ALiSEA
AGROECOLOGY LEARNING ALLIANCE IN SOUTH EAST ASIA

SAEDA

ALiSEA Policy Paper

STRENGTHENING PESTICIDE REGULATION AND PROMOTING AGROECOLOGY IN LAOS

Reducing health and environmental risks through coordinated action

Executive Summary

Extensive research, field studies, and national consultations highlight the increasing risks associated with pesticide use in the Lao People's Democratic Republic (Lao PDR), including impacts on human health, biodiversity, and compliance with international standards. While Laos has adopted important regulatory frameworks and international commitments, further efforts can be made to strengthen implementation at all levels.

This policy paper presents five priority measures that together form a practical and achievable roadmap toward safer and more sustainable agriculture. First, compliance can be enhanced by making Lao-language labelling mandatory, updating the banned and restricted pesticide list on an annual basis, improving inter-ministerial coordination, equipping inspection teams, and applying appropriate penalties. Second, a national monitoring system can be gradually developed, combining a Treatment Frequency Index (TFI), GIS-based hotspot mapping, and regular residue testing of food, water, and human samples. Third, agroecology can be further scaled by expanding Farmer Field Schools and IPM-oriented extension, strengthening cooperatives, and providing targeted incentives to reduce chemical inputs. Fourth, contract farming can be improved through binding pesticide clauses in all agreements, the use of standard templates approved by authorities, and regular inspections. Finally, vulnerable groups - particularly women, children, and seasonal workers - can be better protected through awareness campaigns, affordable protective equipment (PPE), integration of pesticide safety into schools and rural health programs, and improved systems for safe storage and disposal at community level.

Together, these measures contribute to stronger enforcment, expanded monitoring, broader support for agroecology, improved contract farming, and better protection of vulnerable groups. By combining regulation, monitoring, education, and investment in sustainable practices, Laos can further reduce health and environmental risks while advancing its commitments under national and international frameworks.

The paper proposes 5 actionable recommendations to reduce pesticide-related risks and promote safer agriculture in Laos:

Strengthen Enforcement and Governance: Make Lao-language labelling mandatory[(1)]; update the banned/restricted pesticide list annually in line with WHO/FAO/ASEAN guidance; improve inter-ministerial coordination; train and equip inspectors, including mobile units; and introduce penalties for illegal imports, sales, or mislabelling.

Expand Monitoring Systems: Develop a national Treatment Frequency Index (TFI)[(2)] integrated with GIS mapping; regularly test pesticide residues in food, water, and human samples; identify and monitor hotspots in monoculture and contract farming areas; and coordinate data collection across ministries and research institutions.

Support Agroecology and Farmer Empowerment: Expand Farmer Field Schools[(3)] and extension services for agroecology and IPM; support cooperatives and producer organizations to strengthen bargaining power and market access; and provide financial incentives for reducing chemical inputs and adopting sustainable alternatives.

Reform Contract Farming: Require pesticide management clauses in all CF agreements[(4)], with full disclosure of active ingredients, dosages, and safety measures; use a standard contract template approved by local authorities; and ensure regular inspections to verify compliance.

Protect Vulnerable Groups: Conduct targeted awareness campaigns on pesticide health risks, focusing on women and children[(5)]; distribute affordable protective equipment; integrate pesticide safety into school curricula and rural health programs; and improve local systems for safe storage and disposal.

Context and Current Challenges in Pesticide Use in Laos

Agricultural transformation in Laos is accelerating, driven by market integration, export-oriented production, and the expansion of contract farming. This has led to a sharp increase in the use of pesticides, including substances classified as Highly Hazardous Pesticides (HHPs). In many cases, products are applied without proper knowledge or protective measures, contributing to environmental degradation, food contamination, and serious public health risks. Women and children are particularly affected, due to their physiological vulnerability and frequent involvement in agricultural work and food preparation.

While Laos has made important international commitments by ratifying the Stockholm Convention (2006), the Basel Convention (2010), and the Rotterdam Convention (2010)[6] and the Lao regulatory framework for pesticides has evolved in recent years, further efforts are needed to ensure consistent implementation. In fact, the 2016 Law No. 7/NA on Chemicals Management[7] and the 2017 Decree 258/GOL on Pesticide Management[8] establish the foundation for regulating imports, sales, application, and disposal of pesticides. Supplementary instruments such as Ministerial Decisions 238 and 3604 (2019) provide guidance on company registration and product approval.

Figure 1: *Local farmers applying chemical pesticides in northern Laos, SAEDA, 2023*

A total of 55 pesticide products are currently banned, including nine Persistent Organic Pollutants (POPs) and two HHPs[9]. As stated in the country's revised National Implementation Plan: "The management of persistent organic pollutants (POPs) pesticides is a national priority, and Laos will take measures to reduce and eliminate their use." Local enforcement capacities vary and would benefit from additional support and improved coordination between relevant ministries and administrative levels. Nevertheless, implementation can be further strengthened.

