



SUSTAINABLE CONSUMPTION AND PRODUCTION IN LAO PDR AFTER THE VOLUNTARY NATIONAL REVIEW

Policy Options
for Effective
Implementation
and Monitoring



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TABLE OF CONTENTS

01 Executive Summary	05
02 Introduction	06
03 Research Methodology	08
04 Review of the Existing Indicator Framework in the 2018 Voluntary National Review	10
05 Detailed Assessment of the State of SCP Mainstreaming within National-Level Strategies & Regulations	15
06 Implementation and Monitoring Constraints in the Lao PDR	23
07 Policy Recommendations	27
08 Bibliography	30
09 Annex	32

1 EXECUTIVE SUMMARY

As the Lao PDR is moving on from the preparation of its Voluntary National Review (VNR), the time is opportune to review some of the specific Sustainable Development Goals (SDGs) and how their implementation may be improved. This study focuses on the state of implementation of policies related to sustainable consumption and production (SCP), Sustainable Development Goal 12 (SDG 12). The study assesses the current state of affairs and gives policy recommendations for short- and long-term changes to the Lao PDR's strategic plans across various ministries.

Within sectoral plans, the degree to which the 11 distinct SCP targets are included varies markedly. Some targets, such as 12.1., 12.6., 12.7., 12.C., are not included in either current national ministry documents or in the 8th National Socio-Economic Development Plan (NSEDP). As a result, this study proposes that certain ministry and strategic documents include SCP-relevant objectives and targets in the future. Other targets have seen relatively good mainstreaming in some ministry strategies (such as 12.3., 12.5.), with strategic plans already containing targets and activities related to SCP. Generally, there is great potential for improved coordination between ministries as well as the capacity for more concrete targets and activities in strategic plans. The study offers proposals to support existing Laotian strategic plans to become more focused on SCP.

The proposed monitoring framework for SDG 12 lacks measurable indicators and has a strong focus on urban, industrial indicators that are not aligned with the Lao PDR's level of development. Overall, the way Lao PDR plans to monitor SDG 12 is too narrow and focused on urban communities. This study proposes alternative proxy indicators for a potential monitoring framework, with the aim of impacting more rural and vulnerable communities across the country. Finally, the study also identifies potential improvements in implementation and monitoring, such as coordination

across ministerial Monitoring and Evaluation (M&E) systems and stronger collaboration with the Lao PDR's Statistical Bureau.

This study proposes that the Lao PDR decides on a narrow set of SCP-relevant objectives and targets with the aim of making a targeted impact. Beyond this, inter-ministerial coordination should be encouraged in order to make use of the strategic documents and activities already in place, many of which are already partly aligned with the relevant SDGs. Using resources and programmes that are already established will go some way towards preserving public sector resources. Please see Chapter 7 for the specific policy recommendations.

2 INTRODUCTION

This study assesses the state of implementation of SDG 12 – Sustainable Consumption and Production (SCP). The 2018 VNR found that the Lao PDR could further institutionalise SCP within its national frameworks and practices. In order to support this process, this report summarises current progress and suggests areas for additional intervention.

In addition to an overview of the VNR, the report addresses two questions in more detail:

1. Are SCP targets and indicators included in existing sectoral development plans in the Lao PDR? (Chapter 5)
2. What are the institutional barriers constraining implementation and monitoring of SCP and what are options for short- and long-term reform? (Chapter 6)

The working definition of SCP

The use of services and related products, which respond to basic needs and bring a better quality of life while minimising the use of natural resources and toxic materials, as well as also minimising the emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardise the needs of future generations.¹

Given the importance of national-level processes in the implementation and monitoring of the SDGs, the national context is key in judging a country's progress on any given goal and target. The Lao PDR began to localise and integrate the SDGs into its national planning frameworks during the preparation for the 8th NSEDP in 2014. But in the area of SDG 12, progress has remained modest. The Lao PDR faces challenging circumstances in comparison to other countries implementing SCP measures because of its status as a Least Developed Country, and its reliance resource-dependent growth and small-scale agriculture.

The fact that over 98% of Lao companies are Small to Medium Enterprises (SMEs), and that the Lao PDR is significantly dependent on Foreign Direct Investment (FDI) for its economic growth, is a challenge for national SCP implementation. Concretely, this means that national authorities must manage not just Lao producers but they must also consider strategic action that includes external investors. The Lao PDR's focus on hydropower, much of which is exported to neighbouring countries, is an example of this, with high-impact developments highlighting the need for sound management of external investments. A 2013 policy needs assessment noted that 60% of FDI is land and natural resource intensive,² while hydropower and mining exports make up more than 70% of total exports.³ These investments also impact public finances, as 20% of Lao fiscal revenues derive from approximately 20 mining and hydropower projects.⁴

1 United Nations Department for Economic and Social Affairs. "Sustainable consumption and production." Sustainable Development Goals Knowledge Platform. <https://sustainabledevelopment.un.org/topics/sustainableconsumptionandproduction> (accessed 7 March 2019).

2 United Nations Environment Programme. *Capacity Building and Policy Needs Assessment for Sustainable Consumption and Production: Final Report*. Bangkok: United Nations Environment Programme, 2013.

3 UNDP. *Capacity Building and Policy Needs Assessment for Sustainable Consumption and Production*.

4 UNDP. *Capacity Building and Policy Needs Assessment for Sustainable Consumption and Production*.

Given that four out of five Laotians rely on natural resources for their livelihood,⁵ the Lao PDR has to contend with the challenge that investment-driven growth poses to the environment and the society. In addition, the country is in an environmentally significant position in the Mekong river basin, which is a regional and global hub for biodiversity, and decisions on investment-driven growth could potentially have transnational repercussions. For these reasons, several actors have argued that the sound management of natural resources should become a Lao policy priority. The World Bank has written that:

“even though the Lao PDR is rich in natural resources, it does not have to develop all its natural wealth to achieve the National Socio-Economic Development Plan goals and economic growth targets, including the 2020 goal of becoming a middle-income country”⁶

The Lao PDR can take advantage of its natural resources as an opportunity for development, but it is important to manage its resources in a sustainable way. Focusing on sustainable consumption and production may allow the country to take an integrated approach to development, reducing environmental degradation through the increase of resource efficiency in the production, distribution, and use of products.

5 UNDP. *Capacity Building and Policy Needs Assessment for Sustainable Consumption and Production*.

6 UNDP. *Capacity Building and Policy Needs Assessment for Sustainable Consumption and Production*, p. 98.

3

RESEARCH METHODOLOGY

This research is based on the Asia-Europe Foundation's (ASEF) *Implementation Guide for the Sustainable Development Goals*.⁷ It proposes a three-step approach to the successful implementation of SCP in the governance context of the Lao PDR.

1. A baseline assessment of existing development plans and policy documents. To integrate new goals and targets in general as well as in ministry specific policy documents, policy makers should first assess the current state of affairs of the national planning frameworks.
2. A revision of national policy documents, based on the evaluation of current conditions, capacities and available resources.
3. The design and revision of implementation and monitoring frameworks, in line with the national policy documents.

Please note that steps one and two are presented in tandem within Chapter 5 for ease of reading.

This report is based on two country visits to the Lao PDR, the first one taking place in April 2018, the second one taking place in August 2018. During these consultations, the research team met up with representatives from various Lao ministries as well as representatives from the private sector.⁸ The process was coordinated by the Lao Ministry of Planning and Investment (MPI), but considerable scope was given

for consultation with ministry representatives. It is understood that the study conclusions may inform future decisions regarding the NSEDP implementation process.

In addition to the two consultation visits, a team of Lao researchers, led by an international expert, was contracted with the aim of identifying and analysing relevant national regulations across several ministries. This analysis led to the development of the baseline assessment, which was complemented with information gathered during the two country visits.

⁷ Lee, Dara, Pulawska, Grazyna and Morton, Jennifer. *Implementation Guide for the Sustainable Development Goals*, Singapore: Asia-Europe Foundation (ASEF), 2017.

⁸ The following stakeholder groups were consulted: Ministry of Planning and Investment, a committee of international partners, the National Institute of Economic Research, the Ministry of Agriculture and Forestry, the Ministry of Science and Technology, the Ministry of Natural Resources and Environment, the Lao Statistical Bureau, the Lao Chamber of Commerce, the Investment Promotion Division, UN representatives, international experts, and the Ministry of Tourism and Culture.

4 REVIEW OF THE EXISTING INDICATOR FRAMEWORK IN THE 2018 VOLUNTARY NATIONAL REVIEW

Since the SDGs have been designed to account for differences in national realities and priorities, countries are encouraged to first take stock of national policies and priorities in order to assess the overlap between the global SDGs and national objectives.

Ideally, targets and indicators chosen should match the needs of the country as well as existing policy priorities and country capacity. This chapter will assess the proposed national indicator framework on SDG 12 before sectoral strategies and potential policy adjustments are discussed in the next chapter.

Table 1: Current state of the Lao indicator framework⁹

Selected Targets	Localised SDG Indicators	Year	Available Value	Current Source Used/Comment
12.1. 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns implemented	12.1.1 Sustainable Consumption and Production (SCP) National Action Plan adopted or mainstreamed into national policies	--	--	MoNRE supported by UNEP
12.2. Sustainable management and efficient use of natural resources	12.2.1. Material footprint, material footprint per capita, and material footprint per GDP	--	--	MoNRE supported by UNEP
12.3. Food waste and food losses reduced	12.3.1. Food loss index ¹⁰	--	--	MAF supported by FAO

⁹ Government of the Lao People's Democratic Republic. Lao People's Democratic Republic: Voluntary National Review on the Implementation of the 2030 Agenda for Sustainable Development. Vientiane: Government of the Lao People's Democratic Republic, 2018

Selected Targets	Localised SDG Indicators	Year	Available Value	Current Source Used/Comment
12.4. Environmentally sound management of chemicals and all wastes throughout their life cycle	12.4.1. Volume of hazardous waste generated from Vientiane Capital ¹¹	--	--	MoNRE
12.5. Prevention, reduction, recycling of waste	12.5.1. Rate of recycling: % of solid waste generated in Vientiane Capital ¹²	--	--	MoNRE
12.8. Relevant information and awareness for sustainable development and lifestyles	12.8.1. Mainstreaming of sustainable development into education:			MoES
	Primary and secondary curricula development on sustainable development	--	--	
	Teacher Education Programmes related to new curricula in primary/secondary schools ¹³	--	--	
	12.8.2. Number of universities with sustainability campus plan	2017	5	MoES
12.b. Tools to monitor sustainable development impacts for sustainable tourism	12.b.1. The Lao PDR Action Plan for Pakse Declaration (ASEAN Roadmap for Strategic Development of Ecotourism Clusters & Tourism Corridors)			MoICT
	(i) adopted, and	--	--	
	(ii) implemented. ¹⁴	--	--	

The current localised indicator framework on SDG 12 in the Lao PDR is designed to keep national targets and indicators close to the global goals. This is different from the approach to some other SDGs where the Lao PDR has developed national targets first, then afterwards inserting certain global targets

and indicators.¹⁵ This top-down process of designing indicators is problematic, as it risks detaching the monitoring framework from the strategic objectives of the ministries involved.

Nearly all indicators chosen for SDG 12 do not yet have systems in place for measurement and therefore cannot be monitored. Since the Ministry of Natural

¹⁰ Data may be available only on post-harvest losses.

¹¹ This is a proxy indicator for the SDG indicator relating to hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment.

