Project no: 022936
Project acronym: Beneris
Project title: Benefit-risk assessment for food: an iterative value-of-information approach

Instrument: STP-Specific Targeted Project

Deliverable 33:

Consumer info on case results

Due date of deliverable:	**1 Apr, 2008**
Actual submission date:	**15 Nov, 2009**
Dissemination level:	**PU**
Start date of project:	**April, 1st 2006**
Duration:	**3,5 years**

Organisation name of the lead contractor for this deliverable: **THL**

Deliverable D33 (Consumer information on case results) constists of an article that is published in *International Innovation* journal. This journal will reach an international audience consisting of consumers, but especially researchers and policy makers. The choice of this medium was twofold. First, the absolute number of people reached this way is clearly larger than what we would have achieved by producing and distributing material for consumer information by ourselves. Second, the key achievements of BENERIS are mostly methodological, while the assessment results obtained from e.g. the fish case study (about methyl mercury and omega-3 fatty acids) essentially recapitulated what the Finnish Food Safety Authority has been informing consumers about for several years. Thus, we deemed that there is no need to disseminate new material to the general public on the already fairly well established conclusions.

The **documentation of this deliverable** consists of three main parts.

1) The first part "*Description of the publication and the journal*" (corresponding to the wikipage chapter 1 below) describes the journal, its coverage, and some technical information about the type of article.

2) The second part "*Questions about BENERIS to the International Innovation magazine*" (corresponding to the wikipage chapter 2 below) contains the material for the actual article in the journal.

3) The third part, to be submitted later, is a collection of further information about BENERIS as edited and appended to the actual article by Research Media. However, as the publishing date of the article nearly coincides with the deadline for this deliverable, this part will be submitted as an appendix later.

The wikipage printed out below can be accessed at

http://www.opasnet.org/beneris/index.php/D33_Consumer_information_on_case_results

Please use the following credentials: **username=**bioher, **password=**qADaC4h

Contents

1 Description of the publication and the journal

The publication coverage and other details of International Innovation are based on information from Research Media.

1.1 What is International Innovation?

International Innovation is a research journal covering the most important issues in science and research currently. International Innovation was developed to bridge the gap between science, policy, research, government and the private sector. The journal provides concise, educational, informative and easy to understand information to all key stakeholders involved in the sector. International Innovation is a hard copy journal and also hosted online. It was conceived to help researchers to promote the results of their research to their own core scientific community but also to a wider audience with the dual aims of potential commercialisation/exploitation and future research collaborations. International Innovation reaches a dedicated global audience defined through several years of market analysis and a deep understanding of the needs of research projects and stake holders alike. International Innovation has covered a variety of focused Research, Policy and Innovation topics previously from climate change, health and transport to ICT, energy, sustainable development and food.

The publication will be A4 in size, perfect bound, full colour gloss and it will run to approximately 60-90 pages.

1.2 Dissemination of the deliverable

- Dissemination, advocacy and promotion of the project in front of 29 000 of the most important delegates in this area in Europe (please see below for a full breakdown of readership).
- Online version of the report hosted for 12 months with very significant readership from a global audience in this sector (please see below for a link to show how this appears).
- Full copyright use of the PDF of your article once it is published (for other dissemination activities, online, at conferences, in newsletters etc).
- Access to physical copies of the report for you and your partners in the consortium to use in any final conference or workshops etc.
- A 8-10 page brochure containing your presentation and one or two selected independent pieces, including the cover of the report and the back page containing all partner logos and contact details. You will be supplied this brochure for any future dissemination use in a high resolution pdf format.

1.3 Who will receive and read this report?

The report will be sent to a carefully selected and highly targeted audience of 29 000 key researchers, policy makers, government and decision makers across both the private & public sectors across all member states in the European Union and INCO countries (please see below for the full breakdown of readership).

The report is also made available online on a dedicated web page for a period of twelve months, the report is also distributed worldwide to enable international dissemination and communication of scientific and policy results.

The online edition of the report is specifically targeted to delegates in the nominated INCO countries along with the United States and Canada, Latin America, the Middle East, Africa and Asia-Pacific.

