Jointly Building Belt and Road towards SDGs

Lao PDR

Strengthening national policy capacities for jointly building the Belt and Road towards the Sustainable Development Goals

February 2021
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1. Introduction

1.1. 2030 Agenda, Belt and Road Initiative, and possible linkages

The scale and ambition of the 2030 Agenda requires an intensive global engagement in support of the implementation of all the Sustainable Development Goals (SDGs) and targets, bringing together Governments, the private sector, civil society, the United Nations system and other actors and mobilizing all available resources. The implementation of the 2030 Agenda and the achievement of the SDGs will depend on the concrete actions, including strengthened international cooperation, taken at global, regional, national and sub-national levels, by all the stakeholders.

In 2013, the Government of the People’s Republic of China announced the initiative of "Jointly building the Silk Road Economic Belt and the 21st Century Maritime Silk Road," or the Belt and Road Initiative (BRI). The BRI runs through the continents of Asia, Europe and Africa, encompassing a large number of countries with huge potential for sustainable development. In 2013-2020, China signed BRI cooperation documents with 138 countries, more than 2,000 projects have been launched and thousands of jobs have been created in partner countries.

While the BRI and the 2030 Agenda for Sustainable Development are different in their nature and scope, they share in many respects a similar vision and some basic principles. The BRI has the potential for transforming the lives and economies of the participating countries, facilitating the implementation of the 2030 Agenda and the achievement of the SDGs, not only for the participating countries but for the world as a whole.

However, the realization of the potential benefits of BRI is by no means automatic. BRI-related activities in recipient countries embody potential risks in economic, environmental, social and overall sustainability aspects. To harness the opportunities brought by the BRI to accelerate the achievement of the SDGs, the UN has conducted a capacity development project that supports beneficiary countries to better understand the implications of BRI and SDGs and formulate policy responses to maximize the benefits and avoid or reduce possible risks.1 The present national report highlights findings from country-specific analysis.

1.2. Country specific context, challenges, and opportunities

The Lao People’s Democratic Republic (Lao PDR) is the only land-locked developing economy (LLDC) and one of the least developed countries (LDCs) in the Association of Southeast Asian Nations (ASEAN). In 2018, its population was around 6.9 million people, much smaller than its neighboring countries, such as Cambodia (16.3 million), Myanmar (53.9 million), Thailand (69.2 million), and Vietnam (96.7 million). Though Lao PDR suffers from constraints in terms of a small domestic market and geographical difficulty, it has still enjoyed high and stable economic growth of around 7 per cent since 2000s due to its rich natural resources, principally in mining and hydropower electricity. As a result, its income per capita jumped from US$ 290 in 2000 to US$ 2,460 in 2018, surpassing neighboring Cambodia, Myanmar and Vietnam (Table 1). More importantly, this allowed Lao PDR to transit from a status of low-income to a lower-middle

1 The project,“Strengthening national capacities for jointly building the Belt and Road towards the Sustainable Development Goals,” has been conducted by Economic Analysis and Policy Division, Department of Economic and Social Affairs, United Nations. For details, visit brisdgs.org
country in 2011, along with other new members of ASEAN namely Cambodia (2015), Myanmar (2014) and Vietnam (2009), according to the World Bank’s analytical classifications. However, because record high economic growth has been strongly influenced by the resource sector, an unsustainable income distribution has been observed. For instance, the employment in the resource sector was less than 1 per cent of total employment in 2015 while labor productivity (equivalent to real wage) in this sector was 12 times higher than the non-resource sector (Sayavong 2017).

Table 1. Selected Development Indicators in ASEAN

<table>
<thead>
<tr>
<th>Country</th>
<th>Population (persons)</th>
<th>GNI per Capita (US$)</th>
<th>National Poverty Rate (%)</th>
<th>GINI</th>
<th>HDI Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2018</td>
<td>2018</td>
<td>2017</td>
<td>2016</td>
<td>2017</td>
</tr>
<tr>
<td>Brunei</td>
<td>435,466</td>
<td>31,020</td>
<td>N.A.</td>
<td>0.308 (2012)</td>
<td>39</td>
</tr>
<tr>
<td>Cambodia</td>
<td>16,306,522</td>
<td>1,380</td>
<td>14.0 (2014)</td>
<td>0.308 (2012)</td>
<td>146</td>
</tr>
<tr>
<td>Lao PDR</td>
<td>6,986,695</td>
<td>2,460</td>
<td>23.2 (2012)</td>
<td>0.364 (2012)</td>
<td>139</td>
</tr>
<tr>
<td>Malaysia</td>
<td>32,151,347</td>
<td>10,460</td>
<td>0.4 (2016)</td>
<td>0.463 (2009)</td>
<td>57</td>
</tr>
<tr>
<td>Myanmar</td>
<td>53,977,691</td>
<td>1,310</td>
<td>32.1 (2015)</td>
<td>0.381 (2015)</td>
<td>148</td>
</tr>
<tr>
<td>Philippines</td>
<td>106,917,416</td>
<td>3,830</td>
<td>21.6 (2015)</td>
<td>0.401 (2015)</td>
<td>113</td>
</tr>
<tr>
<td>Singapore</td>
<td>5,812,104</td>
<td>58,770</td>
<td></td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Thailand</td>
<td>69,221,446</td>
<td>6,610</td>
<td>7.9</td>
<td>0.378 (2013)</td>
<td>83</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>96,734,130</td>
<td>2,400</td>
<td>5.8 (2016)</td>
<td>0.348 (2014)</td>
<td>116</td>
</tr>
</tbody>
</table>

Source: Data of population and HDI Ranking is from the United Nations, and GNI per Capita and GINI coefficient are based on the World Bank Database. The national poverty rate is sourced from Statistics and Data Innovation Unit 2019.

After all, several development indicators such as poverty and human development for Lao PDR are still lagging behind other ASEAN countries. Table 1 also showcases some selected development indicators of Lao PDR in ASEAN region. It found that, for instance, the national poverty rate in the Lao PDR was 23.2 per cent. Also, in terms of the global Human Development Index (HDI), Lao PDR ranked at the bottom (139 out of 189 countries in 2017). Lao PDR has met the the LDCs graduation eligibility for 2021 and is likely to be recommended for graduation by the UN General Assembly\(^2\). The SDGs, which continued and expanded

the Millennium Development Goals (MDGs), are targeted for completion by 2030, posing another challenge for Lao PDR to achieve in the years ahead.

2. Analytical Findings

2.1. SDG progress, national development strategies, plans and other policy documents

The structures of national policy and strategy in Lao PDR are designed to reflect the updated situation of Lao economic development per the change in the international environment. So far, the 2030 Vision and 10-Year Socio-Economic Development Strategy 2016-2025 published in early 2016 is considered to be the top policy framework for Lao government to guide other national and sectoral policies or short-term policies such as 1 Year and 5 Year National Socio-Economic Development Plan (NSEDP) until the year of 2030. Note that sectoral policy refers to the strategic plan of the line ministries such as the Ministry of Agriculture, Ministry of Finance and etc. Table 2 summarizes the main contents of the 2030 Vision and 10-Year Socio-Economic Development Strategy. Clearly, the vision of Lao PDR aims to upgrade its level of income from a lower middle income country (current status) to an upper middle income country by 2030. To reach the Vision 2030, seven strategies were identified, of which the top three are: (1) sustainable and green economy, (2) meeting the criteria for graduation from least development countries by 2020 and implementing SDGs, and (3) human resource development. The report of National Green Growth Strategy in 2019 reflected the strategies and served to be a crucial platform to guide any policies and action plans toward the green economy, as well as the draft of National Human Resource Development strategy from mid-2016.

Table 2. 2030 Vision and 10-Year Socio-Economic Development Strategy (2016-2025)

<table>
<thead>
<tr>
<th>Vision for 2030:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lao PDR becomes an upper middle income developing country following a knowledge-based, green and sustainable socio-economic direction.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Seven Priorities of the 10 Year Strategy (2016-2025):</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Strategy for continued economic development in a high quality, balanced, sustainable and green direction</td>
</tr>
<tr>
<td>2. Strategy for meeting the criteria for graduation from the Least Developed Countries by 2020 and implementation of the SDGs.</td>
</tr>
<tr>
<td>3. Strategy for human resource development</td>
</tr>
<tr>
<td>4. Strategy for sustainable, efficient and green-directed protection and use of natural resources</td>
</tr>
<tr>
<td>5. Strategy for improving the enforcement of the rule of law</td>
</tr>
<tr>
<td>6. Strategy for regional and international integration and connectivity</td>
</tr>
<tr>
<td>7. Strategy for industrialization and modernization</td>
</tr>
</tbody>
</table>

Source: Author’s summary based on Ministry of Planning and Investment 2016a, 2016b

3 The neighboring countries of LAO PDR have a similar long-term vision and strategy. Thailand, for instance, has a long term vision (20 years National Strategy 2017-2037) to become a developed country by 2037 (National Strategy Secretariat Office n.d.). Likewise, the Cambodian government sets up a target or vision to reach an upper-middle income country by 2030 and a high income country by 2050 (Royal Government of Cambodia 2018).
Lao PDR was among the first ASEAN countries to localize and integrate SDGs into its national planning framework. After the introduction of SDGs in the beginning of 2016, the Lao government integrated its indicators into the Eighth Five Years of NSEDP 2016-2020 and Sectoral Development Plans of line ministries up to 2030. In addition to the 17 Global Goals, Lao PDR adopted Goal 18: lives safe from the unexplored ordnance (UXO) or Reduced Impact of UXO as its own national goal as it is one of the most heavily bombed nations during the Second Indochina War and 25 per cent of all villages in the country still suffer from UXO contamination. This goal was launched during the country visit of UN Secretary-General Ban Ki-moon in September 2016. Approximately 92 of 160 NSEDP indicators link to 71 SDG indicators or about 30 per cent by June of 2019, according to the National SDGs Secretariat 2019 therefore not all SDG indicators are included in the NSDEP. As it relates to the institutional framework of the SDGs, the National Steering Committee for SDG implementation chaired by the Prime Minister was established by the President of Lao PDR in September 2017, demonstrating a strong political support from the Lao government. The members of the committee consist of line ministries and ministry-equivalent agencies. Their role is to monitor and evaluate the implementation of SDGs from time to time. The Ministry of Foreign Affairs (MOF) and Ministry of Planning and Investment (MPI), for instance, are assigned to the National SDG Secretariat and tasked to coordinate with other line ministries and development partners to monitor and evaluate the implementation of SDGs.

