

Poisoning on a Global Scale

The World Health Organisation has estimated that 25 million cases of pesticide poisoning occur annually¹. And while most pesticides are applied in developed countries, 80% of all poisonings occur in developing countries where regulatory, health, and education systems are weakest.

Tragically, a large percentage of these poisonings are completely avoidable and unnecessary from a farming point view. In fact, 25 years of research on tropical rice by national research groups and international agencies such as IRRI and FAO has proven that pesticides are often the cause of pest problems, not the solution. The pesticides most dangerous to human health are often the very chemicals that have been banned in many countries due to pest resistance and resurgence caused by their use.

In Europe and North America, citizens are worried about minute exposures and the long term effects of residues. While this health threat deals with microscopic levels, poor farmers in Asia are literally bathing in potent cocktails of old and dangerous chemicals that are near impossible to use safely under real field conditions; while immediately suffering the signs and symptoms of poisoning.

The most popular pesticides in Cambodian fields include Methyl-parathion, Monocrotophos, and Mevinphos; all categorized as Category Ia Extremely Toxic by the WHO. Even in other countries of S.E. Asia such as Indonesia, these chemicals have been banned or severely restricted. The pesticide that Cambodian farmers and sellers deemed most popular was Methyl-parathion. In Thailand this off-patent chemical is formulated, packaged, and sold under more than 200 local brand names. Methyl-parathion is an organophosphate responsible for acute poisoning with direct effects upon the nervous system.

International Chemical Safety Card:

Methyl Parathion

- Inhalation can cause vomiting, papillary constriction, convulsions and unconsciousness
- Ingestion causes laboured breathing, muscle cramps and unconsciousness
- Do not eat, drink, or smoke during work
- Do NOT let this chemical enter the environment (capitals from the original)
- AVOID EXPOSURE OF ADOLESCENTS AND CHILDREN! (capitals and exclamation marks from the original) Separate from food and feedstuff
- Keep in a well-ventilated room. Airtight
- The substance is very toxic to aquatic organisms

One can only surmise the longterm effects of these extremely hazardous chemicals on the health status of rural families and communities. However, the signs and symptoms of acute poisoning with organophosphates are readily apparent. A recent village level health survey of Cambodian farmers found as many as 88% reporting indications of 'mild' poisoning pesticide use². Signs and symptoms directly observed or reported by respondents included

dizziness, headaches, shortness of breath, dry throat, red eyes, and runny nose. More disturbingly, some 35% reported episodes of vomiting, an indication of what is in occupational health terms 'moderate' acute poisoning. 'Severe' poisoning is defined as loss of consciousness, coma, or death.

A more rigorous study in Indonesia of lowland vegetable-rice farmers found that over 20% of all spray operations resulted in pesticide poisoning as indicated by the presence of 3 or more neuro-behavioral, respiratory, and intestinal signs and symptoms associated with pesticide poisoning³. This figure denotes a major health threat and suffering on a grand scale in poor rural communities. And this despite the fact that unlike in Cambodia, very few WHO category Ia and Ib pesticides are used by Indonesian farmers due to bans and regulations.

Unsafe Handling, Storage, and Disposal of Pesticides

A visit to the field in Cambodia, Indonesia, Vietnam, or other poorer countries will quickly confirm that farmers are not handling, storing, or disposing of pesticides within even minimal international standards. The application of extremely hazardous chemicals such as Methyl parathion would require face shield, respirator, full-body non-permeable cover, rubber gloves, and boots. Besides being prohibitively expensive (a farmers' yearly income) for poor farmers, such protective gear is rarely available in rural markets. Even if available and used, such gear would be difficult to use in 30-40 degree Celsius tropical heat. Research in Indonesia also found that nearly half of all spray equipment (tanks, valves, lances) leaked: onto hands, and down necks and backs. Concentrated chemicals are most often mixed into toxic 'cocktails' with bare hands.

The majority of pesticide users store their pesticides near cooking and living areas and often in the reach of children.

- Finished bottles are often left in the field, canal or pond
- Containers are used domestically after being rinsed in the nearest river or streams that are also used for bathing
- Pesticides are sold among instant coffee and milk powder, medicine and vegetables in local markets.

