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# Analysis of the China-Lao PDR Railway Opportunities and Challenges of Mekong Logistics

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# About STC Next



STC International, a member of STC Next, provides and transfers first-class maritime and logistics knowledge to people, institutions, and companies on a worldwide scale, increasing their level of education through **courses, training, consultancy, and applied sciences.**

- **HQ in Rotterdam, with 6 country offices** in Colombia, Brazil, Oman, Vietnam, Indonesia, and South Africa
- The latest projects in the region
  - Indonesia's Port SOE Advisor in Reducing Logistics Cost (2021)
  - Supporting Shift in Port Sustainability in Indonesia, Vietnam, Maldives (2022)
  - Training for Bangladesh's Inland and Waterway Department Officials (2021)
  - Indonesia SOE Port Training Center Establishment (2018)

# Introduction

## Background of China-Lao PDR Railway study

- Mekong Institute assigns STC Next to assist the Government of Yunnan Province:
  - **Identify the current state** of development, challenges, and opportunities
  - **Develop a country road map** that outlines strategies for developing railway infrastructure development
  - **Design the required training curriculum** for Yunnan government officials

## Today's presentation

Identify opportunities and challenges in Mekong Logistics



Figure 1: Proposed China-Lao PDR-Thailand railway.  
Source: Nikkei, 2022

# Review of Past Studies



ASIAN DEVELOPMENT BANK

2007: Greater Mekong Subregion (GMS)  
Transport Sector Study 2006-2015  
2010: Connecting Greater Mekong  
Subregion Railways



MEKONG  
INSTITUTE

2013: Mekong Forum 2013  
Proceeding - Toward More  
Inclusive and Equitable Growth In  
GMS



2011: The Comprehensive Study on  
Logistics System in Lao PDR



WORLD BANK GROUP

2020: From Landlocked to Land-  
Linked; Unlocking the Potential of Lao  
- China Rail Connectivity



2011: GMS Railway Strategy  
Study



Banomyong, et al (2019)  
The Impacts of Kunming-Bangkok  
expressway: Logistics Channel Analysis

# China-Lao PDR Railway Project



Figure 2: Railway maps of China-Lao  
Source: RFA, 2021



Figure 3: Fast train, freight train, and ordinary train.  
Source: Hobo Maps, 2022

Parameter	Value
Length	414 km
Station number	32 stations
Rail specification	single 1.435-metre standard-gauge track electrified mixed-traffic line is to be built to China's GB Grade 1 standards
Design speed	160-200 km/h for passenger 120 km/h for freight
Project duration	2016-2021
Cost	\$5.8 B (railway infrastructure) \$3.7 M (IT system and infra)
Financing scheme	BOT: 70% Chinese investment, 30% from Lao PDR

Table 1: Profile of the Project  
Source: Laotian Times, 2017

# Current Economic Impact - Macroeconomics

- Chinese trade with the Mekong countries **increased by 5%** in 2021-2022 (the total trade value is \$471 B)
- **First 5 months of 2023**, the trade value between China and ASEAN **rose to US\$360 B** (an increase of 10% y-o-y, representing 15% of China's total foreign trade)
- **25 provinces** have launched freight services on the China-Lao PDR railway
- **The cargo** has been expanded to more than **1,200 types**, with the main cargoes being electronics, photovoltaic products, and fruits
- The **GDP of Lao PDR** has increased by **2.7% in 2022 y-o-y**. An increase of 4% is projected in 2023

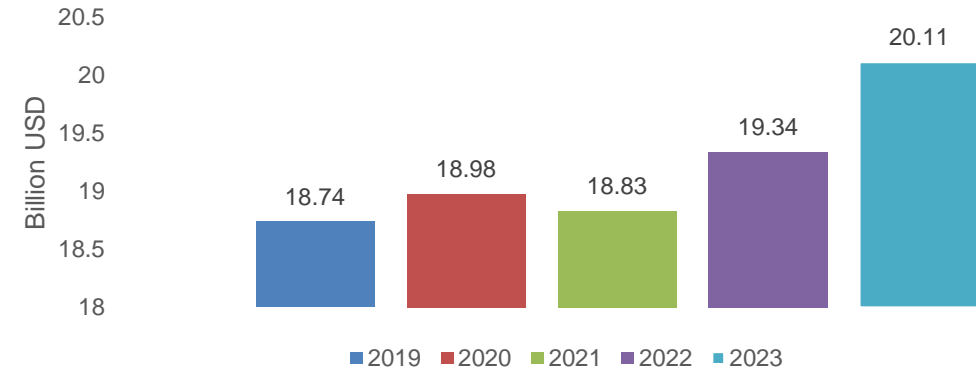


Figure 4: Historical GDP of Lao PDR.  
Source: ADB, 2023

- The increase in GDP is due to the rising trend of tourism. The railway operation will be the enabler. The **tourism industry** in Lao PDR accounted for a **10% share**.

