

Regional Technical Forum on Actions to Mitigate Agrochemical (Anti-microbials and Pesticides) Use in Crop, Soil, Livestock and Aquaculture

Intervention package 1+:

Regenerative Agriculture & Aquaculture Practices and Judicious Agrochemical Use

Session 1: Overview of National and Regional Efforts, Including Successes and Challenges to Mitigate Agrochemical Use: **Cambodia**

Dr. PENG Chanthol

Institute of Technology of Cambodia, Cambodia

Hanoi, Vietnam

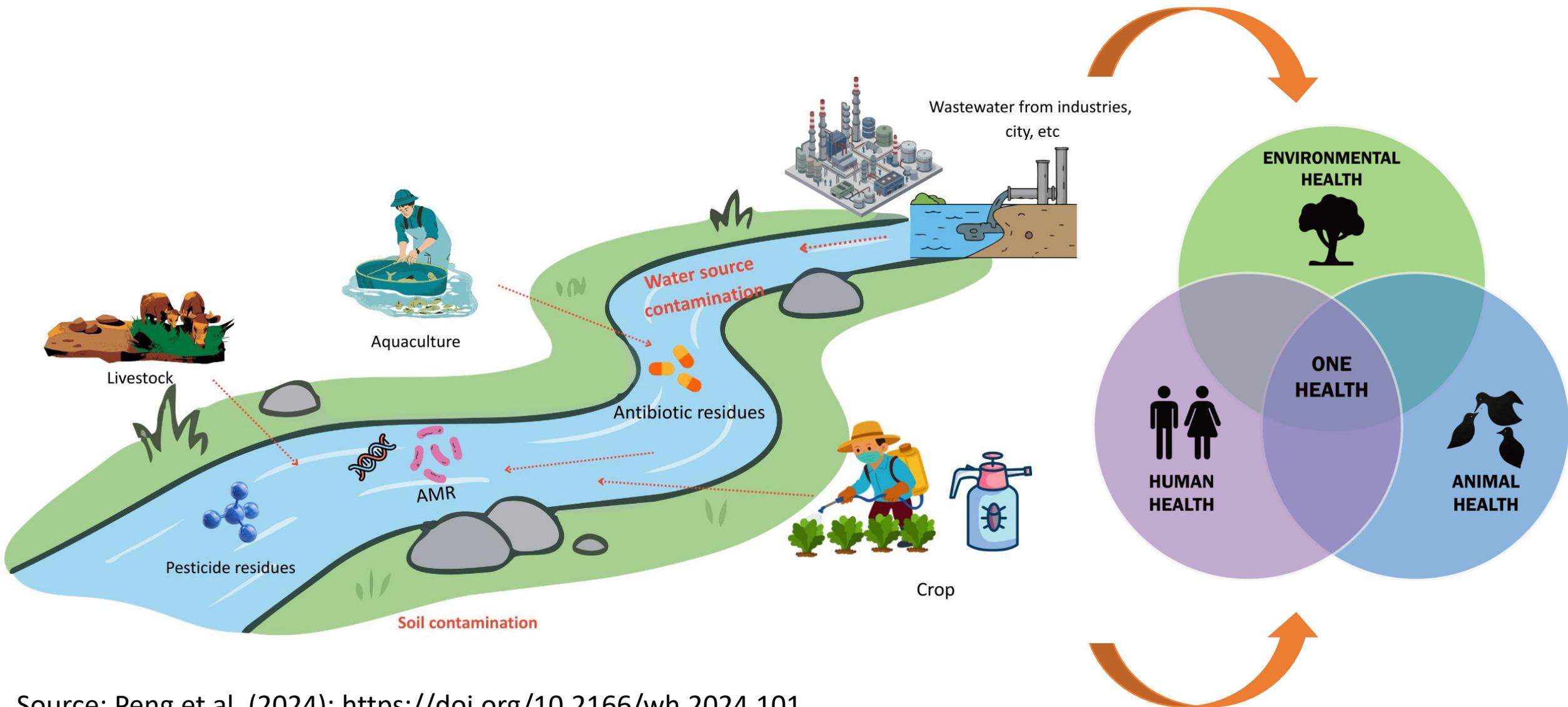
Dates: 12 March 2026

Contents

This presentation is a part of: Scoping study on Key actors, role, potential solutions, law/regulation, R&D, challenges to reduce pesticide use and supporting application of biological controls and agricultural bioproducts in Cambodia (conducted on December 2024 collaboration with IRRI –Cambodia):

1. Introduction
2. Key actors and their roles in pests/diseases management
3. Law/policy and R&D
4. Challenges & Solutions
5. Recommendation

1. Introduction – Agrochemical Use & Problems



Source: Peng et al. (2024): <https://doi.org/10.2166/wh.2024.101>

Yoshimura et al. (2022): Water and Life in Tonle Sap Lake.