¹² This is a proxy indicator for National recycling rate, tons of material recycled, and only for the capital Vientiane, because, as MoNRE notes, it is not currently possible to measure the national rate. Recycling in the Lao PDR overall is estimated at about 10% of solid waste generated and collected.

¹³ These are proxy indicators for the SDG indicator that relates to the extent to which education for sustainable development is mainstreamed into primary/secondary curricula and teacher training.

¹⁴ The global indicator for this target is: Number of sustainable tourism strategies or policies and implemented action plans with agreed monitoring and evaluation tools.

¹⁵ Lee, Pulawska and Morton. *Implementation Guide for the Sustainable Development Goals*.

Resources and Environment (MoNRE) has only recently been tasked with developing the indicator framework, and a national action plan on SCP, not much can be reported yet. Only indicator 12.5.1, rate of recycling, is already being reported as a part of the MoNRE monitoring framework. The Ministry of Agriculture and Forestry (MAF) has claimed to be in need of support to estimate post-harvest losses, as other food waste and losses cannot be measured. Additionally, data on hazardous waste and recycling rates are only available for the capital, Vientiane. Given that the Ministry of Education and Sport (MoES) is still due to implement curricula changes on sustainable development, the only indicator that is currently being tracked is the number of universities with sustainable campus plans. None of the localised indicators currently have linkages with the existing M&E framework of the 8th National Socio-Economic Development Plan.¹⁶ The lack of systems in place highlight that indicator monitoring is a major challenge in the mainstreaming of SCP within the context of the Lao PDR. This study contends that the indicators are generally detached from ministry-level activities due to a mismatch of sectoral objectives, targets, and activities with the general SDG indicator framework chosen by the Lao PDR. Proposals are made in Chapter 5 on how alignment could be improved.

Table 2 gives a Rapid Integrated Assessment (RIA) of Lao SDG 12 integration within sectoral plans. It includes the global targets as well as those chosen by the Lao PDR. Based on research covering all relevant sectoral documents in the areas of Natural Resources and Environment, Agriculture and Forestry, Industry and Commerce and Planning and Investment, the table highlights the relevant national legislations for the targets in question. The last column gives a brief assessment on the alignment of the existing sectoral documents with the localised indicator, as well as with the global targets. Given the nascent state of the SDG 12 indicator framework, and previous Lao experiences in adapting global SDGs to national targets, it is recommended that the major national planning documents such as the NSEDP pay attention to the state of mainstreaming of SCP-related targets and activities within line ministry documents. This should also be the case for the future indicator framework. Table 2 highlights that many of the chosen

targets within the indicator framework do not match the content of the Lao PDR's sectoral strategic plans. Most policy documents already contain objectives, targets and activities relevant to SCP, but these are often at odds with the SCP targets that were chosen as a part of the indicator framework. This means that policy-makers within the Lao PDR need to become more familiar with the present state of affairs in order to integrate existing sectoral strategies in the overall planning process. Formulation of the next NSEDP would also benefit from a close reading of the relevant sectoral strategic plans in order to improve alignment between the national and the sectoral strategies.

¹⁶ Government of the Lao People's Democratic Republic. *Lao People Democratic Republic. Voluntary National Review.*

Table 2: Rapid Integrated Assessment (RIA) of Lao SDG 12 Integration

Global/National SDGs and associated targets	Localized indicator	Main Institution Responsible for indicator monitoring	Relevant national legislations	Comment
12.1. Implement the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns, all countries taking action, with developed countries taking the lead and taking into account the development and capabilities of developing countries	Sustainable Consumption and Production (SCP) National Action Plan adopted or mainstreamed into national policies	MoNRE, supported by UNEP	Not yet adopted, mainstreaming not yet completed	No concrete indicators applicable, action plan not yet adopted
12.1.1. Number of countries with sustainable consumption and production national action plans or SCP mainstreamed as a priority or a target into national policies	12.1.1.1.			
12.2. By 2030, achieve the sustainable management and efficient use of natural resources	Material footprint, material footprint per capita, and material footprint per GDP	MoNRE, supported by UNEP	8 th NSEDP (Outcome 1, Output 1; Outcome 1, Output 7; Outcome 3, Output 1) (MPI), Agricultural Development Strategy 2025 and Vision 2030 (MAF), Five Year Development Plan (MAF), Law on Investment Promotion (?), Vision 2030 (MoNRE), Ten Year Strategy (MoNRE), Five Year Plan (MoNRE); Law on Science and Technology (MST)	Potential to more fully align objectives and targets from sectoral documents with relevant indicators
12.2.1. Domestic consumption, domestic material consumption per capita, and domestic material consumption per GDP	12.2.1.			
12.2.2. Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP				
12.3. By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses	Food loss index	MAF, supported by FAO	8 th NSEDP (Outcome 1, Output 1) (MPI), Agricultural Development Strategy 2025 and Vision 2030 (MAF)	Good alignment between indicator, responsible entity, and objectives and targets from sectoral documents
12.3.1. Global food loss index	12.3.1.			

Global/National SDGs and associated targets	Localized indicator	Main Institution Responsible for indicator monitoring	Relevant national legislations	Comment
<p>12.4. By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment</p>	<p>12.4.1.</p>	<p>MoNRE</p>	<p>8th NSDEP (Outcome 3, Output 1) (MPI), Clean Agriculture Development Action Plan (MAF), Five-Year Development Plan (Program 2) (MAF), Commercialization of Agriculture and Forestry Action Plan (MAF), Crop Sector Development Strategy 2025 and Vision 2030 (MAF), Clean Agriculture Management Measures (MAF), Law on Investment Promotion (?), Decree on Management of Pesticide, Ministerial Agreements on Good Agriculture Practice for Product Food Safety Standards, Product Quality Management Standards, Fertilizer Management Regulation, Pesticide Control Regulation (all MAF), Vision 2030 (MoNRE), 10-Year Strategy (MoNRE), Five-Year Plan (MoNRE), Environmental Protection Law (MoNRE), Industrial Substances Regulation (MIC), Chemical Substances Regulation (MIC), Drug and Chemical Products (MPH), Food Law (MPH), Law on Science and Technology (MST)</p>	<p>Potential to more fully align objectives and targets from sectoral documents with relevant indicators</p>
<p>12.4.1. Number of parties to international multilateral environmental agreements on hazardous waste, and other chemicals that meet their commitments and obligations in transmitting information as required by each relevant agreement</p>	<p>Volume of hazardous waste generated from Vientiane Capital</p>	<p>MoNRE</p>		
<p>12.4.2. Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment</p>				

5 DETAILED ASSESSMENT OF THE STATE OF SCP MAINSTREAMING WITHIN NATIONAL-LEVEL STRATEGIES & REGULATIONS

This chapter provides a detailed description of the individual goals contained in the Rapid Integrated Assessment (RIA) outlined in Table 2. In addition, it will identify concrete policy options to effectively and efficiently mainstream SCP-related activities within the sectoral plans. The complete tables of SCP-relevant legislation under each goal can be found in the Annex of this report. The assessment provided in this chapter is based on both the existing national priorities as well as the capacity to implement the strategies and goals, to ensure that the activities proposed can be carried out in a cost-effective manner. Goals 12.1 as well as 12.C are excluded from the assessment due to their straightforward nature and narrow policy focus.

12.2 By 2030, achieve the sustainable management and efficient use of natural resources

State of play

The issue of sustainable management and efficient use of natural resources is included in various sectoral policies and regulations. The localised indicators (material footprint per capita and GDP) have been introduced but are not being measured yet. MoNRE, MAF, and the Ministry of Science and Technology

(MoST) all have sectoral documents relating to the goal but as the custodian ministry, it is MoNRE that is tasked with its implementation and monitoring.

The challenge for sustainable management of natural resources is the potential breadth of the policy area. Natural resources include, among others, forests, water, and soil, while sustainable management includes practices such as natural preservation, sustainable resource utilisation and recycling. Given the types of producers and consumers that tap into natural resources, various ministries have a role to play in ensuring the successful integration of this particular target. It would be meaningful to involve MAF more actively in the goal's integration due to the agricultural lifestyle of the majority of the Lao PDR's population. This would mean moving the focus away from general material footprint towards more concrete targets, such as the spread of clean agricultural practice and resource use by consumers.

Policy framework

Various Lao sectoral documents have a connection to the overarching goal of SDG 12.2. The 8th NSEDP's Outcome 3, Output 1 (Environmental Protection and Sustainable Natural Resources Management) specifically addresses environmental protection and

sustainable natural resources management. This objective includes targets on land, water, forest, and mineral resources management, similar to the focus of SDG 12.2. One specific activity included under this is the establishment of financing mechanisms to ensure sustainable resource use, including taxes and fines against abusers, and royalties from the energy, agriculture and mining sectors. In addition, MAF has several plans that relate to SDG 12.2, including its Clean Agricultural Development Action Plan and the Five-Year Agriculture and Forestry Development Plan, which both address the promotion of clean agricultural practices. MoNRE's documents also address SDG 12.2 in a more general sense, however, the activities connected to MoNRE's targets are not as clearly defined as in the aforementioned action plans.

Monitoring

SDG 12.2's localised indicator focuses on the material footprint per capita as well as the material footprint per GDP. The indicator is purportedly modelled and monitored by MoNRE.

Short- and long-term adjustments

The 8th NSEDP already lays out various targets on land, water, forest, and mineral resource management. The suggestion of financing mechanisms to ensure sustainable resource use, specifically taxes and fines against abusers and royalties from the energy, agriculture and mining sectors, are reasonable supporting policies for the integration of SCP in the Lao PDR. But given the prevalence of rural agricultural producers in the Lao PDR, national policies could be further tailored through relevant MAF documents on SDG 12.2. The Clean Agricultural Development Plan and the Five-Year Agriculture and Forestry Development Plan both address the promotion of clean agricultural practices. Further integration of these targets, and the formulation of activities to support them, would ensure better progress towards sustainable resource management at the national level. These activities should focus on sustainable management of water, soil and timber resources. All efforts, however, should take into consideration local livelihoods. In the case of timber exploitation, combining sustainable resource management regulations with the promotion of local livelihoods has been an issue. The Lao PDR has banned the export of raw timber and potential

exports now require processing.¹⁷ But there are concerns over this policy, as the Lao PDR appears to have limited capabilities to process its timber into in-demand products for neighbouring countries. Given that a large part of the Lao manufacturing sector is of the artisan variety, it is unclear whether Lao timber exports can remain competitive.¹⁸ This highlights that export regulations alone are insufficient to ensure sustainability of production within the Lao PDR.

Progress towards the targets could benefit from the transformation of general policy objectives into concrete activities and targets, especially in the plans of MoNRE. Given that some ministries have progressed further in the specifications of their objectives and targets, there is some potential for cross-ministerial coordination in implementation and monitoring, particularly involving MAF. MAF's existing activities, aiming for the spread of clean agricultural practice and resource use by consumers, should be considered in implementation plans and monitoring frameworks. Given the strong focus of the Lao economy on agriculture, it would be advisable to increase the focus on clean agricultural practices and ensure their incorporation across strategic plans. For the indicator framework, this study recommends moving towards a proxy indicator that captures clean agricultural practice in order to measure progress on the sustainable management of resources.

12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

State of play

The prevention of food waste and loss is one of the SDGs on which there is a high degree of clarity in the Lao PDR's policies. There is a fairly good alignment between the indicators chosen for monitoring, the responsible entity chosen and the objectives and targets contained within sectoral documents. MAF, as the custodian of the indicators related to SDG 12.3, has outlined relevant targets and activities in its strategies.