**The Progress of SDGs Implementation**

Though the implementation of SDGs is still in the early stages, some progress has been made, especially in the localization of SDGs into the national policy framework. More importantly, Lao PDR has added 19 new indicators to the official SDG indicators. As a result, the total SDGs indicators are 257 for Lao PDR, higher than the global indicators (238 indicators in total). Furthermore, 140 indicators have already been identified with available data, indicating progress with the implementation of SDGs in Lao PDR. Yet, more work is needed because the SDGs’ localization is under process and data for many indicators are still either unavailable or yet to be explicitly identified.

Moreover, many goals currently underperform compared to other countries in the Asia Pacific region. The assessment for SDGs implementation by the Government of Lao PDR 2018 provides the trend of selected targets and indicators for countries in the Asia Pacific region in addition to Lao PDR. Summarized in Table 3, the assessment shows that the number of SDG goals with poor performance outweighs the number of SDG goals with good performance for Lao PDR. The poverty rate under Goal 1: no poverty, for instance, was still high in Lao PDR, especially seen in the employed population living below the international poverty line. In fact, Lao PDR is among three economies in the Asia Pacific region with a poverty rate of employed population that is greater than 40 per cent. The other two countries include Afghanistan (83.4 per cent) and Bangladesh (41.5 per cent). This poverty rate is also much higher than in other ASEAN economies. The performance of Goal 2: zero hunger presents a similar case due to the prevalence of stunting in children below the age of five years old, placing Lao PDR among the most poorly performing countries in the region. In 2016, Lao PDR had a stunting rate of 43.8 per cent for children under five years old, comparable to Timor-Leste (50.2 per cent), Papua New Guinea (49.5 per cent), Pakistan (45.0 per cent), and Afghanistan (40.9 per cent).

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4 Ministry-equivalent agencies include the government’s office, government inspection authority, the Bank of Lao PDR, and etc.

5 Asian-Pacific Countries include 48 regional Asian Development Bank (ADB) member countries
Although Lao PDR is among the top countries with a high share of women holding parliament seats, boosting the profile of *Goal 5: achieving gender equality*, the women empowerment indicator for ages 20 to 24-year-old is still challenging. This is because Lao PDR has more women getting married when they are still under the age of 18. The share was 35.4 per cent in 2012, which is higher than several countries in the region. The position of Lao PDR under the *Goal 7: ensuring access to the affordable and clean energy (clean fuel and technology for cooking, heating, and lighting)* is ranked in the bottom as well. Only 5.6 per cent of population in Lao PDR used clean fuel and technology in 2016, much lower than its neighbors Cambodia (17.7 per cent) and Myanmar (18.4 per cent). This indicates that the majority of households in rural areas still rely on firewood and charcoal for cooking. Although electricity generation in Lao PDR has rapidly increased in recent years, electricity is mainly used for industry and export. The contribution of electricity generation is expected to increase given Lao government’s target of developing renewable energy making up 30 per cent of total energy demand by 2025, according to (Ministry of Energy and Mines 2011). The achievement of *Goal 9: industry, innovation and infrastructure* is also challenging. When compared with countries in the region in terms of manufacturing value added per capita in 2017, Lao PDR reported US$176 or the lowest in ASEAN and third from the bottom, followed by Timor-Leste and Nepal reporting below US$50. This implies that the competitiveness and the engagement in global value chain of Lao manufacturing sector especially local SMEs are still weak. Furthermore, *Goal 10: reduced inequalities* in Lao PDR requires more attention as income distribution has widened. The GINI indicator highlights that the income distribution gap increased from 0.32 in 2002 to 0.36 in 2012.

The SDGs that Lao PDR outperformed in compared to other countries in the region include Goal 3, Goal 11, Goal 12 and Goal 15. Progress in *Goal 3: ensuring good health and well-being* is on track since Lao PDR has made a significant reduction of the under-five mortality rate. By 2016, the under-five mortality rate in Lao PDR was reduced by half (64 deaths per 1,000 live births) from 117 deaths per 1,000 live births in 2000. Lao PDR was also able to reduce the share of urban population residing in slums significantly by at least 20 per cent, allowing the country to be considered as a top performer in the region towards achieving *Goal 11: sustainable cities and communities*. Regarding *Goal 12: responsible consumption and production*, there are 12 economies in the region including Lao PDR which exhibit rapid growth indicating an additional achievement for this goal. Progress made on national *Goal 18: lives safe from UXOs* reveals that UXO causality has been substantially reduced by 85 per cent over the last decade. However, more effort is needed since only about 6.6 per cent of the contaminated land is actually cultivable and UXO contamination from the Indochina wars still remain. Addressing the needs of UXO survivors and victims is also important.

*Table 3. Comparative Performance of SDGs for Lao PDR in the Asia Pacific region*

<table>
<thead>
<tr>
<th>Poor Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal 1: No poverty</td>
</tr>
<tr>
<td>Goal 2: Zero hunger</td>
</tr>
<tr>
<td>Goal 5: Achieving gender equality</td>
</tr>
<tr>
<td>Goal 7: Ensuring access to the affordable and clean energy</td>
</tr>
<tr>
<td>Goal 9: Industry, innovation and infrastructure</td>
</tr>
<tr>
<td>Goal 10: Reduced inequalities</td>
</tr>
</tbody>
</table>
2.2. BRI activities and projects, past, ongoing and planned, and their potential linkages to SDGs

2.2.1. BRI activities and projects, past, ongoing and planned

Cooperation between Lao PDR and China began at the end of 2016 when the Government of Lao PDR signed the Memorandum of Understanding (MOU) and 20 other documents with China aiming to support the BRI. In May 2017 during the first Belt and Road Forum for International Cooperation, the Master Plan on developing the "One Belt One Road" between Lao PDR and China was signed, identifying seven prioritized areas of cooperation namely infrastructure, agriculture, capacity building, industrial park, culture and tourism, finance and banking, and production promotion. In November of the same year, the Chinese President Xi Jinping made a formal visit in Lao PDR where the two governments reaffirmed their cooperation on the China-proposed BRI. For the Lao government, BRI is considered as a strategy to overcome its geographic disadvantage by turning itself from a "land-locked" country to a "land-linked" one. In particular, the construction project of the Lao PDR-China railway is the top priority for the BRI cooperation between two countries. This is because the Lao PDR-China railway route is the main part to the central route for BRI cooperation in the Southeast Asian region as well as for the Singapore-Kunming High Speed Rail Link also known as the Pan-Asia Railway Network. For this reason, the railway construction in Lao PDR has started despite the fact that construction of other parts in Thailand and Malaysia is still under negotiation. In April 2019, China, Thailand and Lao PDR signed the memorandum of cooperation on a railway-bridge to connect the railway between Thailand’s Nong Khai and Vientiane in Lao PDR⁶, which shows a further step towards realizing the Singapore-Kunming High Speed Rail Link. Afterwards, a series of cooperation documents in various fields such as economic corridor, digital Silk Road, electricity, science and technology, came out. In the most recent second international Belt and Road forum held in Beijing during 25-27 April 2019 where the president of Lao PDR again participated, the policy cooperation between two countries went further with the signing of more documents for bilateral cooperation, especially regarding the Lao PDR-China economic corridor cooperation framework (LCEC).

