SAFE FOODS
Improving decision-making on food safety

Food Quality and Safety Research:
First Results from FP6

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FP6 EU Project SAFE FOODS

- **Integrated Project**
- **Coordinators:**
  - Dr. H. A. Kuiper
  - Dr. H.J.P. Marvin
  - **RIKILT**
- April 2004-March 2008
- **Project Participation:**
  - 37 partners
  - 21 countries
- **Budget:**
  - 14,628,000 € total
  - 11,576,000 € EU contribution
Overview Presentation

- Objectives
- Research under the SAFE FOODS project
- Improving decision-making on food safety
  - Steps in the development of an integrated risk analysis framework
  - Gaps between principles and practice
  - Addressing the gaps
- Main achievements of Work Packages 1 to 5
- Conclusions
The SAFE FOODS project develops:

- Improved tools for food safety assessment
- A risk analysis framework that integrates health, environmental, economic, social and ethical aspects
- Recommendations for a decision-making process with greater transparency and accountability
Research topics of the SAFE FOODS project

WP1: Tools for compositional comparison

WP2: Early detection of emerging risks

WP3: Improved models for exposure and impact assessment

WP4: Improving consumer confidence in risk analysis

WP5: Institutional frameworks and practices

Integration of results & Improvement of framework for decision-making on food safety
Developing a new Framework: Work in Progress

Timeline
- 19 October 2005
- September-December 2006
- January-February 2007
- March 2007
- 15 March 2007

 WP6 planning and deliberation

Input of results from WPs 1-5

Draft model

1st Stakeholder consultation conference

Revised draft model 1

Survey of consortium members

Revised draft model 2

Survey of stakeholders

Revised draft model 3

Interviews with key stakeholders

2nd Stakeholder consultation conference

FINAL MODEL
International Framework for Risk Analysis

Risk Assessment
- Hazard identification
- Hazard characterization
- Exposure assessment
- Risk characterization

Risk Management
- Assessment of policy alternatives
- Selection and implementation of appropriate options

Risk Communication
Interactive exchange of information and opinions

(after WHO, 1998)
Decision-making on food safety in the EU

Risk Assessment

Risk Management

Risk Communication

Images: The best of Parma, BBC, EFSA, Govt. Victoria (AUS)
### Gaps between principles and practice

<table>
<thead>
<tr>
<th>Stage</th>
<th>Policy document</th>
<th>Principles of good governance</th>
<th>Current practice in food safety governance</th>
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</thead>
<tbody>
<tr>
<td>Framing</td>
<td>Better Regulation Package</td>
<td>Participatory framing for shared understanding of objectives</td>
<td>No formal framing step</td>
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<td>EU SSC Report on Risk Assessment</td>
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<tr>
<td>Assessment</td>
<td>EU SSC Report on Risk Assessment</td>
<td>Impacts:</td>
<td>Quasi-exclusive focus on health and environmental risks</td>
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<td></td>
<td>Communication on Precautionary Principle</td>
<td>▪ Health (risk/benefits) ▪ Environmental ▪ Social ▪ Economic ▪ Ethical</td>
<td></td>
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<tr>
<td>Decision-making</td>
<td>Guidelines on Impact Assessment</td>
<td>Participatory process for ranking decision options</td>
<td>Informal consultation at discretion of officials</td>
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<td>Communication on Precautionary Principle</td>
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The SAFE FOODS Cycle - Improved Decision-making on Food Safety

Framing

Risk communication

Stakeholder involvement

Risk/Benefit Assessment

Evaluation

Review

Implementation & Monitoring

Decision-making

Who does what?
- Risk Assessors
- Risk Managers
Main proposed changes to the status quo

- Participatory and documented framing step
- Formal and documented assessment of impacts on
  - health (including benefits)
  - the environment
  - the social
  - the economy
  - ethics
- Use of new tools for hazard assessment and risk characterisation
- Explicit and participatory ranking of decision options
- Improved approaches to risk communication

To enhance transparency and accountability of the current process
Major achievements of Workpackages 1-5

WP1:

Development of “omics” profiling methods and databases to compare compositions of crops from different agricultural production systems and breeding methods

Transcriptomics  Proteomics  Metabolomics

Illuminated micro-array  2-Dimensional protein gel  A combination of chromatographic and other methods
Main achievements of Workpackages - continued

- Establishment of a widely accessible database of experts on diverse food safety issues

**WP2:**
- Upcoming special issue in *Food and Chemical Toxicology* with reviews on emerging risks (microbiological, chemical, mycotoxins)

- Harmonised food consumption and residue databases allowing pan-European probabilistic exposure calculations

**WP3:**
- Development of a new probabilistic risk model to quantify risks through the integration of exposure and effect modeling
- Development of a model to quantify risks from combined exposure to different chemicals
Main achievements of Workpackages - continued

WP4: A better understanding of consumer perceptions regarding food risk management, based on:
- Focus group studies
- Large surveys across 5 countries
- Information experiments
- Practical recommendations for proactive communication of risks and uncertainties

WP5: Recommendations for defining stakeholder participation based on:
- Review of institutional structures and practices in five Member States and at EU-level
- Workshops with stakeholders, experts and regulators

Book publication: “Food Safety Regulation in Europe: A Comparative Institutional Analysis”
Conclusions

- The SAFE FOODS project develops an improved framework for risk analysis that integrates the assessment of health, environmental, economic, and social impacts and ethics, and is more transparent and accountable.

- We are developing improved tools for compositional analysis of foods, probabilistic modeling of exposures and impacts, and risk communication.

- We have identified gaps between principles on good governance and practice in decision-making on food safety and developed first recommendations to address these.

- We are using case studies to assess potential challenges to practical implementation and to refine our recommendations.

For more detail and new results please consult our website at:

www.safefoods.nl