

## Increasing use of pesticides

Current global use: approx. 3.5 billion kg of active ingredient per year

Value: US \$45 billion, estimated US \$68.5 billion by 2017

Largest growth rates in use in developing countries, 5-8% per year


*Consumption increases in last 20 years:* China x4, Argentina x8, Brazil x3, Bangladesh x 5, Thailand x4, Burkina Faso x50, Ethiopia x13, Ghana x17, and Cameroon x8 (c.f. Switzerland x1.2)

Costa Rica: Imports per ha cultivated land 8.2 kg/ha in 1977 to 25.8 kg in 2006

*Sources: Pretty & Barucha, 2015; Markets & More, 2014; Bravo et al, 2011*

## Poor practices in pesticide handling and health impacts in Ethiopia


<i>PAN UK and PAN Ethiopia surveys</i>	No use of Personal Protective Equipment (PPE)	Poor storage & disposal	No training	Negative health effects
<b>2001</b> cereal & legume smallholders, Amara region	>90%	Storage common in bedrooms, kitchens & grainstores	Almost all	51% of poisonings women & children
<b>2008</b> smallholders Central Rift Valley	14% spray with bare feet 52% use just ordinary clothes			19% farmers suffered ill health effects after spraying
<b>2015</b> Veg. smallholders Central Rift Valley  20 applications per season to vegetables not uncommon	85%	10% store pesticides in kitchen	68%	68% experienced symptoms of mild or moderate poisonings in last 12 months



## Poor practices in former Soviet Union countries

<i>2014 survey of rural families</i>	No use of PPE	Poor disposal Burnt or discarded in field	No training	Report symptoms of poisoning in last year
<b>Armenia</b>	88%	>60%	>90%	>40%
<b>Belarus</b>	100%	>20%	>90%	
<b>Georgia</b>	88%		98%	11%
<b>Kyrgyzstan</b>	52%	>80%	>70%	>50%
<b>Moldova</b>	84%	>80%	>70% 39% children in Moldova handle pesticides	9%
<b>Ukraine</b>	83%	>70%	80%	>50%

PAN UK with FAO & Rotterdam Convention, for EU funded project *Improving capacities to eliminate and prevent recurrence of obsolete pesticides as a model for tackling unused hazardous chemicals in the former Soviet Union*



## Factoring in the hidden costs of pesticide dependency

**Ghana 2001-03** : cotton and cowpea smallholders lost on average 15-21 days off work due to pesticide illness. Medical treatment + work loss costs up to US\$90 per season.

### UNEP 2012 *Costs of Inaction* report on chemicals management:

- Sub-Saharan Africa (37 countries): Costs of lost work, medical treatment & hospitalizations due to acute poisonings on smallholder farms estimated at US\$ 4.4 billion in 2005. Under current pesticide use trends, projected to reach US\$90 billion by 2020.
- 2005 external costs equivalent to overseas development assistance to health in the region (excluding for HIV/AIDS) of US\$4.8 billion.



## Policy actions needed - views from developing countries (1/3)

*Fernando Ramirez, agronomist, Institute for Research on Toxic Substances, National University, Costa Rica*

- Much stronger national regulation to reduce access to Highly Hazardous Pesticides (HHPs)
- Role of private voluntary standards with their prohibited lists. e.g. 15,000ha oil palm producers formerly used paraquat but eliminated this to gain certification
- Don't neglect non-export crops- authorities fail to act on widespread use of unauthorised actives on vegetables



## Policy actions needed - views from developing countries (2/3)

*Davo Vodouhe, Director, Organisation for Promotion of Organic Agriculture, Benin*

- Permanent mechanism to assess chronic & acute poisonings
- Better controls on pesticide imports & management to avoid accumulating obsolete stocks
- Much more active promotion of alternatives, with updated IPM guidance on how to avoid use of HHPs in specific crops
- Action on cleaning up contaminated sites and establish system for managing empty containers
- Better institutional framework for reducing risks throughout pesticide lifecycle



## Policy actions needed - views from developing countries (3/3)

*Tadesse Amera, Director, Pesticide Action Nexus Ethiopia*

### *Policy level:*

- Need an agreed list of HHPs, adopted by countries, so that replacement by benign alternatives can be planned
- National focal points (Ministries of Agriculture) devise a policy framework which encourages the use of alternatives to HHPs
- Ultimate goal of phasing-out use of HHPs

### *Field level:*

- Locally developed IPM curriculum which fits local/national situation  
Properly crafted IPM strategy as part of government extension system
- More research in ecological pest management, testing methods with farmers and supporting ways to enhance adoption
- Indigenous knowledge should be encouraged



## Phasing out HHPs is possible: *Growing Coffee without Endosulfan project*

Lessons on alternative methods certified farmers use for controlling Coffee Berry Borer beetle in Latin America:

- (1) Effective control without endosulfan is perfectly feasible
- (2) No single method solutions
- (3) Endosulfan alternatives are not always more expensive
- (4) Phasing out endosulfan use is possible with public and private sector support

<http://www.pan-uk.org/projects/growing-coffee-without-endosulfan/#videos>

*Project supported by FAO, ISEAL & Sustainable Coffee Program powered by IDH*



## Highly Hazardous Pesticides phase out and alternatives in Costa Rica 2015-2017

*Funded by SAICM (Strategic Approach to International Chemicals Management) via UNEP*

**Coordinated by Institute for Research on Toxic Substances (IRET)**

1. Identify pesticides & use patterns considered Highly Hazardous in Costa Rican context, using a life cycle approach (regulation/import to disposal).
2. Engage government agencies, agriculture sector & NGOs in development of joint National HHP Action Plan for risk & use reduction.
3. Raise awareness of FAO/WHO HHP approach + short-term actions to reduce risks, with training of smallholder farmer organizations.
4. Identify potential alternative pest management options for HHPs prioritized in National HHP Action Plan. Trial most feasible with network of pilot IPM farms, with preference for non-chemical methods.



## How to support bolder regulatory decision making?

**Making the burden of harm more tangible:** local/national data on risky practices, poisoning incidence, exposure routes & vulnerable groups, external costs

**Raising regulator/policymaker awareness of IPM/agroecological alternatives**

**Questioning food security assumptions about need for current levels of pesticide use, as opposed to need for pest management**

**Prioritising agroecological approaches in policy and agricultural programmes**

e.g. new French law to promote agroecology with a target of implementing practices on 200,000 French farms by 2025. Agroecology as core part of national agricultural curriculum.



## Reducing pesticides while maintaining yields

### ***Community Managed Sustainable Agriculture in India***

Focus on non-pesticidal management + soil health + diverse cropping systems

World Bank 2008 survey: CMSA farmers reduced pest management costs by 70-80% and total production costs by 33%.

Household expenditure on buying grains reduced by 44 % for 22,000 farmers now able to grow more food grains for themselves.

Around 10 million farmers are now practicing this approach in Andhra Pradesh.

<http://csa-india.org/>

New PAN International book: ***Replacing Chemicals with Biology in Farming: Phasing out Highly Hazardous Pesticides with agroecology*** to be launched at SAICM conference Sept 2015



**Thanks for your attention!**



[www.pan-uk.org](http://www.pan-uk.org)

*IPM in practice:* Don Nevardo, coffee smallholder, Colombia, shows how he uses the crop flowering calendar to plan when to carry out cultural controls for Coffee Berry Borer