A sustainable transition in the Lao agricultural sector can significantly advance the country's commitment to the Sustainable Development Goals (SDGs). Reducing pesticide use and investing in agroecological practices supports multiple objectives: it improves food safety, protects eco-systems, and enhances the livelihoods of smallholder farmers. For example, SDG 2

Figure 2: *Awareness Poster on Two Types of 55 Pesticide Brands Banned in Lao PDR and Their Health Impacts*

(Zero Hunger) is directly supported by promoting diverse and climate-resilient food systems. SDG 3 (Good Health and Well-being) is advanced through reduced exposure to toxic chemicals.

Moreover, SDGs 6, 12, and 15 benefit from better waste management and the protection of biodiversity[10]. These linkages should be explicitly addressed in policy frameworks and donor strategies.

Recent studies conducted by SAEDA, PANAP, Helvetas, CCL and other partners provide valuable insight into real-world pesticide use in Laos. In Oudomxay, for instance, over 75% of farmers surveyed exceeded the recommended frequency of pesticide applications[11]. Many used mixtures of herbicides and fungicides without understanding their combined effects. Blood tests conducted as part of the LURAS project in Xiengkhouang found pesticide residues in both adults and children[12]. In some communities, children were classified as being at "risky" or "unsafe" exposure levels. Laos is not alone in facing challenges in pesticide regulation. Neighbouring countries offer instructive examples. Thailand has implemented strict bans on paraquat and glyphosate[13] and maintains an advanced residue monitoring system. Vietnam has also enhanced its regulatory framework, with clear national guidance and Vietnamese-language labelling required by law[14]. To further align with ASEAN standards and protect public health, Laos can continue to harmonize its regulatory practices with international and regional frameworks. The ASEAN Ministerial Meeting on Agriculture and Forestry emphasized this approach: "The phase-out of

highly hazardous pesticides must be accelerated through regulatory cooperation, farmer training and promotion of agroecological alternatives”[15]. This includes expanding the list of banned substances, enforcing label requirements, and investing in national residue monitoring systems and agroecology transition.

In light of the current context, these recommendations propose constructive measures that can build on existing achievements, enhance cooperation across sectors, and ensure that Laos continues to meet its national and international commitments.

Figure 3: *Local farmers applying chemical pesticides in northern Laos, SAEDA, 2023*

Ensure Compliance: Mandatory Lao Labelling, Annual Ban-List Updates, and Resourced Enforcement

Although Laos has on the Agreement of 2010 pesticides management agreement 2860/MAF, 2016 Chemicals Management Law, 2017 Decree pesticides management 258/GoL have been banned products circulate, and most pesticides lack Lao-language labels, making safe use difficult. Inspection capacity and coordination between ministries are limited, and the banned list is not regularly updated to match international standards.

To improve the situation, the following steps are needed:

- Make Lao-language labelling mandatory with clear usage, hazard, and first-aid information.
- Update the banned/restricted pesticide list annually in line with WHO/FAO/ASEAN guidance.
- Improve coordination between MAF, MONRE, Customs, and local authorities.
- Train and equip inspectors, including mobile units for remote areas.
- Introduce penalties for illegal imports, sales or mislabelling.
- Provide adequate means for enforcement through a phased implementation plan with dedicated budget, mobile inspection teams, and interim storage/disposal facilities for seized products.

These measures close enforcement gaps, reduce misuse, and align with regional best practices. They also help meet international obligations and protect market access by ensuring compliance with Maximum Residue Limits (MRLs), safeguarding both public health and Laos’ agricultural reputation.

Figure 4: *Awareness Poster on Classification and Safety Guidelines for Pesticides Based on Toxicity Levels*

Build a National Monitoring System: TFI, Residue Testing, and Hotspot Mapping

Laos lacks a national system to track pesticide use and exposure. There is no Treatment Frequency Index (TFI), residue testing is sporadic, and monitoring in remote areas is minimal. Without systematic data, authorities cannot identify high-risk areas or respond quickly to contamination events.

To improve the situation, the following steps are needed:

- Develop a national TFI using sales and usage data, integrated with GIS mapping, and introduce it gradually through pilot regions to match existing skills and resources.
- Regularly test pesticide residues in food, water, and human samples.
- Identify and monitor “hotspot” areas - defined as zones with intensive monoculture, contract farming, or repeated high-frequency pesticide use - where risks of contamination and exposure are highest.
- Coordinate data collection across ministries and with research institutions.

A robust monitoring system provides the evidence needed for targeted interventions, supports compliance with export market standards, and strengthens public trust. GIS-based hotspot mapping of these high-use areas allows for efficient resource allocation, while regular testing protects consumers and vulnerable communities from hazardous exposure.

