



# USE AND IMPACTS OF PESTICIDE IN HAI HAU DISTRICT, NAM DINH PROVINCE

## Results from Community-Based Pesticide Action Monitoring (CPAM) in 2024

### Strengthening Community Capacity in Monitoring Pesticide Use and Promoting Agroecology in Hai Hau District, Nam Dinh Province – For a Non-Toxic Environment

📍 Location: Hai Hau District, Nam Dinh Province, Viet Nam

📅 Duration: January 2024 - May 2025

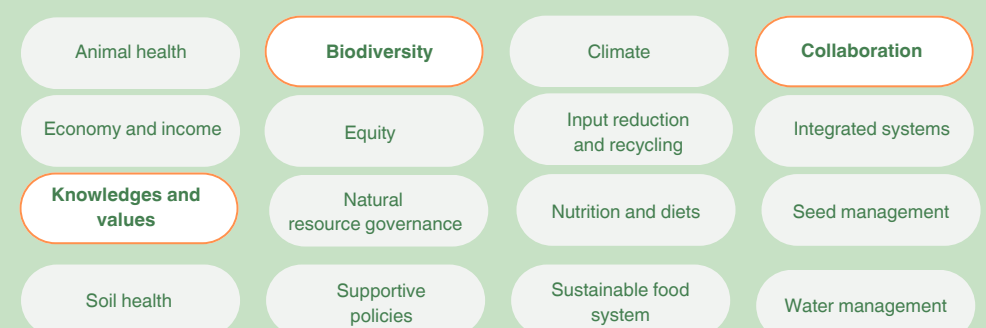
👤 Implemented by: Research Centre for Gender, Family and Environment in Development (CGFED)

- 🌻 Agricultural system: Red River Delta
- 🌻 Altitude: 0,3m - 0,7m (the distance above sea level)
- 🌻 Rainfall & temperature: 1.750 – 1.800 mm & 23 – 24°C

#### Agroecology Principles:



#### ALiSEA Knowledge Product Categories:



## CONTEXT

**Pesticides** are significantly impacting farmers and agricultural workers worldwide. A survey on pesticide use in India, Bangladesh, Vietnam, and Laos, conducted by Pesticide Action Network Asia Pacific (PAN AP), revealed that the majority of pesticides used in agriculture are either highly hazardous or banned in one or more countries globally. The survey further indicated that the proportion of highly hazardous pesticides used in Vietnam is as high as 60% (PAN international, 2022)\*.

Since 2015, the **Research Center for Gender, Family, and Environment in Development (CGFED)** has collaborated with the **Hai Hau District Women's Union** and pioneering female farmers to regularly implement **Community-Based Pesticide Action Monitoring (CPAM)** in Hai Hau District, Nam Dinh Province, Viet Nam. The aim of the survey is to document the use and impacts of hazardous pesticides among farmers.

Years	Survey sample size
2015	300 farmers and 10 pesticide vendors.
2016	100 farmers and 3 pesticide vendors.
2018	200 farmers and 100 students in Primary and Secondary Schools
2022	100 farmers and 98 students in Secondary Schools

In **2024**, CPAM continued to be implemented with the participation of **201 farmers** (106 women and 95 men) in Hai Xuan commune and Hai Cuong commune (which have now been merged into Hai Xuan commune). The current population of Hai Xuan commune is 23,263 people.

\*<https://files.panap.net/resources/Field-Survey-use-and-impacts-of-pesticides.pdf>

# METHODOLOGY

This research was conducted as part of the initiative "Strengthening Community Capacity in Monitoring Pesticide Use and Promoting Agroecology in Hai Hau District, Nam Dinh Province – For a Non-Toxic Environment"

This survey employed the **Community-Based Pesticide Action Monitoring (CPAM)** methodology developed by the **Pesticide Action Network Asia Pacific (PAN AP)**.

Community-based monitoring is an approach for documenting, reporting, and proposing measures to address the impacts of pesticides on health and the environment at both local and national levels. CPAM is conducted by local farmers.

