



Food and Agriculture Organization
of the United Nations

1st Croatian Food Safety Risk Assessment Conference

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Policies and good practices for sustainable soils' health and food safety: FAO perspective

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Three Global Goals of FAO support to Members

- ❖ Eradication of hunger, food insecurity and malnutrition
- ❖ Elimination of poverty
- ❖ Sustainable management of natural resources

*Elevation of 1st Global Goal –
from reducing to eliminating
hunger*



FAO Headquarters, Rome



Soils' function

- Provision of food, fibre and fuel
- Carbon sequestration
- Water purification
- Climate regulation
- Nutrient cycling
- Habitat for organisms
- Flood regulation
- Source of pharmaceuticals and genetic resources
- Foundation for human infrastructure
- Provision of construction materials
- Cultural heritage



Drivers and types of soils degradation

- ! Deforestation
- ! Population growth
- ! Urban expansion
- ! Pollution and waste disposal
- ! Climate change
- ! Unsustainable soil management practices
- ! Biodiversity loss
- ! Salinization, sodification
- ! Acidification
- ! Nutrient imbalance
- ! Compaction
- ! Sealing
- ! **Pollution**
- ! Erosion
- ! Loss of organic carbon



Consequences of soils degradation

- ! Water scarcity
- ! Reduction of ecosystem services
- ! Accelerated climate change
- ! Migration
- ! Poverty and social insecurity
- ! Food and nutrition insecurity

Sustainable soil management

- ✓ Inclusive soil governance
- ✓ Increase investment
- ✓ Advocacy/awareness raising
- ✓ Establish soil information systems
- ✓ Develop capacities and strengthen extension on soils
- ✓ Stop soil degradation
- ✓ Restore/rehabilitate degraded soils
- ✓ Implement land use planning
- ✓ Waste water treatment
- ✓ Appropriate waste disposal
- ✓ Reduce erosion
- ✓ Crop rotation
- ✓ Minimum tillage
- ✓ Use nutrients wisely
- ✓ Keep soil surface covered
- ✓ Increase soil organic matter content
- ✓ Analyse/assess soil condition





How can we protect our soils?

Sustainable soil management practices

- Agro-ecology
 - Organic farming
 - Conservation agriculture
 - Agroforestry
 - Zero tillage
-

Global Soil Partnership to Promote Sustainable Soil Management



<http://www.fao.org/globalsoilpartnership/en/>

Food safety is a food chain issue

- Food safety is critical to FAO's work
- It is not food if it is not safe
- Soil is where food begins: directly and indirectly, 95% of our **food** comes from soils
- Good agricultural practices should become common and default practices





Soils' pollutants – acute/chronic health risk

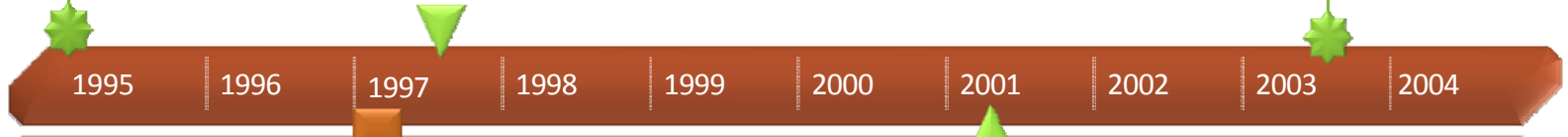
- Industrial pollution (sewage, waste,
 - Pathogenic microorganisms
 - Toxic substances
- Synthetic organic chemicals
 - Plastics, paints, solvents
 - Pharmaceutical waste
- Pesticides
- Heavy metals
- Radionuclides

Risk analysis – foundation of standard setting Codex work

Role of science
and other factors
in the Codex
process

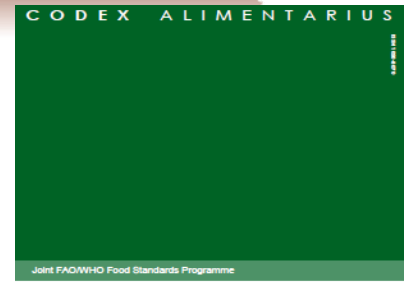
Risk analysis
terms related to
food safety

Working principles for risk
analysis for application in
the framework of the
Codex Alimentarius



Role of food
safety risk
assessment

Criteria for the
consideration
of “other
factors”



CODEX ALIMENTARIUS COMMISSION
PROCEDURAL MANUAL
Twenty-third edition



International approach in risk assessment: strengths and limitations

STRENGTHS

- Centralised available information and tools
- Facilitates wide distribution of the technology
- Identifies common areas
- Focus on issues of international concern
- Identifies areas where knowledge/data are lacking
- Uses internationally recognised expertise
- Cost effective - facilitates optimal use of limited resources

LIMITATIONS

- Cannot consider the situation in all countries i.e. generic in nature & cannot capture local scenario & country to country variations
 - Cannot produce a globally applicable risk estimate - one risk estimate that's valid for all countries
 - Limited resources - dependent on nationally and regionally produced data and expertise
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Key messages

- Soils constitute the foundation for agricultural development, essential ecosystem functions and food security
- Sustainability of soils is key to addressing the pressures of the growing population and increasing demand for food
- Partnerships and collaborations are essential for solving common problems, including soils protection and improvement



FAO Core Functions

1. Facilitate and support development and implementation of **normative and standard-setting instruments** such as international agreements, codes of conduct, etc.
 2. Assemble, analyze, monitor, improve access to **data and information**
 3. Facilitate, promote and support **policy dialogue** at global, regional and country levels
 4. Advise and support **capacity development** at country and regional level for evidence-based policies, investments, programmes
 5. Advise and support uptake of **knowledge, technologies and good practices**
 6. Facilitate **partnerships** between governments, development partners, civil society and private sector
 7. **Advocate and communicate** in areas of FAO's mandate
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Thank you !

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<http://www.fao.org/europe>

<http://www.fao.org>

www.fao.org/food/food-safety-quality