Scale Agroecology: Expand FFS/IPM, Strengthen Cooperatives, and Provide Incentives

Many Lao farmers depend heavily on chemical inputs and have limited knowledge of sustainable alternatives. Access to training, technical support, and organized market channels for low-pesticide products is still weak, reducing incentives to change practices.

To improve the situation, the following steps are needed:

- Expand Farmer Field Schools and extension services focused on agroecology and Integrated Pest Management (IPM).
- Support cooperatives and producer organizations to strengthen farmer bargaining power and market access for agroecological quality products.
- Provide financial incentives for reducing chemical inputs, e.g., subsidies or price premiums for certified "safe" or organic products.

Agroecology improves soil health, reduces input costs, and increases resilience to climate change. Empowered farmers with better market access are more likely to adopt sustainable practices. This approach supports multiple SDGs, including Zero Hunger, Good Health, and Life on Land, while meeting growing demand for clean products in local and export markets.

Figure 5: *Pinto Peanut as a Cover Crop in Tea Plantation in Xienkhouang ©Samphanh Lathsakid - ASSET project, 2024*

Standardize Contract Farming: Binding Pesticide Clauses, Approved Templates, and Regular Inspections

Contract farming (CF) schemes often provide inputs without disclosing active ingredients, safe application protocols, or environmental risks. Pesticide clauses are rarely included, and local monitoring of compliance is minimal.

To improve the situation, the following steps are needed:

- Require all CF agreements to include pesticide management clauses with full disclosure of active ingredients, dosages, and safety measures.
- Use a standard contract template approved by local authorities.
- Ensure periodic inspections of CF operations to verify compliance.

Transparent contracts protect farmers from unsafe inputs, reduce misuse, and increase accountability of companies. Standardized clauses and monitoring align CF practices with national regulations and international safety standards, improving both public health outcomes and consumer trust.

Figure 6: *Training on Testing for Chemical Substains and Safe Food on Vegetable in Xienkhouang ©Vearyda Oeu - ASSET Project, 2024*

Protect Women, Children, and Seasonal Workers: Awareness, Protective Equipment, Education, and Safe Disposal

Women, children, and seasonal workers face higher health risks from pesticide exposure due to physiological vulnerability and frequent involvement in spraying, mixing, and food preparation. Awareness of risks and access to protective measures remain limited, especially in rural areas.

To improve the situation, the following steps are needed:

- Conduct targeted awareness campaigns on health risks, focusing on women, children and seasonal workers.
- Distribute affordable protective equipment (PPE) for farmers and agriculture workers in plantation such as loves, masks, and boots to farmers and household users, and promote its consistent use.
- Integrate pesticide safety education into school curricula and rural health programs.
- Improve local systems for safe storage and disposal of pesticides and containers.

Protecting vulnerable groups prevents acute and long-term health impacts, reduces medical costs, and strengthens community resilience. Education and protective equipment are cost-effective measures with immediate benefits, while proper storage and disposal prevent environmental contamination and accidental poisoning.