# Current Economic Impact – Passenger and Cargo Transit

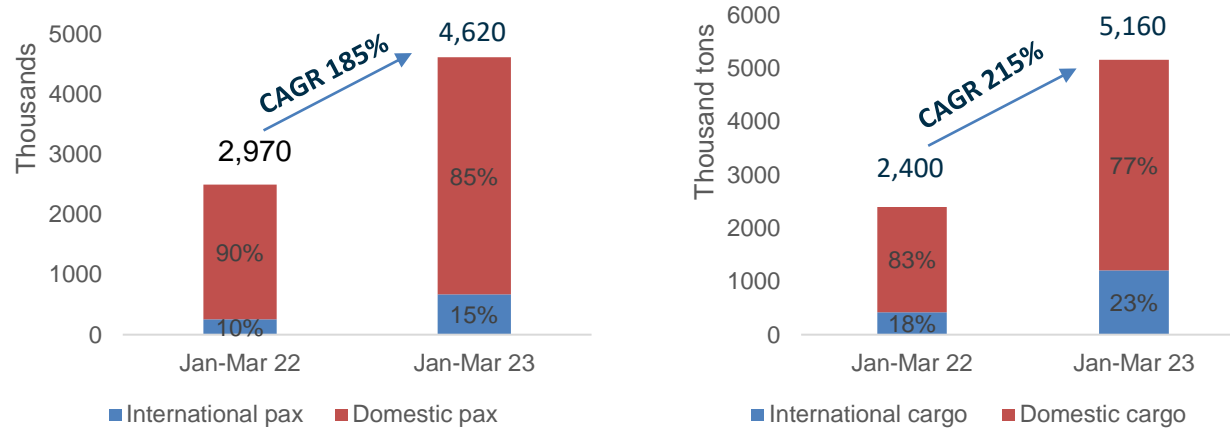


Figure 5: Increase in passenger and cargo traffic  
 Consultant analysis based on data from CRI Online (2023)

Freight train trade flow	Cargo amount (tons)	Cargo type
China-Lao PDR	263,400	Daily life commodities, fertilizers, photovoltaic items, electronics, textiles, and vegetables
Lao PDR-China	813,100	Coix seeds, barley, rice, cassava flour, tapioca, as well as rubbers, metal ores such as iron ores, and zinc concentrates

Table 2: Trade profile of freight trains in 2022. Source: Kunming Customs (2023)

- The **cross-border freight cargo** has topped **4 million tons** until April 2023, valued at US\$ 2.54 B
- Between Q1 2022 and 2023
  - the **passenger** increased **185%** from 2.97 million to 4.62 million
  - The **freight** increased **215%**, from 2.4 million tons to 5.15 million tons
- In 2022, **200 freight trains** passed the border bringing more than 1 million tons between China and Lao PDR
- **China** sent **processed goods** mostly. At the same time, **Lao PDR** shipped **agriculture products and construction materials**



# Current Economic Impact – Agricultural sector



Figure 6: Imported fruits in Mohan railway station  
Source: In Kunming (2023)

- Freight trains **reduced shipping costs by 30-40%** compared to shipping the goods via road
- **23,000 tons** of fruit were **imported to China** in early June 2023
- “Fruit train” has **one daily trip** from Lao PDR to Kunming, Chengdu, and Guangzhou
- An undergoing project of the **cold-chain warehouse** at Gallops International Land Port in Jinning, Kunming
- **China accounted for 96% of durian export** in Thailand (totaling US\$ 3 B trade value)
- Reduced logistics costs happened and **lower the price of durian**. It was **reduced by 20%** (40 yuan/kg) compared to the regular price, 50 yuan/kg (US\$ 8)
- The **travel time** has been **reduced** from 8-9 days to 4 days

# Opportunities

- Human resource development
  - A knowledge transfer platform from China to Lao PDR
  - Currently, Chinese investors have already trained more than 1,300 farmers in countries along the Mekong River to produce by the wishes and needs of Chinese consumers
- SEZ development in Lao PDR
  - Currently, Lao PDR has planned different SEZs in their regional
  - It attracted investments of more than 1000 companies with total investment expected to be US\$23 B
- Linking to Thailand railway
  - The first phase of the planned railway between Lao and Thailand is connecting Nong Khai to Bangkok. This is planned to be operated in 2028



