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

Instrument: STP-Specific Targeted Project

# *Periodic Activity Report*

# First year report (D13)

Due date of deliverable: **May 15th, 2007**
Actual submission date: **June 29th, 2007**
Dissemination level: **PU**

Start date of project: **April, 1st 2006**
Duration: **3,5 years**

Organisation name of the lead contractor for this deliverable:
**National Public Health Institute** (Jouni Tuomisto)

**Revision 1**

# Contents

## Periodic activity report



## Appendices (compiled in a separate document)

# Publishable Executive Summary (Beneris / First Year Report)

Project acronym: Beneris

Project full title: Benefit-risk assessment for food: an iterative value-of-information approach

Contract no: 022936

Related to other Contract no: 022957/QALIBRA

Project duration: 1 April 2006 - 30 September 2009

Reporting period: 1 April 2006 - 31 March 2007

## Objectives

The general objective of this proposal is to **create a framework for handling complicated benefit-risk situations**, and apply it for analysis of the benefits and risks of certain foods. The first food commodity to be used in the development of the methodology is fish. Some of the detailed objectives that are relevant for the first year are listed below.

### Objectives in developing benefit-risk analysis methods

- To develop Bayesian belief networks (BBN) to handle complicated benefit-risk situations, and to develop a decision support system (DSS) based on BBN.
- To develop improved methods for dose-response assessment, combining epidemiological and toxicological data, and apply them in combining epidemiological and toxicological information on fish contaminants (esp. dioxins and PCBs).
- To develop an integrated repository of surveillance, nutrient and food consumption data that is capable of receiving, analyzing, and disseminating the accumulated data for benefit-risk analysis and to key stakeholders.

### Scientific objectives in food risks and benefits

- To estimate average nutrient intakes and food consumption in various subgroups based on national registries in three countries and to explore the use of the data in benefit-risk analysis.
- To estimate the health benefits of fish, and understand the effect of fish on different population subgroups (age, health, pregnancy etc.)
- To establish the association between external dose (intake) and internal dose (concentrations in the body) by analysing contaminants (PCDD/Fs, PCBs, PBDEs, organotin compounds, PCNs and Hg/methyl-Hg) from 100-200 placentas.
- To find out the effects of certain policy options on dietary habits and on intake of important nutrients and contaminants (e.g. vitamin D, n-3 fatty acids, dioxins, PCBs). As an example, does a restrictive recommendation on fish eating increase meat consumption?

### Objectives in dissemination

- To integrate results into updated benefit-risk assessments, and evaluate the remaining uncertainties and their importance for decision-making.
- To develop an internet interface for publishing risk assessment results.
- To develop a method to publish entire benefit-risk models over the Internet using XML.

- To disseminate the results and to evaluate the relevance and usefulness of the work done in the project from the perspective of an end-user / authority.

## Participants

| Participant Role | Partic no. | Participant name | Participant short name | Country |
|---|---|---|---|---|
| Coordinator | 1 | National Public Health Institute | KTL | FI |
| Contractor | 2 | Delft University of Technology | TUDelft | NL |
| Contractor | 3 | Oy Foodfiles Ltd | FFiles | FI |
| Contractor | 4 | Food Safety Authority of Ireland | FSAI | IE |
| Contractor | 5 | National Food Institute / Technical University of Denmark | DTU | DK |
| Contractor | 6 | Food Safety Authority of Denmark | FVST | DK |
| Contractor | 7 | Lendac Ltd | Lendac | IE |
| Contractor | 8 | Fundación Privada para la Investigación Nutricional | FIN | ES |

