

ADB TA-8977 REG: Knowledge Development  
Support for Southeast Asia

# Review on the Status of Axle Load Control (ALC) Practices in Greater Mekong Subregion (GMS) Countries

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Luang Prabang, LAO PDR



# ALC Stocktaking Study 2016–2017

- ***Purpose:*** To understand the status of ALC in GMS countries: scope and costs of overloading, laws, institutions, procedures, resources, results, and trends of ALC.
- ***Methodology:*** Interviews, questionnaire, published databases, and documents.
- ***Execution:*** Engaging in each country for 3 days, and months of follow-up by a national surveyor.

# What is at stake?

Potential annual savings from a 10% reduction in rates and in degrees of overloading:

***\$1 million per 1 billion t-km of freight***

....from

Trucks	2,000
Trips per year	100
Trip km loaded	250
Payload t	20

# Where to Start?

1. Know the 'enemy': Where is the overloading? Who? Which vehicles? Which cargoes? How much? How often?
2. Understand the motivation: need or greed?
3. Try mediation and negotiation: possibilities of cooperative agreements to comply?
4. Adapt the staff: re-design ALC from a *policing - enforcement agency* to a *solutions - seeking enterprise*.
5. Modernizing transport and logistics sector.

# Motivation to Overload: Need

Need of a fair rate of return?

Solutions in:

- a) Laws, regulations and ALC operations to ensure fair competition;
- b) Infrastructure, logistics, services and finance to minimize operating costs;
- c) Credible, non-corrupt enforcement of control and penalties to remove non-complying enterprises.

# Motivation to Overload: Greed

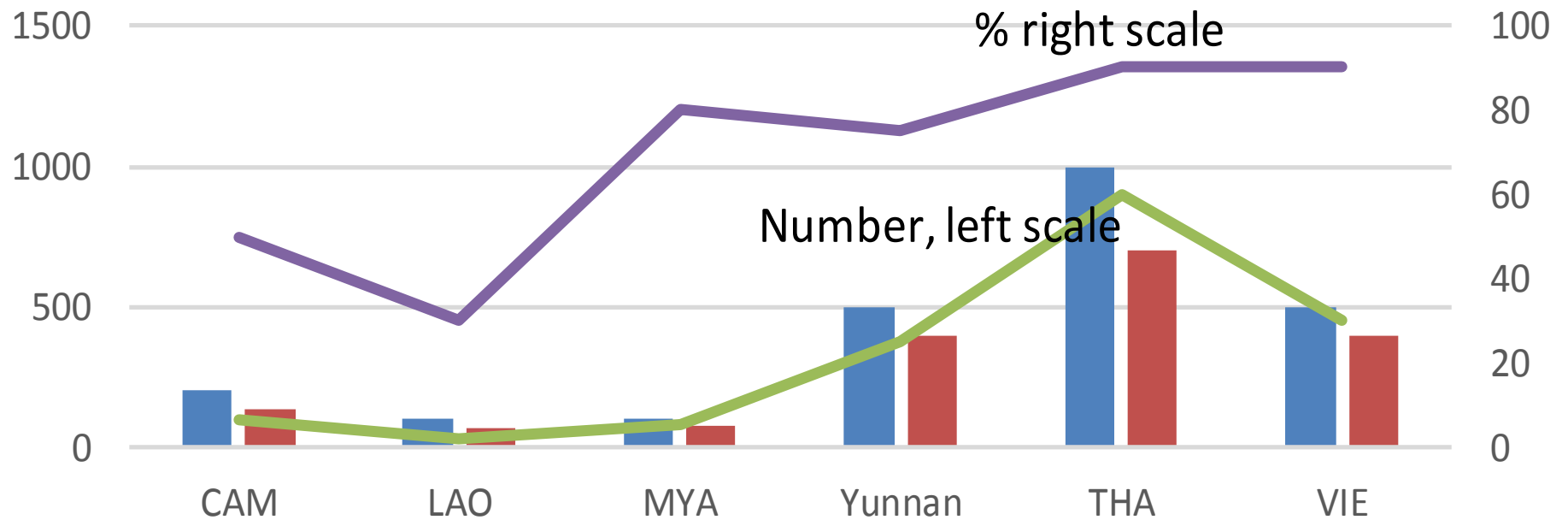
Greed to gain super-profits, reduce competitors?