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The construction of the Lao PDR-China railway project, which began in the end of 2016, is one of the big-push efforts while others such as investments in the special economic zones (SEZs) are under implementation, proposal and negotiation (Figure 1). Table 4 describes the broad picture of BRI activities in Lao PDR in respect of five key priorities. Several activities have already been proposed and are under implementation, especially in priorities of policy coordination, facilities or infrastructure connectivity, and people to people bond. For the priority of embedded trade (trade and investment), there are some investors from China and Thailand interested in investing along the railway route in tourism and urban development or smart city. These large construction projects are mainly financed by Chinese banks, especially by the Export-Import Bank of China. Each priority is discussed in detail below:

For the first priority of policy coordination, the definition of BRI is likely clouded among policymakers in the Lao PDR (Sayavong 2018). This is because the concept and coverage of BRI have shifted from bilateral cooperation between Lao PDR and China to a multilateral framework. Moreover, the coverage of BRI activities has expanded from the northern and central parts of Lao PDR. Questions were raised on the definition of BRI activities in Lao PDR on what’s included in BRI activities. Though the national master plan of BRI from 2017 serves as a general guide for other sub-national or sectoral master plans and policies, the priorities in the national master plan is similar to the list of priorities identified in the master plan of BRI between China and Cambodia. There are a total of seven priorities set for BRI in Cambodia that are the same as in Lao PDR: (1) infrastructure, (2) agriculture, (3) capacity building, (4) industrial park, (5) culture and tourism, (6) finance and banking, and (7) eco-environmental protection (Vireak and Vutha 2018, p.1). The difference between Lao PDR and Cambodia is that the seventh priority in Lao PDR is related to production promotion. Therefore, based on this observation, the draft preparation of such master plan should be greatly influenced by China. Likewise, the MOU of Lao PDR-China Economic Corridor (LCEC) cooperation framework, which was initially prepared by Chinese scholars and signed during the second international forum, defines short-term development (2019-2025) and long-term development (2026-2030). Short-term cooperation, which lasts the duration of construction and completion of the Lao-China railway, aims to ensure early harvest in key areas of economic cooperation such as logistics and trade, and agriculture and industrial parks, especially SEZs. Meanwhile, long-term cooperation under LCEC stretching to the southern part of Lao PDR aims to deepen the economic integration with southwestern China and countries in the region in areas of modern agriculture, tourism, energy, logistics, processing and manufacturing industries. Hence, the LCEC is expected to provide opportunities and potential benefits to different stakeholders, both domestic and foreign, public and private, and at the local, national and regional levels by attracting investment and trade.

The second priority of facilities connectivity is the leading priority for BRI in Lao PDR. Some of the activities were initiated even before the announcement of BRI was made by the Chinese government. For instance, the MOU for the Lao PDR-China railway project as a part of Singapore-Kunming Rail Link was signed back in April 7th, 2010. By the end of 2016, construction of the Lao PDR-China railway with total investment of US$5.8 billion had started and is expected to complete in December 2021. As of July 2019, construction is reportedly 72.8 per cent complete (Management committee for Lao-China railway project 2019). The main construction for the project involved 961 areas that are related to 74 tunnels, 157 bridges, road construction, electricity network and construction of drainage system. In addition, one of two longest bridges (1,458.9 meters) on the Mekong River was completed in the Luang Prabang province in Lao PDR’s northern region. Besides the railway, there is also the investment of the expressway (railroad) from Lao capital city of Vientiane in the central region to the Chinese border that is under implementation. There are four sections or phases in total for the expressway. The construction of phase 1 (113.5 km) with the investment of US$1.2 billion is about to begin in the end of 2018 and expected to complete by 2020 while the other three are in the waiting list. More importantly, the highway would be extended to the Southern
part of Lao PDR (or Champasack province) as the MOU was already signed in October 2018 and is currently under the feasibility study\(^7\). The distance of this extended expressway is approximately 491 km. Chinese transportation, construction and consulting firms are predominantly responsible for the completion of these projects including the railway.

Figure 1. Map of Lao-China Railway and selected special economic zones along the Lao-China economic corridor

![Laos-China railway project](image1)

![Beautiful Boten Special Economic Zone](image2)

Source: Edited from Boten Economic Zone Office and Google search

Table 4. Current BRI activities in Lao PDR

<table>
<thead>
<tr>
<th>No</th>
<th>BRI Priority Area</th>
<th>Activity</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Policy coordination</td>
<td>Master Plan of the cooperation on developing the “One Belt One Road” between Lao PDR and China</td>
<td>Complete</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cooperation Framework for Lao PDR-China Economic Corridor</td>
<td>Complete</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cooperation Framework for Electricity Development</td>
<td>In progress</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cooperation Framework for Tourism Development</td>
<td>In progress</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Lao PDR-China Railway</td>
<td>In progress</td>
</tr>
</tbody>
</table>

Facilities connectivity

<table>
<thead>
<tr>
<th>7 Hydropower projects on Nam Ou River</th>
<th>Four projects in progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical grid network construction</td>
<td>In progress</td>
</tr>
<tr>
<td>Expressway from Vientiane to Chinese border. There are three phases in total.</td>
<td>Phase 1 in progress</td>
</tr>
<tr>
<td>Development of ports along the river</td>
<td>Under the proposal</td>
</tr>
</tbody>
</table>

Trade and investment

| Animal and crop trans-boundary disease control and prevention at the border | In progress |
| Development of Special Economic Zones (SEZs) |
| • Mohan-Boten Economic Cooperation Zone |
| • Vientiane Saysettha Development Zone |

Financial integration

| Borrowing loans from The Export-Import Bank of China and other banks⁸ | In progress |

People-to-people bond

| Lao PDR-China Tourism Year 2019 |
| More exchange of education (scholarships), training, workshops and etc. |
| In progress |

Source: Author extracted from various sources

The third priority, impeded trade, includes cooperation on the animal and crop trans-boundary disease control and prevention at the border and the development of SEZs. China is presently the biggest investor during 2008-2019 (June) with the total approved investment of US$17.4 billion or the equivalent of Lao GDP in 2017. In addition, there is an upward trend in concessional investment in mining and electricity generation or hydropower (Figure 2 & 3). Numerous hydropower plants that sit along the river of Nam Ou in the northern part of Lao PDR are examples of investment by Chinese investors. Chinese non-concessional investment has increased to more than US$3 billion in 2018 and likely to be continued in 2019. Since 2017 after the signing of the BRI MOU between Lao PDR and China, there have been around 260 new Chinese enterprises registered in Lao PDR annually. Areas of non-concessional investment that are of most interest to Chinese investors are (1) wholesale & retail trade, (2) agriculture, forestry and fishery, (3) manufacturing, and (4) construction. This explains the increase in Chinese construction, shopping mall, hotel & restaurant, insurance and real estate in Lao PDR in recent years.

⁸ In general, Chinese banks that provide funds under BRI cooperation including (1) policy banks: Agricultural Development of China (ADBC), China Development Bank (CDB), and Export-Import Bank of China (CHEXIM). (2) State Owned Banks: Agricultural Bank of China (BOC), Bank of China (BOC), China Construction Bank (CCB), Industrial and Commercial Bank of China (ICBC). (3) State Owned Fund (selection): China Investment Corporation (CIC) and Silk Road Fund (SRF). (4) International Financial Institutions (selection): Asian Development Bank (ADB), Asian Infrastructure Investment Bank (AIIB) and New Development Bank (NDB). The source of information is from [https://www.beltroad-initiative.com/belt-and-road/](https://www.beltroad-initiative.com/belt-and-road/)
Figure 2. Chinese Investment in Lao PDR from 2008-2019

Note: The approval investment is during January-June 2019
Source: Ministry of Industry and Commerce (MoIC) and Ministry of Planning and Investment (MPI), Lao PDR

Figure 3. Chinese Foreign Direct Investment (FDI) in Lao PDR by Industries from 2008-2019

Note: The approval investment is during January-June 2019
Source: Ministry of Industry and Commerce (MoIC) and Ministry of Planning and Investment (MPI), Lao PDR

In terms of trade, China is the second largest trading partner in terms of both export and import, which has been increasing steadily over the last seven years (Figure 4). Since 2015, Lao PDR gained a trade surplus with China indicating not only strong growth of Lao export but also strong demand in the Chinese market especially for agricultural and forestry products from the northern region of Lao PDR where the Chinese investors have invested in. The gap of trade balance was small in 2018 because of high import
from China to facilitate large scale construction projects in Lao PDR, particularly for the Lao PDR-China railway construction project. Then, in 2018, the total value of trade between Lao PDR and China reached US$2.7 billion or 25.5 per cent of total trade. The majority of Lao exports to China are dominated by mining and primary or less processed agricultural products such as copper ore, woods, chemical fertilizer, banana, rubber, maize, fruits and forestry products, live animals and furniture. Meanwhile, the main imports from China are heavy and high value-added products like machines, steel and related products, bike and other vehicles, telecom related products, electrical and electronic products, cables and wires, components of vehicles (such as wheels, mirror, and chains), paper and related products, chemical fertilizer, plastic products, and cement.

Figure 4. Trade between Lao PDR and China during 2012-2018

![Trade value, unit: US$ million](chart)

Source: Ministry of Industry and Commerce (MoIC), Lao PDR

Fourthly, it may already be well known that funds to finance BRI’s activities derives mainly from Chinese commercial banks. Infrastructure development such as the Lao PDR-China railway project with total investment of US$ 5.9 billion, for instance, is financed by the Export-Import Bank of China through a 35-year loan at 2.3 per cent interest. Furthermore, during the initial period of construction, the Lao government, holding 30 per cent of total investment, borrowed US$310 million from a Chinese bank with the expectation that the remaining US$ 250 million would be financed through its national budget. In July 2019, China Development Bank (CBD) in the Yunnan province provided a loan of US$300 million to the Bank of Lao PDR (Lao central bank) for the purpose of SMEs promotion policy9, highlighting yet another financial cooperation under BRI. Similarly, in this way, other BRI-related activities would be mainly

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9Taket Magazine (2019). U.S. receives $300 million in loans from Chinese government to encourage small and medium-sized enterprises. Retrieved from [https://www.targetlaos.com/article/40985?fbclid=IwAR01y70fGT1r-Bobzr2fayu4ZdLMZX1psfQmRhE_aiOsL5KuFZfQdPI-wM](https://www.targetlaos.com/article/40985?fbclid=IwAR01y70fGT1r-Bobzr2fayu4ZdLMZX1psfQmRhE_aiOsL5KuFZfQdPI-wM)
financed by China. Moreover, the Chinese government made an announcement to provide 6.57 billion Yuan or US$ 950 million\(^{10}\) (equivalent to 6.2 per cent of GDP in 2017) in grants over four years or US$ 237 million per year. The Lao government has already considered more than 1,100 projects proposed by central and local authorities to be financed by such grants. While infrastructure, education and health projects are the proposed areas with most funding, capacity building is the least (Figure 5). The construction project of the modernized Mahosot Hospital, checkpoint facilities, the upgrade of Road 14A, National Convention Centre canteen, and the construction of 10 new school buildings are instances under the help of Chinese grants. China became the largest grant provider during 2018-2020. Previously, for instance in 2017, the World Bank and Asian Development Bank (ADB) were the largest grant providers to Lao PDR, contributing US$ 36 and US$ 42 million respectively.