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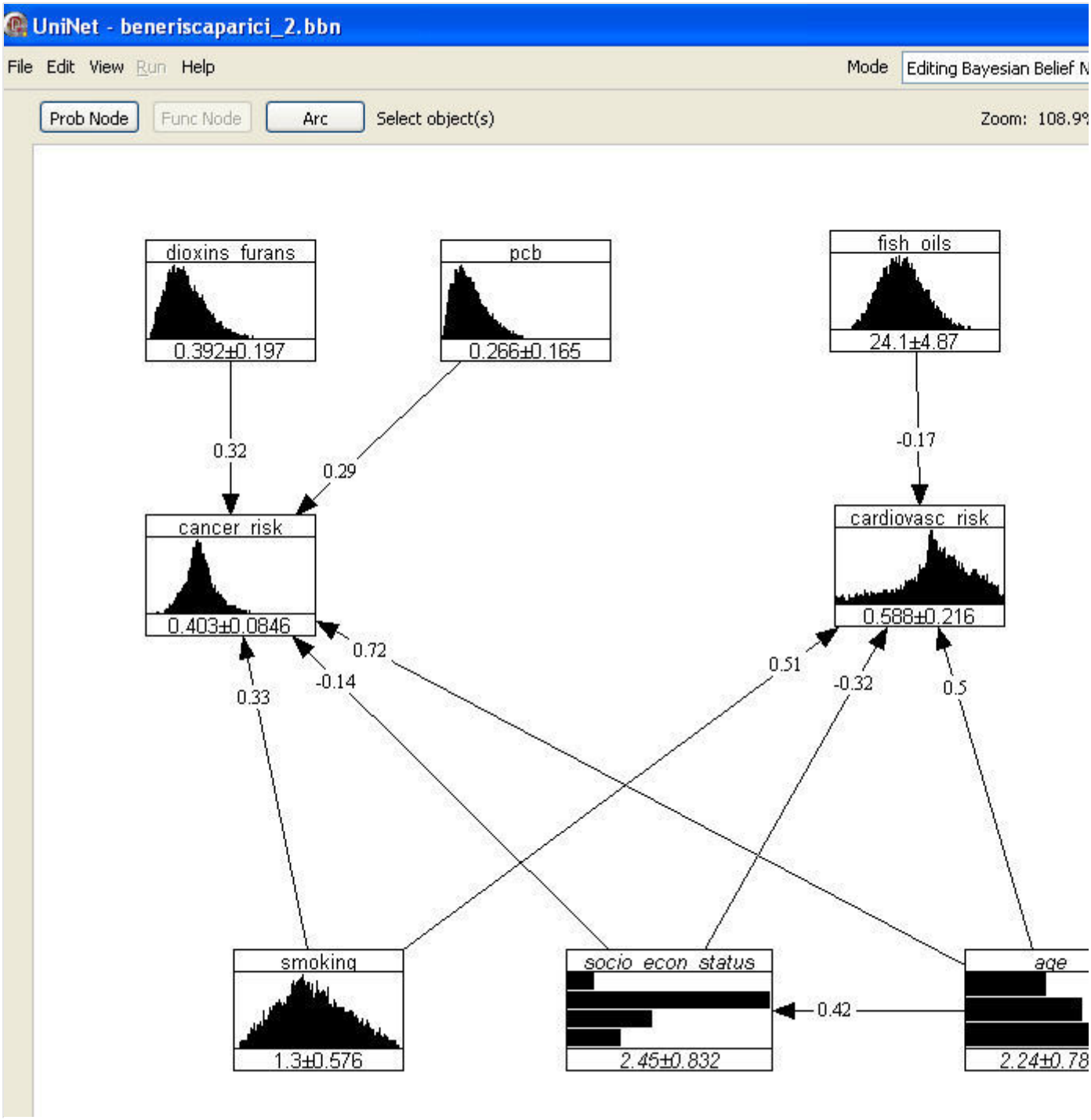
Public website for project: www.beneris.eu

## Work performed

The work with benefit-risk analysis methods has taken a very challenging task: to develop completely new approach to risk assessment. This work has been done in close collaboration with Intarese project, which is about environmental health risk assessment. Together, Beneris and Intarese have identified several new areas that should be developed on top of the traditional risk assessment, to make it better tackle with the new challenges of benefit-risk assessment of food. These areas deal with fundamental properties of benefit-risk assessment, and its basic content. The areas are 1) purpose and properties of a benefit-risk assessment; 2) causality; 3) collective structured learning; 4) value judgements; 5) variable structure; 6) collaborative work; and 7) dealing with disputes.

