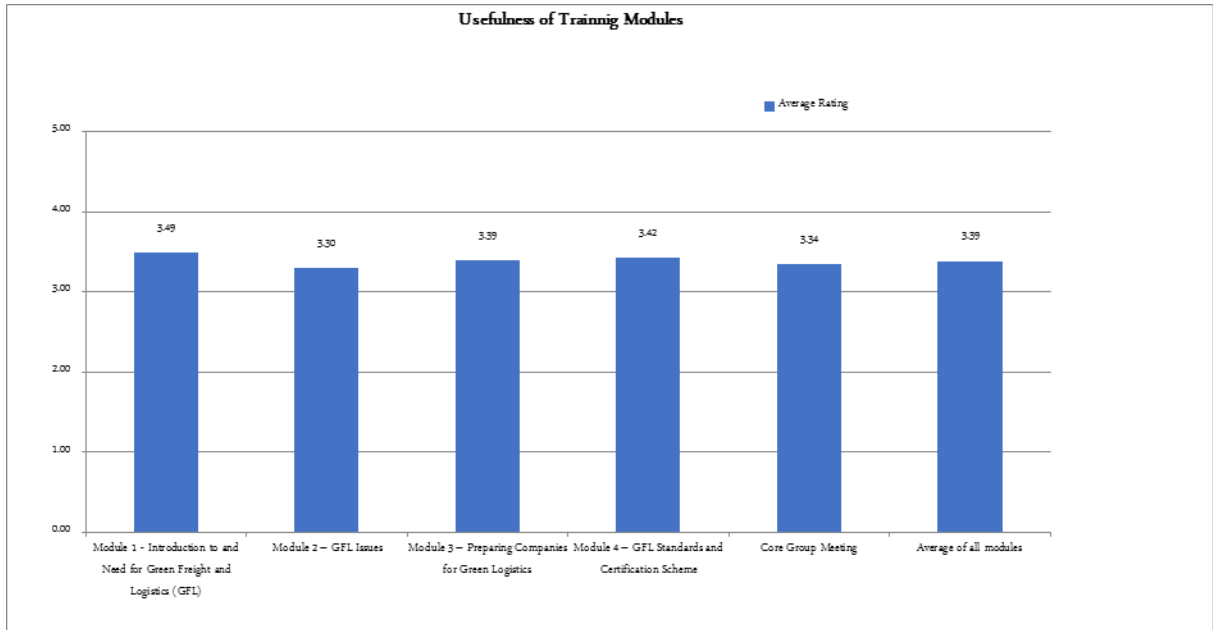
10.3.1. Learning Program Objective

Training objectives was evaluated with the rating scale of 1 to 5 (1-Not Met; 2-Somewhat Met; 3-Mostly Met; 4-Met; 5-Fully Met). Overall average rating was 3.45 (Mostly Met). Participants reported that ‘Form a knowledge base to complement efficient logistics and green freight programs in the countries’ to be especially relevant with average rating of 3.73.



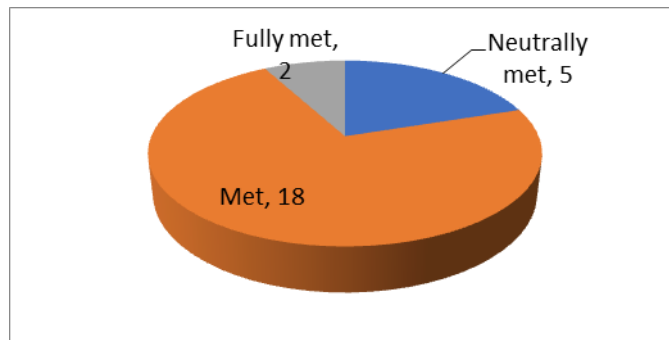
10.3.2. Program Content

The participants rated levels of usefulness of modules and contents of the program with 5 rating scales (1-Not Useful; 2-Just Right; 3-Neutrally Useful; 4-Useful; 5-Very Useful). Most participants reported that all modules were useful with total average rating at 3.39.



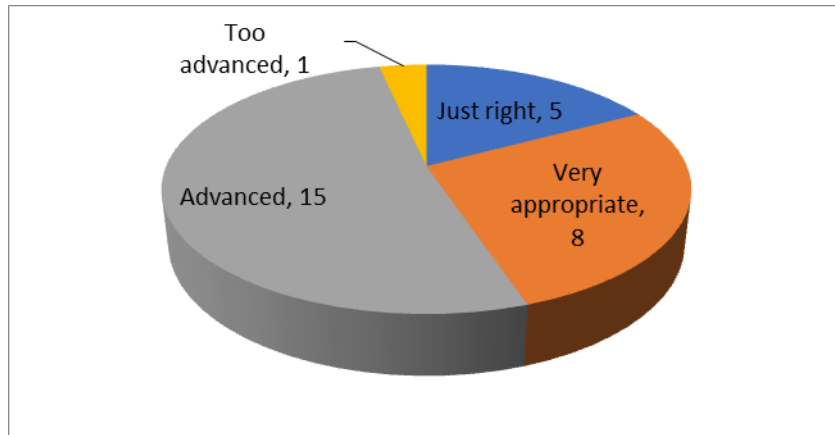
In terms of the participants' expectation to the training program, it was evaluated with 5 rating scales (1–Not Met; 2–Just Right; 3–Neutrally Met; 4–Met; 5– Fully Met). Participants reported that their expectation to the training program was met with the total average rating at 3.23 (Neutrally Met).

Participants' Expectation from Training Program



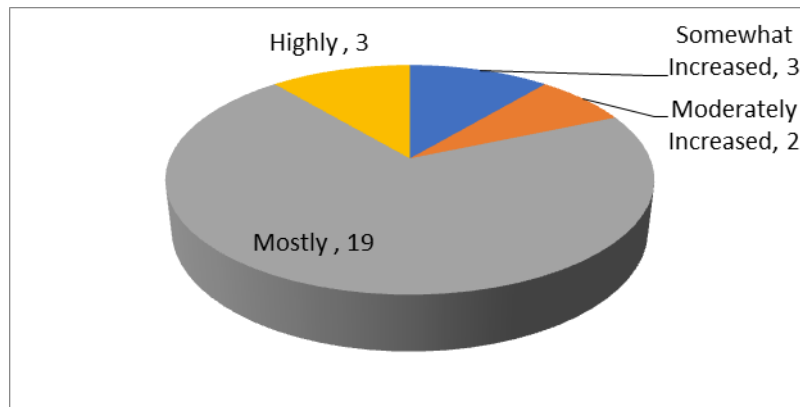
Regarding the level of instruction, it was evaluated with 5 rating scales (1–Too Basic; 2–Just Right; 3–Very Appropriate; 4–Advanced; 5–Too Advanced). Participants reported that the level of instruction was very appropriate with the total average rating at 3.3.