\textit{Figure 5. Proposed Projects under Chinese Grant for Lao PDR by Areas}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{chart.png}
\caption{Proposed Projects under Chinese Grant for Lao PDR by Areas}
\end{figure}

\textit{Source: Author summarizes from (Lao prime minister’s office 2018)}

For the last priority, people to people connectivity, China has immensely increased the number of related activities in recent years. In particular, the number of Chinese tourists visiting Lao PDR reached 0.8 million people in 2018 up from 0.16 million in 2010, which indicated that Chinese tourists were the third largest in Lao PDR (Figure 6). In 2018, according to (Tourism Development Department 2018), the inflow of Chinese tourism was mainly through the cross-border channel at Boten and Golden Triangles checkpoints in northern Lao PDR, generating around US$ 151 million per year or 17.16 per cent of total income. The arrival of Chinese tourists by air transport is still limited at 10.9 per cent of total income and to the Wattay international airport in Vientiane Capital. On the other hand, China has increased scholarships to Lao students outstandingly in recent years, increasing from 723 Lao students studying in China in 2013 to more than 9,000 in 2016. In 2018, more than 2,000 new Lao students went to China to pursue their education and related, 21%

Technology and Science, 9%

Health and sanitation, 12%

Infrastructure, 47%

Agriculture, 8%

Capacity Building, 5%

\textsuperscript{10}Based on the exchange rate on December 20, 2018 which is US$1/6.89929 CNY.
education at different levels and China was the top education destination besides Vietnam. A large majority of Chinese scholarships was mainly given to the students living in border provinces near China. For instance, Luang Namtha province bordered with China’s Yunnan province, receives more than 1,000 scholarships alone every year 11. According to the Lao PDR-China cooperation committee, the number of Lao authorities being trained in China also increased from 532 authorities in 2015 to 2,391 in 2018. The topics covered during the training and workshops varied from economic development, finance, poverty, market access, tax, and innovation to other topics related to Chinese experiences. Increased cultural exchanges and exhibitions between the two countries could be observed.

Table 5. Top destination for Lao students, unit: person

<table>
<thead>
<tr>
<th>Year</th>
<th>Vietnam</th>
<th>China</th>
<th>Thailand</th>
<th>Japan</th>
<th>Australia</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>1,413</td>
<td>420</td>
<td>228</td>
<td>54</td>
<td>77</td>
<td>168</td>
<td>2,360</td>
</tr>
<tr>
<td>2012</td>
<td>2,062</td>
<td>283</td>
<td>261</td>
<td>60</td>
<td>73</td>
<td>154</td>
<td>2,893</td>
</tr>
<tr>
<td>2013</td>
<td>2,648</td>
<td>670</td>
<td>219</td>
<td>59</td>
<td>72</td>
<td>246</td>
<td>3,914</td>
</tr>
<tr>
<td>2014</td>
<td>5,134</td>
<td>1,239</td>
<td>293</td>
<td>78</td>
<td>64</td>
<td>272</td>
<td>7,080</td>
</tr>
<tr>
<td>2015</td>
<td>4,843</td>
<td>1,866</td>
<td>159</td>
<td>85</td>
<td>86</td>
<td>255</td>
<td>7,294</td>
</tr>
<tr>
<td>2016</td>
<td>3,968</td>
<td>2,326</td>
<td>300</td>
<td>71</td>
<td>46</td>
<td>323</td>
<td>7,034</td>
</tr>
<tr>
<td>2017</td>
<td>5,442</td>
<td>2,455</td>
<td>196</td>
<td>84</td>
<td>73</td>
<td>315</td>
<td>8,565</td>
</tr>
<tr>
<td>2018</td>
<td>5,569</td>
<td>4,179</td>
<td>220</td>
<td>94</td>
<td>39</td>
<td>379</td>
<td>10,480</td>
</tr>
</tbody>
</table>

Source: Ministry of Education and Sport, Lao PDR

Figure 6. Chinese tourists in Lao PDR

11According to the field survey conducted in Luang Namtha and Oudomxay province during 9-15 June 2019
2.2.2. The potential linkages of BRI to SDGs

Previous sections provided a summary of BRI activities under five priorities in recent years and the progress of SDGs implementation in Lao PDR, which provide insight on the potential connection of BRI to SDGs, especially in *Goal 8: decent work and economic growth* and *Goal 9: industry, innovation and infrastructure*. This section further elaborates on the link between BRI’s priorities and SDGs, which is taken from the study by (Hong 2017). Each of five BRI priorities are discussed in order. The most linked or relevant selected goals with available data are only discussed.

For the first priority regarding policy coordination, the implementation towards SDG 17 is highlighted, on which further progress is yet to be made, as analyzed in the previous section. For this reason, BRI cooperation in policy design can strongly contribute to the progress of this goal. For instance, the grant of US$ 950 million or about an average of US$ 95 million per year during 2017-2027\(^{12}\) provided by the Chinese government (as mentioned in the previous section) should contribute to the *indicator 17.9.1: financial and technical assistance to developing countries*. To note, Chinese grant of 2.57 billion Yuan (US$ 372.5 million) was already used for the approved projects. Another Chinese grant of 4 billion Yuan (US$ 579.7 million) over three years (2018-2020) is currently under implementation for eight large-scale projects proposed by China and other prioritized development projects in rural areas proposed by the Lao authorities. In fact, this indicator has performed progressively compared to previous years as the value of financial and technical assistance in Lao PDR grew from an average of US$ 46 million during 2000-2008 to an annual average of US$ 74.5 million during 2009-2016 (ADB 2018, p. 64). In the same way, the *indicator of 17.19.1: value of all resources made available to strengthen statistical capacity in developing countries (current US$)* under Goal 17 could be enriched if a part of Chinese official development assistance (ODA) including grant and concessional loan under BRI is used to finance statistical capacity building. In addition, it would be desirable if all policy coordination such as master plans, strategies, and action plans under BRI in Lao PDR were designed to support the implementation of SDGs, such as those aforementioned indicators. To this end, it should also be made clear how the ODA under BRI cooperation contributes quantitatively to the achievement of each SDGs.

Although the existing BRI policy coordination documents between Lao PDR and China currently do not explicitly include the SDGs, they are implicitly linked with SDGs since the content covers different areas related to SDGs such as infrastructure, agriculture, capacity building, industrial park, culture and tourism, finance and banking, and production promotion. It would be more desirable if the SDGs were embedded in the BRI cooperation framework for the purpose of maximizing the impact of BRI on the achievement of SDGs by 2030. This requires a stronger participation from the Lao PDR counterpart on policy formulation.

Meanwhile the second priority of BRI (facilities connectivity) is linked to the majority of SDGs. Not only does the priority directly tie to *Goal 8: sustainable growth and employment* and *Goal 9: infrastructure, industrialization and innovation*, but it also has influence on the areas of poverty, health, education, environment and global partnership for SDGs. Infrastructure development such as in railway, expressway and hydropower projects is expected to contribute enormously and directly to Goal 8 and Goal 9 during and after the construction. During the Lao PDR-China railway construction project, for instance, it is

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\(^{12}\)This would be based on the grant of US$950 million being spread out for over ten years equally. Therefore, the provision of the grant would be US$95 million per year.
expected to contribute to Goal 8 in terms of economic growth and employment as it is estimated to contribute around US$ 174-290 million annually during 2017-2019 to the domestic economy.

The benefits to the domestic economy also include job creation and promotion of the domestic supply chain such as cement, electricity, foods and other related domestic supplies. To provide an example of job creation, as of July 2019, the railway construction project has already employed 28,234 workers in total. After the construction, in addition to accounting for job creation of around 6,180 employees on the railway service operation\textsuperscript{13}, the service provision by the railway is anticipated to contribute directly to Goal 9 in terms of infrastructure development via the expansion of the rail and road transport network, passengers and freight. The resulting reduction of cost and time consumption compared to conventional transport is expected to encourage the growth of tourism, trade and investment among countries in the region. The feasibility study by (China Railway Eryuan Engineering Group Co., Ltd. 2016) shows that the service of the Lao PDR-China railway will benefit practically to the trade and tourism for Lao PDR through an increase of Lao exports to China by 60 per cent as well as between 380,000 to 1,150,000 Chinese tourists who are expected to visit Lao PDR annually. A recent study by Keola 2019 shows gains from the railway project among countries such as China, Lao PDR and Thailand.