Beneris has further developed statistical methods that are useful in benefit-risk assessment. This work has been about using Bayesian belief networks (BBNs) in describing the benefits and risks. There are also issues about proper tools of calculating and presenting the results of a BBN. Beneris has also actively worked on developing BBN software that assists decision-making, handles any continuous variables and allows for functional relations between BBN nodes.




An example of a Bayesian belief network. This is a fish benefit-risk case study. Note that the numbers used are just illustra represent data.

## Results achieved so far and expected end results

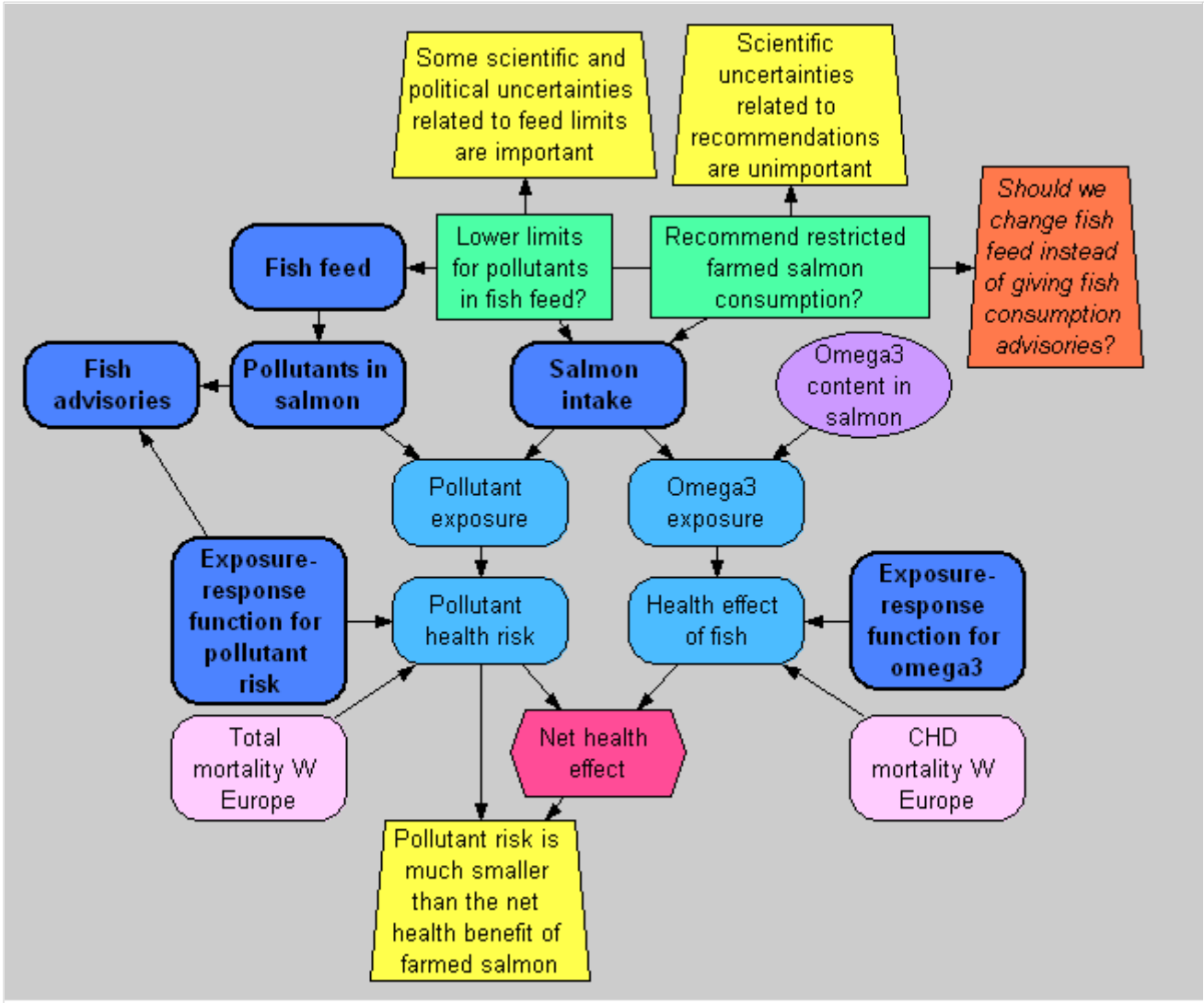
The work related to combining existing databases into an integrated repository has lead to several important conclusions that have affected the plans of further work. First, it is very difficult and time consuming to integrate food consumption data between the countries. Therefore, the collection of data for benefit-risk analyses should be designed so that there is special emphasis on the applicability and simplicity of the data. This applies both to existing databases, and the data produced within Beneris. Second, the new benefit-risk analysis method created new requirements for the database to be developed. The actual repository development will therefore mainly occur during the second year.