Solutions are in:

- a) Evidence to expose the violators;
- b) Representative and non-political agencies and boards of management;
- c) 'Close in' checks at gates of ports, quarries, factories, warehouses, building sites;
- d) Credible enforcement of control and penalties to remove gains from overloads;
- e) Business contracts to disqualify violators.

# Evidence on Overloading

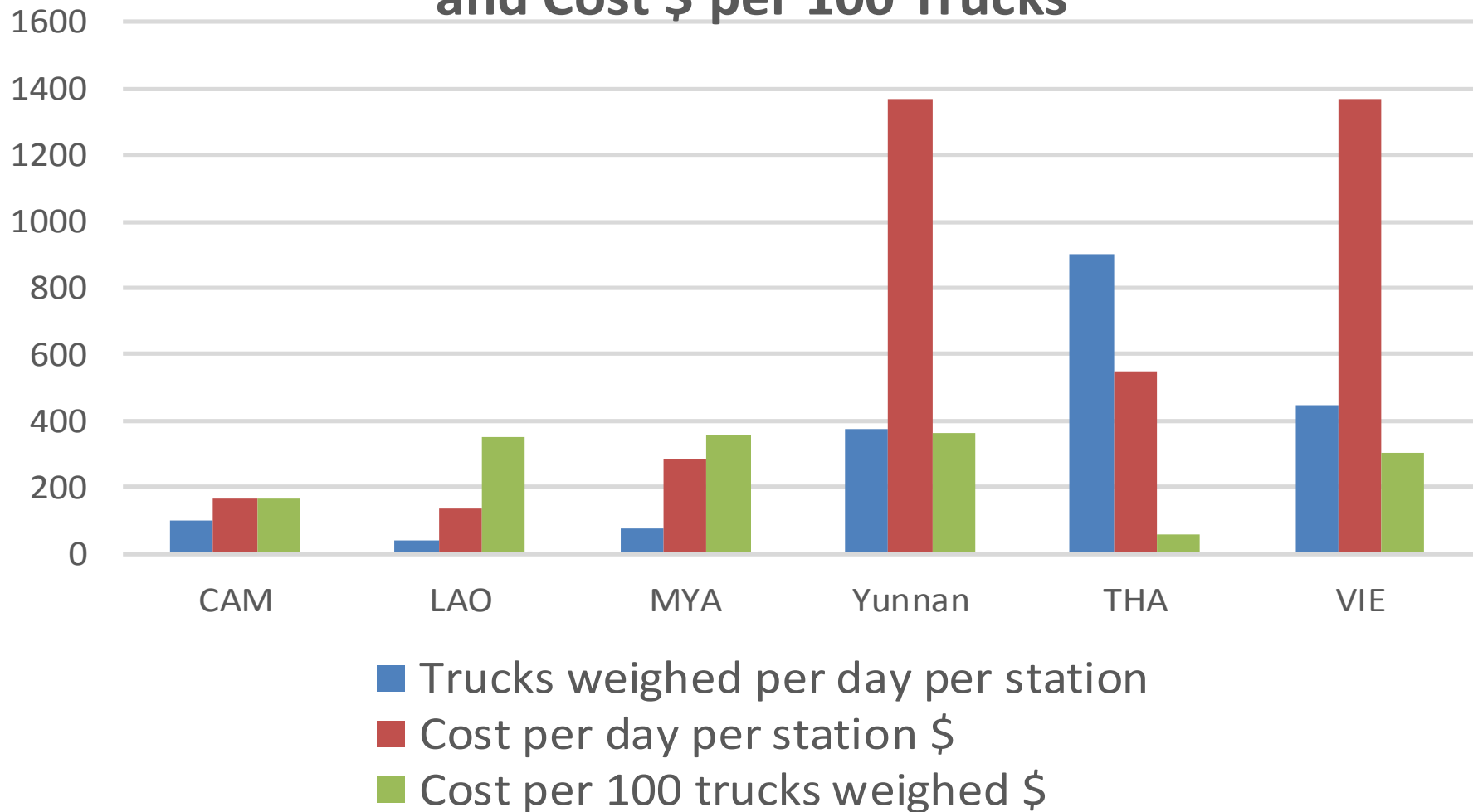
## Loaded Trucks Weighed on Controlled Roads



- ADT of trucks on controlled roads
- Loaded Trucks
- Trucks weighed on controlled roads
- % of Loaded trucks weighed