Nonetheless, the study also asserts that although Lao PDR will gain a larger benefit in terms of passengers compared to China and Thailand, it will not necessarily achieve the same results in trade. Therefore, Lao PDR should reflect on how to utilize the railway to both promote trade and the tourism sector growth. Infrastructure development is also anticipated to have spillover effects on the SDG goals related to income, local business, and the manufacturing industry. The development of infrastructure raises potential concerns regarding the risks associated with resettlement, compensation, health and the environment that can impact the achievement of SDGs such as Goal 11: safe and resilient cities and Goal 13: climate change and impact. In particular, Target 11.1: ensure access for all with adequate, safe, and affordable housing and basic services, and upgrade slums. This is because infrastructure development projects require a large area of several hectares for construction, hence encroaching on the housing of local residents. Therefore, there is a need to address resettlement and compensation for local residents as well as new social issues such as drug smuggling and trafficking caused by a huge influx of foreign workers because of the shortage in local skilled labor. In the case of the railway construction project, about 4,000 local households at 167 villages within 13 districts and 4 provinces are expected to be affected. The total compensation value is estimated to be 851.53 billion Kip or US$ 99 million. By July 2019, the first five out of seven compensation batches were already paid out (Management committee for Lao-China railway project 2019) and still, two more batches are pending.

Other risks include the suitability of infrastructure development projects for the market, the expansion of diseases such as HIV, environmental impact and road accidents during construction. According to an interview conducted by the International Organization for Migration 2018, some accidents including occupational injuries, road accidents, and accounted cases of assaults were reported during railway construction. More importantly, the interview reveals that the concerned parties have shown no or limited attention to reduce or minimize the risk of road accidents.

The third priority (trade and investment) not only potentially links to Goals 8, 9, 1 and 2 in a direct way but also links to Goals 12, 14 and 15 indirectly. The direction of influence is similar to the second priority since several infrastructure development projects are mainly invested by the Chinese. Yet, the impact of

\textsuperscript{13}According to the Deputy Minister of the Ministry of Education and Sport, for every distance of 1 km, 15 staff members are required including engineers and technical staffs for maintenance and supervision.
this priority on SDGs should be wider as the total investment under this priority is more diversified or covers wider areas including tourism, banking, manufacturing and agriculture. Particularly on Goal 8, an increase of trade and investment driven by BRI cooperation should boost growth of the economy and employment. Even though the assessment has not been made, BRI cooperation has already attracted some investments mainly from China in areas of tourism, agriculture and urbanization development or smart cities along the railway’s route. Beautiful Boten SEZ in the Luang Namtha province under the Mohan-Boten Economic Cooperation Zones is an example where the developer is Haicheng Group Yunnan (100 per cent Chinese investment) with a total investment of US$ 500 million covering 1,640 hectares consisting of 4 zones of commercial and financial, tourism, manufacturing, and logistics. Currently, the Boten SEZ is under construction but is expected to attract around 300,000 inhabitants in the zone after completion. Other types of service investment such as wholesale-retail, hotel, restaurant, banking, insurance and real estate are envisaged to follow. Some manufacturing investment approved within the last 10 years include cement, steel, plastic, wood processing and flour made from cassava. They are all expected to contribute to economic growth in general as well as to targets such as indicator 8.1.1: annual growth rate of real GDP per capita and indicator 8.2.1: annual growth rate of real GDP per employed person in particular although remains questionable how much the contribution would be.

During January to May of 2019, there were three concessional investment projects made mainly in mining with more than US$ 1 billion approved by the Lao government. Regarding non-concessional investment, there were already 1,713 new registered enterprises owned by China in Lao PDR during 2017-2019 (June). Chinese investment from the banking sector such as Industrial and Commercial Bank of China (ICBC) should also contribute to the progress of other indicators under this Goal such as indicator 8.10.1: number of commercial bank branches and ATMs per 100,000 adults. In 2018, according to the Bank of Lao PDR, at least two Chinese banks operated in Lao PDR. Similarly, encouraging trade and investment under BRI should also contribute to indicators 9.2.1 and 9.2.2 that are related to the increase of manufacturing value added and employment under Goal 9. In terms of trade, a large import of construction materials for the railway project could be observed whereas the exports of Lao PDR products has yet to materialize because the railway is not in service. However, export especially in agricultural products is projected to be boosted via the expansion of railway networks.

Again, the practice of the third priority is not without risks on the SDGs. The highest concern is on the social and environmental impact, specifically on Goal 12: responsible consumption and production and Goal 15: protection of ecosystems and biodiversity. In 2018, for instance, the operation of several private investments had socially and environmentally affected the Vientiane Capital due to pollution such as chemical, ash and waste released by factories and agricultural farms of banana, livestock, bread and others into the river, deteriorating the livelihood of those below and above the water. Therefore, private trade and investment increases the likelihood of social and environment risk. This strongly requires private firms to take responsibility for the social and environmental impacts.

The fourth priority related to financial integration has a direct link to Goal 17. In particular, the indicator 17.4.1: debt service as a proportion of exports of goods and services (per cent) should be paid more attention since Lao PDR already has a high debt ratio. In 2016, the debt service as a share of export was 8.6 per cent, increased from 7.9 per cent in 2000. As investment such as in infrastructure development under BRI is mainly financed by external funds through concessional and commercial loans, this suggests that the impact on indicator 17.4.1 is unavoidable. Likewise, the loans that the Lao PDR government borrowed to finance infrastructure such as the railway project will escalate the level of public debt even higher. In 2018, following to the World Economic Outlook in April 2019, the level of public debt was already high at 63 per cent of GDP.
The fifth priority (people to people connectivity) has potential influences on Goal 3: health, Goal 11: safe and resilient cities and Goal 16: peaceful and inclusive societies. The most influenced targets are Target 3.3: by 2030, end the epidemics of AIDS, tuberculosis, malaria, and neglected tropical diseases...; Target 11.1: by 2030, ensure access for all to adequate, safe, and affordable housing and basic services..., and Target 16.1: reduce all forms of violence and related death rates everywhere respectively. In particular, a large amount of foreign labor, mainly from China, moving for work under the China-backed infrastructure development projects has increased rapidly in the last few years. They are vulnerable to the expansion of disease such as AIDS, other communicable diseases, and security. A study by the International Organization for Migration 2018 indicates that the incidences of HIV/AIDS and other sexually transmitted infections (STI) were increasingly observed among female sex workers mostly in their 20s, local communities and migrant workers. In July 2018, there were 17,115 foreign workers in total, mostly Chinese, working for the railway project.

On the other hand, the increase in education exchange programs, seen by the growing number of scholarships provided by the Chinese government especially for PhD programs to Lao PDR students, should stimulate the profile of indicator 9.5.2: researchers (full-time equivalent) measured by per million inhabitants under Goal 9. Lao PDR has an extremely low level of researchers with only 49 researchers per million population in 2002. The more than 3,000 students studying at the master and doctoral level in China during 2011-2018 should also have positive implications for this indicator. In addition, more cooperation on education and research exchange between Lao PDR and China should have further benefits to this indicator.

Lastly, with Goal 18 adopted as a national goal, it is one of the SDG goals that should have a clear link with BRI priorities. While this goal is potentially linked to the second (Infrastructure) and third (trade and investment) priorities, special attention should be required because many people live outside of the investment areas under BRI. As a result, they are easily exposed to risk from UXOs (Figure 7). Under the Lao PDR-China railway construction project, for instance, the clearance of UXOs was carried out only in construction areas where the project is located. Therefore, people living outside this parameter still suffer from UXOs. According to the Management committee for Lao-China railway project 2019, about 459 UXOs and related 463,536 pieces in 2,931 hectares had been cultivated during January 2017-July 2019 before construction. However, about 80 million Unexploded ordnances (UXOs) remain. This indicates that more resources are needed to improve upon this goal and that BRI cooperation could make a substantial impact. There are nine provinces that have been most heavily impacted by UXOs, comprising Attapeu, Champasack, Huaphanh, Khammuane, Luang Prabang, Saravan, Savannakhet, Sekong and Xieng Khuang.

2.3. Augmented WEFM-e simulations

The purpose of this section is to provide the result of simulations for the impact of BRI infrastructure investment on selected SDGs such as GDP growth, employment and environment based on the use of the WEFM-e\textsuperscript{15}. The difference between the modified WEFM-e model and the original WEFM-e (baseline or business as usual) forecast indicates the result of the BRI. As the BRI investment started in 2017, overall investment growth hikes above the original WEFM-e model (Figure 8, a). Similarly, after the end of the BRI related investments in 2021, investment growth drops sharply in 2022. Beyond these years (BRI projects), we see that investment growth closely follows the path of investment growth from the original model. Growth of infrastructure investment (the sum of government and BRI related investments) hikes in 2017 and government and private investments continue steady growth at around 8 per cent and 10 per cent, respectively. As the BRI related investment inflow finishes, infrastructure investment growth falls sharply and then recovers to about 8 per cent growth until the end of the long term (Figure 8, b). The growth of BRI investment has implications on SDGs as follows:

**Productivity and GDP Growth (SDG 4, 8 and 17):** Backed by faster investment growth, GDP growth outperforms the growth rate from the original model. Such GDP growth is driven by higher total factor productivity (TFP). As the TFP is no longer constant and is related to investment growth, it results in higher

\textsuperscript{15} For more details on the methodology and simulations, see the 2020 WEFM-e Report by Hurnik and Vavra (2020), available at: https://www.brisdgs.org/sites/default/files/inline-files/WEFM%20BRI%20Report%202020.pdf
TFP level in the modified WEFM-e model, compared to in the original. As a result, higher TFP translates into faster productivity growth (Figure 8, c) and enables potential output to grow faster as well (Figure 8, d), though initially it drops due to changes in the labor force participation rate. As the BRI project (and related investments) end in 2021, GDP decelerates in 2022 but still stays above the original level for the following year (Figure 8, e). Slowdown in GDP growth after the end of the BRI investments reduces the output gap to some extent, but not completely.