Beneris has opened a website for performing and disseminating benefit-risk analyses (RBA) online. The first benefit-risk analysis on fish as food has been launched (http://heande.pyrkilo.fi). The aim of the work is

to obtain practical experience on this kind of collaborative work and to develop the RBA methods further.

## The main elements of the publishable results and the plan for using and disseminating the knowledge

The website has been developed to collect, organise, and distribute information on issues relevant for benefit-risk analyses (BRA) of food. The content is open and freely available to all. This will hopefully lead to a wide use of the information gathered in the BRAs. It also enables a critical evaluation by interested parties. Interested parties are welcome to contribute to the case studies with their own information, as long as it is offered under General Public License. At a later stage of the project, an integrated repository of food intake, nutrient, and contaminant concentration data will be combined with the current website to facilitate further RBAs.




An example of a benefit-risk analysis: BRA of consumption of farmed salmon.

# Section 1 - Project objectives and major achievements during the reporting period

The general objective of this proposal is to create a framework for handling complicated benefit-risk situations, and apply it for analysis of the benefits and risks of certain foods. The first food commodity to be used in the development of the methodology is fish.

The specific objectives of this proposal, and the progress related to them are described below.

## Objectives in developing benefit-risk analysis methods

The exact objectives were the following.

- To develop Bayesian belief networks (BBN) to handle complicated benefit-risk situations, and to develop a decision support system (DSS) based on BBN.
- To develop improved methods for dose-response assessment, combining epidemiological and toxicological data, and apply them in combining epidemiological and toxicological information on fish contaminants (esp. dioxins and PCBs).
- To develop an integrated repository of surveillance, nutrient and food consumption data that is capable of receiving, analyzing, and disseminating the accumulated data for benefit-risk analysis and to key stakeholders.

The progress during the reporting period is described under these three bullet points. In addition, general progress with a new benefit-risk approach is described first.

### Progress during the reporting period

New approach

The work with benefit-risk analysis methods has taken a very challenging task: to develop completely new approach to risk assessment. This work has been done in close collaboration with Intarese project, which is about environmental health risk assessment. Together, Beneris and Intarese have identified several new areas that should be developed on top of the traditional risk assessment, to make it better tackle with the new challenges of benefit-risk assessment of food. These areas deal with fundamental properties of benefit-risk assessment, and its basic content. The areas are 1) purpose and properties of a benefit-risk assessment; 2) causality; 3) collective structured learning; 4) value judgements; 5) variable structure; 6) collaborative work; and 7) dealing with disputes. These are described in more detail in WP1.

The new approach for benefit-risk analysis is more ambitious than what was described in the description of work. For example, the idea of collaborative work has become a key part of the method only after the beginning of the project. However, the development achieved with collaborative work will greatly enhance possibilities for effective dissemination of results in the future. Therefore, we have concluded that the extra work and time needed to develop these methods is worthwhile and will help in achieving the aims of the project.

