



Managing Pesticides for Greener Growth in Lao PDR

Policy Note



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Pesticides management is important for sustainable agriculture and green growth

Sound pesticides management and Integrated Pest Management (IPM) in particular are widely acknowledged as important mechanisms to mitigate pre- and post-harvest losses and to achieve sustainable agricultural intensification. The Food and Agriculture Organization (FAO) estimates that up to 40% of global crop yields are lost each year due to pests.¹ In several countries, policy-makers have recognized the contribution of IPM to rural development and poverty reduction.² Sustainable intensification of crop and livestock production contributes to a number of Sustainable Development Goals (SDGs), notably SDG 1 and SDG2; these practices also augment ecosystem services such as improved soil fertility and reduced land degradation.³ Conversely, reductions in soil fertility can result in increased incidence of pests and diseases.⁴ The recognition of the contribution of IPM to sustainable development is long standing; for example, Agenda 21 Programme Area I highlighted the contribution of IPM (and sound pesticides management) to sustainable development. Sustainable intensification is the primary method to significantly increase income and yields from any size of holding from small-scale to large, and it is important to recognize that such intensification should protect the natural resources and production systems on which such income and yields are based and reduce environmental externalities.

The recent proliferation of agricultural concessions, contract farming arrangements, subsidies and other mechanisms in the country to stimulate production also mean a facilitated access to inputs that must be regulated. The gradual transition of the Lao PDR's production from subsistence to commercial is gathering momentum, and the estimated 33 percent⁵ of farmers producing primarily for sale is expected to grow with greater regional demand, Lao PDR's entry in the World Trade Organization and

¹ <http://www.fao.org/news/story/en/item/280489/icode/>

² International Code of Conduct on the Distribution and Use of Pesticides Guidance on Pest and Pesticide Management Policy Development. 2010. Available at <http://www.fao.org/3/a-a0220e.pdf>

³ FAO. 2016. Food and Agriculture: Key to Achieving 2030 Agenda and Sustainable Development, available at <http://www.fao.org/3/a-i5499e.pdf>

⁴ The sustainable management of soils is a pre-requisite for achieving SDGs 2, 3, 12 and 15.

⁵ See <http://www.fao.org/laos/fao-in-laos/laos-at-a-glance/en/>

closer ASEAN integration. Alongside this, the Government has set up initiatives to commercialize its organic farming potential given early successes in this sector's contribution to poverty reduction.⁶ This initiative is also partly dependent on good controls and proper management of agricultural chemicals. The need to increase yields on the available land, while protecting environment the environment and biodiversity are recognized in the Ministry of Agriculture and Forestry (MAF) 2015 Agriculture Development Strategy to 2025 and Vision to 2030. This strategy acknowledges the need for sound pesticides legislation and recognizes reduced pesticides use as critical for “clean agricultural production”.



Preserving Lao PDR's rich biodiversity is not only a conservation goal in itself but also contributes to food security, poverty reduction and development. Approximately 66 percent of the country's GDP⁷ is said to be attributable to biological resources; agrobiodiversity provides food, nutrition and income for the rural poor. This range of products is significantly affected by the sound management of pesticides.

⁶ UNCTAD. Lao PDR's Organic Agriculture Update (2012). Available at <http://unctad.org/en/Docs/Lao%20Organic%20Agriculture%202012%20Update.pdf>

⁷ <http://www.fao.org/laos/fao-in-laos/laos-at-a-glance/en/>

Sound pesticides management contributes to agricultural competitiveness and trade. Trade in agricultural products, and in particular market access, is affected by the presence of pests in a traded consignment or the presence of excessive pesticide residues in food products that attract the application of sanitary and phytosanitary (SPS) measures by trading partners. MAF's 2015 Agriculture Development Strategy to 2025 and Vision to 2030 recognizes the role of plant protection and quarantine in agricultural trade, compliance with sanitary and phytosanitary measures disciplined by the World Trade Organization framework, and observes the linkage between climate change and pest outbreaks. A focus on upgrading the regulatory framework for pesticides is an important complement to the country's ongoing sanitary and phytosanitary (SPS) regulatory reforms. Pesticides management, including an overall reduction in use, is an essential element of Good Agricultural Practice (GAP) protocols that buyers of agricultural produce require their suppliers to adhere to. It is also important for supporting appropriate conditions for organic agriculture systems, of benefit to local markets in a range of commodities, and also enabling premium prices for export commodities such as coffee.