**Employment and Labor Force Participation (SDG 8):** The faster growth of output would generate new employment, especially in the construction and transport sectors. For instance, as of July 2019, the railway construction project has already employed 28,234 workers in total (Management committee for Lao-China railway project 2019). After construction, around 6,180 new employees\(^\text{16}\) are expected to work for the railway service operation. Accordingly, the creation of new jobs will attract domestic labor and, as a result, raise the labor participation rate. Interestingly, the model shows that the impact of BRI’s investment increases female participation in the labor market, resulting in the increase of overall labor force participation (Figure 8, g). The job opportunities for female workers are largely in the service sector, especially in transport, hotel, restaurant, wholesale and retail. Once female labor force participation is linked with GDP growth, dynamics of the labor market might change, which will then affect dynamics in the whole economy.

**Poverty Reduction (SDG 1 and 10):** On the poverty side, the impact of BRI through GDP growth and employment will decrease the poverty rate to 2.7 per cent by 2023 from 11.4 per cent in 2015 (Figure 8, j). Given the (strong) assumptions for the poverty side extension (constant GINI index and constant poverty line), this poverty reduction is reasonable. If one allows the GINI index and the national poverty line to change over time, the resulting trend in the poverty headcount rate may be very different.

**Environment (SDG 13):** With regards to the environmental effect of economic growth, the model predicts, as expected, an increase in CO\(_2\) emissions with an assumption of the absence of environmental policies (Figure 8, h). While it is hard to empirically show the Environmental Kuznets Curve (EKC)\(^\text{17}\), we still see that when GDP grows moderately, CO\(_2\) emissions also slowly increase, and as soon as GDP growth accelerates, CO\(_2\) emissions also start to grow faster. However, it should be noted that as income level rises, countries usually implement environmental-friendly policies to limit the adverse impact of growth. Therefore, if policies are designed and executed appropriately, this adverse effect can be reduced.

**Debt Sustainability (SDG 17):** The WEFM-e is currently missing the debt stabilizing fiscal feedback rule, which would lower the fiscal deficits associated with earlier government investment in infrastructure, either by a correction in government expenditures and investments or an increase in the tax rate later on. With the tax rate kept constant, government consumption and investment grow in tandem with the growth of the nominal GDP. As a result, the debt to GDP ratio starts to grow after the end of BRI investment inflows. This increases the risk premium and through that the nominal interest rates, interest payments on the existing debt, the budget deficit and, again, the debt. Ultimately, the government debt exceeds 65 per cent by the end of the forecasted horizon (Figure 8, k and l). In reality, the Lao PDR government has already considered some responses reflected in the budget plan for 2019, including keeping the budget deficit at 4.28 per cent of GDP, lower than in previous years (5 per cent of GDP) (MPI

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\(^{16}\) According to the Deputy Minister of the Ministry of Education and Sport, for every distance of 1 km, 15 staff members are required including engineers and technical staffs for maintenance and supervision.

\(^{17}\) Environmental Kuznets Curve (EKC) refers to the curve demonstrating the relationship between income growth and various measures of environmental degradation (Grossmann and Krueger, 1991).
Nevertheless, the usefulness of the simulation lies in showing the implications of government investments programs for debt sustainability in the absence of adjustment mechanisms. The growing government debt is in line with the results by Hurley, Morris and Portelance (2018), which examined BRI debt implications for involved countries. Authors identified Lao PDR as one of the most vulnerable countries in terms of debt distress. To that end, the modified WEFM-e is able to show how growth prospects can be improved through specific investments, although adjustments on the government side may be necessary.

Figure 8. Lao PDR: Baseline Scenario

- **Figure 8. Lao PDR: Baseline Scenario**

  - **a. Growth of the overall investment (in %)**
  - **Investment growth**
  - **Original**
  - **Modified**

  - **b. Growth of the government, private and II (in %)**
  - **Investment growth (Modified model)**
  - **Private**
  - **Gvt**
  - **Infrastructure Inv.(lhs)**

  - **c. Growth of the trend productivity (in %)**
  - **Trend productivity growth**
  - **Original**
  - **Modified**

  - **d. Growth of the potential output (in %)**
  - **Potential output growth**
  - **Original**
  - **Modified**

  - **e. Growth of the GDP (in %)**
  - **GDP growth**
  - **Original**
  - **Modified**

  - **f. Output Gap (in % of GDP)**
  - **Output gap**
  - **Original**
  - **Modified**
**Conclusion**: BRI related investments boost productivity growth, which in turn leads to faster output growth, increase in labor force participation and reduction in the poverty level. However, this positive impact is also accompanied by negative impacts, particularly in terms of debt sustainability and the environment. As the debt stabilizing effect is missing from the model, there is no mechanism that limits government borrowing and/or adjusts their fiscal policy (reduce spending, increase tax, etc.). Therefore, the following results are more hypothetical scenarios, which might be expected in the absence of these adjustments. Nevertheless, the WEFM-e results show that once the BRI investment inflow stops, the government will start to borrow more, increasing the debt to GDP ratio. Hence, unless the government attracts more investments, debt distress could potentially become more problematic, assuming there is no fiscal adjustment. In terms of environmental impact, in the absence of environmental policies, the model predicts increase in CO2 emissions during the forecasted horizon. However, according to the EKC,
the environment should start improving after GDP reaches some threshold level and the government begins to implement environmental-friendly policies.

3. Policy options

3.1. Discussions at the national workshops

Two national workshops were organized in Lao PDR throughout the course of the project. A first workshop took place on 6 November 2018, with the objective of presenting the project to national stakeholders and kicking off discussions, in particular with regard to Lao PDR’s development context and BRI opportunities. A second national workshop was held on 5 June 2019, convening more than 40 participants from diverse organizations such as research institutes, academics from universities and policymakers from line ministries and NGOs. This second national policy dialogue workshop aimed to bring the experts, academia and policymakers together to discuss the initial findings on the current state of BRI projects and their potential impact on the achievement of the SDGs in Lao PDR. Key outcomes from the second national workshop are summarized below. Full reports of both national workshops are provided in Annex 2.

SDG progress and BRI in Lao PDR:

- Several SDGs for Lao PDR have performed poorly, outweighing the number of SDGs with good performance. Poorly performing SDGs goals include Goal 1 (no poverty), Goal 2 (zero hunger), Goal 5 (gender equality), Goal 7 (access to the affordable and clear energy), Goal 9 (industry, innovation and infrastructure), and Goal 10 (reduce inequality). Meanwhile, the SDGs that Lao PDR have made outstanding progress on compared to other countries in the region include Goal 3, Goal 11, Goal 12 and Goal 15.
- The progress of national Goal 18 on safety from UXOs has done well so far given that UXO causalities have been substantially reduced by 85 per cent over the last decade. However, more attention is needed since a large contaminated area still remains. In addition, another challenge is serving the needs of UXO survivors and victims.
- There are some potential risks and opportunities of on-going and planned activities of BRI on the achievement of SDGs, including Goal 18. The risks are mainly embedded in the social, environmental and debt sustainability areas, whereas the potential opportunities could primarily be in the areas of poverty, economic and capacity building.
- BRI and its activities are mainly driven by the Chinese counterpart due to the weak capacity of the Lao side. Lao PDR should participate actively in the design of BRI explicitly and support the SDGs, especially those with poor performance.
- Finally, the information and analysis of BRI activities in Lao PDR especially on SDGs need to be updated regularly.

DESA macroeconomic modelling tool and simulations for SDGs in the context of Lao PDR:

The model produced the following preliminary results for the impact of BRI investment on some SDG indicators:

- Increases in labor force participation and jobs (SDG 8);
- Decreases the gender gap (SDG 5, 8);
• Boosts the productivity growth (SDG 4, 8, 17);
• Leads to a faster output growth (SDG 8);
• Reduces poverty level (SDG 1, 10).
• Meanwhile, the planned investment could have negative impacts on partnerships, fiscal space and debt sustainability (SDG 17), assuming there are no remedial policy changes in those areas.

Interactive discussion from the participants are summarized as follows:
• The research project should clarify which investments are under BRI, otherwise the main focus should be initially concentrated on the Lao PDR-China railway corridor only.
• To what extent the BRI could facilitate the export of Lao PDR agriculture to China.
• UN DESA macroeconomic modelling is suggested to include the dimension of international trade such as trade competitiveness, agriculture, industry, mining, forest, energy resources and the impact of disasters.
• The extent by which the BRI can improve Goal 7 on energy.
• Compare BRI impacts in Lao PDR with that of other countries.

3.2. Suggested actions to maximize benefits and avoid risks

Based on the discussion at the workshop mentioned above, the recommendations are discussed accordingly as follows:
• Data collection, progress monitoring and evaluation on the impact of the BRI activities on SDGs are crucial to informing and presenting possible options to policymakers to exploit the benefits while mitigating the risks to ensure the achievement of SDGs by 2030.
• Special attention from the government should be paid to the spillover effects and tradeoffs on the SDGs at the national level and to local communities.
• BRI should both stimulate industries that channel more trade with China and allow for diversification of the local economy.
• Job creation should be accompanied by training and professional development to sustain the impacts.
• The role of environmental and social safeguards for infrastructure projects is pivotal for securing the overall BRI vision. Therefore, enhancing social and environmental responsibilities in private companies are necessary.
• Implement more intervention programs and policy measures on health, road safety, employment and environment to lessen the risks and exploit opportunities for the SDGs.
• Promote participation by local communities.
• It is suggested to carry out more discussion on aligning the BRI with SDGs and other national long-term goals by 2030.
References


Lao prime minister’s office 2018, Announcement No.776/PMO.