The level of instruction



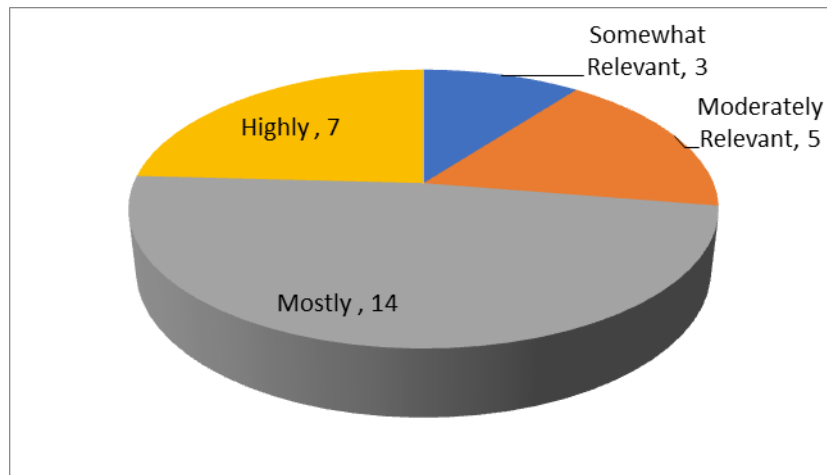
As for knowledge and skills, it was evaluated with 5 rating scales (1–Not Increased; 2–Somewhat Increased; 3–Moderately Increased; 4–Mostly Increased; 5–Highly Increased). Participants reported that they have increased the knowledge and skills with the total average rating at 3.73.

Knowledge and skills gained



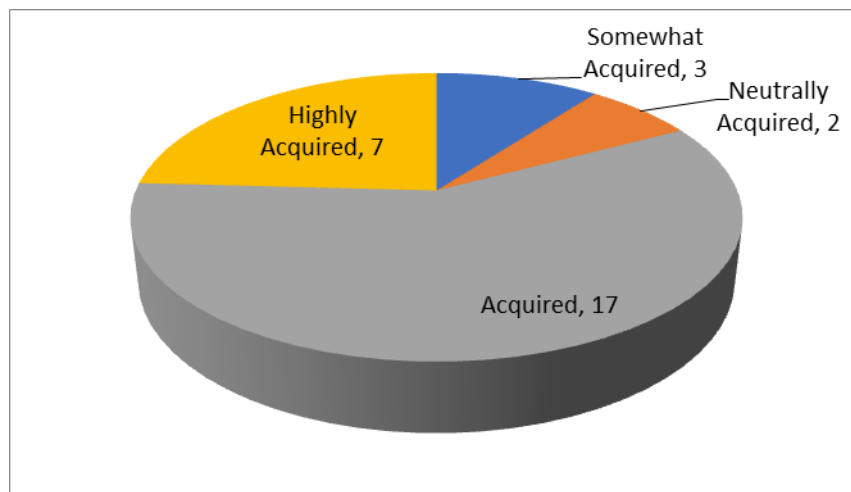
For the relevance of the knowledge and skills gained from the training program to the work, it was evaluated with 5 rating scales (1–Not Relevant; 2–Somewhat Relevant; 3–Moderately Relevant; 4–Mostly Relevant; 5–Highly Relevant). Participants reported that the knowledge and skills gained from the training program were relevant to their work with the total average rating at 3.73.

Relevance of knowledge and skills

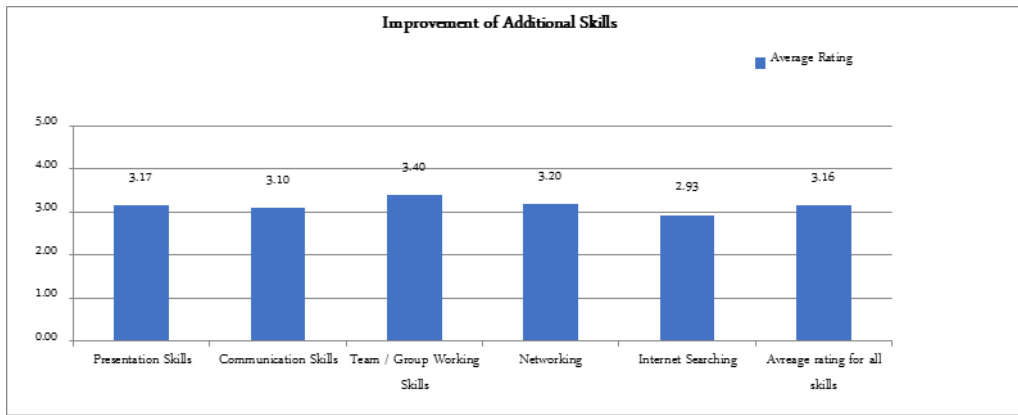


As for the additional knowledge gained from the training program on the subject, it was evaluated with 5 rating scales (1–Not Acquired; 2–Somewhat Acquired; 3–Neutrally Acquired; 4–Acquired; 5–Highly Acquired). Participants reported that they gained additional knowledge from the training program on the subject with the total average rating at 3.83.

Additional knowledge acquired

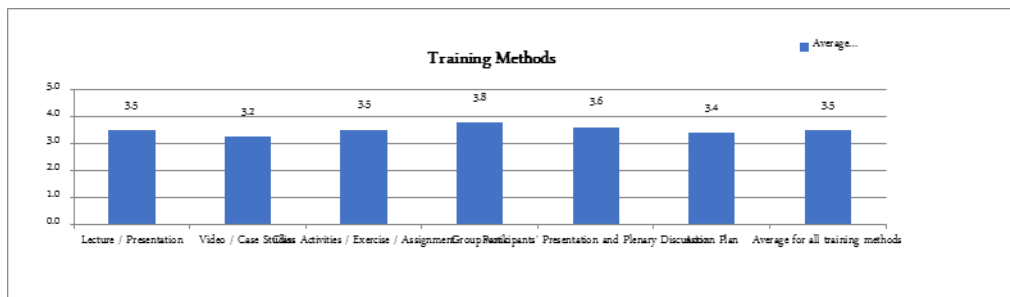


Finally for the specific skills improved / developed during the training program, it was evaluated with 5 rating scales (1–Not Improved; 2–Somewhat Improved; 3–Neutrally Improved; 4–Improved; 5–Highly Improved). Participants reported that they improved / developed specific knowledge during the training program with the total average rating at 3.16 (Neutrally Improved).



10.3.3. Training Methods

Training methods was evaluated with rating scale of 1 to 5 (1 – Inappropriate; 2- Somewhat Inappropriate; 3 – Neutrally Appropriate; 4 – Appropriate; 5 – Very Appropriate). Overall average rating was 3.5.