Sound pesticides management is important to protect human health, livestock health and the environment. Improved pesticides management is critical to protect human health, both in the handling and use of the chemicals but also to prevent residue build up in foods and feed that are harmful to consumers (and animals). Separate to the health implications, these social impacts have economic implications in terms of costs for healthcare, loss in wages and productivity etc. The UNEP Global Chemicals Outlook (2013)⁸ cites conservative estimates of total health-related pesticide costs for smallholders in sub-Saharan Africa for the period 2005-2020 at US\$ 90 billion. Data for the same region reveals that the cost of injury (lost work days, outpatient medical treatment and inpatient hospitalization) from pesticide poisonings, totaled 4.4 billion US\$ in 2005 alone.⁹ 4.9 million deaths and 86 million disability-adjusted life years (comprising death and disease impact), could be attributed to exposure and handling of certain chemicals.¹⁰ Sound pesticides management also accommodates the linkage with, and impacts on, animal health, by preventing and limiting the possible losses that would impede livestock sector development and growth. From an ecological perspective, the build-up of these chemicals in the environment over time, exacerbated by cases of acute pollution from accidents and spillages, have significant negative effects on water

⁸ UNEP. 2013. Global Chemicals Outlook - Towards Sound Management of Chemicals

⁹ Keml. Towards a Non-toxic South-East Asia, available at: <https://www.kemi.se/en/global/broschyreer/towards-a-non-toxic-south-east-asia.pdf>

¹⁰ Keml. Towards a Non-toxic South-East Asia, available at: <https://www.kemi.se/en/global/broschyreer/towards-a-non-toxic-south-east-asia.pdf>

resources as well as biodiversity. Uncontrolled use of pesticides also reduces resistance in target pests, limiting efficacy and resulting in pest control crises and outbreaks of other pests. Climate variability is recognized as a key trigger of endemic and emerging pest outbreaks, and climate change impacts the effectiveness of current integrated pest management (IPM) strategies, requiring renewed focus and improved new knowledge systems and technologies.¹¹

¹¹ SP-IPM. 2008. Thee Role of Integrated Pest Management: How IPM Contributes to the CGIAR System Priorities and Millennium Development Goals. IPM Research Brief No. 5. SP-IPM Secretariat, International Institute of Tropical Agriculture (IITA), Cotonou, Benin.



Key challenges relating to pesticides management in Lao PDR and Government responses

The Lao PDR Government has made strides in controlling banned, unregistered and illegally imported pesticides in the last ten years. Lao PDR does not have any pesticide manufacturers in the country, and thus the pesticides that are used in the country are brought in by legal channels that include registered products as well as illegal channels that include unregistered, as well as banned and counterfeit products. Many pesticides dealers, including retailers, do not have licenses to operate. Importers who formally import pesticides lack the distribution channels to supply remote areas, where shops have to bring in pesticides themselves, unregulated and often from across the border.¹² In 2014, over 95 percent of products on the market were found not have a label in Lao.¹³

One of the government priorities has been to end the sale of unregistered pesticides and products without a label in Lao. MAF worked with the Ministry of Industry and Commerce to address this issue, and since 2014, launched campaigns to seize unregistered, incorrectly labelled, banned and counterfeit pesticides. A major challenge to this initiative was the lack of viable storage and disposal options.

The lack of human and financial resources has been pointed out on numerous occasions as a significant impediment for implementation of a sound framework, and the technical knowledge of inspectors has been and is continuing to be strengthened. Through technical assistance from FAO and Kemikalieinspektionen (KEMI), the Government revised its Inspection Manual and prepared a guideline on labeling (2015-2016). Establishing laboratories, and the requirements for good laboratory practices for pesticides-related testing, is identified as a medium to long-term goal.

There is also low awareness among users of sound pesticides practices, creating risks to human health and the environment. Field surveys in 2014 indicated wide-spread abuse of pesticides among farmers (owing to lack of knowledge); such abuse included mixing without justification, use of wrong pesticides, use of wrong dosages, etc.¹⁴ Storage facilities in the country are inadequate. Studies also found that personal protective equipment is rarely used, and the shops that do have some protective equipment for sale are inadequate for some of the chemicals used. Empty pesticide containers are often discarded at the border of fields or in drainage ditches.

¹² FAO/MAF. Lao PDR Pesticides Management Update (2014) by Khamphoui Louanglath and Harry van der Wulp.

¹³ FAO/MAF. Lao PDR Pesticides Management Update (2014) by Khamphoui Louanglath and Harry van der Wulp.

¹⁴ FAO/MAF. Lao PDR Pesticides Management Update (2014) by Khamphoui Louanglath and Harry van der Wulp.

MAF seeks to carry out awareness raising initiatives through its extension officers to farmers and the public. However, training for a range of stakeholders is still required; for government officials for enforcement and to enable dissemination of correct practices; for the private sector to enable compliance with licensing and related requirements; and for users.