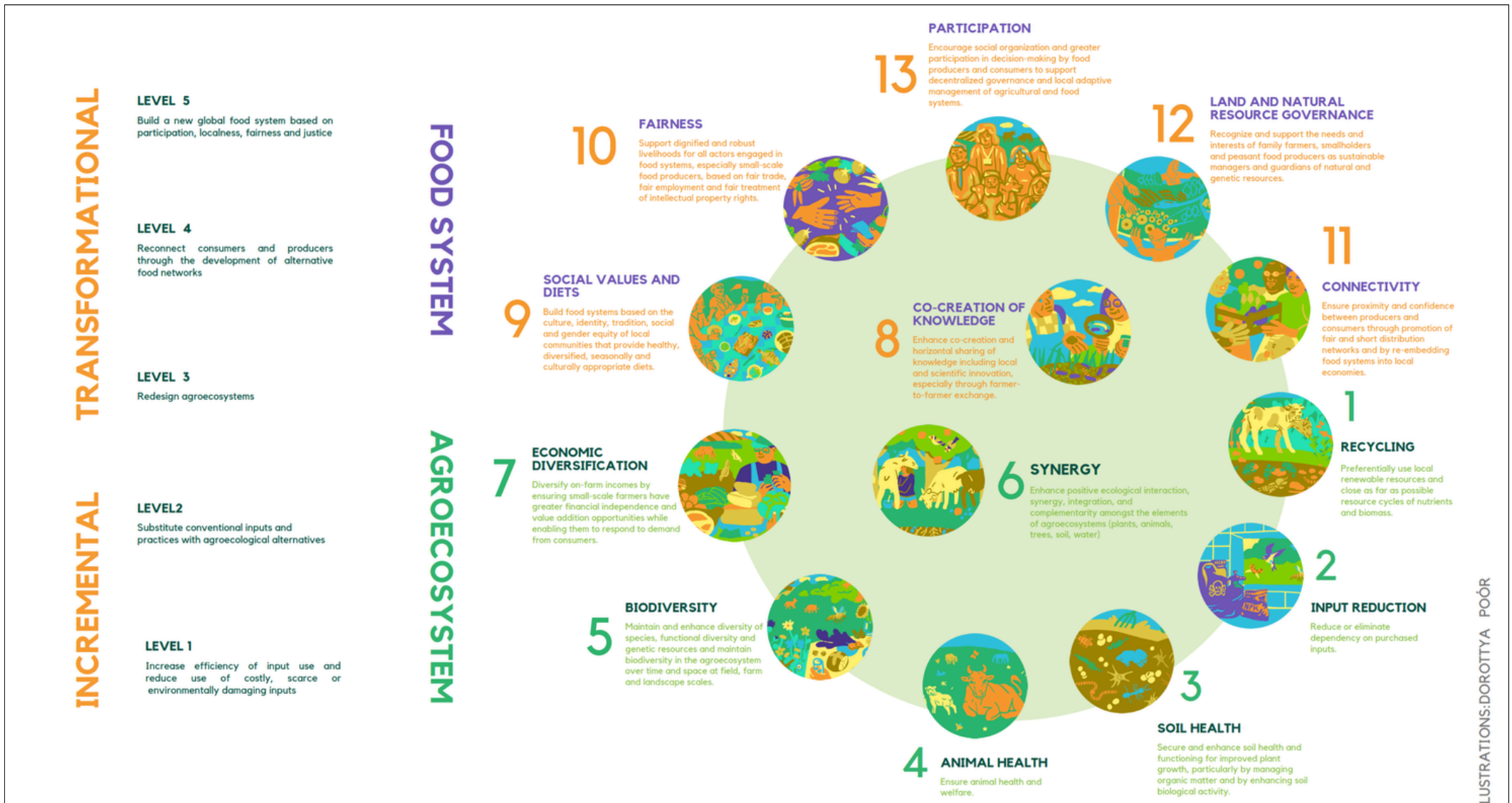
Figure 7: *Youth engaged in farming activities, Boungphao village, Vientaine province, 2022*

Conclusion

By focusing on five priority action areas - strengthening enforcement, expanding monitoring, supporting agroecology, reforming contract farming, and protecting vulnerable groups - Laos can build on existing achievements and meet its national and international commitments.

A transition to safer, more sustainable agriculture is both necessary and achievable. Combining regulatory enforcement, monitoring, education, and investment in agroecology offers a clear path forward. Regional collaboration, donor engagement, and political leadership will be key to success. With these measures, Laos can serve as a regional example[16] - ensuring food security, rural livelihoods, and environmental protection for generations to come.

Figure 8: *Diverse plantation plot with coffee, banana, and legume crops in Kham District, Xiengkhouang Province, ©Samphanh Lathsakid , 2024*



THE FIVE LEVELS OF TRANSITION TOWARDS SUSTAINABLE FOOD SYSTEMS AND THE RELATED 13 PRINCIPLES OF AGROECOLOGY

SOURCE: GLIESSMAN (2007) AND HLPE (2019)

ENDNOTES

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Agroecology Learning Alliance in South East Asia (ALiSEA)

The Agroecology Learning Alliance in South East Asia (ALiSEA) is network gathering over 205 organizations in 5 countries: Cambodia, Laos, Vietnam, Myanmar and Thailand. ALiSEA Lao have 75 member organizations from diversity of stakeholders as CSOs, NGOs, Farmer organizations, Research & Academia and Private Sectors.

ALiSEA network aims to answer the need for knowledge exchange and to share the wealth of experience from different regions. Through fostering a wide dissemination and understanding of the principles of agroecology, it aims to facilitate their concrete incorporation in the practices of farmers and companies, and in public policy.

Contact

ALiSEA is supported and coordinated nationally by three executives members: the Participatory Development Training Center (PAKA), the Sustainable Agriculture and Environment Development Association (SAEDA), and SEED. At the regional level, coordination is provided by the GRET (https://gret.org/).

(Sustainable Agriculture and Environment Development Association) SAEDA is a national non-profit civil society organization in Laos. We promote sustainable agriculture and environmental conservation through capacity development and income generation by using participatory approaches. Our work empowers poor communities composed of farmers, women, children, young and ethnic groups. SAEDA implements projects in four main areas: sustainable agriculture, environmental conservation, food safety and farmer organizations. SAEDA is a member of the ALiSEA executive team and is mainly responsible for policy dialogues, including those related to pesticides.

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