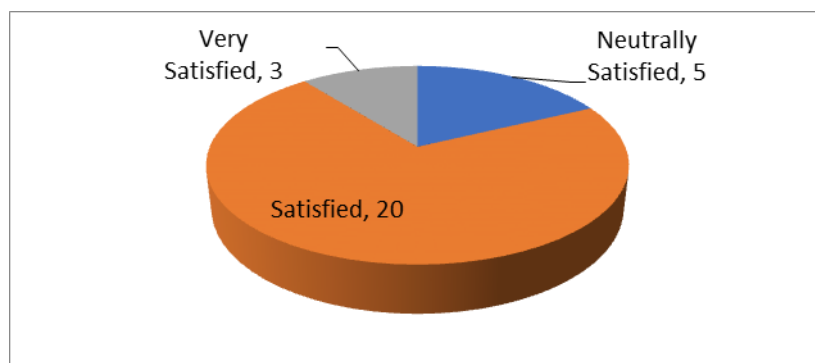


In terms of M&E methods, it was evaluated with rating scale of 1 to 5 (1–Not Effective; 2–Somewhat Effective; 3–Neutrally Effective; 4–Effective; 5–Very Effective). Overall average rating was 3.44.



10.3.4. Overall Assessment

In response to the question on “What is your overall assessment of the training program,” participants rated with rating scale of 1 to 5 (1 - Not satisfied; 2 – Somewhat Satisfied; 3 – Neutrally Satisfied; 4 – Satisfied; 5 – Very Satisfied). An average rating of 3.67 was received from the participants.



10.3.5. Suggestion and Recommendation

The participants also provided some suggestions or comments to this training program for future improvement as below:

- Training materials, including PPT presentations, should have been available in hard copy;
- Trainings should be announced with more time in hand
- The agenda could be sent to the participants in order for them to prepare
- Better time management of the program and clearer guidelines for participants required
- Site visit(s) could be added in the program to e.g. logistics parks,
- More participants from each country could be admitted in the training if the budget allows
- The training should have included more classroom activities and group work, and more relevant videos
- In a five-day training program, there should be more than one trainer
- Including training topics such as – waste management of trucks and solutions, application process for GFL certificates, include some failure cases

11. Lesson Learned

Key lessons learned from the training program are summarized below:

- More advanced intimation and detailed information of training programs before a training program starts would help in better and smoother selection of right candidates for a training;
- Site visits may be useful to demonstrate examples of relevant successful projects;
- When a training program is in process, better management of the sessions is required in terms of time management of sessions and making training materials available to participants.

12. Conclusion

Thus concludes the report of proceedings and assessment of the week-long training program: Green Freight and Logistics Management in Mekong countries. The final assessment confirmed that the learning objectives of the program were achieved. The long term impact of the training program will be assessed by taking the outcome of the action plan implementation, synthesis & evaluation workshops and outcome of indirect learning (such as transfer of knowledge from the participants to other stakeholders).

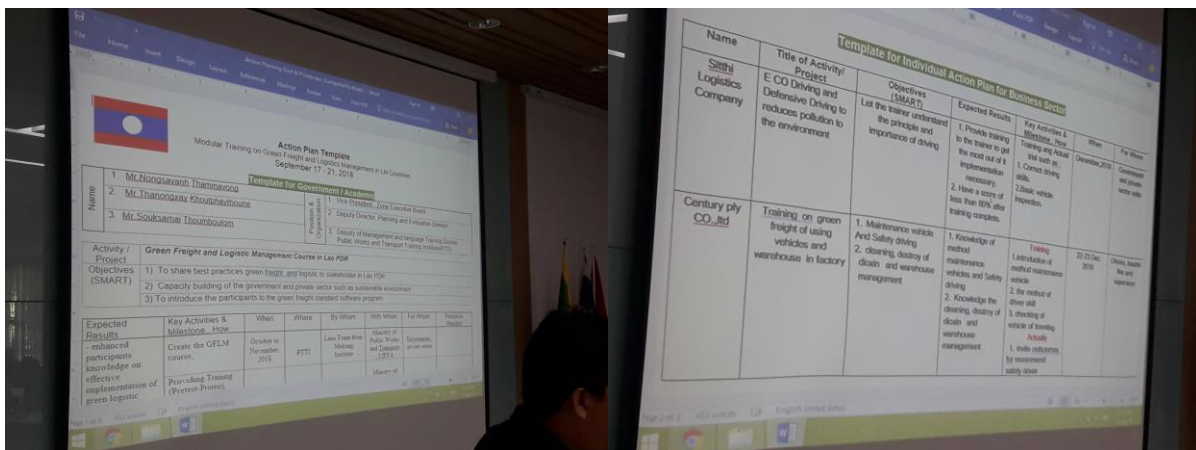
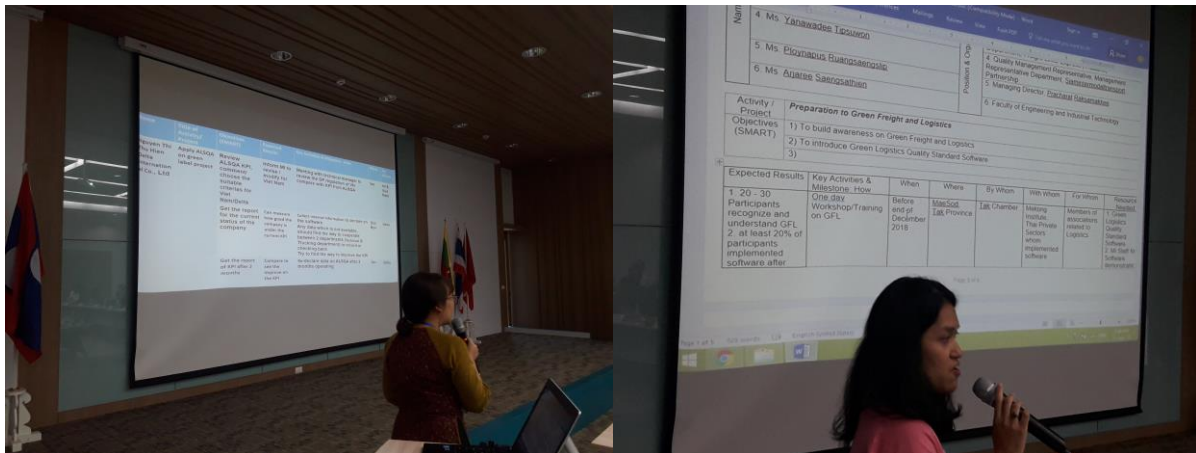
13. Appendices