1.4 Who is Research Media?

Research Media are the publishers of the International Innovation journal. They have many years experience in helping projects like yours disseminate their research not only to their core scientific community but also to a wider range of potential stakeholders throughout Europe and now internationally through brochures, leaflets, roadmaps, websites, workshops and of course our own journals. Research Media can provide bespoke on-demand dissemination services or act as a specific dissemination partner in consortium. Research Media understands that each project is different in terms of your dissemination requirements, if you have any specific requirements or ideas please discuss them with us.

1.5 Independent Content - what content will be in the report?

The report will include independent material from leading industrial experts, research centers, policy executives & thought leaders, EU associations and governmental bodies. Below is a list of some of the key figures due to be featured within International Innovation;

- President Barack Obama, United States
- European Union, Vice President, Gunter Verheugen
- Research Program Manager, UNITAR
- Manager, IPCC
- Director, OECD
- Director, European Environment Agency.
- AURIL - Association for University Research and Industry Links

1.6 Who will receive the report?

Public & Academic Sector Distribution:

- European Commission
- DG and Head of Unit
- International NGOs and charities
- National Research Councils
- University and Academic Agencies
- Food Legislation
- Ministry of Science, Technology and Innovation

Readership Profile:

Technical level management:

- Researchers
- Dean
- Food Quality Officers
- Food Producers
- Farmers

- Ministry of Health
- Food Standards Agencies
- Food Safety Groups
- Policy Formulation
- Food Authorities
- City Management
- Municipalities
- Health Agencies
- NGO
- Planning and Development
- Food Safety and Quality Monitoring Centres
- Meterological Offices
- Policy
- Regulatory Affairs
- Planning Authorities
- Local government departments and agencies
- National government departments and agencies
- Regional government departments and agencies
- Universities
- JRC
- Public research centers / institutes
- Public authorities
- University Libraries
- European institutions (European Commission, European Parliament, Joint Research Centre)
- EU programmes' National Contact Points (NCPs)

Private Sector Industry Distribution:

- Agriculture and Animal Husbandary
- Food Transporters
- Retail Food Managers
- Faculty Head
- Planning and Monitoring
- Food Safety control
- Chief Executive Officer
- Chief Research Officer
- Research Development Officers
- Head of research
- Director
- Political Leaders
- International Cooperation
- Information Management

Senior level policy and management:

- Ministers
- Policy Development
- President
- General Operations Manager
- VP’s & Director

Public Sector:

- Ministers
- Department Director/Head
- Unit Manager
- International Cooperation

- Water and Waste Water
- Food Producers
- Food Safety and Testing
- Additives
- Food Health
- Ingredients Manufacturers
- Food Manufacturers
- Food Retailers
- Food SMEs
- Venture Capitalists

- Deputy Directors/Unit heads
- Technical Managers
- Planning Officers
- Resource Directors

Media Coverage:

- General and specialist press
- Press agencies
- Radio
- TV
- Web portals

2 Questions about Beneris to the International Innovation magazine

Can you explain a little about the background of your project, its aim and where the concept came from?

Beneris is an acronym from "Benefit-Risk Assessment for Food: an Iterative Value-of-Information Approach". Beneris developed methods for assessing both benefits and risks of food-related issues in a coherent way. Value of information is a scientific method for estimating, whether a decision should be made now, or whether it is better to wait and get some new information at some cost. Beneris wanted to bring assessors and decision-makers closer to each other by offering common methods.

How did you first become involved with the programme and what has your input been thus far?

The EU Food call that funded Beneris was specifically about developing web tools for benefit-risk assessment. This was an interesting challenge for trying to develop something

that is applicable on many different areas, including environmental health, which is also a strong area for us.

What are the expectations and objectives of the project?

The general objective of Beneris was to create a framework for handling complicated benefit-risk situations, and apply it for analysis of the benefits and risks of certain foods. We aimed to develop causal models called Bayesian nets for complicated benefit-risk situations; an open web workspace for both scientists and policy-makers; and a web database for data needed in benefit-risk assessments.

How it has progressed thus far?