Data collection was carried out by the **pioneering female farmer group** in Hai Xuan commune, using structured quantitative questionnaires with technical support from



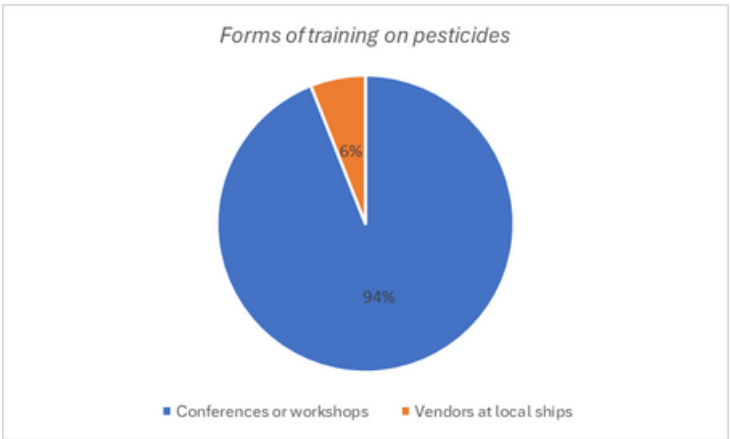
**Photo:** Training on Community-Based Pesticide Action Monitoring (CPAM 2024) for The Pioneering Female Farmer Group

**CGFED** and organizational support from the **Hai Hau District Women’s Union**. The collected data was directly entered by CGFED into the regional network’s CPAM web application.

# MAIN RESULTS

## FARMER’S KNOWLEDGE OF PESTICIDES

49% of the farmers surveyed had received training on pesticides. Among them, 6% obtained information from vendors at local ships (100% of whom were female), while 94% acquired knowledge through participation in conferences or workshops (39% male and 61% female).



**Chart 1 :** Forms of training on pesticides (CPAM, 2024)

When using pesticides, 97% of surveyed farmers reported having seen the products labels, and 91% stated that they read or occasionally read the labels. Notably, the percentage of women who read the labels was higher than that of men (53% vs 47%).

75% of respondents reported having access to pesticide usage guidelines, and 74% found the instructions to be useful. However, the remaining respondents considered the information unhelpful due to excessively small font size, the absence of Vietnamese translations, or a lack of time to read the instructions.

Farmers typically select pesticides based on their personal experience (81%), and product labels (11%), while other factors, play a negligible role.

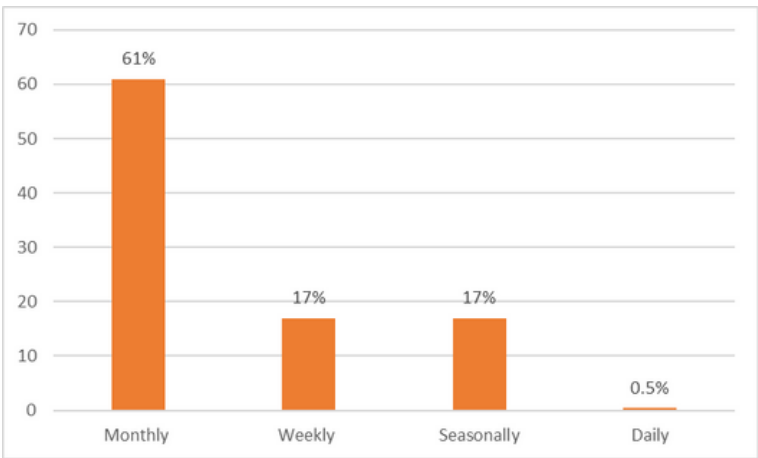
## PESTICIDE USAGE LEVELS

A significant majority (98%) of respondents reported using pesticides. Farmers are exposed to pesticides through spraying pesticides in the fields; washing clothes after spraying or mixing pesticides; and washing tools used to spray or mix pesticides.

Farmers also utilize pesticides for other purposes, including pest control (51%), household mosquito extermination (77%), and veterinary treatment (7%).