Figure 8: Plan of SEZs in Lao PDR

# Opportunities - Investment

<b>Developer</b>	<b>Yunnan Haicheng Industrial Group Company Limited</b>
<b>Main Contractors</b>	Power Construction Corporation of China (PowerChina); Sinohydro Corporation (Bureau 14, and possibly others), a subsidiary of PowerChina.
<b>Area</b>	1,640 hectares
<b>Status</b>	Under construction
<b>Financier</b>	Capital from Haicheng, loans via China Construction Bank and Lao China Bank
<b>Cost</b>	US\$ 10 B
<b>Concession length</b>	90 years
<b>Registered investors and tenants</b>	By 2022, there are 266 companies to invest with registered capital of US\$ 35

Table 2: Data of Boten SEZ



Figure 9: Boten SEZ

# Opportunities - Investment

<b>Developer</b>	<b>Amata Corporation Public Company Limited</b>
<b>Location</b>	Luang Namtha Province
<b>Groundbreaking Ceremony</b>	January 2022
<b>Area</b>	Current: 410 Ha. Possibly to be expanded into 20,000 Ha
<b>Potential tenants</b>	Companies of China, Japan, Singapore and Thailand, such as Yokohama Industrial City or Japan External Trade Organization (JETRO)
<b>Cost</b>	US\$ 1 B
<b>Prospective Tenants</b>	logistics and warehousing, machinery, rubber and plastic products, food and beverage processing, chemicals and pharmaceutical

Table 3: Data of Natuey



Figure 10: Groundbreaking ceremony of Natuey Smart Eco City and Industry

# Opportunities - Investment

<b>Developer</b>	<b>Vientiane Logistics Park Co Ltd</b>
<b>Location</b>	Ban Dongphosy
<b>Opening</b>	December 2021
<b>Area</b>	327 Ha
<b>Allocation of business</b>	Tank farm, commercial free zone development, business
<b>Cost</b>	US\$ 727 M
<b>Concession length</b>	50 years
<b>Traffic in 2022</b>	11,000 containers. 80% comes from China to Lao PDR

Table 4: Data of Thanaleng Dry Port



Figure 11: Thanaleng Dry Port

# Challenges

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- Unclear railway development plans on the Thailand side
  - Different priority from central and regional governments (double track, meter gauge, narrow gauge priority)
- High financial dependency of Lao PDR to China, and potentially Thailand will, too
  - 70% of the Lao PDR-China railway is a loan taken by the Lao PDR government to China
  - The project costs 40% of Lao PDR GDP



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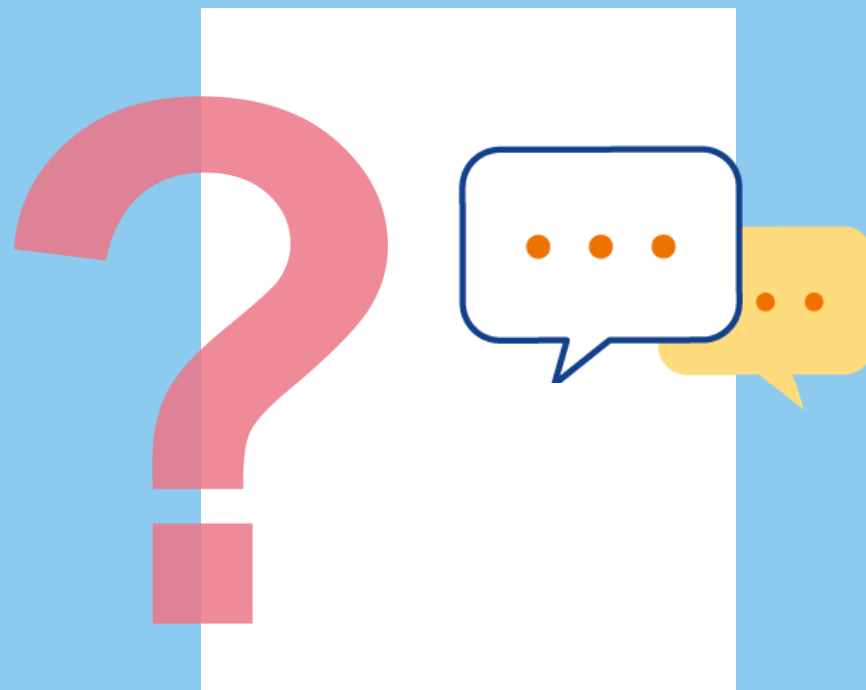
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# Q&A





**THANK  
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