13.1. Resource Persons and MI Organizing Team

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13.2. Action Plan



13.3. After Event Evaluation

13.3.1. Learning Program Objectives

Part 1: Learning Program Objectives							
To What Extent Do You Think the Training Program Has Met Its Objectives?	Not	Somewhat	Mostly	Met	Fully	Rating Average	
	Met	Met	Met		Met		
	1	2	3	4	5		
Discuss tools to help LSPs to become more competitive and reduce cost of logistics and transport for improvement in economic performance in the Mekong Countries			5	9	15	2	3.57
Build capacities of the LSPs on green freight and logistics to comply with the 'green mark' certification			6	11	12	2	3.43
Discuss the potential and benefits of green freight policies			6	10	10	4	3.40
Identify opportunities that can be developed into actions and projects			5	10	10	3	3.17
Form a knowledge base to complement efficient logistics and green freight programs in the countries			3	6	17	4	3.73
Share best practices of green freight and logistics to promote learning and exchange among various stakeholders in green freight and logistics			5	7	15	3	3.53
Introduce the participants software on the Green Logistics Service Quality Standards (GLSQS) for the logistics companies to monitor the performance of the set standards			6	11	10	3	3.33
Meet the core group of the project 'Green Freight and Logistics Development in Mekong Countries' to devise mechanism on adopting the green logistics standards in their			3	8	16	2	3.47
Total	0	39	72	105	23	3.45	

13.3.2. Program Contents

Part 2: Program Contents						
2.1 How Useful Were the Sessions of The Training Program?	Not Useful	Just Right	Neutrally Useful	Useful	Very Useful	Rating Average
	1	2	3	4	5	
Module 1 - Introduction to and Need for Green Freight and Logistics (GFL)						
Difference between freight transport and logistics and “green freight and logistics (GFL)”		3	7	16	3	3.53
Importance of GFL in the GMS region		1	5	14	7	3.60
Link between economic growth, freight transport and international processes and commitments		1	9	16	3	3.60
Key sustainability - related terminologies such externalities and external costs		4	7	16	2	3.43
Global overview and status of GFL in the GMS region		2	10	14	3	3.50
UNCTAD Reference Framework for Sustainable Freight Transport		5	10	6	7	3.30
Total	0	16	48	82	25	3.49
Module 2 – GFL Issues						
Frameworks for assessing the strategic opportunities of improving environmental performance of freight transport and logistics		5	7	13	3	3.27
Measuring the environmental performance of freight transport		6	6	13	3	3.23
Qualitative and quantitative assessments		5	9	8	4	2.97
Data and the need for qualifying the external costs		5	6	13	4	3.33
The need for establishing a comprehensive vision, goals and objectives		5	3	14	6	3.50
Set targets with a view to improve the environmental performance of the freight sector		5	4	16	3	3.37
Identify KPIs to monitor progress towards GFL		4	6	14	4	3.40
Total	0	35	41	91	27	3.30

Module 3 – Preparing Companies for Green Logistics						
Freight transport intensity		2	10	10	3	2.97
The need to decouple freight externalities with economic growth		2	9	14	1	3.07
Current role of trade in freight growth		2	13	11	1	3.07
Tradeoff between freight transport and other logistics elements (handling / warehouse)		3	8	15	1	3.17
Impact of oil prices on logistics cost		4	3	14	6	3.43
Solutions to decouple freight externalities with economic growth		3	10	11	3	3.17
The importance of mode shift		2	4	18	4	3.60
Modal shift in current political and private sector agenda		3	9	13	3	3.33
Constraints for modal shift in the GMS region		1	8	17	3	3.63
Effectiveness of the current modal shift strategies		4	5	17	2	3.37
Government policy measures to support freight modal shift		4	6	15	4	3.53
The importance of vehicle productivity and utilization		4	4	14	6	3.53
Measurement of vehicle utilization: Key parameters		3	9	14	3	3.47
Constraints on truck utilization / productivity		3	6	17	3	3.57
Improvement of productivity and utilization by countries and companies		3	9	11	5	3.40
Importance of fuel efficiency		1	2	16	8	3.73
Current barriers to energy efficiency improvements		1	7	17	2	3.37
The need for systems approach i.e. link with vehicle emission standard			13	12	2	3.23
Improvement of energy efficiency in the freight transport and logistics sector for stakeholders		2	7	16	4	3.63
Importance of decarbonizing fuel			9	15	4	3.57
Current barriers to decarbonizing fuel			8	17	2	3.40
Measures and policies to decarbonize fuel in the freight transport and logistics sector		4	10	12	3	3.37
Total	0	51	169	316	73	3.39
Module 4 – GFL Standards and Certification Scheme						
Importance of GFL standard and certification recognition scheme		2	10	9	7	3.50
Different types of GFL standard and certification recognition scheme		2	12	11	3	3.30
“green mark” standards in logistics service operations		3	7	13	5	3.47
Total	0	7	29	33	15	3.42

Core Group Meeting						
Presentation of baseline study result			6	11	7	3.23
Monitoring company operational efficiency through green logistics quality standard software program	1	3	7	11	5	3.23
Presentation and validation of country action plans		3	4	11	9	3.57
Total	1	6	17	33	21	3.34

2.2 In Your Own Opinion, To What Extent Do You Think The Program Has Met Your Expectations?						
Not met	Just right	Neutrally met	Met	Fully met	Rating Average	
1	2	3	4	5		
		5	18	2		3.23

2.3 How was the Level of Instruction?						
Too basic	Just right	Very appropriate	Advanced	Too advanced	Rating Average	
1	2	3	4	5		
	5	8	15	1		3.30

2.4 To What Extent, the Training Program Has Improved / Increased Your Knowledge and Skills						
Not Increased	Somewhat Increased	Moderately Increased	Mostly Increased	Highly Increased	Rating Average	
1	2	3	4	5		
	3	2	19	3		3.43

2.5 To What Extent, the Knowledge and Skills Gained from the Training Program Relevant to Your Work						
Not Relevant	Somewhat Relevant	Moderately Relevant	Mostly Relevant	Highly Relevant	Rating Average	
1	2	3	4	5		
	3	5	14	7		3.73

2.6 Did Training Program Help You Acquire Additional Knowledge on The Subject?						
Not Acquired	Somewhat Acquired	Neutrally Acquired	Acquired	Highly Acquired	Rating Average	
1	2	3	4	5		
	3	2	17	7		3.83

2.7 During the Training Program, I have Improved / Developed My Additional Knowledge in.....	Not Improved	Somewhat Improved	Naturally Improved	Improved	Highly Improved	Rating Average
	Improved	Improved	Improved	Improved	Improved	
Presentation Skills		6	8	11	3	3.17
Communication Skills		4	10	10	3	3.10
Team / Group Working Skills		4	5	16	3	3.40
Networking		4	6	15	2	3.20
Internet Searching	1	6	8	9	3	2.93
Total	1	24	37	61	14	3.16

13.3.3. Training Method

Part 3: Training Method						
3.1 How Do You Think About the Training Methods	Inappropriate	Somewhat inappropriate	Neutrally appropriate	Appropriate	Very appropriate	Rating Average
	1	2	3	4	5	
Lecture / Presentation		1	7	19	1	3.47
Video / Case studies		5	7	14	2	3.23
Class Activities / Exercise / Assignment		3	5	16	4	3.50
Group Work			4	19	5	3.77
Participants' Presentation and Plenary Discussion		1	6	17	4	3.60
Action Plan		1	7	16	3	3.40
Total	1	13	39	105	24	3.49