The duration of pesticide use among respondents ranges from 6 to 60 years. The highest proportion (34%) of users reported applying pesticides from 21 to 30 years, followed by 29% who have used them from 31 to 40 years, and another 29% who have used pesticides from 51 to 60 years.

Regarding the frequency of pesticide use among surveyed farmers, 61% reported using pesticides monthly, 17% used them weekly, 17% applied pesticides seasonally, and only 0.5% used them daily.



**Chart 2 :** Frequency of pesticide use (CPAM, 2024)

**Note:** All figures used in this brief have been rounded.

# MAIN RESULTS

## FARMERS' PRACTICES IN SPRAYING PESTICIDES

A considerable number of farmers continues to work in the fields shortly after pesticide application. The data reveals that 29% of farmers return to their fields one day after spraying, 34% after two days, 18% after three days, and only 0.5% wait at least five days before re-entering the fields.

Additionally, 18% of surveyed farmers reported continuing to work in recently sprayed fields, a rate considerably higher than in 2022 (3%) but lower than in 2018 (32%).

100% of farmers take advantage of the wind direction while spraying, both to maximize the effectiveness of the wind and to minimize their exposure to pesticides.

## USE OF PROTECTIVE EQUIPMENT WHEN USING PESTICIDES

52% of surveyed farmers reported wearing protective clothing when using pesticides, marking a 2.5-fold increase compared to 2022 (21%). This improvement suggests a growing awareness of personal health protection among farmers. However, the percentage of men wearing protective clothing (43%) remains lower than women (57%).

Most farmers' protective clothing consists of regular long-sleeved shirts, long pants, rubber boots, gloves, and face masks, rather than specialized protective gear. A smaller percentage use safety goggles (38%) and coverall protective suits (10%).

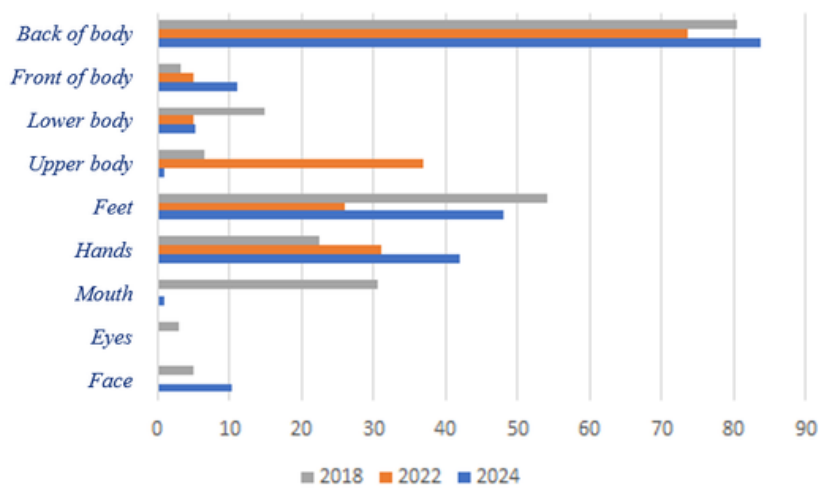
Among those who do not wear protective gear, the primary reason cited is discomfort (96%).

## PESTICIDE EXPOSURE LEVELS

More than half (58%) of surveyed farmers reported experiencing pesticide spills on their bodies, a threefold increase compared to 2022 (19%) and nearly 1.9 times higher than in 2018 (31%). The number of pesticide spill incidents has increased due to a higher number of malfunctioning spraying equipment compared to previous years.

The primary causes of pesticide spills reported by farmers in 2024 were malfunctioning spraying equipment (84%) and falling while spraying (15%).

Women were more frequently affected than men (57% vs. 43%). Among those who experienced spills, none reported eye exposure. The most commonly affected body areas were the back (84%), hands (42%), and legs (48%).