National SDGs Secretariat 2019, ‘SDG Indicators Snapshot’.


Tourism Development Department 2018, Statistical report on tourism in Lao PDR, Tourism Development Department (TDD), Ministry of Information, Culture and Tourism.


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#1 National Workshop Report

Vientiane, Lao PDR

6 November 2018

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Participants
1. Dr. Sthabandith Insisienmay, Director General of Center for macroeconomic policy and economic restructuring (CMER), NIER
2. Mrs. Lathdavanh Songvilay, Deputy Director General of Center for macroeconomic policy and economic restructuring (CMER), NIER
3. Mrs. Khammerg Bannalath, Division Chief of Macroeconomic Policy, CMER, NIER
4. Ms. Phonephavina Vanhxana, staff, CMER, NIER
5. Ms. Visouda Saingavong, staff, CMER, NIER
6. Mr. Bounmy Chanthavilay, staff, CMER, NIER
7. Ms. Panee Yanaotou, staff, CMER, NIER
8. Mr. Chansy Samavong, staff, CMER, NIER
9. Mrs. Vannasin Thepsimeuang, Deputy Director General of Training Center, NIER
10. Mr. Vinyou, staff, Training Center, NIER
11. Dr. Aloun, Division Chief of international cooperation, Administration and Personal Department, NIER
12. Mr. Keodoungjai Dongpaserth, staff, Center for international integration and enterprise development, NIER
13. Mr. Visanou Boundavong, staff, Center for international integration and enterprise development, NIER
14. Mr. Bounmy Soudthila, staff, Center for science and socio-economic policy, NIER
15. Mr. Phoukong Xayalath, staff, Center for science and socio-economic policy, NIER
16. Mr. Khamnang Khounpukdee, staff, Center for science and socio-economic policy, NIER
17. Mrs. Nanoluk Phongsavath, Deputy chief, NIER
18. Dr. Sitthiroth RASAPHONE, Acting Director General, Center for Development Policy Research (CDR), Ministry of Planning and Investment (MPI)
19. Mr. Bounnaphon Seangkhamyong, staff, Center for Development Policy Research (CDR), Ministry of Planning and Investment (MPI)
20. Mr. Souban Vichidtha, Deputy Director General, Laos-China Cooperation Department, MPI
21. Mr. Singthavalath Phonexaysa, staff, Laos-China Cooperation Department, MPI
22. Mrs. Bouphavanh Koemixay, Deputy Chief of Division, Planning Department, MPI.
23. Mr. Vixay Xayasith, staff, Department of Investment Promotion, MPI
24. Mr. Khamphasone Boudthanavong, staff, Department of Investment Promotion, MPI
25. Mr. Souliya Khotsomebath, staff, Planning Department, Ministry of Industry and Commerce (MOIC)
26. Ms. Thipphakone Thepdeexa, staff, Planning Department, Ministry of Industry and Commerce (MOIC)
27. Ms. Linda Thanvilay, staff, prime minister office
28. Ms. Nalin Dalavong, staff, prime minister office
29. Mr. Samukchai Seangkeo, staff, Planning Department, Ministry of Public Work and Transportation.
30. Mr. Ekmongkhoun Siphaserth, staff, Lao Statistics Bureau (LSB)
31. Mr. Thatthin Oudthongkham, staff, Monetary Policy Department, the Bank of Laos (BOL)
32. Ms. Vilath Thanasathan, staff, the Bank of Laos (BOL)
33. Ms. Vathsana Soundala, staff, Monetary Policy Department, the Bank of Laos (BOL)
34. Ms. Malikhone Thipmanyvone, staff, Ministry of Finance (MOF)
35. Mr. Vanxay Sayavong, National Consultant, UN DESA

Key points raised

1. Introduction of the project and progress of SDGs in the concerned country

Participants were interested with the project’s activities, especially the use of WEFM model to answer several questions raised on the impact of BRI activities in respect to the characteristics of Lao economy such as its endowment, limited resources, the constraint of financing as well as the options of finance regarding to the share of benefits among countries, the impact on
SDGs with goal 18 (reduced impact of Unexploded Ordnances), GDP, government revenue, employment, FDI from different countries and income. They are likewise keen to know more about the training activities for policy makers and technical staffs on the modelling and policy options to push forward the BRI activities in the direction of supporting the achievement of SDGs.

Too, there is a request from participants for further discussion on the research partnership cooperation under this project or joint research between DESA and local stakeholders including NIER and planning department (MPI). For instance, researchers from local stakeholders might/could involve and contribute in the research project. Some of participants think that it would might to have MOU between DESA and local stakeholders for such cooperation.

2. Overview of BRI projects in Lao PDR

Some of participants raised questions on the definition of BRI such as the coverage of BRI activities in Laos in terms of infrastructure, investment ownership and evolution of BRI in previous years. This is because the coverage of BRI activities has expanded from the Northern to the South region. Therefore, the definition of BRI should be well clarified by this project in the report.

More importantly, more attention from participants was paid on how to utilize this project to help Laos maximize the benefit from BRI and achievement of SDGs. In particular, the quantitative analysis from the WEFM model is highly expected to provide policy options to the Lao government in order to maximize the gain from BRI activities respected to the limitation of Lao economy and its resources. Also, there is a request for the project to have a depth analysis on the impact of BRI activities on each indicators of SDGs.

3. Review of available data

The information of BRI activities in Lao PDR presented is likely to be consistent with the local concerned agencies based on the information from the representatives from Laos-China cooperation department and Planning Department (MPI), and the Planning Department (Ministry of Public Work and Transportation). However, there is a need to update some of the new information especially the first priority of policy cooperation such as the draft of strategic plans in 3 areas: (1) Laos-China economic corridor, (2) electricity, and (3) tourism. Besides, there is a concern from participants on the data availability for the analysis and WEFM model since the data particularly several indicators of SDGs in Laos and other macro statistics is limited.
4. Interactive discussion on which areas of BRI and SDGs to be analyzed in the concerned country

Participants proposed to include the SDGs goal 18-reduce impact of UXO, which is the national goal, in the analysis and identify how the BRI activities can support the achievement of this goal both directly and indirectly.

In addition, the attention from all participants is likely to be focused on the impact of railway project and its spillovers on the SDGs at the national level and it would be great if the analysis could be at the provincial level or local communities. Specifically, the questions were raised on what economic sectors in which areas/locations along the route of railway that Laos should promote to maximize the benefits for the country.

Follow-up actions

• Regarding to the expectation of WEFM model to answer several questions raised on BRI in respect to Lao economy, the national consultant will collect the feedback and request from participants at this national workshop and available data in Laos under the supervision of project manager as an input for the WEFM model expansion.

• National consultant to follow up on partnership cooperation interests expressed by relevant stakeholders in Laos.

• National consultant to update the information and analysis of BRI activities and their impact on SDGs, and carry out depth analysis of the impact of BRI on SDGs as well as including the SDG goal 18 under the supervision of project manager.
#2 National Workshop Report

Vientiane, Lao PDR

5 June 2019

Co-organized with National Institute for Economic Research (NIER)

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Participants

Around 50 participants from different stakeholders as following:

- Department of Energy policy and planning, Ministry of Energy and Mines
- Tourism Development Department, Ministry of Information, Culture and Tourism
- Lao Statistics Bureau (LSB)
- Department of Planning and Cooperation, Ministry of Public Work and Transport
- Department of Railway, Ministry of Public Work and Transport
- Center for Development Policy Research (CDR), MPI
- Monetary policy Department, Bank of Laos (BOL)
- Department of SMEs Promotion, Ministry of Industry and Commerce (MoIC)
- Department of Agriculture, Ministry of Agriculture and Forestry (MOAF)
- United Nations International Children’s Emergency Fund (UNICEF)
- Ministry of Finance (MOF)
- United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP)
- Center for Development and Environment (CDE), University of Bern
- United Nations Department of Economic and Social Affairs (UN DESA)
- United Nations Industrial Development Organization (UNIDO)
- United Nations Capital Development Fund (UNCDF)
- Embassy of Japan
- World Bank
- International Monetary Fund (IMF)
- Asian Development Bank (ADB)
- International Organization of Migration (IOM) Laos
- Lao National Chamber of Commerce and Industry (LNCCI)
- National Institute for Economic Research (NIER)
- Faculty of Economics and Management, National University of Laos

Key points raised

1. SDG progress and BRI in Lao PDR

Mr. Vanxay Sayavong, Chief, NIER, and UN DESA national consultant presented that Laos is a landlocked country with high economic growth of around 7% annually. However, such growth has been characterized by resource dependence mainly from mining, hydropower and agriculture. Therefore, the economic development of Laos is unsustainable and lagged behind its neighbors. In particular, the international poverty rate is high (22.7%) in Laos compared its neighboring countries such as Cambodia (5.7%), Myanmar (6.2%) and Vietnam (2%).
Regarding to the implementation of SDGs, it found that several SDGs has performed poorly in the region outweighed in number of SDGs goals with good performances. Poor performed SDGs goals include Goal 1 (no poverty), Goal 2 (zero hunger), Goal 5 (gender equality), Goal 7 (access to the affordable and clear energy), Goal 9 (industry, innovation and infrastructure, and Goal 10 (reduce inequality). For instance, Goal 1 (no poverty) performs poor because the poverty rate in Laos is high compared countries in the region. In 2012, for instance, 22.7% of population living below the $1.90 a day especially population in rural (28.6%).