¹⁷ Stakeholder consultations, 24/4/18.

¹⁸ Stakeholder consultations, 27/4/18.

Policy framework

Objectives related to 12.3 are contained within the 8th NSEDP under Outcome 1, Output 1 (Ensuring Sustained and Inclusive Economic Growth), as well as the Agriculture Development Strategy to 2025 and Vision to the Year 2030 of MAF. The Clean Agriculture Development Plan, contained within this strategy, addresses production standards for various types of crops, which is in line with the SDG objective of reducing post-harvest losses. Given the prevalence of agriculture in the Lao PDR, this appears to be a suitable alignment of global SDG priorities and national needs and capabilities.

Monitoring

SDG 12.3's localised indicator focuses on the food loss index, to be monitored by MAF. Various sectoral documents, mainly from MAF itself (see RIA outlined in Table 2), support this indicator, addressing the prevention of food waste through appropriate activities.

Short- and long-term adjustments

SDG 12.3 is already coherent and has relevant sectoral documents within MAF. The Clean Agricultural Development Plan, as well as the Development Strategy 2025 and Vision 2030, all support food waste and loss reduction. Nevertheless, MAF, as the custodian of the localised indicator on SDG 12.3, could concretise the sectoral plans when tailoring future policies, and could complement its objectives with more tangible targets and activities. In addition, MAF's sectoral strategic plans still have a very strong emphasis on production targets. These targets could be expanded to also include limits to food waste and loss.

12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimise their adverse impacts on human health and the environment

State of play

The spread across sectoral documents of policy objectives relevant to environmentally sound

management of chemicals and all waste throughout their life cycle is the broadest among the SDG 12 targets in the Laos PDR. Given the penetration of policies across sectors, there is ample potential, as well as a need, to align sectoral plans and coordinate similar objectives and activities across various ministries. This is relevant, for example, in the field of chemical regulations and the underlying activities among MoNRE, MoST, MAF and the Ministry of Industry and Commerce (MIC). The localised indicator, focusing on the volume of hazardous waste generated in Vientiane, should be extended to other geographical areas and capture other types of chemicals and waste. To monitor progress towards this target, other factors to consider may be the consumption of ozone depleting substances, fertiliser use or the use of other chemical substances in agricultural or industrial applications, such as in mining and large-scale farming.

Policy framework

The sectoral documents relating to SDG 12.4 are broad, ranging across all ministries investigated. The 8th NSEDP's Outcome 3, Output 1 (Environmental Protection and Sustainable Natural Resource Management), also contains activities relevant to the goal. Within plans by MAF, MoNRE, MIC and MoST, this study has found policies relating to the sound management of chemicals and waste. The MAF Clean Agriculture Management Measures, contained within the Crop Sector Development Strategy 2025 and Vision 2030, lists various targets designating goals for the use of chemicals within agricultural production. In addition, MAF is responsible for chemical use in agriculture through its Decrees on Pesticide Control and Fertiliser Management. In addition, there are regulations on chemical substances and industrial substances, both under the purview of MIC. Lastly, the Law of Science and Technology, regulated by MoST, mandates the definition of clean technology. Given this proliferation of documents, the Lao PDR should consider how these commitments could be streamlined to ensure coherence between them, which could be done through an overview of commitments in the upcoming 9th NSEDP.

Monitoring

The localised indicator is the volume of hazardous waste generated by Vientiane. What is striking here is

the geographic limitation of the indicator to the capital city. This choice was made due to the ministries' limited capacity to measure waste generation in other locations.¹⁹ Since SDG 12.4 has the highest number of relevant sectoral documents across all SDGs investigated, it would be advisable to consult these documents for future development of targets and indicators related to SDG 12.4, with the aim of choosing a more appropriate indicator.

Short-and long-term adjustments

The integration of policy objectives relevant to SDG 12.4 in sectoral documents indicates a wide involvement across a number of ministries, especially seen in the waste management issues addressed in their strategic plans. On the other hand, the localised indicator proposed within the VNR is fairly narrow, focusing on the volume of hazardous waste generated in Vientiane capital. This is a problematic indicator, as it does not measure progress on SDG 12.4 (the sustainable management of *all* waste), but instead simply monitors the growth of waste production of one particular kind. We recommend moving towards an indicator that accurately measures progress on this target, such as a composite indicator tracking the use of a range of waste and chemicals. Ideally, the sale and use of certain chemicals would be measured, especially in the agricultural and industrial sector. Future indicators could include fertiliser use or waterway pollution. The Lao Statistical Bureau could begin collecting such data through its consumption surveys.

Another potential adjustment is the revision and the enforcement of chemical regulations. The Lao PDR already has a range of relevant documents, such as regulations on chemical substances and industrial substances, both under the purview of MIC, however, some enabling policies are needed to ensure that regulatory changes can take hold. All activities involving regulations of chemicals, particularly those involving fertiliser, face the challenge of enforcement. Chemicals are mainly imported from abroad, often without proper labelling in order to circumvent Lao regulations, as is the case with herbicides.²⁰ It is strongly recommended that enforcement efforts be strengthened in order to monitor compliance on the ground within the

provinces. Small-scale farmers, for the most part, do not use fertilisers or other chemicals, so the regulation of chemicals is a much bigger issue with external agricultural investors, such as banana farms in Northern Laos.²¹ For rural farmers the challenge lies more in the lack of sustainable development and lifestyle education, which could be addressed through the widespread implementation of SDG 12.8. Synchronising certain policies – for instance the aforementioned Decree on Management of Pesticides and Fertiliser Management under MAF, the regulations on chemical and industrial substances under MIC as well as the Law on Science and Technology under MOST – would also go some way towards improving the governance of SDG 12.4.

There are additional areas of intervention where the Lao PDR could improve sustainable use of chemicals. For example, as of the time of research, the Lao PDR still had not banned the use of lead paint, which is a proven health hazard. Banning of such paints throughout the country would be a simple yet effective move towards more sustainable waste management practices.²²

12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

State of play

Relevant objectives and measures for substantially reducing waste generation through prevention, reduction, recycling and reuse (3R) are contained within the 8th NSEDP, as well as the Vision toward 2030 and Ten-Year Strategy by MoNRE. MoNRE is also the most relevant agency for the implementation and monitoring of the goal, indicating that alignment of responsibility is good in the case of SDG 12.5.

Policy framework

MoNRE is the responsible entity for modelling and monitoring this indicator. In the case of SDG 12.5, there are also a number of sectoral documents that relate to the overarching goal. Relevant plans can be found within the 8th NSEDP, under Outcome 3, Output 1 (Environmental Protection and Sustainable

¹⁹ Stakeholder consultations, 24/4/18.

²⁰ Stakeholder consultations, 24/4/18.

²¹ Stakeholder consultations, 26/4/18.

²² Stakeholder consultations, 24/4/18.

Natural Resource Management). In addition, relevant documents are the aforementioned strategies by MoNRE. The MoNRE strategic documents are especially precise on the activities envisioned in the field of 3R. Target 2 of the Vision 2030 includes the following objectives: Control of soil, water, air and noise pollution from the development of industry, agriculture and service to meet with the national environment standard, reduction of solid waste amount up to 15% from the estimated wasted volume in 2030, in 18 municipalities across the country by using 3R principles, and that 65% of households in 18 municipalities across the country understand and apply 3Rs principles.

All of these have a broader geographical base and a closer connection to SDG 12.5 than the indicator chosen in the SDG monitoring framework. We recommend a reconsideration of the indicator in line with MoNRE's strategic documents and activities.

Monitoring

Similar to SDG 12.4, there is an overly constraining geographic limitation to the monitoring of this SDG. The indicator – the rate of recycling of solid waste generated – is only measured in the capital of Vientiane, representing a concerning geographic limitation to the monitoring of this SDG.

Short- and long-term adjustments

Based on the review of sectoral documents, MoNRE is clearly the most relevant agency to implement and monitor the goal. However, the targets and activities contained within the sectoral documents are more precisely defined than the chosen localised indicator. Before introducing any additional policies or regulations, the localised indicator should be revised to reflect existing MoNRE strategic documents. As MoNRE activities are being carried out and targets are being achieved, progress on SDG 12.5 would be expected.

12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle

State of play

As SDG 12.6 has not yet been localised, this study cannot provide an assessment on the progress of this goal or its targets and indicators. But action on this target is extremely important, given the significance of external investments to the Lao economy. Several ministries, namely MAF, MoNRE, and MPI, already have strategic objectives relating to SDG 12.6. Inclusion of clear principles regarding the management of external investments within the 9th NSEDP and other strategic documents, as well as the application of existing regulations, is highly recommended.

Policy framework

The 8th NSEDP, under Outcome 3, Output 1 (Environmental Protection and Sustainable Natural Resource Management), outlined activities relevant to SDG 12.6. In addition, the Crop Sector Development Strategy 2025 and Vision 2030, coordinated by MAF, the Environmental Protection Law, coordinated by MoNRE, as well as the Law on Investment Promotion, under the MPI, address facets of SDG 12.6. These regulations contain clauses advocating the control of investments and proclaim obligations for investors to report on their activities. The Law on Investment Promotion, through its Article 44 in Chapter 5, proclaims the most impactful regulation, namely the requirement of an Environmental, Social, and Natural Impact Assessment (EIA). While EIAs face some constraints in implementation and monitoring, this is a promising avenue for strengthening and monitoring the progress on SDG 12.6.

Monitoring

As the goal and indicators on SDG 12.6 have not yet been localised, not much can be said about the monitoring of this goal. A potential avenue for monitoring may be to measure the percentage of Environmental Impact Assessments concluded for external investment projects, as a way to measure compliance of external investors with the Lao PDR national regulations.

Short- and long-term adjustments

Environmental Impact Assessments would be meaningful in various sectors of the Lao economy. There appears to be broad support for a strengthening of sustainable investment regulations in the Lao

PDR and a number of stakeholders in this research mentioned that they oppose eco-dumping, which refers to a lowering of Lao environmental standards to attract FDI.²³ The new Investment Promotion Law from 2016 mandates that the responsibility for investment approval lies with the provincial or national government, depending on the population size and the sector. Before carrying out investments, a technical plan, as well as an environmental certificate from MoNRE, needs to be submitted. In practice, the latter rarely happens. Improving this process would require the introduction of a consistent approval process across Lao ministries and entities.²⁴ Some cases have highlighted the value of the successful application of the regulations and the hydropower dam of Nam Theun 2 has been noted as one such model case of EIA.²⁵ Implementation constraints, however, remain. Ministries or local governments, even if they are aware of sustainability concerns in large-scale projects, often do not liaise with the Investment Promotion Department, leaving the Investment Promotion Department oblivious to potential problems.²⁶ To ease the pressure on various Lao government institutions, the Chamber of Commerce has suggested introducing a one-stop-service where paperwork on activities involving importation or exportation could be conducted in a single place.²⁷ Combined with a more thorough procedure in issuing EIAs, the streamlining of import and export processes could be a powerful tool to ensure the sustainability of external investments.

