



## Environmental Management Tool Kit Volume 5

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### Contaminated Land Risk Assessment & Management

### Reality check....we work in developing countries

- Things we take for granted
  - Legislation
  - Awareness
  - Political will
  - Is one of many competing issues
  - Technology



### Our response

- Training
- Awareness raising
- Impartial technical advice
- Guidance materials
- Partnership based on comparative advantage
- Synergies



## Why is FAO involved?

- Soil is a limited Natural Resource
- Healthy soil = healthy food
- Soil losses impact food security
- Soil contamination enters food chain



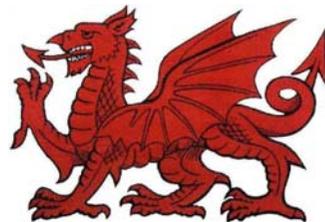
## Why is FAO involved?

- FAO mandate
- Global presence
- Impartial advice to member countries
- All aspects of food production
- Includes plant and animal diseases
- Pesticide risk reduction group



## What is my role?

- Geochemist
- PhD nuclear wastes
- 10 years intl waste contractor
- 13 years Senior Officer obsolete pesticides
- Head of NR Group REU
- EC and GEF programme manager
- Author EMTK series



## Introduction

- History of FAOs involvement
- EMTK 1 – 4 development
- EMTK volume 5
- Next steps



## History

- Code of Conduct on Distribution and Use of Pesticides
- Secretariat of Rotterdam Convention
- Intl. Plant Protection Convention 178 signatories
- AGMP Obsolete Pesticides Management since 1992
- Operating in 40 countries world wide



## History

- Move away from ad-hoc responses to requests for support to a systematic programme
- Provide a structure
- Can't assume capacity
- Needs to pass the KISS test
- In the words of Einstein:  
"Any intelligent fool can make things bigger and more complex... It takes a touch of genius --- and a lot of courage to move in the opposite direction"



## EMTK 1 – 4 Development

- Objective
- Risk based
- Step-by-step approach
- Sound regulatory foundation from Europe and USA
- Practical - based on tried and tested methods
- Multilingual



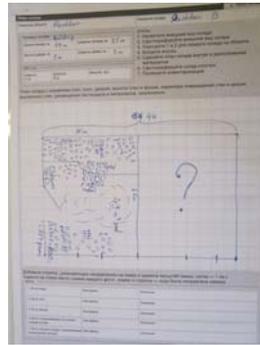
## EMTK 1 – 4 development

- EMTK 1 – Pesticide Stock Management System
- EMTK 2 – Collection centre selection / Store Management / Transport Strategy Development
- EMTK 3 – Safeguarding / Disposal / Transport strategy Development
- EMTK 4 – Technical guide & tools for Safeguarding Projects



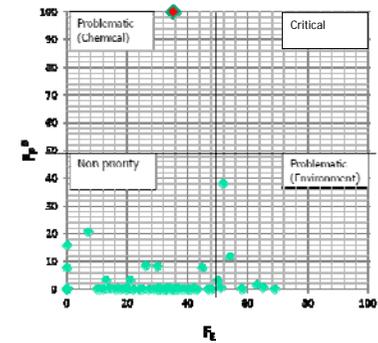
## EMTK 1 – 4 development

- EMTK 1 – Pesticide Stock Management System
  - System of management of live stocks
  - Inventory of obsolete stocks
  - Environmental risk assessment of pesticide storage locations



## EMTK 1 – 4 development

- EMTK 1 – Environmental risk assessment of pesticide storage locations



Pascani Site, Moldova

Product Risk Factor  $F_p$   
versus Environmental Risk  
Factor  $F_e$

(plotted against anonymous country data  
for comparison)



## EMTK 1 – 4 development

- EMTK 2
  - Selection of sites suitable for storage
  - Management of OP storage locations & collection centres
  - Development of transport plans for safe movement of pesticides



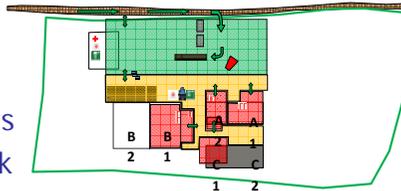
## EMTK 1 – 4 development

- EMTK 3
  - Takes outputs from EMTK 1 & 2
  - Allows countries to develop risk mitigation strategies
  - Country / regional level