<https://link.springer.com/book/10.1007/978-981-16-6632-2>

1. Introduction – Agrochemical Use & Problems

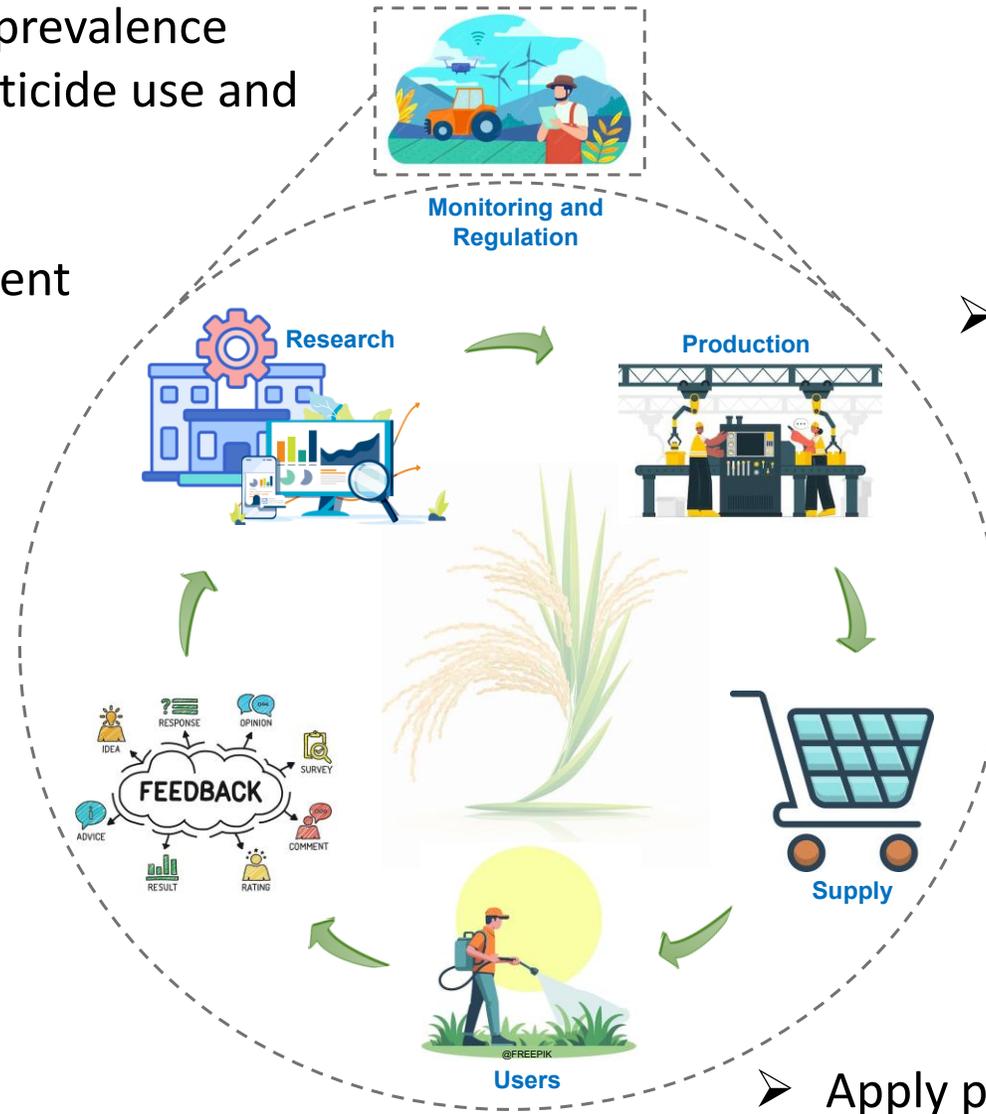
- Reducing agrochemical use in Cambodia requires integrating biological solutions, farmer capacity building, and supportive policy frameworks.
- **Objective** : Status of Key actors, role, potential solutions, law/regulation, R&D, challenges to reduce pesticide use and supporting application of biological controls and agricultural bioproducts in Cambodia (conducted on December 2024):

2. Key Actors and Their Roles in Pests/Diseases Management

- Monitor pest/disease prevalence
- Set regulations for pesticide use and distribution.