Meanwhile, the SDGs that Lao PDR had made progressively and outstanding than other countries in the region including Goal 3, Goal 11, Goal 12 and Goal 15. For example, the achievement in Goal 3 (ensuring good health and well-being) is seen to be on track since Lao PDR is among the countries who has a significant reduction of the under-five mortality rate. In 2016, the under-five mortality rate in Lao PDR was reduced by half (64 deaths per 1,000 live births) from 117 deaths per 1,000 live births in 2000. For the progress of national Goal 18 lives safe from Unexplored Ordnance (UXOs), it reveals that UXO causalities had been substantially reduced by 85% over the last decade. However, more attention of efforts is needed since only about 6.6% of the contaminated land is actually cultivable and UXO contamination from the Indochina wars still remains. Addressing the needs of UXO survivors and victim is another challenge.

Since the large fund could be provided through BRI cooperation, it could be considered as the alternative fund for the development especially achieving SDGs by 2030. However, the concept and the activities under the BRI are still not well understood in Laos which is needed to be enhanced. The activities of BRI under 5 key areas have been changed over time which could summarize the major activities so far as following:

- Master Plan BRI cooperation strategy between Lao PDR and China
- Lao-China Economic Corridor cooperation framework
- The construction of Lao-China railway project with the investment: 5.8 billion USD or 33 % of GDP in 2018
- Chinese FDI in Laos was the 2nd Rank with 614 million USD annually (2011-2017) or shared 23% of total whereas the FDI from Thailand took a bit more share of 29%.
- Furthermore, many investors especially Chinese investors are interested in the areas of tourism, agriculture, smart cities, logistics and SMEs along the route of railway
- The loans for Chinese backed-up infrastructure projects are mainly from Export-Import Bank of China and China Development Bank
• More scholarships provided by China as the number of Lao students increased to more than 9,000 students in 2016 up from 723 students in 2013.
• Also, training in China given to Lao authorities also increased from 532 in 2015 to more than 2,000 persons in 2018.

There are some potential impacts of on-going and planned activities of BRI on the achievement of SDGs including SDGs goal 18-reduce impact of UXO (the national SDG goal). In general, there are risks and opportunities. The risks are mainly embedded with the social, environmental and debt sustainability whereas the potential opportunities could primarily be in the areas of poverty, economic and capacity building. Moreover, since the policy formulation related to BRI and its activities are mainly driven by Chinese counterpart due to the weak capacity of Lao side, Laos should participate actively by designing BRI explicitly to support the implementation of SDGs especially those with poor performance. Finally, it suggests that the information and the analysis of BRI activities in Lao PDR especially on SDGs need to update from time to time.

2. **DESA macroeconomic modelling tool and simulations for SDGs in the context of Lao PDR**

Dr. Namsuk Kim, Projects Coordinator, UN DESA, introduced that World Economic Forecasting Model (WEFM) started from the project of linking country models in 1970s (LINK). WEFM is the Multi-country forecasting model with Error-correction principle, Supply, Demand, Monetary sides. Since 2005, integrated modelling tool covering 176 countries. For the purpose of SDGs, WEFM has extended to cover many dimensions related to SDGs including infrastructure investment, education level in production, labor participation based on GDP per capita and education level, poverty reduction, consumption and investment behavior in relation to expected growth and the real interest rate, government debt accumulation and its impact on the country risk premium, real interest rate and the exchange rate with the back loop in private consumption and investment.

The model produced the preliminary result for the impact of BRI investment on some of the SDG indicators as below:

• Based on the projected investment in infrastructure, positive and measurable impacts are indicated on: Increases in labor force participation and jobs (SDG 8); Decreases the gender gap (SDG 5, 8); Boosts the productivity growth (SDG 4, 8, 17); Leads to a faster output growth (SDG 8); Reduces poverty level (SDG 1, 10).
• As shown in the graph, the GDP growth is at least 1.4 percentage point higher in the project investment scenario than the baseline scenario by 2021.
Meanwhile, the planned investment could have measured negative impacts of partnerships, fiscal space and debt sustainability (SDG 17), assuming of no remedial policy changes in those areas. In the future, the model will be further expanded to include other dimensions such as environment.

3. **Development impacts of the BRI in other selected Asian Economies**

Mrs. Lin Yang, Programme Officer, UN DESA, introduced that as of 20 April 2019, there are 126 countries have already signed up with China to endorse the BRI. During 2013-2018, the value of trade and investment reached over six trillion USD and over 90 billion USD between China and other BRI countries respectively. There are 82 overseas economic zones with nearly 300,999 new jobs generated. Six major economic corridors (ECs) are under the cooperation including:

- China-Indochina Pennisular EC
- Bangladesh-China-India-Myanmar EC
- New Eurasian Land Bridge
- China-Mongolia-Russian EC
- China-Central Asia-West Asia EC
- China-Pakistan EC

The lessons learnt from the experiences of some Asian countries such as Cambodia, Myanmar and Thailand regarding to BRI and its implication are briefed as follow:

- BRI was found to be not well understood in many participating countries.
- Lack of available information and evidence for its impact especially on SDGs.
- Policy formulation related to BRI and its activities are mainly driven by the Chinese counterparts given the weak capacity in many participating countries.
- Chinese investments in “connective infrastructure” produce positive economic spillovers that flatten the spatial distribution of economic activity.
- Studies also demonstrate that BRI projects could involve a number of negative externalities, including possible displacement of local and marginalized communities, environmental degradation, and low level local community participation.

It is suggested that:

- Data collection, progress monitoring and evaluation on the impact of the BRI activities on SDGs would be crucial to inform and present possible options to policymakers to exploit the benefits while mitigating the risks to ensure the achievement of SDGs by 2030.
• Special attention should be paid to the spillover effects and tradeoffs on the SDGs at the national level and on local communities.
• BRI should both stimulate industries that channels more trade with China and allow for the diversification of local economy.
• Job creation should be accompanied by training and professional development to sustain the impacts.
• The role of environmental and social safeguards for infrastructure projects is pivotal for securing the overall vision of BRI

4. **Review of available data**
The information of BRI activities in Lao PDR presented is likely to be consistent with the local concerned agencies based on the information from the representatives from Laos-China cooperation department and Planning Department (MPI), and the Planning Department (Ministry of Public Work and Transportation). However, there is a need to update or clarify some of the information especially the difference between the investments under BRI and the infrastructure investments that connect to the regional infrastructure network.

5. **Interactive discussion on which areas of BRI and SDGs to be analyzed in the concerned country**

*World Bank in Laos*

• World Bank also carried the research related to the Lao-China railway corridor and provided recommendations to Lao government. The World Bank suggests that it should be clear which investments are under BRI and the main focus should be concentrated on Lao-China railway corridor at the first stage.

*More information provided by the Department of Transport, Ministry of Public work and Transport*

• The ministry aims to develop the road transport to connect with the Great Mekong Sub-region (GMS) transport network by improving the custom clearance and proposing the infrastructure projects extended from existing ones. For instance, Laos signed the MOU with China regarding to the Early Harvest List purposely to accelerate the connection between roads R3 and the road from Nanning to the border of Laos.

*International Organization Migration (IOM)*

• How to mitigate the risk such as health effect which the IOM could share the result of its research that has been already done.
Department of Agriculture, Ministry of Agriculture and Forestry (MOAF)

- Shared that the main policy of MOAF is to secure the food and promote the exports of agricultural product. Since 2015, it has finished identifying 5 types of agricultural products to China such as rice. However, last year (2018) the department proposed 10 types of agro products for exporting to China but have no response so far from China. Therefore, it is wonder to what extent the BRI could facilitate the export of Lao agriculture to China.

Ministry of Energy and Mines

- Questioned the link between the investment and Total Factor Productivity (TFP) in the model.
- Also recommend looking at the dimension of international trade such as trade competitiveness.
- Suggested that since the assessment of SDGs shows that the goal 7 on energy, which is the responsibility of the ministry, has poor performance, so wondering whether BRI could improve this goal

United Nations Industrial Development Organization (UNIDO)

- Interested in the application of macro modelling whether it could project the sustainability of economy in the aspect of using the natural resource. So that, would like to propose the use of macro model to improve the economy to be more sustainable in terms of exploiting mining, forest and energy resources. Also proposed to forecast, by using the macro model, the impact of disaster in the risky targeted areas and how to mitigate the risk.

National University of Laos (NUOL)

- Asked whether the macro model can forecast the impact by economic sectors such as agriculture and industry for instance.

National Institute for Economic Research (NIER)

- Suggested further comparing BRI impacts in Laos with other countries
- Commented that Lao government is more interested in the economic and social development rather than SDGs
- Suggested comparing the definition of BRI with the one defined in the research carried out by the World Bank
Disclaimer: the views and opinions expressed during the workshop are those of the participants and do not necessarily reflect the views of the Economic Policy and Analysis Division, Department of Economic and Social Affairs, United Nations.

### Follow-up actions

- National consultant to follow up on partnership cooperation interests expressed by relevant stakeholders in Laos.
- National consultant to update the information and analysis of BRI activities and their impact on SDGs, and carry out depth analysis of BRI and its impact on SDGs as well as including the SDG goal 18 under the supervision of project manager.