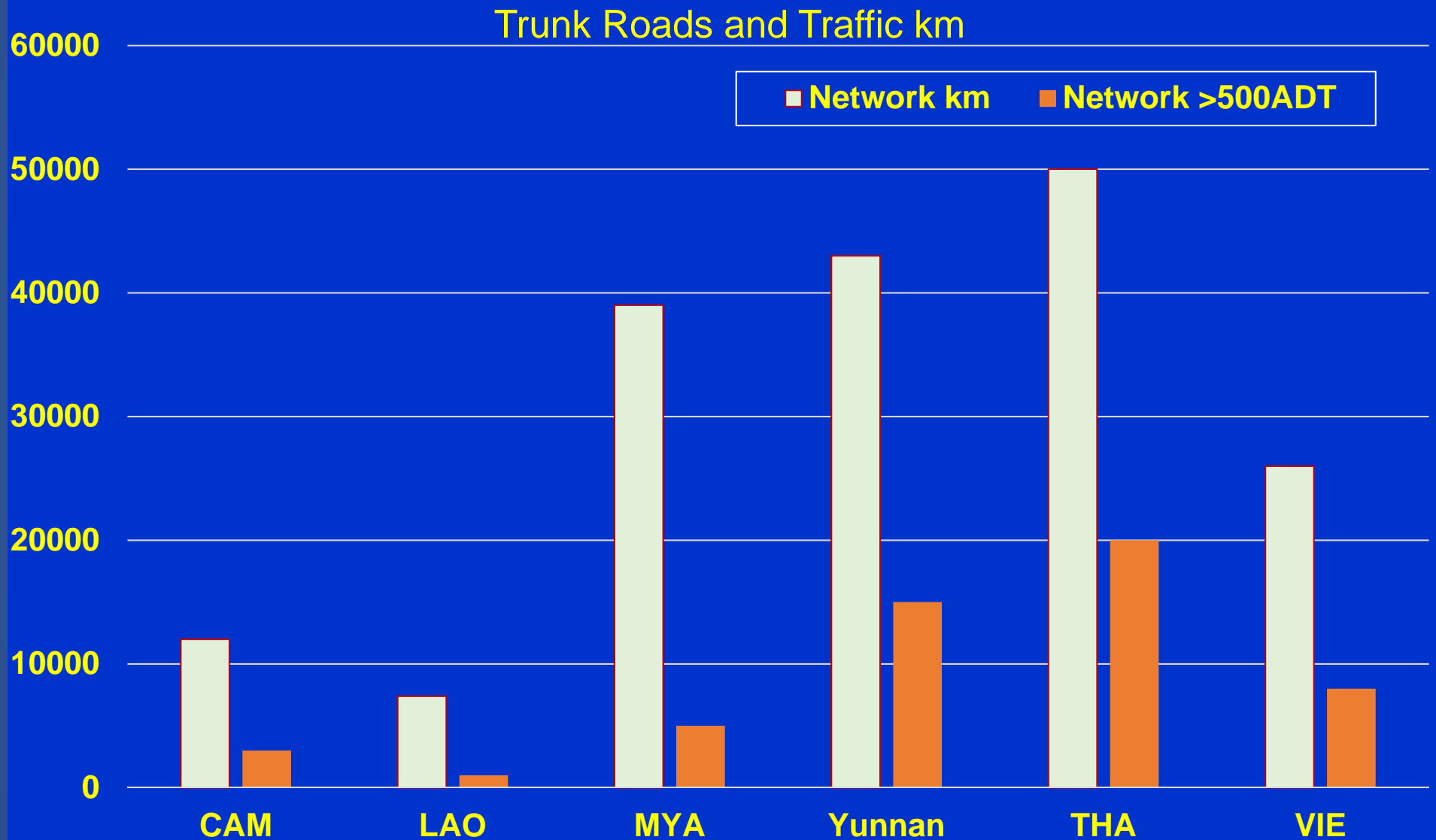
# ALC Daily Cost and Cost per Truck

## Trucks Weighed per Day and Cost \$ per 100 Trucks