We have developed the workspace, now called Opasnet. It also contains the database. We have developed case studies and worked on them with Bayesian nets. One case study was about Finnish fish and methylmercury and fish oils, which both affect the mental development of children. Our conclusion was that in general, the consumption of oily fish can be increased without a fear of detrimental effects of methyl mercury in children. In contrast, the consumption of pike, a lean predator fish, should be avoided during pregnancy. In addition, the case seems to be fairly well established, as the total value of additional information is fairly low.

A larger fish case study looked at intelligence and dental defects in children, and coronary heart disease and cancer in adults. The first preliminary results show that there are much more controversies here. The choices are not obvious, and optimal decisions depend on several things such as age, fish species in the diet, and relative valuations of different diseases. A new feature of these cases are that they are presented on the Opasnet website, and their calculations and conclusions can be commented and improvements suggested by anyone.

What is the wider impact of your research?

As I just mentioned, we have made open participation in assessments possible with the new web workspace Opasnet. Therefore we call them open assessments. It is a big step forward and towards relevance that the end users can really participate in the studies at all stages. Although the work has focused on food benefit-risk analysis in this project, the tools developed are applicable in any field of policy assessment, such as climate change on which we work in another project.

Are there any ‘partners’ involved in your research? If so, can you explain their expertise, what they contribute and what they will gain from their involvement?

When Beneris developed the web workspace Opasnet, it gradually started to gain interest among other research projects. By the end of Beneris, we are glad to see that the workspace is actively used and will be used by several EU-wide research projects. These projects are using the workspace to collect, organise, and synthesise information. It is useful both within the projects, and also for disseminating results to end users. We are hoping that also policy-makers would find Opasnet as a useful source of relevant information and a workspace for communicating with experts.

Furthermore, has your organisation collaborated with international partners – has the collaborative approach worked?

Beneris developed tools for open collaboration. So far we have mostly used these tools within European research projects, which are of course all international. There is also some collaboration with people outside EU, e.g. from the U.S. and Australia. Whether open collaboration works in a particular case, depends mostly on whether the participants are in favour of this way of working. The distance or administrative boundaries are limiting less and less.

Can you tell us if you faced any major challenges so far?

There are lots of challenges. One is to explain what open collaboration actually is. In the Opasnet workspace, most information is released to anyone as soon as it is produced. Another challenge is to motivate scientists to participate, as it is not obvious that it produces scientific publications. This is a major cultural challenge. In addition, people want to see practical utility first, before they even get interested in new ways of collaboration. They have doubts about the quality of information in open workspaces, because peer review methods for open contents did not exist before Opasnet. Finally, the communication to consumers and decision-makers has to be very clear.

What is the expected output of the project?

The web workspace Opasnet is the major output. Also, we have demonstrated different ways of utilising Opasnet in food-related benefit-risk assessments by doing case studies. Finally, we have identified several development needs to promote mass collaboration in food safety, and science-policy interface in general. These include a fair distribution of merit from the work; improvement of the usability of the actual models used to assess benefits and risks, as now it is difficult to understand (and challenge, if necessary) parts of an assessment; and promotion of the idea of open collaboration in making assessments.

3 Web workspaces will bring science and citizens to policy-making

The Internet has overturned the ways of making business and communication. In the near future, Internet will also overturn the policy-making and bring science and citizens as its seamless parts. This development will affect food safety issues at least as much as other sectors of regulation and policy-making.

Policy-making is simple in principle. First, a problem that should be jointly tackled is identified. Then, ideas are generated about actions to solve the problem, the actions are assessed, and finally a decision is made and actions are taken.

The actual decision-making should be left to those who have the authority to do the decision. In contrast, anyone can - in theory - participate in the identification of problems, generation of ideas, and assessment of actions, i.e. the actual policy-making, in an open civil society.

Participation has been a severely underutilised opportunity, but new web-based workspaces for mass collaboration are overturning the status quo. On the one hand, they utilise the knowledge and visions of a large group of people. On the other hand, they can organise this information into science-based assessments.