Private sector companies of Lao origin face different challenges. Due to the very high proportion of SMEs in the Lao PDR, most producers lack the capacity to report on their production. One issue mentioned during the consultations was that producers in the Lao PDR face difficulty adopting product standards and establishing recognisable brands.²⁸ The lack of certified food product standards for Lao products is hindering exports.²⁹ The Lao PDR has seen some success with

labelled produces, such as Plateau coffee or Lao sticky rice.³⁰ But in order to support these efforts, the government will have to improve the establishment of brands and trademarks among Lao SMEs through capacity building and education on sustainable development in rural communities. The Ministry of Science and Technology is already supporting SMEs by conducting sensitisation and education missions across the Lao PDR to improve the establishment of brands and trademarks across the territory. However, a move towards organic production may be challenging for Lao businesses, as currently all organic products are imported.³¹

12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities

State of play

Policies aiming to promote sustainable public procurement are yet to be designed and adopted. Developing a sustainable public procurement policy for the Lao PDR will necessitate a review of current public procurement practices, as well as the introduction of relevant policy targets and indicators.

Policy framework

In the case of sustainable public procurement, there appear to be no relevant national regulations supporting a policy as yet. In November 2017, the National Assembly passed a public procurement law.³² At the time of writing, MoNRE was in the process of developing a green public procurement policy³³, though a timeline for the formulation and adoption was not clear.

23 Stakeholder consultations, 24/4/18, 26/4/18.

24 Stakeholder consultations, 26/4/18.

25 UNEP. *Capacity Building and Policy Needs Assessment for Sustainable Consumption and Production*.

26 Stakeholder consultations, 26/4/18.

27 Stakeholder consultations, 26/4/18.

28 Stakeholder consultations, 25/4/18.

29 Stakeholder consultations, 26/4/18.

30 Stakeholder consultations, 25/4/18.

31 Stakeholder consultations, 26/4/18.

32 The World Bank. "Lao PDR Public Finance Management Reform Grant." The World Bank. <http://documents.worldbank.org/curated/en/611241536118876855/text/Project-Information-Document-PID-Lao-PDR-Public-Finance-Management-Reform-Grant-P167661.txt> (accessed 4 September 2018).

33 Stakeholder consultations, 25/4/18.

Monitoring

SDG 12.7 faces a similar challenge as SDG 12.6, in that there is no localised indicator. Moreover, there is no apparent integration of relevant public procurement policies into sectoral documents. For this reason, progress on SDG 12.7 cannot be assessed. At this point in time, potential indicators and sectoral policies still need to be designed.

Short- and long-term adjustments

Tailoring a sustainable public procurement policy for the Lao PDR will necessitate a review of current public procurement practices. In general, implementing a meaningful public procurement policy may be challenging in the Lao PDR, as the government faces cost pressures in its procurement practices.

12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature

State of play

Localising the SDG on sustainable development and lifestyle education has led to the establishment of two indicators: one to mainstream Sustainable Development curricula within primary and secondary curricula and teachers' education programs; and the other to develop sustainable campus plans at universities. The responsible ministry is MoES, however, the sectoral documents show that most existing policies in line with SDG 12.8 are coordinated by MAF. Given the largely rural population of the Lao PDR, education should also be considered in the design of targets and indicators in SCP education. The chosen indicators for SDG 12.8 could therefore be more closely aligned with the objectives and targets in sectoral plans and could incorporate elements of SCP education in rural communities.

Policy framework

Apart from the 8th NSEDP, which addresses facets of SDG 12.8 under both Outcome 1, Output 1 (Ensuring Sustained and Inclusive Economic Growth) and Outcome 3, Output 1 (Environmental Protection and Sustainable Natural Resource Management), relevant

objectives are also to be found within the Agriculture Development Strategy to 2025 and Vision to the Year 2030, and the Crop Sector Development Strategy 2025 and Vision 2030, all coordinated by MAF. These documents mainly address the spread of good agricultural practices. In addition to these document and given the challenges the Lao PDR is facing, designing an indicator to take into account sustainable education of the rural population would be a fitting strategy.

MoES's strategic plans, meanwhile, mainly focus on SDG 4, sustainable development education not being one of their policy priorities. While they are involved in a research institute for education and science, which trains teachers on climate change and sustainable development, it is unclear how much of this training trickles down through the education system.³⁴

Monitoring

As mentioned above, the field of sustainable education, the objective behind SDG 12.8, has been localised through two indicators in the Lao PDR, which are under the responsibility of MoES. The second indicator, regarding sustainable campus plans in universities, is the only one out of all existing SDG 12 indicators that is already being monitored by the Lao PDR.

Short- and long-term adjustments

Sustainable education may be considered as the key enabling policy for the majority of all SDG 12 targets, as most of them rely on the knowledge and capacity of individuals to make the right choices regarding sustainable production and consumption. In general, the Lao PDR may consider broadening the indicator base to measure sustainable education. The mainstreaming of sustainable development curricula into primary and secondary education is a good start, particularly considering the demographic profile of the Lao PDR. An additional indicator could include the education of rural Lao populations in production or consumption choices. An area of particular interest would be the use of fertiliser and its environmental impact. The current indicator, measuring universities with sustainable campus plans, has an undue focus on the Lao urban population and institutions, with a fairly low impact on sustainable production and consumption.

³⁴ Stakeholder consultations, 13/8/18.

12.B Sustainable Tourism

State of play

On Sustainable tourism, SDG 12.B, the Lao PDR has localised an indicator focusing on the adoption and implementation of the ASEAN Roadmap for Strategic Development of Ecotourism Cluster, under the purview of the Ministry of Information, Culture and Tourism (MoICT). This study found that most relevant policies are in fact under the purview of MoICT. However, similar to the case of SDG 12.5, the sectoral documents investigated are more specific in their objectives, targets and activities than the national indicator chosen for SDG 12.B within the VNR. Therefore, the sectoral documents may be used to design and monitor more precise indicators on SDG 12.B. This study recommends a reconsideration of the indicator in line with MoNREs strategic documents and activities.

Policy framework

The 8th NSEDP, as well as various strategic documents of MoICT, address SDG 12.B. The 8th NSEDP addresses facets of sustainable tourism under both Outcome 1, Output 1 (Ensuring Sustained and Inclusive Economic Growth) and Outcome 3, Output 1 (Environmental Protection and Sustainable Natural Resource Management). The specific targets and activities contained within MoICT's Vision 2030, Ten-Year Strategy and Five-Year Plan suggest that indicators could be redesigned to more fully capture the Lao PDR's integration of sustainable tourism, beyond the adoption and implementation of a regional action plan.

Additionally, there appear to be problems with the definition of sustainable tourism within the Lao PDR policy documents. While ecotourism is seen as one category of tourism, and there is a plan in place to identify and label ecotourism sites across the country,³⁵ some documents use the concept of sustainable tourism as a separate category.

Monitoring

The progress of sustainable tourism in the Lao PDR is currently only being monitored through the adoption and implementation of an ASEAN-wide Action Plan. The existing ASEAN policy framework has been seen as too challenging for the Lao PDR to comply with,

³⁵ Stakeholder consultations, 14/8/18.

which is why a national action plan is currently being developed.³⁶ When designing future indicators for SDG 12.B, the Lao PDR could take into account progress made on existing ecotourism initiatives, such as the number of sustainable tourism sites or the number of impact studies conducted. This would be a commendable strategy and has been suggested within the Vision 2030 and the Five-Year Plan.

Short- and long-term adjustments

Despite a professed support for ecotourism in the Lao PDR, the economic sector is still emerging. One policy that was mentioned in several of the consultation meetings during this research was that of "one village, one product".³⁷ This policy of specialising rural communities in the production of particular goods may have positive effects, both on ecotourism as well as the branding and trademark issue that Lao small-scale producers are facing. However, there are concerns about the Lao PDR's tourism growth in general. Overall, the country faces the challenge of low financial impact tourism, meaning that many tourists visiting the country have small budgets. While there may be potential for high value-added tourism, it is unclear to what extent ecotourism sights are popular with tourists. The Lao PDR's 2018 tourism campaign, costing USD 3 million, appeared to barely resonate beyond the country.³⁸ Under these conditions, the effectiveness of any ecotourism measures may be doubted.

Setting up more specific indicators on ecotourism, such as measuring the number of sites in order to gauge the progress of the "one village, one product" policy across the Lao PDR, would at least provide a foundation on which to base future policy choices. In the absence of clear information and data about the state of ecotourism, policy options cannot be weighed against reality. As a starting point, this study strongly suggests establishing a single definition of sustainable tourism to simplify governance of this policy area. The separate usage of ecotourism and sustainable tourism across policy documents can become confusing.

³⁶ Stakeholder consultations, 14/8/18.

³⁷ Stakeholder consultations, 24/4/18 and 27/4/18.

³⁸ Stakeholder consultations, 26/4/18.

6

IMPLEMENTATION AND MONITORING CONSTRAINTS IN THE LAO PDR

This chapter will address the barriers to implementation and monitoring of the SDGs in the Lao PDR as well as suggest solutions on how they may be overcome. While some obstacles are general and appear in many countries at a similar state of development as the Lao PDR, the solutions to many of these issues are individual and will require administrative effort and political prioritisation.

The most striking aspect of SDG implementation in the Lao PDR is the lack of data in some areas, which makes decision-making challenging. Statistical capacity has been seen as a weakness in many developing countries and the Lao PDR is no exception. Improving the availability, validity and reliability of data on which policy is built is necessary for governments' ability to track indicators, review policy and report on progress. This is relevant not just for the purpose of policy effectiveness, but also for accountability and financial viability. Specifically, future SDG costing exercises will require solid statistical foundations.

Apart from measurement, implementation of policies requires coordination between ministries in order to streamline regulatory activity and avoid overlap in different sectoral regulations. Given that most developing countries face implementation constraints,

it is important to consider how many policies can realistically be implemented simultaneously, and prioritise key policies based on capacity.

Successful implementation of policies also relies on the cooperation of private sector and civil society actors, particularly in the area of SCP. Efforts towards SCP implementation should therefore include the participation of these stakeholders, particularly those representing the rural agricultural population of the Lao PDR.

Implementation

Horizontal and vertical coordination of policy is a challenge within the Lao PDR. Due to the difficulty of relaying information between the national level and the provinces and districts, there are concerns over the responsiveness of local governments.³⁹ There have been reports that, in the policy transfer from the national to the provincial level, certain provinces have become overwhelmed. In some cases, provinces also lacked effective means of disseminating information. One such example is the issue of wastewater in Pakse. The local government did not appear to lack capacity, but knowledge of the project in question did not spread

³⁹ Stakeholder consultations, 24/4/18.

sufficiently throughout the local administration.⁴⁰ In general, national level policies are expected to spread downwards, as the local government translates national targets (such as those of the NSEDP) into local targets. Government ministries in the Lao PDR manage this vertical relationship themselves through their own systems of provincial offices.⁴¹ This creates variation in the application of national policies at sub-national levels. The outcome is that there is an increased possibility of uneven implementation across provinces as well as policy incoherence. Improving coordination between the ministries at the province level should become a policy priority.

At the national level, issues remain regarding horizontal coordination between ministries. This is compounded by the fact that often personnel do not stay in positions long enough, jeopardising institutional memory. Issues of information sharing between public sector entities may also be due to a lack of appropriate inter-ministerial coordination mechanisms. Another concern pertains to the capacities and constraints of the relevant ministries themselves. At the moment, MoNRE is the focal point for SDG 12, a goal that was previously managed by MIC.⁴² But within the national hierarchy of ministries MoNRE has a precarious position, being one of the more recently created ministries with limited financial resources.⁴³ In addition, due to the extensive donor involvement with MoNRE, its 16 departments use significant amounts of their capacity managing projects involving partners.⁴⁴ Given these constraints, it may be difficult for MoNRE to meaningfully lead on the implementation and monitoring of SDG 12. As can be seen in the assessment in Chapters 4 and 5, responsibility and strategic activities focusing on SDG 12 already involve various ministries. Under these circumstances, it is important to seek the input of all these ministry stakeholders for the development of targets and indicators. Fully centralising responsibility for indicator development or monitoring at a single ministry is not recommended and may jeopardise cross-sectoral progress.