3.2 How Do You Think About Following Monitoring and Evaluation (M&E) Methods	Not Effective	Somewhat Effective	Neutrally Effective	Effective	Very Effective	Rating Average
	Effective				Effective	
	1	2	3	4	5	
Pre - & Post - Assessment		1	10	15	2	3.40
Board of Directors (BOD)		1	6	19	2	3.53
Session Synthesis / Summary			7	19	1	3.40
Total	1	4	26	57	10	3.44

13.3.4. Overall Assessment

Part 4: Overall Assessment						
4.1. What is Your Overall Assessment of the Training Program	Not Satisfied	Somewhat Satisfied	Neutrally Satisfied	Satisfied	Very Satisfied	Rating Average
	1	2	3	4	5	
Overall Training Program			5	20	3	3.67

13.5. Curriculum Design Statement (CDS)

I. Introduction

Freight transportation is critical to businesses, consumers and the world economy. The freight sector moves vast volumes of goods, commodities, materials and food domestically and globally and is primary factor in economy and growth. But a goods movement comes with an impact on the global environment. It contributes a significant portion of air pollution and its contribution is expected to grow significantly in the coming years. Globally, carbon dioxide (CO) emissions from freight transport are growing more quickly than those from passenger vehicles. In particular, heavy duty vehicles are expected to be the largest emitter of CO₂ from all transport modes by 2035.

As the Asian economy continues to grow at a rapid pace, an increase in freight transport activity is also expected. It is estimated that by the year 2050, medium and heavy freight trucks worldwide will consume 1,240 billion litres of fuel, which is estimated at 138% more than 2000 levels. The global share of trucks operating within Asian countries is expected to increase from 19% in 2000 to 34% in 2050.

The Mekong Institute (MI) is implementing a three-year project on “Green Freight and Logistics Development in Mekong countries’ funded by the Republic of Korea through the Mekong - Korea Cooperation Fund (MKCF). The long-term objective of the project is to reduce the cost of logistics and transport to improve economic performance in the five countries in Cambodia, Lao PDR, Myanmar, Thailand and Vietnam (CLMTV). This will eventually aid the transport sector to increase its contribution to economic development in the Mekong countries as well reduce its carbon footprint.

As part of this project, MI will be organizing training on Green Freight and Logistics Management on September 17-21 in Khon Kaen, Thailand.

2. Training Objectives

- 9 Discuss tools to help LSPs to become more competitive and reduce cost of logistics and transport for improvement in economic performance in the Mekong countries
- 10 Build capacities of the LSPs on green freight and logistics to comply with the ‘green mark’ certification.
- 11 To discuss the potential and benefits of green freight policies,
- 12 To identify opportunities that can be developed into actions and projects,
- 13 To form a knowledge base to complement efficient logistics and green freight programs in the countries.
- 14 To share best practices green freight and logistics to promote learning and exchange among various stakeholders in green freight and logistics.
- 15 Introduce the participants to software on the Green Logistics Service Quality Standards (GLSQS) for the logistics companies to monitor the performance of the set standards.
- 16 Meeting of the core group of the project “Green Freight and Logistics Development in Mekong countries’ to devise mechanism on adopting of the green logistics standards in their respective countries.

3. Training Outcomes

At the end of the training, the participants should have acquired knowledge and practical skills on a variety of pertinent topics. They will have a deeper understanding of the significance of “Green” or more generally sustainable practices in the transport and logistics industry.

Moreover, this training will aim to have the following outcomes:

- Greater understanding of procedures, formalities, and practices in transport and logistics activities and management in the Mekong countries.
- Develop strategies for transport and logistics planning and management to complement efficient logistics and green freight programs in the Mekong countries.

- Enhanced participants' knowledge on effective implementation of green logistics procedures and logistics management.
- Enhanced capacities of national ministries and logistics associations on green freight standards and certification
- Improved information on access to green freight technologies
- Improved mechanism to share and promote collective action on green freight and logistics development in Mekong region

4. Project Approach

The project approach consists of

Prior to the Modular Training

- A baseline study has been conducted to establish baseline data on keys aspects of logistics and green freight among the logistics service providers (LSP) which will be used to monitor the progress and measure the outcomes of the project.
- Three categories of labels to measure green logistics and freight service standards on core logistics services such as cargo/freight handling, transportation, warehouse, ICD, cold chains etc. have been decided upon and agreed by GMS - FRETA members, government agencies (e.g ministries of transport) in all the 5 Mekong countries.
- A software program has been developed on the Green Logistics Service Quality Standards (GLSQS) for the logistics companies to monitor the performance of the set standards.
- Country workshops are being held in the five Mekong countries to provide training key personnel of departments of land transport and logistics associations on the use and application of the software program.

At the Modular Training

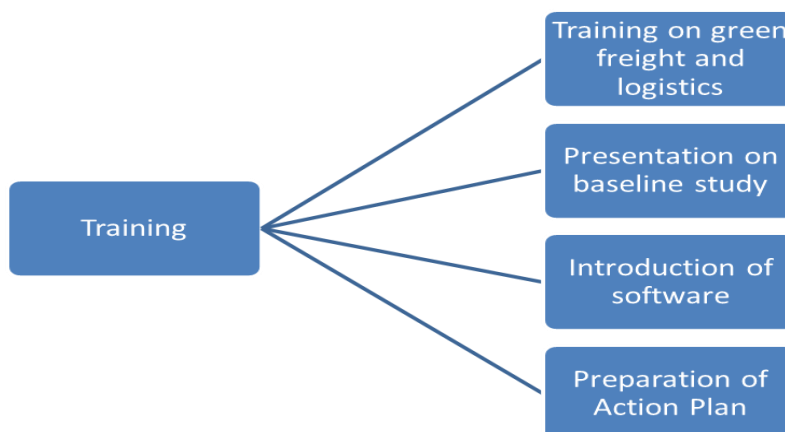
- A modular training is being conducted for national level agencies and logistics service providers involved in logistics development.
- A meeting of the core group of project will be held to devise mechanism on adopting of the green logistics standards in their respective countries.