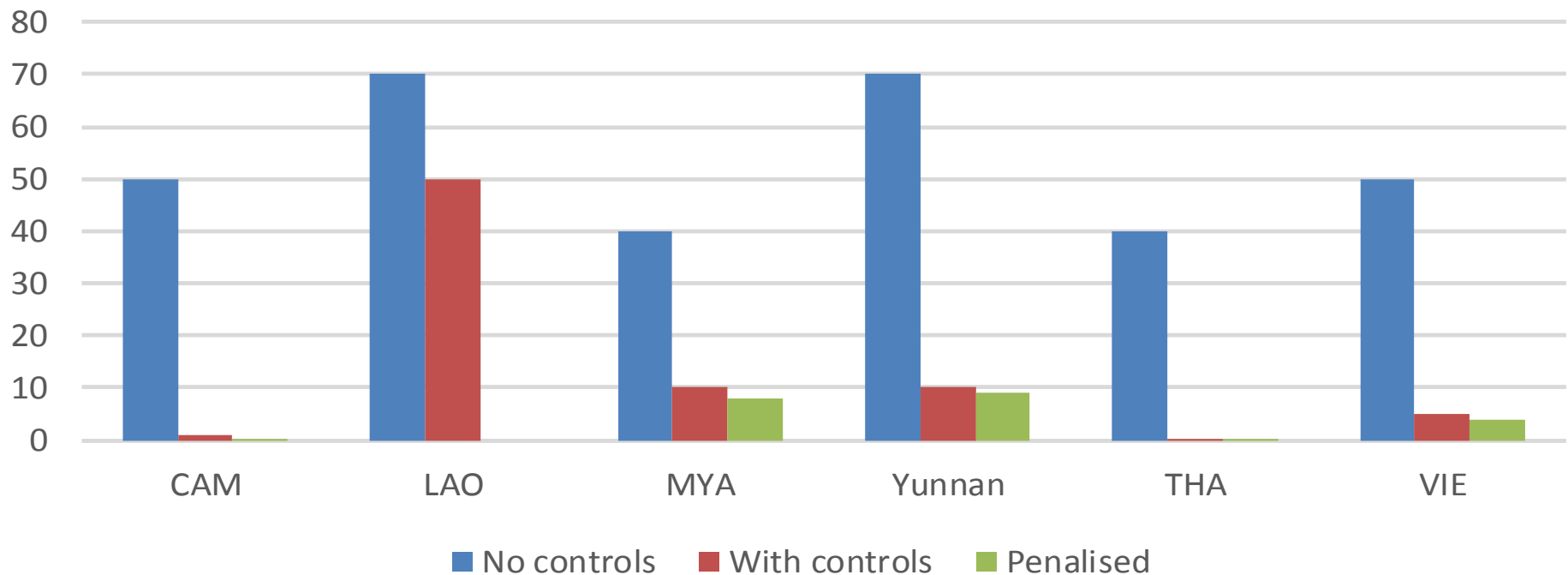
# Target ALC: Trunk Road Length and Extent of roads with >500 vehicles Average Daily Traffic (ADT)



