

Adopting the FAO biosecurity approach for biotechnology

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*FAO International Technical Conference
on Agricultural Biotechnologies in Developing Countries (ABDC-10)
Guadalajara, Mexico, 1-4 March 2010*

Biosecurity

The need for a science based-approach

- Globalization
- Increased transboundary movement of people and food
- New technologies – biotechnology, nanotechnology
- Piecemeal approaches are fragmented and ineffective
- All sector goals have to be taken into consideration
- Minimize risk, maximize benefit

Human life
and health
(including food safety)



Animal life
and health
(including fish)



Plant life
and health
(including forests)

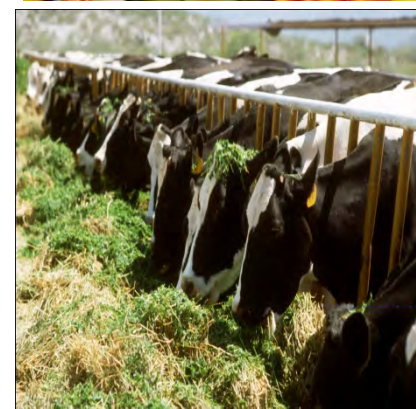
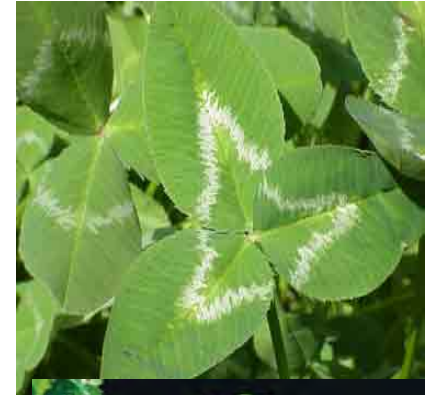
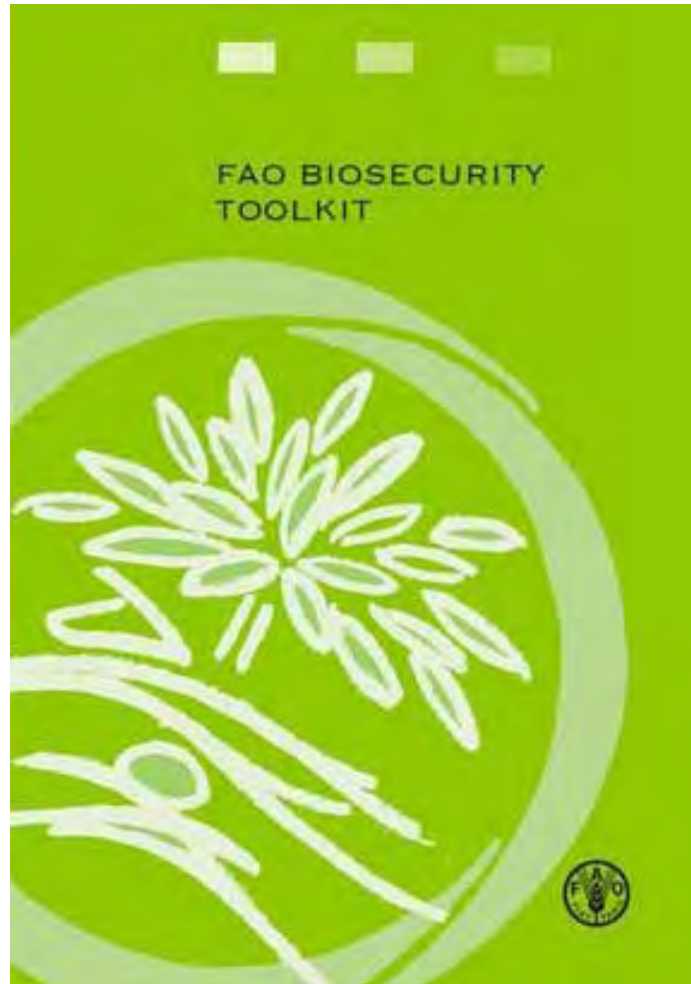