## EMTK 1 – 4 development

- EMTK 4
- Supervision of safeguarding projects
- Practical tools for risk management
- Standardised
- US OSHA, EU Directives



Fire truck		Vehicle Movement	
First aid kit			
Emergency Shower		Zone 1	
Eye wash		Zone 2	
Medical point		Zone 3	
Entry / exit point		Site Boundary	
Fire extinguisher		Changing station	
Road		Packaging storage	



## EMTK 5

- There's a gap
- Poor management of stocks above ground has led to a legacy of contamination
- Below ground situation can be more dangerous



Salyan Azerbaijan 800 drums Polidophen – DDT / Toxaphene / Diesel in a residential area



## EMTK 5

- Issue is of particular importance in former Soviet Union
- EC support to develop capacity to address this problem
- Project *Improved Pesticide Management in FSU*
- EUR 6M grant to FAO to support countries
- USD 8.1 from GEF for CACs
- Adaptation and translation of existing materials
- Development of new materials including EMTK 5
- Site assessment and clean up activities



## EMTK 5

- FAO to develop EMTK5 Guidelines
- Funded by European Commission and GEF
- Module in the Post Graduate course on Pesticide Risk Reduction
- Designed to help Low to Middle Income countries with pesticide contaminated land
- Systematic and pragmatic; similar to EMTKs 1-4
- Risk based



## EMTK 5

- Challenge for FAO:
  - flexible for use in FAO member countries worldwide;
  - based on sound scientific principles;
  - transparent;
  - relatively easy to use and implement; and is
  - cost effective.



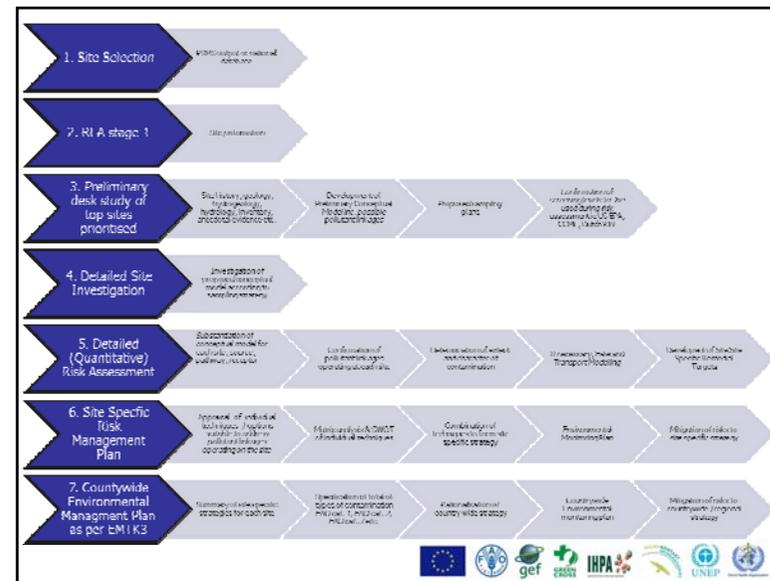
## EMTK 5

- Many systems available:
  - Canadian CCME system
  - US EPA
  - Netherlands
  - UNIDO POPs tool kit
- Country, population, geographic & legislatively specific
- Not always suitable or relevant to countries where FAO works



## EMTK 5

- In common with other systems:
  - Risk based
  - Based on conventional Source – Pathway - Receptor model
  - Tiered assessment
    - Tier I – Preliminary Site Investigation
    - Tier II - Generic Quantitative Risk Assessment
    - Tier III – Detailed Quantitative Risk Assessment (if necessary)



## EMTK 5

- EMTK 5 time line for development
  - Drafting now
  - Peer review by end of 2013
  - January 2014 target for production of EMTK 5 Guidelines
  - Associated Module for Post Graduate Course



## And finally.....

- A vote of thanks for the organisers
- A thank you to the countries which have presented
- Thanks to the other presenters for sharing their experience and knowledge
- And a big thank you to the EC Europe Aid team and GEF Chemicals unit or their continued support to countries through FAO