BBN methods

Beneris has further developed statistical methods that are useful in benefit-risk assessment. This work has been about using Bayesian belief networks (BBNs) in describing the benefits and risks. There are also issues about proper tools of calculating and presenting the results of a BBN. Beneris has also actively worked on developing BBN software that assists decision-making, handles any continuous variables and allows for functional relations between BBN nodes. The BBN work has been lead by TUDelft in collaboration with other partners.

Beneris has developed a general Bayesian Belief Network (common for two case studies). The nodes of the general BBN have been defined and described, and the causal relations between them have been specified. Nodes of this BBN have been associated with random variables representing decision nodes, personal and nutritional effectors, and various health endpoints caused by food consumption. These variables can be related via mathematical expressions, that is personal and nutritional effectors can be functions of decision variables and each health endpoint can be represented as a mathematical function of personal and nutritional effector variables. With regard to this BBN TU Delft has proposed and discussed two strategies to create and quantify the network that integrate both functionalities between BBN nodes and graphical model interface.

Improved dose-responses

One methodological aim was to develop improved methods for dose-response assessment, especially about combining epidemiological and toxicological data. Beneris and Qalibra have been informing each other about the issues and progress within dose-response work. However, as the two approaches are different, we have found it useful to first develop the ideas further, and only later consider the possibility of combining parts of the methods.

There are two streams of work within Beneris. The first relates to BBNs and how a dose-response can be defined in this context as a function of variables linked to the node of interest. Because of limited information about dose-response relations for health effects chosen for fish case study, TUDelft has developed and applied to this specific case a generalized method for modeling and quantification of these relations. This method has attractive features: is flexible, can be used to estimate health effects of various natures (expressed as probability or size of the effect) and to quantify the uncertainty around these estimates. It also guides the overall data collection effort and shows places where this effort can best be focused.

The other stream has been performed in collaboration with Intarese project. A conceptual framework has been developed for combining toxicological and epidemiological data. The basic idea is to quantitatively describe all potential sources of bias related to published dose-response functions. Then, a new dose-response is derived based on the published results and the influence of the biases. We have identified the potential biases and built a draft framework where these biases are taken into account. No quantification has been done yet, as it is a very labourous task. However, the concept is based on the idea that it is usually possible to use default values for certain types of biases in certain studies, only adjusting for some case-specific issues. In this way, previous knowledge can be effectively used in new situations. Also, this improves the comparability of dose-responses across assessments.

There are also established probabilistic model that have been developed in the SafeFoods project for calculating e.g. benchmark doses. These are being used by some partners in Beneris. The comparison of these methods to the new methods under development will occur during the next reporting period.

Intergrated repository

The idea of an integrated repository of data has been under active development. The overall structure for the repositoroy has been developed. The structure has been developed in close collaboration with Intarese project, and there has been remarkable improvement since the start of Beneris. The main findings are being described in a joint manuscript (Tuomisto et al., 2007). There are still unresolved issues such as what the detailed structure is, and how to link issues in a coherent way. This work is tightly combined with the more general work on benefit-risk assessment methods. The work is actively going on.

However, this work has taken more time than originally anticipated. This is mainly because the current objectives of methodological progress are larger than when the project started (see *New approach*). The detailed structure of the integrated repository cannot be fixed until the overall methodology has been clarified. Therefore, the practical implementation has been postponed until the methodological issues have been resolved. We estimate that the critical issues will be resolved in six months.