Legislation: the first step to addressing pesticides management challenges

As a tool of green growth and other sustainable development policies, ultimately it is legislation that underpins effective pesticides management by creating a clear framework of reference and action for all actors: coordinated institutional mandates; robust enforcement, training and compliance mechanisms; and clear and feasible rules for pesticide dealers and users.

Recognizing that a robust legal framework is required to address the challenges noted above, the Government embarked on a series of legislative reforms. Lao PDR approved the Law on Chemicals Management No 7/NA (2016), an umbrella law on a range of chemicals that recognizes the role of MAF to control and monitor chemical use (and waste) used in agriculture including for crops and livestock, and expressly includes pesticides as one of those types of chemicals. That Law called for MAF, and other line Ministries to promulgate legislation that address different aspects of chemicals management. The Prime Minister Decree on Pesticides Management and Use No 258/Gov (2017) brought the Lao framework into greater alignment with the International Code of Conduct on Pesticides Management. This Decree served as a legal foundation for a number of key controls that spanned the life cycle of pesticides and provided a legal basis to address the challenges noted above. It also established a basis for cooperation (among health, industry and commerce, environment, customs and other authorities; and at all levels: central, province, district, village and border checkpoints). Through a World Bank technical assistance, a Ministerial Decision on Control of Pesticides Businesses No. 238/MAF and a Ministerial Decision on Pesticide Registration No. 3604/MAF were developed and approved in February and September 2019 respectively. The decisions that detail the requirements relating to various aspects of the pesticide business which reflect the guidance of the International Code of Conduct. These regulations provide detailed guidance on procedures and requirements for the governmental authorities, the private sector and users. The policies also directly address the key challenges identified above.

Reform of pesticides legislation is aligned with a number of on-going legislative reforms in Lao PDR, including those targeting the SPS framework as well as more broadly, the Legal Sector Master Plan that aims to ensure a State governed by the rule of law by 2020. Lao PDR is also required to adjust its legal framework as it is a party to internationally legally binding texts with which it must comply. Lao PDR acceded to the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Pesticides and Industrial Chemicals in International Trade in 2010. A majority of the pesticides listed in Annex III of the Rotterdam Convention have been banned in Lao PDR. Lao PDR ratified the Stockholm Convention on Persistent Organic Pollutants in 2006 and acceded to the Basel Convention on the Transboundary Movement of Hazardous Wastes and Their Disposal in 2010. Other binding instruments such as the ILO Convention on Health and Safety in Agriculture No. 184 and the ILO Convention Concerning Safety in the Use of Chemicals at Work, No 170 also provide relevant principles to assess and to incorporate in legislation.



Next steps

With the legislation in place to buttress the Government in enforcement activities and to guide users and businesses in their operations, the key next steps involve a multi-phased approach, including such options as:

- **Training for inspectors and extension officers:** These public officers are agents for education and information-raising, but first require training themselves on updates to the legislation and sound pesticides management practices, that include broader Good Agricultural Practices (GAP) and IPM methodologies.
- **Identifying and implementing mechanisms for improved cooperation:**
 - ▶ *Among public institutions* – such as authorities responsible for agriculture, health, environment and commerce, in the following areas: registration of pesticides, inspections taskforces and information exchange, emergency response, poisoning and health data systems, and pesticides disposal systems. This collaboration is also important for policy coherence – for example, reducing pesticides use could be accompanied by the greater availability of good quality seeds that are more resistant to pests.
 - ▶ *Between the government and pesticides businesses and users* – on matters such as the design and implementation of pesticides disposal systems, and education and awareness campaigns.
- **Targeting select areas for priority action:** A phased approach in implementation enables the focusing of scarce human resources on priority sites and issues, and also enables a smaller amount of data to be gathered to be used to adjust approaches when scaling up. Preliminary areas of focus could be for example: provinces where there are known import (legal and illegal) channels, key distribution hubs, areas surrounding organic agriculture sites, or sites identified for targeted IPM practices and implementation.
- **Launch dissemination and education campaigns regarding the revised legislation and good practices:** Given the significant tightening of controls around pesticides access, distribution and use, it is important that stakeholders are well-informed of what is required of them so they are encouraged into compliance. Extensive educational campaigns, effected through a range of mechanisms such as extension officers, publication through various media, etc will enable greater compliance with

legislation but importantly, ultimately result in reduced pesticides associated risks through the adoption of improved practices.

- **Establish a simple and feasible monitoring and evaluation framework:** At the various tiers of government, targets and indicators may be set that gauge the effectiveness of controls and inspections on key priorities: such as reducing quantity of entry of illegal, counterfeit or unregistered products, increases in the availability of safety equipment etc.





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