After the Modular Training

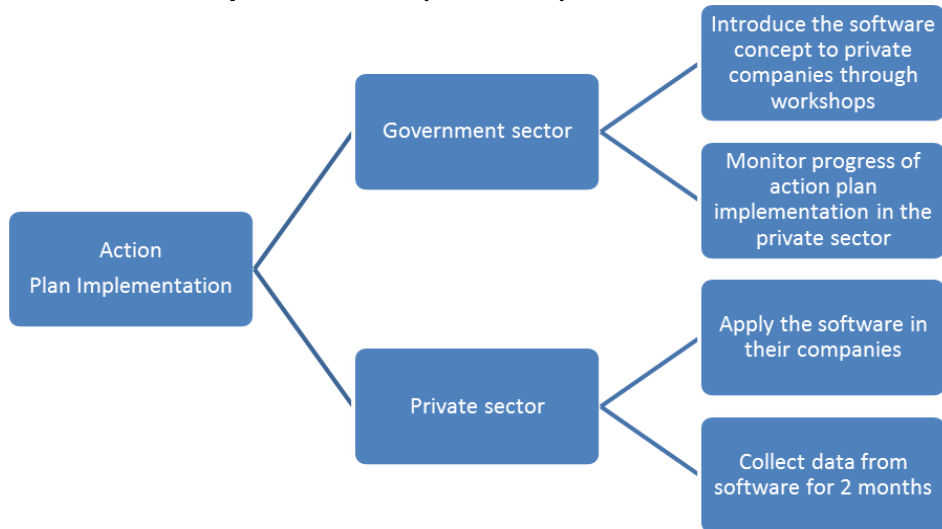
- Technical assistance will be provided to implement action plans decided upon by participants themselves at the modular training.
- Conduct a synthesis and evaluation workshop to evaluate the results of the action plan implementation, share the best practices, challenges and identify the way forward.

The different activities for the participants of the training are explained in the charts below.

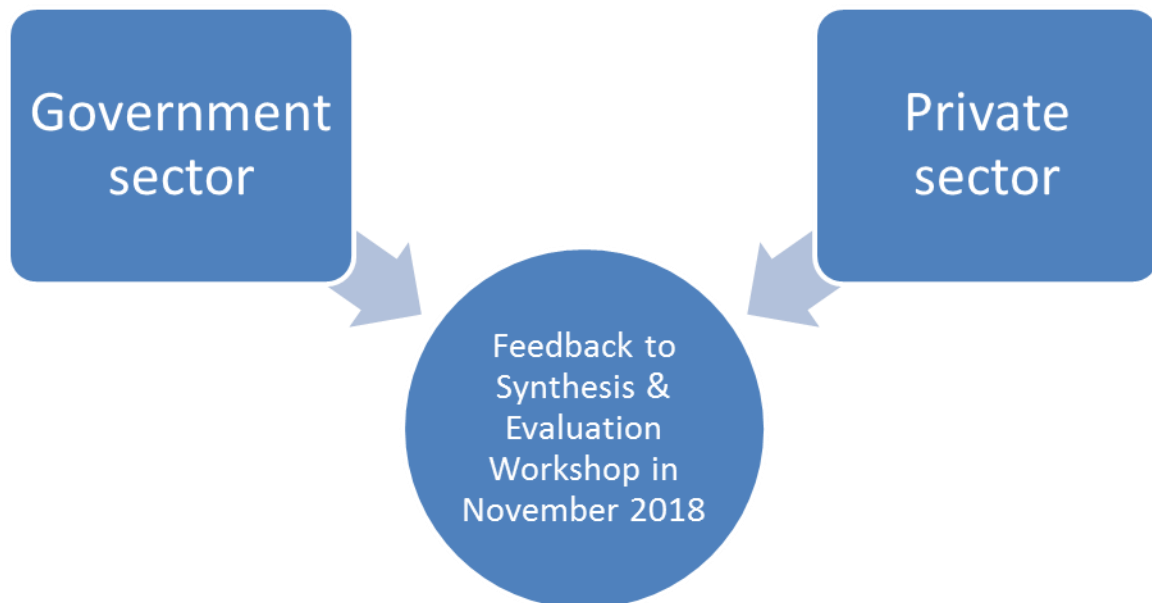
Activity 1: Modular Training on Green Freight and Logistics Management



Activity 2: Action Plan Implementation (2 months)



Activity 3: Synthesis & Evaluation Workshop (2 days)



5. Target Group

The training targets senior and mid-level officials, academic institutions and members of logistics associations from CLMTV namely;

- Government representatives (including Ministries of Transport, Energy and Environment, Port Authorities),
- Private sector (Logistics Associations, Freight Forwarders Associations, Logistics Operators, Trucking Companies, Shipping Liners etc.)
- Universities and Logistics training institutes.

In general, participants should;

- Have at least 5 years of experience in Logistics / Transport sectors from Government, private or academies.

- Have a university degree in a discipline directly related to Logistics/ Transport sectors;
- Be able to communicate (speak, understand, read and write) at professional level in English;
- Have sufficient professional capacity to actively participate cross-culturally at international level;
- Be in good health both physically and mentally;
- Be able to attend the entire course, including its field trips and outdoor activities.

In addition, MI encourages;

- The participation of women and minorities;
- The participation of persons from border areas with other neighboring target countries or those who may otherwise be engaged in cross-border or regional trade and investment.

Important criteria for participant selection are English language proficiency and ability to commit themselves to full attendance and course requirements.

6. Duration and Location

The one - week International training program will be held on September 17-21, 2018 at the Mekong Institute's Residential Training Center, Khon Kaen, Thailand.

7. Training Content

In this course, participants will explore five interrelated modules:

Module 1	Introduction to and need for green freight and logistics (GFL)
Module 2	GFL issues
Module 3	Preparing companies for GFL
Module 4	GFL certification process: recognition scheme
Module 5	GFL strategy – combining the actions/discussions

Module 1: Introduction to and need for green freight and logistics

The session will introduce the concept of freight and logistics emphasizing the “economic”, “green”, “social” dimensions and steering through various terminologies associated with the green freight and logistics. The participants will be introduced to concepts such as

- Difference between freight transport and logistics and “green freight and logistics” (GFL)?
- Why GFL is important for the GMS region?
- Link between economic growth, freight transport and international processes and commitments
- Key sustainability-related terminologies such externalities and external costs
- Global Overview and status in the GMS region
- UNCTAD Reference Framework for Sustainable Freight Transport which provides a step-by-step methodology on how to plan, design, develop and implement tailored sustainable freight transport strategies

Module 2: GFL issues

Session 1: Diagnosis which includes framework and measurement

The session will consider challenges related to diagnosis and measurement of freight and logistics emissions. The participants will be introduced to concepts such as

- Frameworks for assessing the strategic opportunities of improving environmental performance of freight transport and logistics.