Environmental
protection



Biosecurity toolkit

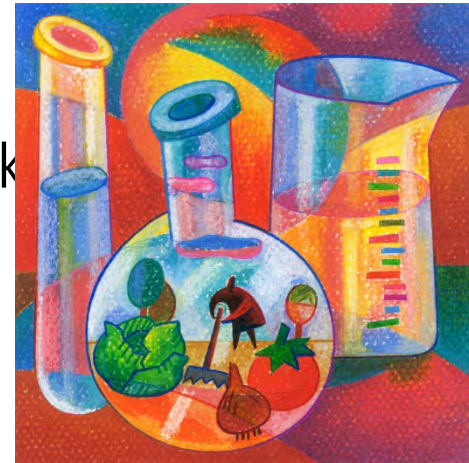
A strategic and integrated approach to analyze and manage risks that exist in food safety, animal and plant life and health and associated risks to the environment.



Biotechnology in food

Cross sectoral impact

- Production
 - Genetically modified crops
 - Vaccines, hormones used for livestock
- Processing
 - Recombinant enzymes
 - New additives and ingredients
- Off the shelf products
 - Oil, flour, protein

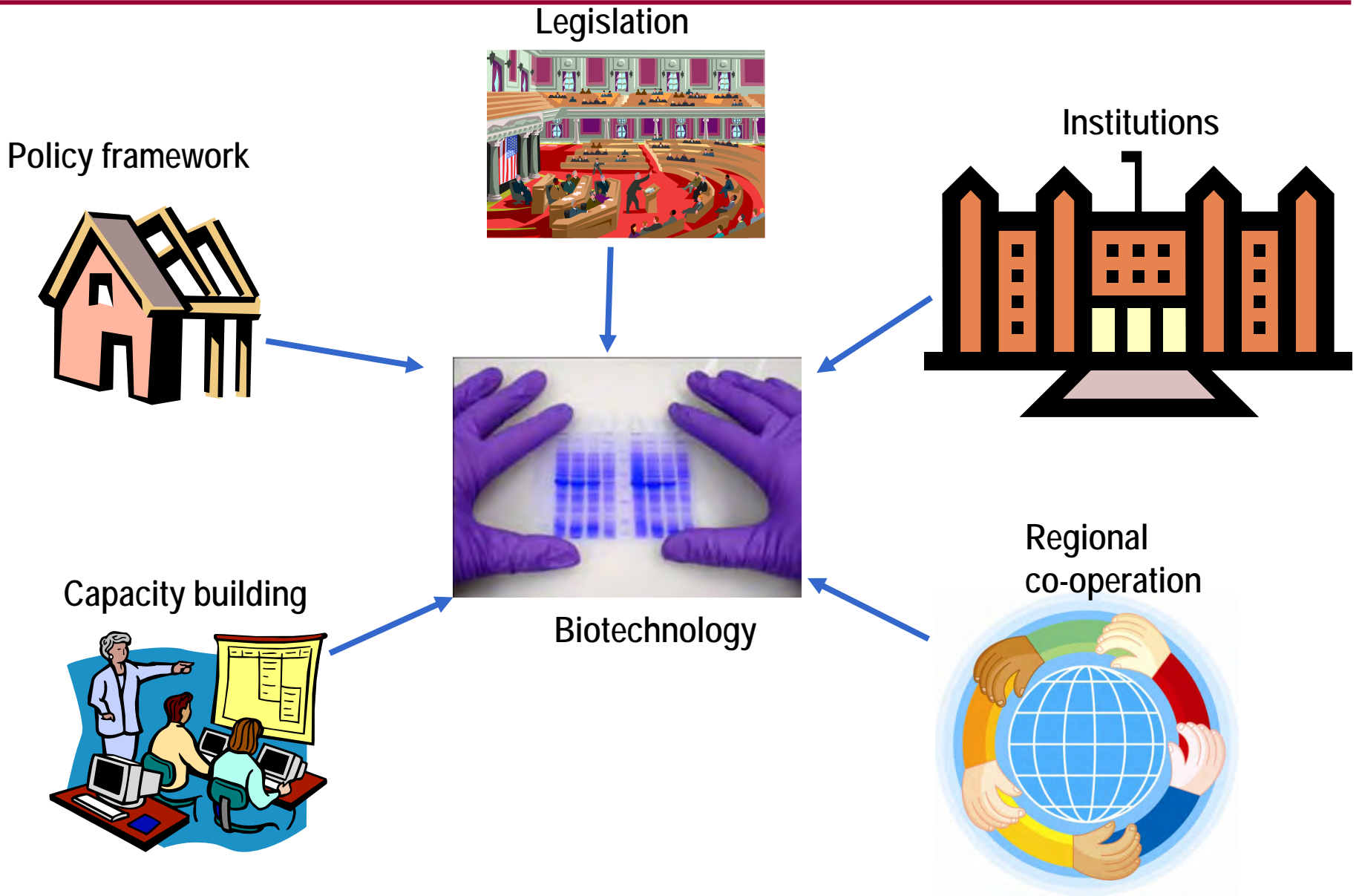


A biosecurity approach is necessary for holistic risk assessment.

Risk analysis – a unifying discipline in biosecurity

- Many aspects of a risk-based approach (assessment, management, and communication) are shared across sectors
- International standard-setting organizations have embraced risk assessment to achieve their goals
- Use of risk analysis promotes better linkages across sectors and more efficient use of technical resources

The FAO biosecurity toolkit - overview