Another issue impacting implementation is the decoupling of policy development and resource allocation. It was highlighted in the study's consultations that ministries often separate the two processes, or that centralised budgeting processes are not in line with strategic priorities and are negotiated separately.⁴⁵ To ensure implementation of the identified priorities, it is necessary that resources are in fact made available. This requires the linking of strategic policy development and budgeting.

Monitoring

SDG monitoring in the Lao PDR faces several issues. It has been mentioned before that the data collection and its use in the development of accurate indicators remains problematic, which creates issues for policy evaluation and review. In the first instance, the Lao PDR requires more funding to enable the collection of better data regarding its state of development and population. In the short- and medium-term, some adjustments can be made to improve the data collection systems that are currently in place.

One aspect that could be improved is coordination between the ministries and the Lao Statistical Bureau (LSB). Lao ministries generally maintain their own M&E frameworks separate from the national statistical monitoring of the LSB, which can lead to a lack of synchronisation between data collection efforts. As has been mentioned in Chapter 4 with regards to the existing indicator framework, the targets under SDG 12 are measured by various ministries within their monitoring activities, not through a central monitoring process. This can result in difficulties in accessing data and puts unnecessary resource demands on each ministry. It can also lead to data duplication, as well as a lack of awareness of data that is collected by other ministries or the LSB. In addition, many ministries view SDG monitoring as a separate monitoring category, outside the existing ministerial M&E frameworks. This is in opposition to the recommended strategy, which is to mainstream the SDGs into M&E frameworks and monitor the SDGs within a single database that facilitates data sharing through a central data hub. The LSB would be a natural hub to coordinate information sharing, with a view towards reducing overlap of data collection between ministries and improving the state

40 Stakeholder consultations, 24/4/18.

41 Stakeholder consultations, 24/4/18.

42 Stakeholder consultations, 25/4/18.

43 Stakeholder consultations, 27/4/18.

44 Stakeholder consultations, 25/4/18.

45 Stakeholder consultations, 24/4/18.

of statistical data collection and information sharing generally.

Improved monitoring of the actual progress on SDG 12 will also depend on the indicators chosen by the Lao PDR. The Lao PDR has already developed an indicator framework for SDG 12. However, it has been noted by the stakeholders consulted that this framework may yet see additional changes. This study recommends further changes, since the current indicator framework still faces two fundamental issues. Firstly, it has a narrow focus on urban and industrial production and consumption patterns, which are not in line with the majority of the Lao PDR's population. Secondly, most targets still lack measurement systems.⁴⁶

The narrow focus of the indicators is puzzling, given that data for broader indicators (such as water or fertiliser use) may be more easily available than for the narrow indicators chosen (such as hazardous waste collection in Vientiane). It is recommended that indicator development focus on more relevant and broader indicators that capture a larger percentage of the Lao PDR's territory and population. These broader indicators should have more relevance across sectors and at the sub-national level, improving coordination between the provinces and the national ministries. Existing surveys, such as the Lao Expenditure and Consumption Survey (LECS), could also be used to develop these broader indicators. This would be opportune, as the LSB has signalled a willingness to include new indicators into its surveys. It would also be cost effective, as the consumption and expenditure focus of the survey has strong links with the consumer focused aspect of SCP, making it an ideal tool to gather data on consumer-level behaviour.

The current lack of measurement systems for the SDG 12 targets means that most chosen indicators will require new data to be compiled, as well as assistance by development partners, which will consume ministry resources. Given the current co-existence of parallel M&E structures, this study recommends that the effort put into monitoring should be centralised, rather than decentralised, to maximise impact. Monitoring generally benefits from independent and neutral data collection in order to ensure impartiality

and comparability across sectors and this can be best achieved by using collection systems that are already in place. The LSB conducts its own surveys and provides access to data and analysis, which may be useful for other Lao ministries. The LECS contains various indicators that are relevant to the monitoring of sustainable consumption, with data disaggregated at the district and municipal level. Given that the majority of consumption indicators as of now focus on the Vientiane Metro area, inclusion of these indicators may enable a more holistic view of consumption across the Lao territory.

Increased utilisation of the LSB could go hand-in-hand with the upcoming 9th NSEDP. Since the LSB monitors 800 unique indicators, with a focus on the priorities contained within the NSEDP, including indicators related to SDG 12 would enable LSB to collect data centrally, which could then be provided to the ministries. The next NSEDP should outline precise indicators to broadly measure progress, as suggested in Chapter 5. This will go some way towards improving SDG monitoring.

⁴⁶ Government of the Lao People's Democratic Republic. *Lao People Democratic Republic. Voluntary National Review.*

Table 3: Indicators included in the Lao Expenditure and Consumption Survey relevant to SDG 12

Survey 2
6. What were the two main purposes of the last visit [by the government]? (Improving farming practice, encourage conservation, promote seeds, promote fertilisers, promote insecticides, promote crop, irrigation, encourage forestry)
Survey 4
18. What is the household's main source of energy for cooking? 19. What is the household's main source of energy for lighting?
Survey 11
1. In the past 12 months, did your household use any chemical fertilisers on your land? 2. How much did your household spend on chemical fertilisers in the past 12 months? 3. In the past 12 months, did your household use any insecticides or pesticides on your land?

Apart from these indicators, which may allow for closer monitoring of rural, agriculture-based sustainable development, the LSB has also indicated a willingness to include additional questions into the LECS. Ministries should consult with the LSB to assess the possibility of including certain indicators within existing surveys. Given that the majority of Lao households are also small-scale agricultural producers, it may make sense to begin collecting information on fertiliser and resource use for agriculture, as well as the impact of large-scale industrial projects on the environment or livelihoods. Other surveys may have a closer focus on production aspects. In summary, existing data collection efforts can be used to gather information relevant to SCP, which will be more effective and sustainable than developing a new M&E system specifically for SDG and SCP monitoring.

7 POLICY RECOMMENDATIONS

SDG 12 and the NSDEP

This study advises that the Lao PDR implement a number of concrete recommendations within the context of the upcoming 9th NSDEP. The 9th NSDEP should focus on a limited and achievable set of targets covering only some of the SCP objectives. These targets should focus on the rural and agricultural dimensions of Lao consumption and production, as well as the importance of external investment to the country.

As stated earlier, the 8th NSDEP already incorporates many references to sustainable development, particularly with relation to SCP. Outcome 1 (Sustained Economic Growth), and Outcome 3 (Natural Resources and the Environment are Effectively Protected) are clearly focused on SCP. In addition, Outcome 3, Output 1 of the 8th NSDEP includes targets on land, water, forest and mineral resources management, similar to the focus of SDG 12.2.

Below are ten recommendations to consider incorporating in the 9th NSDEP.

1. Refer to SDG 12.1 to reaffirm the Lao PDR's commitment to implement the 10 Year Framework of Programmes on Sustainable Consumption and Production Patterns.

2. Select goal 12.2 on the 'sustainable management and efficient use of natural resources' as one of the priority objectives for the next NSDEP.

In the 8th NSDEP, the two localised indicators are: material footprint per capita and material footprint per unit of GDP utilisation and recycling. MoNRE has the responsibility of modelling and monitoring these indicators. This study suggests that the 9th NSDEP use indicators that are more representative of the actual situation of the Lao economy. The current ones are too broad, making it difficult to measure and to interpret them. This study recommends moving the focus away from general material footprint towards more concrete targets, such as the growth of clean agricultural practices. The relevant MAF documents on SDG 12.2, aiming for the spread of clean agricultural practice, provide an indicator framework. This study recommends moving towards two proxy indicators that capture clean agricultural practice in order to measure progress on the sustainable management of resources: (1) The reduction of fertiliser use, prevention of soil and waterway pollution, and (2) the promotion of sustainable agricultural practices through education of the rural population

3. SDG 12.3 is appropriately covered in the 8th NSDEP, and there are no recommend changes for the 9th NSDEP.

4. SDG 12.4, on Hazardous Waste, is measured by a localised indicator that focuses on the volume of hazardous waste generated in Vientiane. If technically possible, the indicator should be extended to other geographical areas and capture all types of hazardous wastes (namely: heavy metals such as mercury, lead, cadmium, arsenic, chromium, copper and zinc; persistent organic pollutants (POPs) such as dioxins and furans; polychlorinated biphenyls (PCBs); and various pesticides and herbicides).

5. Relevant plans for SDG 12.5 can be found within the 8th NSEDP, under Outcome 3, Output 1 (Environmental Protection and Sustainable Natural Resource Management).

The localised indicator, the rate of recycling of solid waste generated, is only measured in Vientiane, representing a prohibitive geographic limitation to the monitoring of this SDG. There are various sectoral documents that relate to SDG 12.5 and the MoNRE strategic documents are quite specific on the activities envisioned in the field of 3R, as outlined in Chapter 5. All of these documents have a broader geographical base and a closer connection to SDG 12.5 than the indicator chosen in the SDG monitoring framework. Therefore this study recommends a revision of the indicator to bring it in line with MoNRE's strategic documents and activities.

6. As mentioned earlier, SDG 12.6 has not yet been localised, and it was therefore not possible to provide an assessment on the progress of this goal and its targets and indicators. Nonetheless, action on this target is extremely important, given the significance of external investments to the Lao economy. Several ministries, namely MAF, MoNRE and MPI, already have strategic objectives relating to SDG 12.6. Inclusion of clear principles regarding the management of external investments within the 9th NSEDP is highly recommended.

A potential avenue for monitoring may be to measure the percentage of Environmental Impact Assessments concluded for external investment projects as a way to measure compliance of external investors with the Lao PDR national regulations. Another potential indicator could be the number of international companies operating in the Lao PDR, publishing an environmental report.

7. This study does not recommend the introduction of SDG 12.7 into the NSEDP, as not enough relevant national regulations supporting policies on sustainable public procurement exist. It would be worth monitoring the feasibility of introducing this goal in the future, as at the time of writing MoNRE was in the process of developing a green public procurement policy.

8. The 8th NSEDP addresses facets of SDG 12.8 under Outcome 1, Output 1 (Ensuring Sustained and Inclusive Economic Growth), as well as Outcome 3, Output 1 (Environmental Protection and Sustainable Natural Resource Management).

Localising the SDG on sustainable development and lifestyle education has led to the establishment of two indicators; one on the mainstreaming of Sustainable Development curricula within primary and secondary curricula as well as teachers' education programs, and the other on sustainable campus plans within universities. As already stated in Chapter 6, given the challenges the Lao PDR is facing, designing an indicator to take into account sustainable education in the rural populations would be a fitting strategy.

In general, the Lao PDR may consider broadening the indicator base to measure sustainable education. The mainstreaming of sustainable development curricula into primary and secondary education is a good start, particularly considering the demographic profile of the Lao PDR. As a second indicator, it may be valuable to consider education on production or consumption choices in rural Lao populations. The current indicator, measuring universities with sustainable campus plans, has an undue focus on the Lao urban population and institutions resulting in a limited impact on sustainable production and consumption.

9. The 8th NSEDP addresses SDG 12.B under both Outcome 1, Output 1 (Ensuring Sustained and Inclusive Economic Growth) and Outcome 3, Output 1 (Environmental Protection and Sustainable Natural Resource Management).