- Measuring the environmental performance of freight transport
- Qualitative and quantitative assessments
- Data and the need for quantifying the external costs

Session II: Vision, targets and KPIs

The session will focus on the importance of

- the need for establishing a comprehensive vision, goals and objectives
- set targets with a view to improving the environmental performance of the freight sector
- identify KPI's to monitor progress towards GFL

How diverse freight transport perspectives can best be integrated into the sustainable freight transport planning process by identifying consensus driven vision, objectives and targets

Module 3: Preparing Companies for Green Logistics

Session I: Freight intensity

The session will discuss

- What is freight transport intensity?
- The need to decouple freight externalities with economic growth
- Current role of trade in freight growth
- Tradeoff between freight transport and other logistics elements (handling/warehouse)
- Impact of oil prices on logistics cost
- Solutions to decouple freight externalities with economic growth

Session II: Modal Shift

The session will discuss

- Why mode shift is important?
- Is modal shift in current political and private sector agenda?
- What are the constraints for modal shift in the GMS region?
- How effective are the current modal shift strategies?
- Government policy measures to support freight modal shift

Session III: Vehicle Utilization

The session will discuss

- Why Productivity & Utilization Matters?
- Measurement of Vehicle Utilization: key parameters
- What are the constraints on Truck Utilization/Productivity?
- What could countries and companies do to improve productivity and utilization?

Session IV: Energy Efficiency

The session will discuss

- Why fuel efficiency matters?
- What are the current barriers to energy efficiency improvements?
- The need for systems approach i.e. link with vehicle emission standards?
- What can stakeholders do to improve energy efficiency in the freight transport and logistics sector?

Session V: Decarbonising fuels

- Why decarbonizing fuel is important?
- What are the current barriers to decarbonizing fuel?
- What are the measures and policies to decarbonise fuel in the freight transport and logistics sector?

Module 4: GFL Standards and Certification Scheme

The session will discuss

- Why recognition scheme is important?
- What are the different types of recognition schemes?

- Introduce “green mark” standards in logistics service operations

Module 5: GFL strategy – combining the actions/discussions

A rapporteur from each group will outline their GFL plan in the final plenary session [15 min for each group]

Discussion - Summary of findings

This session will also provide opportunities for participants to share information, experiences, best practices

8. Action Plan Guidance and Preparation

As part of the training program, the participants will be required to prepare their action plans to disseminate the knowledge and skills they learned/gained during the training. The orientation for action plans, individual and / or joint action plan preparations and group presentations will be delivered on the last day of the training.

The participants are able to develop their feasible action plans to address the group’s objectives. An action plan consists of a number of action steps in accordance with the national/local scenario, added with the endowment of clear-cut group work divisions and responsibilities.

9. Training Assignment

Training assignments will require participants to practice professional skills and integrate concepts of transport and logistics management for their own country linking to regional and international level. In addition, participants will work in groups, these activities will promote communication and promote national level collaboration and foster a professional network of contacts among participants. Specific assignments will also be provided throughout the course.

The team of resource persons / instructors will comprise international and national experts with a significant experience in logistics management in international level. The instructors are all experts in their respective areas of competency which will provide participants with significant opportunities for being exposed to international practice and expertise.

10. Curriculum Design & Methodology

The training design is drawn from capacity building needs and tailored to the International context. The training is designed to foster greater understanding of the training contents, and to focus on practical knowledge, respect adult learning principles, use real case studies, adopt participative approaches, as well as stimulate sharing and networking among the participants. Interactive experiential learning will be employed here. The training will be delivered in English and will adopt the following methods.

- Lectures and presentations
- Plenary discussions, case studies and group exercises
- Role plays and simulation games

As required, all training modules are to be drawn from practical experiences and tailored to the needs of stakeholders involved in transport and logistics activities. It would incorporate concrete actions for follow-up activities after training.

Each training module is designed and delivered using the “Integrated Curriculum” approach. The salient features of this integrated curriculum are that competencies are carefully selected, integration of theoretical concepts with skills practice and essential knowledge directed at enhanced performance, and above all, various implicit competencies

(e.g. facilitation, presentation, and communication, negotiation, and leadership skills) are integrated across the curriculum.

For each module, participants will go through three progressive stages of a modular training approach as follows:

Learn to Do: Each training module will start with the participatory training sessions where concerned trainees are trained on the concepts, techniques, tools and effective strategies to develop and promote transport and logistics trade and management. At this cognitive stage, learner-centered instruction applied where the trainer is a leader of a community of learners, devising ways to promote inquiry, higher order thinking, problem-solving, higher levels of literacy and engagement. This is a conceptualizing stage which requires processing and drawing on a rich knowledge base of content, methods appropriate to the content, and technology appropriate to the content.

Do to Learn: This competency-based module has been classified as a form of work-based learning. Immediately, after the new skills/knowledge have been acquired, the trainees will then carry out their corresponding assignments, e.g. after completing deliberation on the concept and tools for “Green freight planning and management”, participants will be given assignments to identify, design a particular activity in groups. This application or “doing” (psychomotor) enables the learner to apply the ideas and concepts expressed in cognitive objectives. This stage will be carried out using case studies and simulation exercises.

Share to Learn: Before progressing to another learning module, there will be a share-to-learn session where each individual/group will have a chance to present their outputs and share the learning/working experience with others. Lessons learned and practical experiences from the actual applications will be shared and innovative knowledge and skills will emerge and become institutionalized.

11. Monitoring and Evaluation (M&E)

An effective monitoring and evaluation mechanism will be put in place to assess the progress and measure the results of the intervention. The M&E will be introduced in the pre, during and post stages of each modular training approach.

12. Contacts

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13.6. Program Schedule

Day I, Monday, September 17, 2018		
Venue: Mekong River Conference Room, 2 nd Floor, Mekong Institute Annex, Khon Kaen Thailand		
Date & Time	Contents / Sessions	Resource Person / Facilitator
07:00 - 08.20	Breakfast	@ MI
08.20 - 08.30	Participants' registration	Mr. Robby Rosandi, Program Officer, & Mr. Toru Hisada, Program Officer, TIF
08.40 - 08.50	Inauguration - Welcome and Opening remarks	Mr. Madhurjya Kumar Dutta, Director, Trade & Investment Facilitation (TIF)
08.50 - 09.00	Video Presentation - Mekong Institute	MI
09.00 – 09.50	- Overview of Mekong-Korea Cooperation Fund - Background, Objectives and Planned Activities of the project: “Green Freight and Logistics Development in Mekong countries” - MI initiatives on Logistics and Green Freight Development	Mr. Madhurjya Kumar Dutta, Director, Trade & Investment Facilitation (TIF)
09.50 – 10.00	Group Photo	Communications and Knowledge Management Department (CKM), MI
10. 00 – 10.20	- Getting to Know Each Other - MI Facilities Presentation	Mr. Robby Rosandi, Program Officer, TIF Mr. Toru Hisada, Program Officer, TIF
10.20 – 10.35	Coffee Break and Business Networking	@ MI
10.35 – 11.15	- Setting Norms & Expectations - Evaluation Tool and Pre – assessment - Program Overview and Course Assignments	Mr. Sa-nga Sattanun, Program Manager, TIF
11.15 – 12.15	Technical Session - Monitoring Company Operational Efficiency through Green Logistics Quality Standard Software Program	Mr. Saurav Dahal, Program Officer (Database Development), TIF Ms. Sanchita Chatterjee, Program Specialist, TIF
12.15- 13.30	Lunch	@ MI
13.30 - 15.10	Technical Session - Introduction to the Green Freight and Logistics Management - Need for Green Freight and Logistics	Mr. Sudhir Gota Consultant, MI
15.10 - 15.30	Coffee break and Business Networking	@ MI
15.30 – 16:40	Technical Session - Diagnosis which includes framework and measurement	Mr. Sudhir Gota Consultant, MI
16.40 - 17.00	Meeting with selected participants as Board of Director (BOD)	MI
17.00 onwards	Campus Tour & Dinner (self-payment)	