## Scientific objectives in food risks and benefits

The objectives in the Description of work are

- To review the existing databases and their availability for chemical contaminant data in Europe, and integrate available data.
- To estimate average nutrient intakes and food consumption in various subgroups based on national registries in three countries and to explore the use of the data in benefit-risk analysis.
- To estimate the health benefits of fish, and understand the effect of fish on different population subgroups (age, health, pregnancy etc.)
- To establish the association between external dose (intake) and internal dose (concentrations in the body) by analysing contaminants (PCDD/Fs, PCBs, PBDEs, organotin compounds, PCNs and Hg/methyl-Hg) from 100-200 placentas.
- To combine existing and new data from food consumption databases with data on levels of contaminants in fish. The special emphasis is on children and the developing foetus.
- To estimate distributions of nutrient intake and food consumption relevant to benefit-risk analysis in a number of populations, and also the variability in exposure among various subgroups in the population.
- To identify food consumption patterns and food choices that determine the intake of those nutrients and contaminants that are related to benefit/risk-balance of a food item.
- To explore the usability of these patterns in another country than in which they were developed.
- To find out the effects of certain policy options on dietary habits and on intake of important nutrients and contaminants (e.g. vitamin D, n-3 fatty acids, dioxins, PCBs). As an example, does a restrictive recommendation on fish eating increase meat consumption?

**Progress during the reporting period**

Existing databases

The work related to combining existing databases has lead to several important conclusions that have affected the plans of further work. First, DTU participated the SafeFoods project, where detailed information have been gathered on food consumption databases from Holland, Sweden, Italy, and Denmark. From this work the conclusion was that it is very difficult and time consuming to integrate food consumption data between the countries. Therefore, the collection of data for benefit-risk analyses should be designed so that there is special emphasis on the applicability and simplicity of the data. This applies both to existing databases, and the data produced within Beneris. Second, the rapid development of the benefit-risk analysis method created new requirements for the database to be developed.

It was therefore concluded that the integration of existing databases to the inegrated repository must be thought through from a novel basis. The main emphasis during the first year should be on developing the benefit-risk analysis methods. Then, the implications of the method to the repository work should be clarified in the beginning of the second year. The actual repository development should therefore mainly occur during the second year (See *Integrated repository* above).

Nutrient intake data and comparison

The Finnish food consumption data have been prepared. The 3-day food records of 2858 children aged 1, 3 or 6 years have been entered and checked. The food consumption and nutrient intake from foods and dietary supplements have been estimated and tabulated. Special attention was placed on fish consumption which was reported in species level, whenever appropriate. The Spanish food consumption and nutrient intake from foods and dietary supplements have also been estimated and tabulated. EPIC food categories were used in food classification.

For contaminant intake, a probabilistic intake estimation method (Monte Carlo simulation) has been developed and tested. We compared three estimation methods. We also assed the impact of energy underreporting on intake estimates. We found out that for the mean contaminant intake the methods gave

results that were rather close to each other. For the 95th percentile the methods gave more varied results. Energy underreporting did not significantly distort the results. The bulk of the work related to contaminant intake will be performed during the second year of the project.

Contamination research

The chemical analysis of 130 placenta samples have been discussed and planned in detail between Food-DTU and KTL. Special emphasis was placed on prevention of accidental contamination of the samples during work-up (including homogenisation) and storage. The homogenised samples as well as a set of non-homogenised identical samples were received in Denmark. The trace element content in the samples will be measured (over the spring of 2007) by semi-quantitative ICP-MS. A selection of analytes, including selenium and mercury, will be subsequently be submitted to full quantitative analysis. In Kuopio final method adjustment for placenta POP analyses has been performed during the winter after sending samples to Denmark. This work will speed the process of placenta analysis which will start before summer 2007.

Risk-benefit analyses

A preliminary benefit-risk analysis of fish (case 1) has been produced. A research manuscript has been sent to a peer-reviewed journal (Leino et al., 2007). This work was mainly done in KTL, with collaboration with FFiles. The full Bayesian belief network (BBN) model has been developed, and the data collection for the model has started.

As another thread of work, KTL has been writing a draft chapter "The risks and benefits of consumption of farmed fish" (by Jouko Tuomisto and Livar Froyland) in a book "Improving farmed fish for the consumer" by Prof Øyvind Lie, NIFES, Norway. This work is a collaboration with the EU project AQUAMAX. The chapter is still under preparation, and the book will be published during the second year of the Beneris project.