On sustainable tourism, SDG 12.B, the Lao PDR has localised an indicator focusing on the adoption and implementation of the ASEAN Roadmap for Strategic Development of Ecotourism Clusters & Corridors, under the purview of MoICT. The specific targets and activities contained within MoICT's Vision 2030,

Ten-Year Strategy and Five-Year Plan suggest that indicators could be redesigned to more fully capture the Lao PDR's integration of Sustainable Tourism, moving beyond the adoption and implementation of a regional action plan.

When designing future indicators for SDG 12.B, the Lao PDR could potentially take into account progress made on existing ecotourism initiatives, such as the number of sustainable tourism sites or the number of impact studies conducted. It could also measure the number of sites involved in the "one village, one product" policy across the Lao PDR.

10. This study does not recommend introducing SDG 12.C into the 9th NSEDP.

Coordination and data

The review above of SDGs relating to SCP derive from existing sectoral strategy plans that already emphasise SCP, such as those of MAF and MoNRE. In cases where regulations already exist, such as in the case of Environmental Impact Assessments, enforcement procedures need to be strengthened. But more generally, the Lao PDR can improve its coordination mechanisms at the implementation and monitoring stage. This includes:

1. Providing guidance to the line ministries through inclusion of precise and streamlined objectives in the NSEDP, like those recommended in the first part of Chapter 7.
2. Creating a centralised, reliable and impartial monitoring mechanism that provides neutral data on SDG progress and allows information sharing between ministries.

In implementation, the Lao PDR needs to ensure that the overarching SDG objectives are matched by the ministries' sectoral plans. The existing sectoral strategies on SCP, aggregated in this study, should now be included in the next NSEDP in order to improve strategic coherence. The upcoming 9th NSEDP should particularly emphasise a clear connection between the overarching goals and the concrete activities to be conducted by the ministries, clearly outlining objectives, targets and indicators.

The Lao PDR, like most developing countries, suffers from a dearth of development data. Through inclusion of SCP indicators in the NSEDP, and through cooperation with the LSB, the Lao PDR can strengthen coordination at the monitoring stage. This will ensure that measurement is neutral and streamlined instead of being carried out through parallel monitoring structures. Impartial data is the most essential feature on which future progress in sustainable development will be built.

8

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9 ANNEX

Global Targets on SDG 12

12.1	Implement the 10 Year Framework of Programmes on Sustainable Consumption and Production Patterns, all countries taking action, with developed countries taking the lead and taking into account the development and capabilities of developing countries	12.1.1	Number of countries with sustainable consumption and production national action plans or SCP mainstreamed as a priority or a target into national policies
12.2	By 2030, achieve the sustainable management and efficient use of natural resources	12.2.1	Material footprint per capita and per GDP
		12.2.2	Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP
12.3	By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses	12.3.1	Global food loss index
12.4	By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimise their adverse impacts on human health and the environment	12.4.1	Number of parties to international multilateral environmental agreements on hazardous waste, and other chemicals that meet their commitments and obligations in transmitting information as required by each relevant agreement
		12.4.2	Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment
12.5	By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse	12.5.1	National recycling rate, tons of material recycled
12.6	Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle	12.6.1	Number of companies publishing sustainability reports
12.7	Promote public procurement practices that are sustainable, in accordance with national policies and priorities	12.7.1	Number of countries implementing sustainable public procurement policies and action plans

12.8	By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature	12.8.1	Extent to which (i) global citizenship education and (ii) education for sustainable development (including climate change education) are mainstreamed in (a) national education policies; (b) curricula, (c) teacher education; and (d) student assessment
12.A	Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production	12.A.1	Amount of support to developing countries on research and development for sustainable consumption and production and environmentally sound technologies
12.B	Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products	12.B.1	Number of sustainable tourism strategies or policies and implemented action plans with agreed monitoring and evaluation tools
12.C	Rationalise inefficient fossil fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimising the possible adverse impacts on their development in a manner that protects the poor and the affected communities	12.C.1	Amount of fossil-fuel subsidies per unit of GDP (production and consumption) and as a proportion of total national expenditure on fossil fuels

On the following pages there is a complete overview of objectives, targets, and activities relevant to:

SDG 12.2

SDG 12.3

SDG 12.4

SDG 12.5

SDG 12.6

SDG 12.8

SDG 12.B

Gap Analysis 12.2

Plan	Timeline	Objectives	Targets
8th National Socio-Economic Development Plan	2016-2020	Outcome 1, Output 1: Ensuring Sustained and Inclusive Economic Growth	
		Outcome 1, Output 7: Regional and International Cooperation and Integration	Develop national energy to be sustainable, aiming at ensuring power stability for domestic use (hydropower, charcoal) and being competitive in the region, focus on that is more certain, create basic rights and a variety of energy business types in order to generating energy sufficiently meet requirements of consumers; research new power sources and increase the expansion of renewable energy and other alternative energy sources (solar power, windpower, bioenergy, biogas)
		Outcome 3, Output 1: Environmental Protection and Sustainable Natural Resources Management	Ensure continued quality, green and sustainable economic growth, development and natural resource management (of land, forests, biodiversity, mineral resources, water and wetlands) shall be planned in a practical, sustainable, fair and most effective manner
			Land Management and Administration
			Water Resources Management
			Forest Resources and Biodiversity Management
			Mineral Resources Management
			Environment (Promote Quality Environment and Pollution Control and Management)
Law on Investment Promotion	2016	Article 9 of Chapter 1 under Section II on Sectoral Investment Incentives specifies sectoral activities that entitled to investment promotion incentives. They include clean agriculture, organic agriculture and environmentally friendly manufacturing, among others. (pp. 5-6)	

Activities	Responsible Ministry
	Planning and Investment
<p>Apply a policy on saving energy and effective use of power that is also a policy on international power integration</p>	
<p>Apply a policy on environmental protection by promoting the use of new technology which is environmentally friendly and produces a minimum amount of pollution to the environment and society, and support the development and greater use of clean energy</p>	
<p>Develop a plan for sustainable use of natural resources and manage the use of the resources including land, forests, minerals and water; improve information systems on environmental costs and incentives for businesses and individuals to pursue green economy policies</p>	
<p>Develop plans for urban and rural development to preserve the environment and identify areas for new towns including residences, public recreation areas, historical areas and cultural heritage areas; Develop and improve land database (records, lease, concessions and registration) in 18 provinces across the country to create revenue from land</p>	
<p>Complete the survey, allocation and identification of national forest areas and classify them according to three standard forest types; Establish mechanisms to manage and use forest resources efficiently and sustainably; update the list of biodiversity and rare species in Lao PDR</p>	
<p>Strengthen the process of assessing the environmental and social impacts of natural resource exploitation projects</p>	
<p>Establish mechanisms for sustainable financing and funding to manage natural resources and protect the environment. These include: measures for natural resource taxes and fines against abusers; royalties from the energy, agriculture and mining sectors; private investment participation in developing rural areas; improving the quality of the environment; promoting eco- and cultural tourism; and improving rural livelihoods to ensure job security and reduce urban migration and congestion</p>	
<p>Strengthen the process of assessing the environmental and social impacts of natural resource exploitation projects</p>	

Plan	Timeline	Objectives	Targets
Agriculture Development Strategy to 2025 and Vision to the Year 2030	2015-2030	Goal 2: agriculture production should contribute to socio-economic development, specifically job creation, income generation, reduction of the development gap between urban and rural areas, protection of heritage cultures of all ethnics, environmental protection and maintenance of stability and balance of ecological system	Clean Agriculture Development Action Plan
8th Five-Year Agriculture and Forestry Development Plan	2016-2020	Program 2: commercialization of agriculture and forestry production	Target 1: agriculture, livestock-fishery, forestry and non-timber forestry products in accordance with clean and sustainable agriculture, in line with industrialization and modernization Food Security Action Plan
Vision toward 2030 and Ten-Year Strategy	2016-2025	Sustainable planning and management of natural resource (land, water, forest, biodiversity and minerals)	Target 3: Contribute to green growth in order to achieve sustainable development and to become a modernized and industrialized country along sustainable-green direction Target 1: Develop and protect natural resources as to maximize and sustain the use of natural resources that go inline with green direction
Five-Year Plan	2016-2020	Forest and biodiversity management Mining management	Promote ecotourism, sustainable use of forest resource, develop biodiversity Promote use of non-renewable natural resources, use of environment-friendly technology, develop criteria for socio- and environmental selection to minimize impact of investment projects
Law on Science and Technology	2013		

Activities	Responsible Ministry
Project on improvement and development of clean agriculture production system standards (Good Agriculture Practice (GAP), Organic Agriculture (OA), etc.)	Agriculture and Forestry
Project to develop clean agriculture production models and demonstration sites	
Project to develop clean agriculture certification systems that are consistent with regional and international integration	
Project on making legislation on management of production and distribution of clean agriculture products	
Project on infrastructure development to support clean agriculture development	
<hr/>	
Improve production of rice, vegetable and fruit to meet GAP and OA standards	
Promote and increase the use of clean and environmental-friendly technology in production processes to meet the international standards	Natural Resources and Environment
Promotion of the use of natural resource efficiently and sustainably	
<hr/>	
Focus on research on legislatives and master plans that necessary for protecting and using natural resources; Develop manufacturing industry for raw materials to create value added of natural resources	
<hr/>	
Relevant activities	
<hr/>	
Relevant activities	
<hr/>	
Define clean technologies, taking into account efficiency and pollution to society and environment as well as prohibiting outdated and inefficient technologies	Science and Technology

Gap Analysis 12.3

Plan	Timeline	Objectives	Targets
8th National Socio-Economic Development Plan	2016-2020	Outcome 1, Output 1: Ensuring Sustained and Inclusive Economic Growth	<p>Develop firm and sustainable agriculture and forestry sectors. Continue allocating land for agriculture and production to secure food and commercial production; increase the potential agricultural production of each locality using clean and organic agriculture, and promote intensive agriculture using modern and high quality techniques</p> <p>Develop firm and sustainable agriculture and forestry sectors. Continue allocating land for agriculture and production to secure food and commercial production; increase the potential agricultural production of each locality using clean and organic agriculture, and promote intensive agriculture using modern and high quality techniques</p>
Agriculture Development Strategy to 2025 and Vision to the Year 2030	2016-2030	Goal 1: Food security: Ensure nutrition of people to have energy intake of at least 2600 kilocalories per person per day	<p>Production management and support action plan</p> <p>Food crops research action plan</p> <p>Clean Agriculture Development Action Plan</p>
Crop Sector Development Strategy 2025 and Vision 2030	2015-2030	Vision: develop crop sector to achieve modernized, clean, safe, quality-oriented, stable and sustainable crop production.	<p>Promotion and Management of Crop Production Action Plan</p> <p>Crop Research Action Plan</p> <p>Measures for cropping techniques and technologies</p> <p>Agro-processing and post-harvest measures</p>