# Summary on ACL Effectiveness

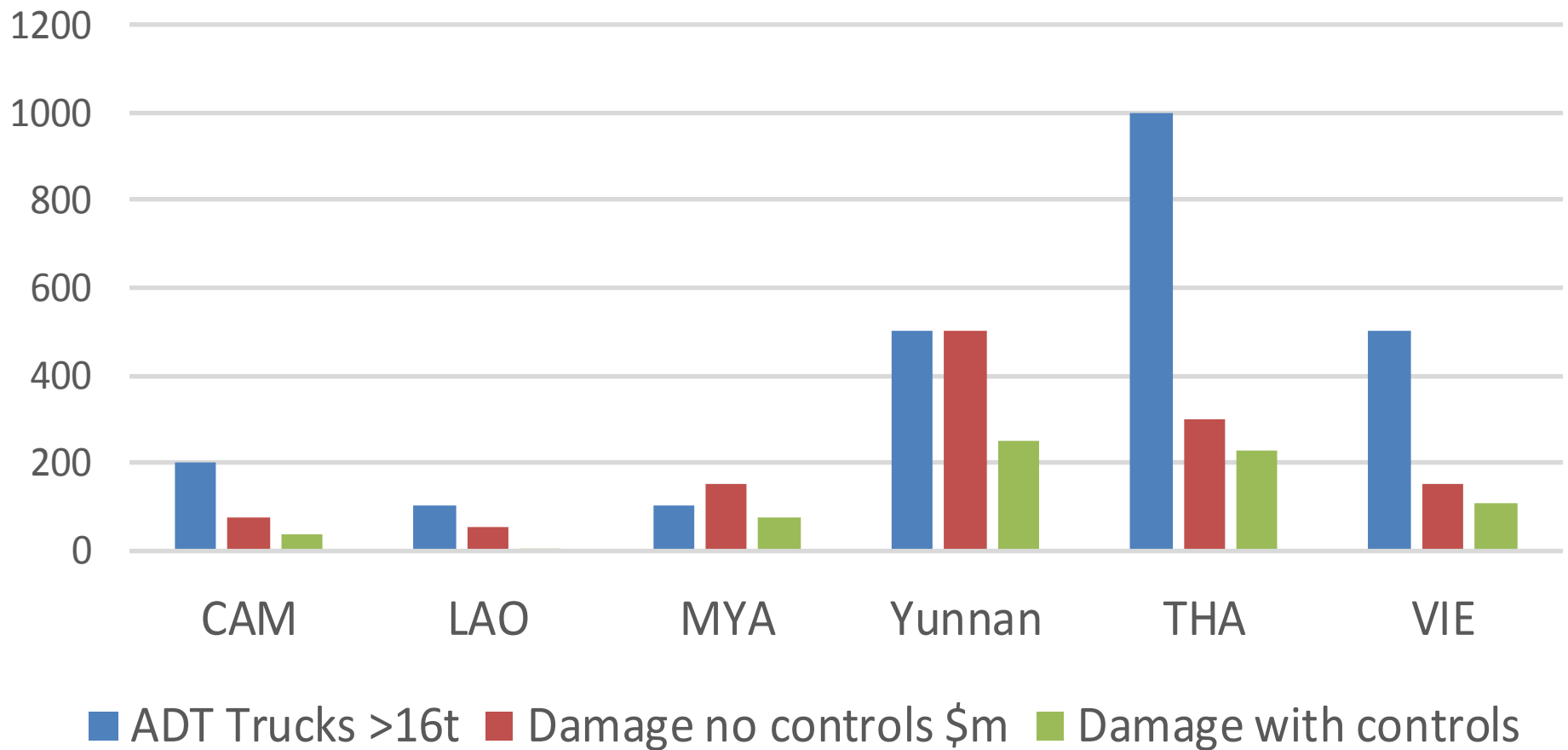
ALC reduces the potential damage by 50% vs. no ALC  
Supervision and enforcement can reduce another 30%

## Rate of Trucks Overloading on Roads Without / With Controls, and % Penalized of Weighed Trucks



# Effects of ALC on Trunk Roads

## Truck Traffic, Overloading Damage \$million Without and With Controls ADT



# Economic Incentive for ACL

- Marginal rates of return on investments (ROI) in ALC are higher than ROI on road assets upgrading:
  - Over 100% in Lao, Myanmar and Cambodia
  - Around 50% in Viet Nam, Yunnan and Thailand (with their more advanced systems)

# Innovative ALC Operations

Criteria to select:

- *Effective in ALC*
- *Good value for money*

Mobile random spot checks

Fast Weigh in Motion (FWIM)

Closed Circuit Television (CCTV) monitoring

Automatic data recording, transmission

Automatic data processing and analysis

# Potential Initiatives

- Tests of e-tags of data on offenders and regular route operators.
- Tests of outsourcing of weigh station operations.
- Cooperative agreements among government agencies, truck operators and transport services.
- Auctioning off-loaded cargo of offenders.

# Automation and Modernization

- Thailand: trend of violations

2006: 30% of trucks  2016: 3% of trucks

*Good example...due to:*

Fully automated control systems that link to all law enforcement agencies.

Industry development of logistic companies who want transport without delays, offloads and penalties (to raise their capital utilization and service reputation).

## Recommendations: *to detect offenders...*

1. Go Mobile
2. Go HWIM
3. Go for gate control
4. Go for plate recognition by CCTV
5. Go for e-tags



## Recommendations: *to enforce ALC...*

1. Link in real-time to public access websites.
2. Link real-time data to algorithms and results.
3. Pilot real-time online auctions of off-loaded cargoes at near-market stations; OR
4. Contract at busy stations with 'period contract' wholesalers to re-sell off-loads.
5. Monitor operational staff and traffic.
6. Empower and rotate representative agencies.

**Thank You!**