## Objectives in dissemination

- To integrate results into updated benefit-risk assessments, and evaluate the remaining uncertainties and their importance for decision-making.
- To evaluate the integration methodology by all partners and develop it further.
- To develop an internet interface for publishing risk assessment results.
- To develop a method to publish entire benefit-risk models over the Internet using XML.
- To develop methods to collect feedback from end-users about benefit-risk analyses.
- To enhance the availability of existing databases through this interface.
- To disseminate the results and to evaluate the relevance and usefulness of the work done in the project from the perspective of an end-user / authority.

### Progress during the reporting period

Overall, the dissemination activities are scheduled in the mid-term and end of the project. The first year has mainly been about developing methods and tools for dissemination. There has been four streams of activities here:

- The Beneris wesite has been opened.
- The preparations for a Gordon-type conference have been started.
- Tools to publish models in the internet have been developed.
- A full benefit-risk analysis (case 1: fish) has been started in the Internet.

The Beneris website

The Beneris website (www.beneris.eu) provides public access to the Beneris project. The website was set up to provide an overview to the various aspects of Beneris from project objectives to participant

information. The website contains comprehensive information on all aspects of Beneris and includes project summary, project objectives, participants list, potential impact, work package details, news, events, posters, publications and links to other relevant websites. The website includes an overall search engine to facilitate location of relevant data.

Gordon conference

Beneris project in collaboration with Qalibra project, and Sytyke (Graduate School of Environmental Health) will organise a conference about environmental health in the Valamo monastery (http://www.valamo.fi) , Finland, on December 3-5, 2007. The theme of the conference is **Benefit-risk analysis: how to learn from previous assessments?** The conference is open to all aspects of environmental health. Risks and benefits of food are emphasized. The arrangements of the conference are ongoing.

Tools to publish models

The tools to publish models are directly linked to the overall method development (Workpackage 1). The main achievements are described there, and here we only focus on the dissemination aspects. We have developed an Internet interface in collaboration with Intarese (http://www.intarese.org) project. The interface makes it possible to describe the contents and results of benefit-risk analyses, and enable stakeholders to bring up related issues and concerns. The internet site (http://heande.pyrkilo.fi) exists already, and the major properties that the interface will have are known. The basic functionalities have been installed.

To help the modelling-publishing interface, we have developed a web tool that automatically transforms a benefit-risk model into a structured description on a webpage. This functionality works with Analytica files saved in XML format. Analytica is the main platform for producing these models in Beneris. The basic functionalities exist, but there is further work needed with formatting and readability of the outcome pages. The Internet interface also provides the original XML models, so that an enduser who has the Analytica program, can download the full model and run it himself. (A browser version without editing capabilities is freely available).

Dissemination of benefit-risk analysis of fish

The fish case study has been used as an example for dissemination activities and methods. There is a submitted manuscript on this (Leino et al., 2007) about the preliminary benefit-risk assessment of fish. At the same time of submission, the actual benefit-risk model of this case was published in the Internet. Further work is going on to publish also the detailed descriptions of the model contents and conclusions in a way that they can be understood without modelling experience. In addition, a possiblility to give feedback about the model and its conclusions is available already now. This feature will be developed further.

**Future plans of dissemination**

The evaluation of the methodologies developed will start during the second year. There must be enough practical experience about producing benefit-risk information, about publishing it over the Internet, and about collecting feedback from stakeholders, before any evaluation is possible. The first evaluation will be based on the Leino et al. model and manuscript (Leino et al., 2007). The evaluation work will be done in collaboration with other projects, including Qalibra and Intarese.

The Internet interface will be developed further. There is major work to be done in order to facilitate the use of the interface by endusers. Also the methods and guidance for risk assessors are needed and being developed. The main issues are about structuring the benefit-risk analysis work in a practical way, and effective ways of publishing complex issues in the Internet.

The work on enhancing database availability will start during the second year of the project, when the integrated repository has taken its shape. Because of the active development of the overall methods (Workpackage 1) and the delays in intagrated repository (Workpackage 2), we had concluded that the time was not ripe for writing the Dissemination plan in the early phase of the project. Now, as these issues have

clearly matured, the Dissemination plan will be written during the next few months.