Biotechnology methods for enforcing biosafety

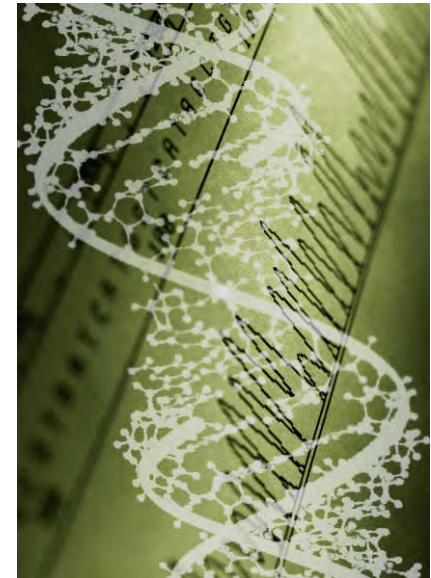
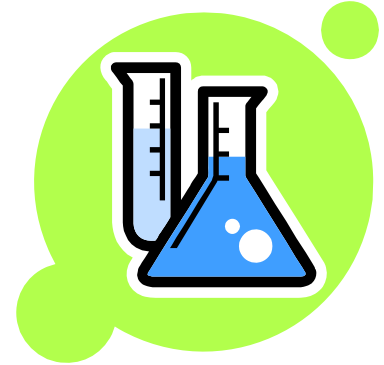
- Detection of chemical composition
 - Novel foods
 - New additives and supplements
- Traceability and forensics studies
 - Source of ingredients
 - Contaminants
 - Pesticide and drug residues
- Microbial detection
 - PCR based molecular methods
 - Immunoassays

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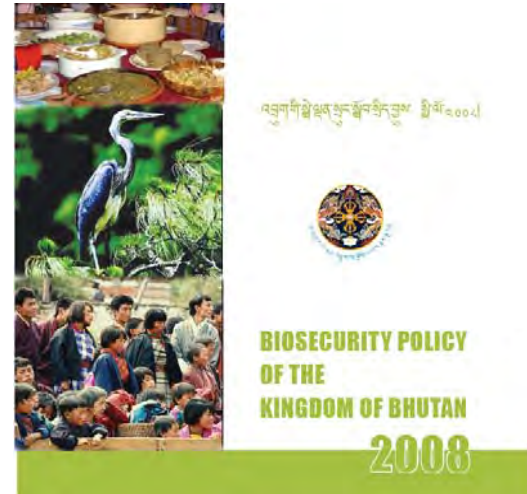
Building technical and scientific capability

- Scientific research and advice
- Diagnostic services
- Inspection, verification and enforcement
- Quarantine and certification
- Standard setting and implementation
- Monitoring and surveillance

Country examples

- Bhutan

- Developed a national biosecurity policy
- Technical support to the Bhutan Agriculture and Food Regulatory Authority.
 - Training of food, plant, meat and quarantine inspectors.
 - Hands-on laboratory training in food testing and analysis.



