Controlling Pesticide Health and Environmental Hazards at Community Level in Lake Eyasi Basin, Karatu District, Tanzania

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Introduction

- Tanzania: over 940,000 km²
- Population: over 39 million
- Agriculture the main employer, over 70%, > 50% of GDP
- Pesticides: mainly in agriculture and public health

While pesticides seem to have increased agricultural production and improved public health,
- they could also be detrimental to human health and the environment.

The real impacts of pesticides are not easily documented in most circumstances.
- Acute effects are easier to observe, but they could also be confused with common illnesses.
- Pesticides may also cause chronic diseases
- Pesticide externalities are also not taken into consideration

Chemical pesticide use in horticulture in Tanzania was historically low,
- recent developments in demand for increased food production and expansion in horticulture have resulted in higher consumption of chemical pesticides

Controlling Pesticide Hazards Project

- Lake Eyasi Basin in Tanzania has a history of intensive pesticide use.
- Vegetables are grown throughout the year and pesticides are widely used
- TAPOHE embarked on a project to train local communities to "self-monitor" the impact of pesticide use in their area

Characteristics of farmers in Lake Eyasi
Specific objectives

- Increase farmer awareness of the burden of illness created by indiscriminate use of pesticide.
- To document the incidence of mild and moderate pesticide poisoning not necessarily reported by the local health care system.
- To undertake initial response measures and make appropriate recommendations for further action on pesticides.

Materials and Methods

- Protocol development—
  - data collection tools developed by FAO in Asia were adopted to local situation (translated and then pre-tested)
- Training—
  - conduct seminars/meetings with the community representatives
- Data collection and analysis—
  - Establishment of Community Pesticides Monitoring Teams and data collection

Current situation concerning pesticides use in Karatu District

Hazardous practices

Farmer’s training
Results

Poisoning incidences/spray

AVERAGE MONTHLY SPRAY EVENT & ILLNESS EPISODES PER FARMER - QANG’DEND

Pesticide mixtures in L. Eyasi

<table>
<thead>
<tr>
<th>TRADE NAME</th>
<th>COMMON NAME</th>
<th>TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dursban</td>
<td>Chlorpyrifos + profenofos + cypermethrin</td>
<td>Insecticide</td>
</tr>
<tr>
<td>Selecron</td>
<td>Chlorpyrifos + profenofos + cypermethrin</td>
<td>Insecticide</td>
</tr>
<tr>
<td>Profectron</td>
<td>Chlorpyrifos + profenofos + cypermethrin</td>
<td>Insecticide</td>
</tr>
<tr>
<td>Fenom C</td>
<td>Endosulfan + profenofos + cypermethrin</td>
<td>Insecticide</td>
</tr>
<tr>
<td>Thionex</td>
<td>Endosulfan + profenofos + cypermethrin</td>
<td>Insecticide</td>
</tr>
<tr>
<td>Polytrin</td>
<td>Endosulfan + profenofos + cypermethrin</td>
<td>Insecticide</td>
</tr>
<tr>
<td>Selectron</td>
<td>Endosulfan + profenofos + cypermethrin</td>
<td>Insecticide</td>
</tr>
<tr>
<td>Profecron</td>
<td>Profenofos + cyhalothrin + profenofos</td>
<td>Insecticide</td>
</tr>
<tr>
<td>Fenom Plus</td>
<td>Profenofos + lamda</td>
<td></td>
</tr>
</tbody>
</table>

Summary

- Risky behaviors in pesticide handling in Lake Eyasi Basin include spraying without protection, mixing several pesticides in one mix, poor personal hygiene.
- Self reported mild poisoning episodes such as exhaustion, dizziness, headache, itching, nausea common.

Conclusion

- Application of pesticides in the study areas is high and poses health risks to the farmers applying them, consumers of products and to the environment.
- Community self-monitoring reveals pesticide health impact that does not reach health care facilities.
- Sensitize farmers on the health and environmental risks of pesticides.