Although policy-making is simple in principle, it has many practical difficulties that prevent optimal work. There are always numerous policy options, but despite this a majority must be found among a discordant group of decision-makers behind exactly one option. Therefore, it is practical to agree on some issues beforehand. The discussion on these issues is discouraged during the policy-making process, and the decisions are made according to the base line. It is also common that the best options are ignored, and the effort is put to promoting the option that is believed to have chances to be elected.

This has been a way to make sure that at least some suitable option is elected. But when there are a lot of practical constraints, the resulting policy is mediocre at best.

In web workspaces, it is possible to search for the best policy alternatives, because the participants are not bound to pre-defined constraints. This is a way to learn what could have been achieved if the political constraints didn't exist.

The political discussion is mainly performed in committees and other political bodies with the size of a few dozen at most. However, most of the wisdom always resides outside the committee, irrespective of how it is formed. Internet has broken the restrictions about the number and physical location of people who can effectively participate in a political discussion and information exchange. Today anyone can immediately bring up her own knowledge and opinions available to everyone else.

However, despite the avalanche of blogs, the monopoly of policy-making has not slipped out of the hands of politicians. This is because no-one has resources to organise blogs into a coherent description of an issue. Web workspaces are finally making it easy enough to collect and organise information into a useful form for policy assessments. This is possible even without restricting participation in any way.

In science, open access journals and web databases are already routinely being used as sources of information. In the future, the actual scientific work will be done more and more in web workspaces. The same workspaces can also be used for policy analysis. Beneris, a food benefit-risk analysis project funded by the European Commission (http://en.opasnet.org/w/Beneris), has collaboratively developed such a workspace, Opasnet (http://en.opasnet.org), especially for promoting societal decision-making and food safety.

How do these web workspaces work?

In a web workspace, everyone shares her own information with everyone else, and utilises information provided by others in her own work. A workspace looks a lot like Wikipedia, but it is more strictly regulated. The information structure and code of conduct are designed to build a large, coherent whole based on small, fairly independent pieces of information.

In a web workspace, precise questions are asked: What is the impact of the price of alcohol on the consumption? What impacts does an exemption to the dioxin directive have on public health in countries that are allowed to market Baltic herring? Which are the causal pathways that mediate these impacts?

Scientifically defendable answers are sought for these questions. Poor answers are constantly being rejected and better ones are being developed. The questions, the answers, and the reasoning behind the answers are being recorded in detail. Answers are being improved in collaboration, until they satisfy the information need at hand.

Web workspaces are based on a few basic principles. The work is performed openly, and everything is subject to improvement. Anything can be freely criticised, but only on the grounds of three things: illogicality, irrelevance in its context, and a conflict with observations. Uncertainties and causal dependencies are systematically and explicitly expressed. The main tool here is probability, especially conditional probability distributions and Bayesian nets.

Open workspaces are not an obvious choice in science, and they are being criticised. On the one hand, the scientific quality is doubted. However, peer review can be applied in workspaces just like in open access journals.

On the other hand, scientists don't participate in web workspaces, because other scientists don't do it either. Mass collaboration does not yet bring similar scientific merit as traditional articles. This is a more severe problem and will be alleviated only when the effectiveness and efficacy of web workspaces have been clearly demonstrated in one area, and the merit has been given to the participants.

It could be easier to overcome the latter problem in policy-making than in science. In both areas, there are people who hope that their participation will improve decisions and thus the world. However, in policy-making, it is probably easier to find a critical mass of people whose survival does not depend on the accumulation of merit. When the critical mass of people find each other in a web workspace, a political revolution will start.

We need that revolution. Global food crisis, increase of the population of the world, climate change, oil dependency in all sectors including agriculture are each a major challenge. Now we should develop compatible policies for all of them at the same time. We urgently need the thinking, information exchange, and information synthesis by thousands of people.

No committee can do that, but web workspaces can.

Jouni Tuomisto, academy researcher
Mikko Pohjola, researcher
National Institute for Health and Welfare
Kuopio, Finland

4 See also

- International Innovation http://www.researchmedia.eu/international-innovation-magazine.asp
- The original description of the International Innovation by Research Media http://www.opasnet.org/beneris/index.php?title=D33_Consumer_information_on_case_results&oldid=4067