**Chart 3 :** Comparison of pesticide spillage on body parts in 2024, 2022, and 2018 (Data are taken from CPAM in 2018, 2022 and 2024)

When pesticide spills occurred, farmers primarily responded by washing their hands and affected areas (97%), taking a bath (18%), changing clothes (20%), and washing contaminated clothing (24%). Only 6% of those affected sought medical care, while 3% opted for home remedies. Notably, women were more likely than men to seek professional medical assistance.

## PESTICIDE USE AND ITS RISKS TO THE ENVIRONMENT AND FARMER HEALTH



**Photo:** Pesticides were found in a home in a previous CPAM survey.

The use of pesticides not only impacts agricultural but also contaminates community water sources. Research indicates that after spraying pesticides, farmers often wash their spraying equipment in public water bodies, including irrigation canals and drainage ditches (90%), field edges (36%), ponds and lakes (4%), and at home (3%).

A total of 85% of surveyed farmers reported using up all the pesticides during application. In cases where there were leftover pesticides, 20% stored them at home, while only 0.5% discarded them in the fields, and 0.5% kept them in grain storage facilities.

Insights from surveyed farmers indicate that pesticide use has adverse effects on their health. Common symptoms experienced by respondents include headaches (87%), dizziness (79%), excessive sweating (46%), shortness of breath (32%), and hand tremors (42%). Other reported symptoms include blurred vision, diarrhea, insomnia, irregular heartbeat, and skin rashes.

In cases of pesticide poisoning, most individuals respond by informing family members (76%) or consulting a local doctor (41%). However, only 0.5% of respondents seek treatment at a hospital.

## RECOMMENDATION

Given the harardous usage of pesticide and its current exposure with farmers and environment, stakeholders must implement concrete solutions to mitigate their harm and risks, protect public health, and promote sustainable agriculture.

### FOR FARMERS

**Participate in training programs:** Actively engage in pesticide safety training sessions and gradually transition to sustainable, pesticide-free agricultural practices.

**Apply agroecological principles:** Prioritize the adoption of AE practices to reduce chemical inputs, protect health, and conserve the environment.

**Follow usage guidelines:** Carefully read labels and adhere to application instructions. Prioritize products with clear and comprehensible labeling.

**Enhance protective equipment:** Use full and standardized protective gear (including safety goggles, gloves, protective clothing, boots, and masks) to minimize direct exposure to hazardous chemicals.

**Limit exposure:** Avoid returning to fields immediately after spraying pesticides and adhere to recommended waiting periods to reduce exposure risks.

**Proper waste disposal:** Collect and dispose of pesticide containers and packaging at designated waste collection points to protect water and soil quality. Refrain from reusing pesticide containers.

### FOR COMMUNITY ORGANIZATIONS

**Increase awareness campaigns to raise awareness of the harmful effects of pesticides:** Organize public education initiatives to highlight the dangers of pesticide exposure to health and the environment, particularly targeting vulnerable groups such as pregnant women, children, and the elderly.

**Enhancing Awareness to Reduce Environmental Pollution:** Collaborate with local authorities to educate the community on properly disposing of pesticide waste and packaging in designated areas to minimize water and soil contamination.

**Promote sustainable agriculture models:** Support farmers in adopting ecological and organic farming practices by providing training and technical assistance.

### FOR LOCAL AUTHORITIES

**Enforce regulations:** Develop and implement mandatory policies on the use, disposal, and storage of pesticides to safeguard public health and the environment.

**Support educational initiatives:** Invest in educational programs and training to improve safe pesticide handling practices and promote health and environmental protection.

**Promote sustainable agriculture:** Encourage and assist farmers in transitioning to sustainable agricultural models by offering financial incentives, subsidies, or access to organic seeds and fertilizers.

**Inspection and Monitoring:** Strengthen the inspection and monitoring of pesticide production and trade in accordance with legal regulations

## REFERENCE

- CGFED. (2001). Handbook on community monitoring and policy advocacy
- PAN International. (2022). Field survey: Use and impacts of pesticides in four countries in Asia (<https://files.panap.net/resources/Field-Survey-use-and-impacts-of-pesticides.pdf>)

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