Activities	Responsible Ministry
Create an enabling environment for sustainable and productive agriculture by supporting farmers' organizations with access to relevant information, practical and quality education, appropriate technology with an emphasis on intensification for yield growth as a major source of increased productivity rather than expansion of land area	Planning and Investment
Accomplish food security targets, there is a requirement for sustainable and integrated agriculture development through the promotion of clean and organic agriculture which is environmentally friendly	
Post-harvest and processing technique system development project	Agriculture and Forestry
Technical and technological research project for production and post-harvest management of rice cultivation and food crops in the plain and mountainous areas, reduce post-harvest losses and increase productivity for food security and nutrition	
Project on improvement and development of clean agriculture production system standards (Good Agriculture Practice (GAP), Organic Agriculture (OA), etc.)	
Project to develop standards for cash crop production	
Project to develop plant production standards	
Post-harvest handling and agro-processing development project	
Natural disaster-induced crop loss reduction project	
Post-harvest technology development project	
Post-harvest technology development project	
Promote and develop post-harvest technology for specific crops for keeping food quality and safety, and reduce post-harvest losses	

Gap Analysis 12.4

Plan	Timeline	Objectives	Targets
8th National Socio-Economic Development Plan	2016-2020	Outcome 3, Output 1: Environmental Protection and Sustainable Natural Resources Management	Environment (Promote Quality Environment and Pollution Control and Management)
Law on Investment Promotion	2016	Article 9: Sectoral Investment Promotion Incentives, which specify investment activities which may be incentivized due to their environment-friendly nature	Clean Agriculture Organic Agriculture Environmentally friendly manufacturing
8th Five-Year Agriculture and Forestry Development Plan	2016-2020	Program 2: commercialization of agriculture and forestry production	Target 2: export production in accordance with clean agriculture policy, including good agriculture practice and organic agriculture, for domestic, regional and international markets Commercialization of Agriculture and Forestry Action Plan
			Clean Agriculture Development Action Plan
Crop Sector Development Strategy 2025 and Vision 2030	2015-2030	Ensure the safety of crop produces and products and that they firmly grow toward clean agriculture and to ensure adequate supply of crop produces and products as inputs for manufacturing and to domestic and foreign markets by promoting commercialization of priority crops (such as cassava, sugar cane, tobacco, coffee and maize) and export of at least one billion US dollar in value	

Activities	Responsible Ministry
Promote green and sustainable rural development by establishing a system for management and reduction of waste, chemicals and toxic and hazardous substances, as well as integrated waste water treatment in the municipal districts of the provinces and Vientiane Capital	Planning and Investment
Apply a mechanism to control, eliminate and reduce wastes and toxic and hazardous substances while promoting the application of the 3-Rs principles in at least five municipal districts	
Develop a full environmental database to support the monitoring and analysis of polluted waste, chemicals and toxic and hazardous substances, air pollution, noise pollution and wastewater across the country, and especially in the cities along National Road No.13	
	Agriculture and Forestry
Production of potential agriculture, livestock-fishery, forestry and non-timber forestry products is in accordance with clean and sustainable agriculture	
Export production is in accordance with clean agriculture policy, including good agriculture practice and organic agriculture	
Project to develop clean agriculture production models and demonstration sites	
Project to develop clean agriculture certification systems that are consistent with regional and international integration	
Project on making legislation on management of production and distribution of clean agriculture products	
Project on infrastructure development to support clean agriculture development	
Project to develop and strengthen clean agriculture production control systems	
Project to promote commercial vegetable and fruit tree plantation to meet clean agriculture standards	

Plan	Timeline	Objectives	Targets
			Clean Agriculture Management Measures
Regulation on the Control of Pesticides	2010		
Ministerial Agreement on Good Agriculture Practices	2011		
Ministerial Decision on Fertilizer Management	2014		
Regulation on the Control of Pesticides	2010		
Vision toward 2030 and Ten-Year Strategy	2016-2025		Target 2: Lao is green, beautiful and rich in natural resources
		Improve environment quality for both urban and rural areas as keeping the country clean, green, and beautiful	
Five-Year Plan	2016-2020	Forest and biodiversity management	Complete the reforestation to achieve forest cover area of 70 percent of the total country area; Complete the biodiversity list of Lao PDR and national list of rare species in the national protected conservation forest
		Environment	Monitor environmental quality, pollution control and management, socio and environmental management and monitor of investment activities and projects

Activities	Responsible Ministry
<p>Clean agricultural management systems are to be developed with a good standard and accepted by domestic and international markets</p> <p>Producers are to ensure that clean crop production covers more than 20 percent of a total crop areas, of which half of the production is certified with clean agriculture standard</p> <p>Allocate agriculture land area for promoting clean agriculture, aiming for a 3% increase in the number of GAP producers and an increase of 1% of OA producers</p> <p>Develop clean agriculture standards to become national standards by improving and upgrading existing standards (GAP, OA) and make them regulation to protect producers as well as consumers</p> <p>Establish accreditation system to meet international standards of food production</p> <p>Develop, disseminate and expand clean agriculture techniques by developing infrastructure and human resource to support development of clean agriculture techniques through demonstration plots, and enhance human resource capacity through trainings, seminars, and manuals</p> <p>Incentive scheme to adopt GAP and OA. Producers adopting these two practices are exempted for certification fee, granted five year land tax holiday and low interest loan to support their production according to the economic-technical feasibility study</p>	
<p>Control of soil, water, air and noise pollution from the development of industry, agriculture and service to meet with the national environment standard</p> <p>Reduction of the volume of hazardous waste and toxic chemicals in industry, agriculture and service development up to 15% from the target volume of the hazardous waste and toxic chemicals in 2030 nationwide</p> <p>Reduction of the amount of import and use of chemicals that destroy the ozone layer up to 97.5%</p> <p>Reduction of solid waste amount up to 15% from the estimated wasted volume in 2030, in 18 municipalities across the country by using 3Rs (Reduce, reuse, recycle) principles</p>	<p>Natural Resources and Environment</p>
<p>Establish mechanisms to manage and use forest resources efficiently and sustainably; assess primary forest areas and conservation forests that are highly valued in the country; update the list of biodiversity and rare species in Lao PDR</p>	

Plan	Timeline	Objectives	Targets
Environmental Protection Law	2012	Aim to provide a balance between social-economic development and environment protection as well as to sustain natural resources and protect public health	Promote environmental quality, pollution control, waste management, minimise negative impacts from investment activities and projects on environment and natural resources
Ministerial Decision on Ozone-depleting Substances Management	2012		
Ministerial Instructions on Hazardous Waste Management	2015		Prevent and reduce the generation of hazardous waste by ensuring that public and private sectors who generate hazardous waste have the same understanding on the implementation approach related to import, export, transfer, storage, use, recycling and disposal of hazardous waste in the country
Ministerial Instructions on Pollution Control	2015		Business owners are obliged to implement the Environmental Impact Assessment or Initial Environmental Examination in order to obtain a compliance certificate
Law on Science and Technology	2013		
Industrial Substances Regulation	2012		
Chemical Substances Regulation	2016		
Drugs and Chemical Products Regulation	2011		
Food Law	2013		

Activities	Responsible Ministry
<p>Contain regulations on Environmental Impact Assessment, Environmental Management of Household Businesses, Use of Clean Technology, Construction Activity Impacts, Environmental Prevention against Chemicals, Pollution Control, Waste Disposal, Toxic Chemicals, and Waste, Environmental Compliance certification and pollution permits</p>	
<p>Ensure that the hazardous waste generator collects, records and reports on hazardous waste generation and management; Ensure that the EIA report includes a preliminary study on the IEE which contains the types and quantity of the hazardous waste and proposes a hazard waste management plan under the supervision of MoNRE</p>	
<p>Require reporting the quantity and quality of pollution discharging into water, air, and soil to line agencies under MoNRE</p>	
<p>Define clean technologies, taking into account efficiency and pollution to society and environment as well as prohibiting outdated and inefficient technologies</p>	<p>Science and Technology</p>
	<p>Industry and Commerce</p>
	<p>Public Health</p>

Gap Analysis 12.5

Plan	Timeline	Objectives	Targets
8th National Socio-Economic Development Plan	2016-2020	Outcome 3, Output 1: Environmental Protection and Sustainable Natural Resources Management	Environment (Promote Quality Environment and Pollution Control and Management)
Vision toward 2030 and Ten-Year Strategy	2016-2025	Contribute to the achievement of the national socio-economic development vision effectively on the basis of green economy and sustainable development and to become a modern industrialized country	Target 2: Lao is green, beautiful and rich in natural resources
		Promote sustainable environmental quality in urban and rural areas with green, clean and beautiful environment	
			Promote environmental quality, pollution control and management, socio- and environmental management and monitoring of investment activities and projects

Activities	Responsible Ministry
<p>Promote green and sustainable rural development by establishing a system for management and reduction of waste, chemicals and toxic and hazardous substances, as well as integrated waste water treatment in the municipal districts of the provinces and Vientiane Capital</p>	<p>Planning and Investment</p>
<p>Apply a mechanism to control, eliminate and reduce wastes and toxic and hazardous substances while promoting the application of the 3-Rs principles in at least five municipal districts</p>	
<p>Control of soil, water, air and noise pollution from the development of industry, agriculture and service to meet with the national environment standard</p>	<p>Natural Resources and Environment</p>
<p>Reduction of solid waste amount up to 15% from the estimated wasted volume in 2030, in 18 municipalities across the country by using 3Rs (Reduce, reuse, recycle) principles</p>	
<p>65% of households in 18 municipalities across the country understand and apply 3Rs principles</p>	
<p>Implement mechanisms to promote the use of natural resources effectively, use of environmental friendly and clean technologies</p>	
<p>Continue to educate and raise awareness on environmental protection and the sustainable use of natural resources</p>	
<p>Promote the implementation of ISO14001: Environmental Management System in medium and large industries</p>	
<p>Promote the implementation of 3Rs' concept (Reduce, Reuse and Recycle)</p>	
<p>Implement the Strategic Environment Assessment's processes in policy planning and use of social and environmental impact assessment into all sizes investment projects' approving, including family business to ensure the sustainable development</p>	

Gap Analysis 12.6

Plan	Timeline	Objectives	Targets
8th National Socio-Economic Development Plan	2016-2020	Outcome 3, Output 1: Environmental Protection and Sustainable Natural Resources Management	Environment (Promote Quality Environment and Pollution Control and Management)
Law on Investment Promotion	2016	Article 9 of Chapter 1 under Section II on Sectoral Investment Incentives specifies sectoral activities that entitled to investment promotion incentives. They include clean agriculture, organic agriculture and environmentally friendly manufacturing, among others. (pp. 5-6) Chapter 5, Article 44: addresses documents to be submitted for investment applications, including the Environmental, Social and Natural Impact Assessment	Clean Agriculture Organic Agriculture Environmentally friendly manufacturing
Crop Sector Development Strategy 2025 and Vision 2030	2015-2030	Ensure the safety of crop produces and products and that they firmly grow toward clean agriculture and to ensure adequate supply of crop produces and products as inputs for manufacturing and to domestic and foreign markets by promoting commercialization of priority crops (such as cassava, sugar cane, tobacco, coffee and maize) and export of at least one billion US dollar in value	Clean Agriculture Management Measures
Environmental Protection Law	2012	Provide a balance between social-economic development and environment protection as well as to sustain natural resources and protect public health	Promote environmental quality, pollution control, waste management, minimizing negative impacts from investment activities and projects on environment and natural resources