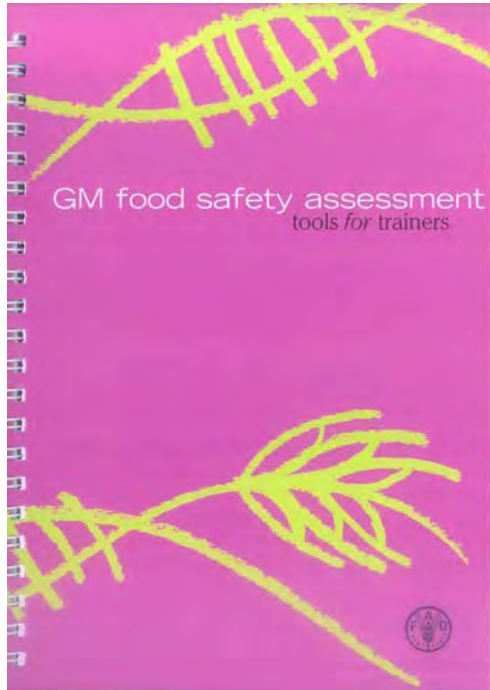
- The Gambia

- Networking of laboratories
- Risk communication for producers and consumers

Achieving an integrated approach to biosecurity

- Can be done in different ways depending on specific country conditions
- Generally pursued by harmonizing policy and legal frameworks and merging specific functions
- Extent of consolidation varies – not one best model
- Does not require all roles and responsibilities to be integrated
- Risk analysis provides a unifying concept
- Biosafety and biosecurity go hand in hand

Biosecurity in various contexts



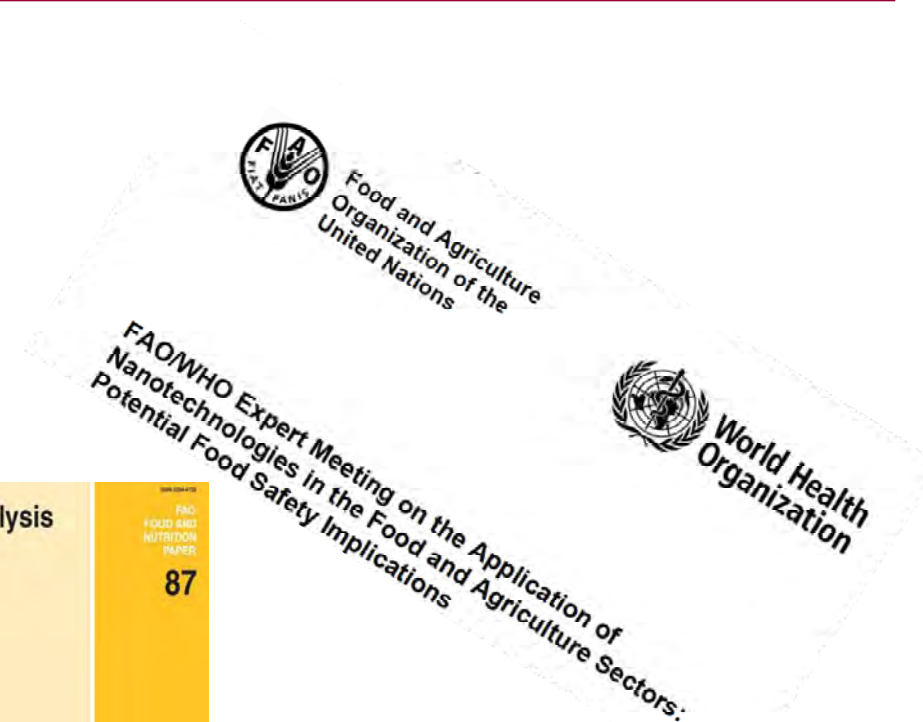
Food safety risk analysis
A guide for national
food safety authorities

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World Health
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Food and Agriculture
Organization of
the United Nations



Acknowledgements

FAO

Masami Takeuchi

Renata Clarke

Chadho Tenzin

Consultants

Londa Vanderwal

Ruth Frampton