Day II, Tuesday, September 18, 2018		
Venue: Mekong River Conference Room, 2 nd Floor, Mekong Institute Annex, Khon Kaen Thailand		
Date & Time	Contents / Sessions	Resource Person / Facilitator
07.00 - 08.40	Breakfast	@ MI
08.40 - 09.00	Recapitulation	Assigned team
09.00 - 10.10	Technical Session - Vision, targets and KPIs	Mr. Sudhir Gota Consultant, MI
10.10 - 10.30	Coffee Break	@ MI
10.30 - 12.00	Technical Session - Freight Intensity	Mr. Sudhir Gota Consultant, MI
12.00 - 13.30	Lunch	@ MI
13.30 - 15.10	Breakout - Diagnosis, What are the “Opportunities” and “Barriers” for development of the GFL in the GMS region, What environmental externalities should be included in the GFL strategy	Mr. Sudhir Gota Consultant, MI
15.10 - 15.30	Coffee Break and Business Networking	@ MI
15.30 - 16.40	Technical Session - Modal-Shift	Mr. Sudhir Gota Consultant, MI
16.40 - 17.00	Meeting with selected participants as Board of Director (BOD)	MI
17.00 onwards	Free time and self-study	

Day III, Wednesday, September 19, 2018		
Venue: Mekong River Conference Room, 2 nd Floor, Mekong Institute Annex, Khon Kaen Thailand		
Date & Time	Contents / Sessions	Resource Person / Facilitator
07.00 - 08.40	Breakfast	@ MI
08.40 - 09.00	Recapitulation	Assigned team
09.00 - 10.10	Technical Session - Vehicle Utilisation	Mr. Sudhir Gota Consultant, MI
10.10 - 10.30	Coffee Break and Business Networking	@ MI
10.30 - 12.00	Technical Session - Energy Efficiency	Mr. Sudhir Gota Consultant, MI
12.00 - 13.30	Lunch	@ MI
13.30 - 15.10	Breakout - Vision for 2030, Objectives, Targets, KPIs, Stakeholders, what are likely to be the main challenges to the realization of this vision/targets	Mr. Sudhir Gota Consultant, MI
15.10 - 15.30	Coffee Break	@ MI
15.30 - 16.40	Technical Session - Decarbonising Fuel	Mr. Sudhir Gota Consultant, MI
16.40 - 17.00	Meeting with selected participants as Board of Director (BOD)	MI
17.00 onwards	Free time and self-study	

Day IV, Thursday, September 20, 2018		
Venue: Mekong River Conference Room, 2 nd Floor, Mekong Institute Annex, Khon Kaen Thailand		
Date & Time	Contents / Sessions	Resource Person / Facilitator
07.00 - 08.40	Breakfast	@ MI
08.40 - 09.00	Recapitulation	Assigned team
09.00 - 10.10	Technical session - Recognition Scheme	Mr. Sudhir Gota Consultant, MI
10.10 - 10.30	Coffee Break	@ MI
10.30 - 12.00	Discussion - Green Freight Label Strategy – combining the actions/discussions	Mr. Sudhir Gota Consultant, MI
12.00 - 13.30	Lunch	@ MI
13.30 - 15.10	Introduction to the Action Plan and its Preparation	Ms. Sanchita Chatterjee, Program Specialist, TIF Mr. Sa-nga Sattanun, Program Manager, TIF
15.10 - 15.30	Coffee Break	@ MI
15.30 - 16.40	Action Plan Preparation	Participants
16.40 - 17.00	Meeting with selected participants as Board of Director (BOD)	MI
17.00 onwards	Action Plan Preparation	Participants

Day V, Friday, September 21, 2018		
Venue: Mekong River Conference Room, 2 nd Floor, Mekong Institute Annex, Khon Kaen Thailand		
Date & Time	Contents / Sessions	Resource Person / Facilitator
07.00 - 08.40	Breakfast	@ MI
08.40 - 09.00	Recapitulation	Assigned team
09.00 – 10.00	Core Group Meeting - Presentation on Baseline Study - Discussions	Prof. Je-Jeung Lee Consultant, MI
10.00 - 10.15	Coffee Break	@ MI
10.15 – 11.15	Core Group Meeting - Monitoring Company Operational Efficiency through Green Logistics Quality Standard Software Program	Ms. Parichart Ponpala, Consultant, MI Mr. Saurav Dahal, Program Officer (Database Development), TIF
11.15 -12.00	Core Group Meeting - Discussion on GLSQS software implementation	Ms. Sanchita Chatterjee, Program Specialist, TIF Mr. Sa-nga Sattanun, Program Manager, TIF
12.00 - 13.00	Lunch	@ MI
13.00 – 15.30	Action Plan Presentation - Presentation and validation of Country Action Plans	MI
15.30 – 15.45	Coffee Break	@ MI
15.45 17- 30	Closing <ul style="list-style-type: none"> • Couse Report • Awarding Certificates • Speech by Country Representative • Way Forward • Closing Remarks 	<ul style="list-style-type: none"> - Mr. Robby Rosandi, Program Officer, TIF - Ms. Sanchita Chatterjee, Program Specialist, TIF - Mr. Madhurjya Kumar Dutta, Director, Trade & Investment Facilitation (TIF) - Dr. Watcharas Leelawath, Executive Director, MI

17.30 – 20.00	Farewell dinner	Khon Kaen
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Day VI, Saturday, September 22, 2018 Venue: Khon Kaen		
Date & Time	Contents / Sessions	Resource Person / Facilitator
07.00 - 09.00	Breakfast	@ MI
	Participants depart for respective countries	

13.7. Participants' Directory



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The Greater Mekong Subregion

The Greater Mekong Subregion (GMS) comprises five Southeast Asian countries and two provinces of China sharing the Mekong River, namely Cambodia, Lao PDR, Myanmar, Thailand, Vietnam, and Yunnan Province and Guangxi Autonomous Region of the People's Republic of China.

About Mekong Institute

Mekong Institute (MI) is a GMS intergovernmental organization (IGO) working closely with the governments of six countries to promote regional development and cooperation through capacity building programs and projects in three thematic areas of agricultural development and commercialization, trade and investment facilitation, and innovation and technological connectivity.



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