Activities	Responsible Ministry
Strengthen the process of assessing the environmental and social impacts of natural resource exploitation projects	Planning and Investment
Improve information systems on environmental costs and incentives to businesses and individuals to pursue green economy policies	
Develop a financial management manual to attract public and private investment in green growth activities	
Attract and mobilize more investment from both domestic and foreign investors to build a green economy in the direction of sustainability	
	Agriculture and Forestry
Clean agricultural management systems are to be developed with a good standard and accepted by domestic and international markets	
Producers are to ensure that clean crop production covers more than 20 percent of a total crop areas, of which half of the production is certified with clean agriculture standard	
Establish accreditation system to meet international standards of food production	
Contain regulations on Environmental Impact Assessment, Environmental Management of Household Businesses, Use of Clean Technology, Construction Activity Impacts, Environmental Prevention against Chemicals, Pollution Control, Waste Disposal, Toxic Chemicals, and Waste, Environmental Compliance certification and pollution permits	Natural Resources and Environment

Gap Analysis 12.8

Plan	Timeline	Objectives	Targets
8th National Socio-Economic Development Plan	2016-2020	Outcome 1, Output 1: Ensuring Sustained and Inclusive Economic Growth	Develop tourism based on the application of natural, cultural and historic inheritance potential in an effective and sustainable manner through participation of the people
			Develop firm and sustainable agriculture and forestry sectors. Continue allocating land for agriculture and production to secure food and commercial production; increase the potential agricultural production of each locality using clean and organic agriculture, and promote intensive agriculture using modern and high quality techniques
		Outcome 3, Output 1: Environmental Protection and Sustainable Natural Resources Management	Ensure continued quality, green and sustainable economic growth, development and natural resource management (of land, forests, biodiversity, mineral resources, water and wetlands) shall be planned in a practical, sustainable, fair and most effective manner
Agriculture Development Strategy to 2025 and Vision to the Year 2030	2015-2030	Goal 2: agriculture production should contribute to socio-economic development, specifically job creation, income generation, reduction of the development gap between urban and rural areas, protection of heritage cultures of all ethnics, environmental protection and maintenance of stability and balance of ecological system	
		Clean Agriculture Development Action Plan	Project to develop clean agriculture production models and demonstration sites
Crop Sector Development Strategy 2025 and Vision 2030	2015-2030	Ensure the safety of crop produces and products and that they firmly grow toward clean agriculture and to ensure adequate supply of crop produces and products as inputs for manufacturing and to domestic and foreign markets by promoting commercialization of priority crops (such as cassava, sugar cane, tobacco, coffee and maize) and export of at least one billion US dollar in value	Develop, disseminate and expand clean agriculture techniques by developing infrastructure and human resource to support development of clean agriculture techniques through demonstration plots, and enhance human resource capacity through trainings, seminars, and manuals
Vision toward 2030 and Ten-Year Strategy	2016-2025	Contribute to the achievement of the national socio-economic development vision effectively on the basis of green economy and sustainable development and to become a modern industrialized country	Target 2: Lao is green, beautiful and rich in natural resources

Activities	Responsible Ministry
<p data-bbox="155 555 977 712">Create an enabling environment for sustainable and productive agriculture by supporting farmers' organizations with access to relevant information, practical and quality education, appropriate technology with an emphasis on intensification for yield growth as a major source of increased productivity rather than expansion of land area</p>	Planning and Investment
<p data-bbox="155 913 977 981">Improve information systems on environmental costs and incentives to businesses and individuals to pursue green economy policies</p>	Agriculture and Forestry
<p data-bbox="155 1870 977 1928">65% of households in 18 municipalities across the country understand and apply 3Rs principles</p>	Natural Resources and Environment

Gap Analysis 12.B

Plan	Timeline	Objectives	Targets
8th National Socio-Economic Development Plan	2016-2020	Outcome 1, Output 1: Ensuring Sustained and Inclusive Economic Growth	Develop tourism based on the application of natural, cultural and historic inheritance potential in an effective and sustainable manner through participation of the people
		Outcome 3, Output 1: Environmental Protection and Sustainable Natural Resources Management	Environment (Promote Quality Environment and Pollution Control and Management)
Vision 2030	2016-2030	Develop and strengthen tourism sector to become industrialized, modernized and promote social inclusiveness for sustainable development	Target 1: Develop the tourism sector to be sustainable by promoting natural, cultural and historical tourism Target 6: Develop tourism's products (one district one product) throughout the country, and develop tourist's facilities at connecting point on each part of the country
Ten-Year Strategy	2016-2025	Develop Lao's tourism sustainably, focusing on promoting natural, cultural and historical tourisms, making Lao become a destination for tourists from around the world	
Five-Year Plan	2016-2020	Target 1, Objective 2: Promote the conservation, utilization, and development of tourism resources economically, effectively, and environmentally friendly	Develop a tourism development plan, arrange, improve and develop tourist sites and services comprehensively

Activities	Responsible Ministry
	Planning and Investment

Establish mechanisms for sustainable financing and funding to manage natural resources and protect the environment. These include: measures for natural resource taxes and fines against abusers; royalties from the energy, agriculture and mining sectors; private investment participation in developing rural areas; improving the quality of the environment; promoting eco- and cultural tourism; and improving rural livelihoods to ensure job security and reduce urban migration and congestion

Issue legislation and regulations to develop national natural parks and promote eco-tourism facilities in forests and biodiversity-rich areas

Tourism and Culture

Conduct impact studies of tourism, tourist-towns development, and tourist integration with the Mekong sub-region

RIA Lao PDR Extended

Global/National SDGs and associated targets	Localized indicator	Main Institution Responsible for indicator monitoring	Relevant national legislations	Comment
12.1. Implement the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns, all countries taking action, with developed countries taking the lead and taking into account the development and capabilities of developing countries	Sustainable Consumption and Production (SCP) National Action Plan adopted or mainstreamed into national policies	MoNRE, supported by UNEP	Not yet adopted, mainstreaming not yet completed	No concrete indicators applicable, action plan not yet adopted
12.1.1. Number of countries with sustainable consumption and production national action plans or SCP mainstreamed as a priority or a target into national policies				
12.2. By 2030, achieve the sustainable management and efficient use of natural resources				
12.2.1 Material footprint material footprint per capita, and material footprint per GDP	Material footprint, material footprint per capita, and material footprint per GDP	MoNRE, supported by UNEP	8th NSEDP (Outcome 1, Output 1; Outcome 1, Output 7; Outcome 3, Output 1) (MPI), Agricultural Development Strategy 2025 and Vision 2030 (MAF), Five-Year Development Plan (MAF), Law on Investment Promotion (MPI), Vision toward 2030 and Ten-Year Strategy (MoNRE), Five-Year Plan (MoNRE); Law on Science and Technology (MST)	Potential to more fully align objectives and targets from sectoral documents with relevant indicators
12.2.2 Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP				

Global/National SDGs and associated targets	Localized indicator	Main Institution Responsible for indicator monitoring	Relevant national legislations	Comment
12.3. By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses	Food loss index	MAF, supported by FAO	8th NSDEP (Outcome 1, Output 1) (MPI), Agricultural Development Strategy 2025 and Vision 2030 (MAF)	Good alignment between indicator, responsible entity, and objectives and targets from sectoral documents
12.3.1 Global food loss index				
12.4. By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment			8th NSDEP (Outcome 3, Output 1) (MPI), Clean Agriculture Development Action Plan (MAF), Five-Year Development Plan (Program 2) (MAF), Commercialization of Agriculture and Forestry Action Plan (MAF), Crop Sector Development Strategy 2025 and Vision 2030 (MAF), Clean Agriculture Management Measures (MAF), Law on Investment Promotion (MPI), Decree on Management of Pesticide, Ministerial Agreements on Good Agriculture Practice, Fertilizer Management Regulation, Pesticide Control Regulation (all MAF), Vision toward 2030 and Ten-Year Strategy (MoNRE), Five-Year Plan (MoNRE), Environmental Protection Law (MoNRE), Industrial Substances Regulation (MIC), Chemical Substances Regulation (MIC), Drug and Chemical Products Regulation (MPH), Food Law (MPH), Law on Science and Technology (MST)	Potential to more fully align objectives and targets from sectoral documents with relevant indicators
12.4.1. Number of parties to international multilateral environmental agreements on hazardous waste, and other chemicals that meet their commitments and obligations in transmitting information as required by each relevant agreement	Volume of hazardous waste generated from Vientiane Capital	MoNRE		
12.4.2. Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment				

Global/National SDGs and associated targets	Localized indicator	Main Institution Responsible for indicator monitoring	Relevant national legislations	Comment
12.5. By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse	12.5.1.1. Rate of recycling: % of solid waste generated in Vientiane Capital	MoNRE	8th NSDEP (Outcome 3, Output 1) (MAF), Vision toward 2030 and Ten-Year Strategy (MoNRE)	Good alignment between responsible ministry and overall objective. Potential to improve indicator based on existing targets and activities in MoNRE strategic documents
12.5.1 National recycling rate, tons of material recycled				
12.6. Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle	No localized indicator adopted	No responsible ministry	8th NSDEP (Outcome 3, Output 1) (MPI), Crop Sector Development Strategy 2025 and Vision 2030 (MAF), Law on Investment Promotion (MPI), Environmental Protection Law (MoNRE)	No indicator adopted, potential to design indicators based on existing sectoral documents' objective and targets
12.6.1 Number of companies publishing sustainability reports				
12.7. Promote public procurement practices that are sustainable, in accordance with national policies and priorities	No localized indicator adopted	No responsible ministry	No relevant national legislations	No indicator adopted, need to design sectoral policies, targets and objectives
12.7.1 Number of countries implementing sustainable public procurement policies and action plans				

Global/National SDGs and associated targets	Localized indicator	Main Institution Responsible for indicator monitoring	Relevant national legislations	Comment
12.8. By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature	12.8.1. Mainstream of sustainable development into education: - Primary and secondary curricula development on sustainable development; - Teacher Education Programmes, primary/secondary related to new curricula		8th NSEDP (Outcome 1, Output 1; Outcome 3, Output 1) (MPI), Agricultural Development Strategy 2025 and Vision 2030 (MAF), Crop Sector Development Strategy 2025 and Vision 2030 (MAF), Vision toward 2030 and Ten-Year Strategy (MoNRE)	Potential to more fully align objectives and targets from sectoral documents with relevant indicators
12.8.1. Extent to which (i) global citizenship education and (ii) education for sustainable development (including climate change education) are mainstreamed in (a) national education policies; (b) curricula, (c) teacher education; and (d) student assessment	12.8.2. Number of universities with sustainability campus plan	MoES		

Global/National SDGs and associated targets	Localized indicator	Main Institution Responsible for indicator monitoring	Relevant national legislations	Comment
12.A. Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production				
12.A.1 Amount of support to developing countries on research and development for sustainable consumption and production and environmentally sound technologies		Not applicable		
12.B Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products				
12.B.1 Number of sustainable tourism strategies or policies and implemented action plans with agreed monitoring and evaluation tools	12.b.1.1 Lao PDR Action Plan for Pakse Declaration (ASEAN Roadmap for Strategic Development of Ecotourism Clusters & Tourism Corridors; (i) adopted, (ii) implemented	MOICT	8th NSEDP (Outcome 1, Output 1; Outcome 3, Output 1) (MPI), Vision 2030, Ten-Year Strategy, Five-Year Plan (MoICT)	Good alignment between responsible ministry and overall objective. Potential to improve indicators based on existing targets and activities in MOICT strategic documents

Global/National SDGs and associated targets	Localized indicator	Main Institution Responsible for indicator monitoring	Relevant national legislations	Comment
<p>12.C. Rationalise inefficient fossil fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities</p>				
<p>12.C.1 Amount of fossil-fuel subsidies per unit of GDP (production and consumption) and as a proportion of total national expenditure on fossil fuels</p>				No localized indicator adopted, no ministry responsible, status unclear



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