- Develop sustainable management strategies and pest control technologies.

- Report field performance and challenges



- Manufacture and distribute pesticides, biofertilizers, and other pest management tools.

- Deliver pest control product and usage guidance to markets.

- Apply pest management solution.

3. Key Challenges & Potential Solutions

Key challenges and sustainable solutions in rice cultivation and pest management in Cambodia.

- Desk review (Research and Policy)
- Stakeholder Interview (Government, Researcher, Producer, Importer)



Current problems

Soil and nutrient degradation;
Pest and disease pressures;
Excessive pesticide use;
Need for sustainable alternatives.



Research & development

Biocontrol and biofertilizer application;
Integrated pest management and pesticide reduction;
Ecological engineering and Sustainable rice intensification.



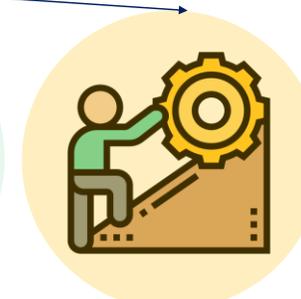
Limitation & knowledge gaps

Socioeconomic barriers;
Lack of awareness among the farmers;
Management strategies remains inconsistent.



Perceptions of sustainable practice

- Fear of reduced yield during initial phase;
- Lack of immediate visible results;
+ Reduce the cost of chemical input;
+ Improve soil health;
+ Reduce adverse impact on worker health.



Challenges

Struggle to access BCA or biofertilizers locally;
IPM requires labor-intensive monitoring;
Limited labor resources.
Lack of knowledge on the use of BCA and IPM.

3.1. Law and Regulation

N.	Law/regulation	No and Year	Organization
1	Law of plants protection sanitary and phytosanitary	N. 1391, 2022	MAFF
2	Prakas (Declaration) on the procedure and standard requirements for the registration of pesticides)	N. 456, 2021	MAFF
3	Inter Ministerial Prakas (Proclamation) on the principal safety guidances of the utilization of pesticides and disposal of pesticide's waste and packaging	N. 277, 2020	MAFF & MoE
4	Prakas (Declaration) on the allowing of the utilization of sample documents for biological control agents business	N. 526, 2017	MAFF
5	Prakas (Proclamation) on the initial inspection and validation of supplying and distribution of pesticides and fertilizers	N.099, 2015	MAFF
6	Prakas (Proclamation) on the procedure of inspection of pesticides and fertilizers	N. 176, 2013	MAFF
7	Prakas (Proclamation) on the procedure of the management of pesticides for trading purpose)	N. 120, 2013	MAFF
9	Law of pesticides and fertilizers management	N. 268, 2012	MAFF
10	Law of biosafety	N. 15, 2007	MoE

3.2. R&D- Sustainable Pest/Disease Management

Biocontrol & Biofertilizer

- *Reduce disease and improve soil health.*

Integrated Pest Management

- *Ecological pest control with minimal chemicals.*

Sustainable Rice Intensification

- *Increase productivity with lower inputs.*

Sources: Chou et al., 2020; Tann et al., 2016; Babendreier et al., 2020; Oeum et al., 2024.

4. Challenges & Solutions

Main Barriers	Solutions
<p> High cost of fertilizers, pesticides, and equipment.</p> <p>➤ Limited financial capacity for new technologies.</p> <p> Knowledge gaps</p> <p>➤ Limited awareness of biocontrol and IPM methods.</p> <p>➤ Lack of training and demonstration sites</p> <p> Dependence on chemicals: Long-term reliance on pesticides due to immediate yield effects</p> <p> Market and supply challenges: Limited access to biofertilizers and biocontrol agents</p>	<p> Capacity building: Hands-on training and farmer field schools</p> <p> Knowledge sharing: Farmer-to-farmer learning and demonstration farms</p> <p> Input supply improvement: Strengthen local production and distribution of biofertilizers and biocontrol agents</p> <p> Financial incentives: Subsidies and credit schemes for sustainable inputs</p> <p> Market support: Price premiums and market access for low-pesticide rice</p>

Recommendation

- Enhance research and development on biological solutions
- Promote local pest control/disease products
- Increase farmer awareness and adoption of alternative agrochemical (BCA)
- Capacity building training for farmer
- Improve policy and market incentives

Thank You!