**References**

Leino O, Tainio M. and Tuomisto JT. (2007) Comparative risk analysis of dioxins and fine particles. Submitted.

Jouni T. Tuomisto, Mikko Pohjola, Marko Tainio, Juha Pekkanen . (2007) Collaborative working in the environmental health risk assessment. Manuscript.

Tuomisto Jouko, Livar Froyland (2007) The risks and benefits of consumption of farmed fish. In a book "Improving farmed fish for the consumer" by Prof Øyvind Lie (editor).

# Section 2 - Work Package progress of the Period

This section describes the progress of work by workpackage.

## WP1: "Method (top-down approach to risk-benefit analysis)"

### Workpackage progress of the period

#### Objective

To develop an integrated benefit-risk analysis (BRA) methodology supported by both Bayesian belief networks (BBN) and decision support systems and cabable of handling complicated risk assessments with multiple uncertainties.

#### Starting point at beginning of reporting period

Project launch.

#### Progress towards objectives

- Major new developmental areas for BRA method were identified and solutions suggested
- Work done in collaboration with Intarese
- A functional BBN was developed and tested with pilot data
- A draft method for combining epidemiological and toxicological data was developed in collaboration with Intarese

#### Contractors involved

KTL, Lendac, TUDelft, FFfiles.

#### Deviations from the project workprogramme

No deviation.

#### Deliverables

| No. | Name | WP no. | Due (project month*) | Actual / foreseen date | Reasons for deviation and recuperative measures | Estimated indicative person-months | Used indicative person-months | Lead contractor(s) |
|---|---|---|---|---|---|---|---|---|
| D1 | Workplan pyrkilo | 1 | 2 | June 19, 2006 | | 2 | 3 | KTL |
| D8 | Improved dose response | 1 | 10 | March 22, 2007 | | 5 | 5 | TUDelft, KTL |

#### Milestones

| Name | WP no. | Due (project month*) | Actual / foreseen date | Reasons for deviation and recuperative measures | Lead contractor |
|---|---|---|---|---|---|
| Kick-off seminar | 1 | 2 | 23-24 May, 2006 | | KTL |

## General description of WP1 (whole-project duration)

| | |
|---|---|
| WP number | 1 |
| WP name | Methods |
| WP leader | KTL / Jouni Tuomisto |
| Partners involved | KTL, TUDelft, FFiles, FSAI, DTU, FVST, Lendac, FIN |
| Workpackage objectives | ■ To introduce all partners to the common methods to be used: integrated modelling and Bayesian belief networks.<br>■ To develop Bayesian belief networks (BBN) to handle complicated benefit-risk situations.<br>■ To develop a decision support system (DSS) based on BBN.<br>■ To develop improved methods for dose-response assessment, combining epidemiological and toxicological data.<br>■ Apply the dose-response methods in combining epidemiological and toxicological information on fish contaminants (esp. dioxins and PCBs).<br>■ To integrate results from the previous workpackages into an updated assessment.<br>■ To evaluate the remaining uncertainties and their importance for decision-making.<br>■ To evaluate the integration methodology by all partners and develop it further.<br>■ To produce risk assessments that will be used for Internet interface and Dissemination Workpackages. |

The work in this workpackage has been done under three main themes: pyrkilo method, Bayesian belief networks (BBN), and improved dose-response. Other parts, such as result integration and evaluation of methods will occur at later stages of the project. The three themes are described here.

**Pyrkilo method for benefit-risk analysis**

The work with benefit-risk analysis methods has taken a very challenging task: to develop completely new approach to risk assessment. This work has been done in close collaboration with Intarese project, which is about environmental health risk assessment. Together, Beneris and Intarese have identified seven new areas that should be developed on top of the traditional risk assessment, to make it better tackle with the new challenges of benefit-risk assessment of food. These areas deal with fundamental properties of benefit-risk assessment, and its basic content. These are issues that, when used together, result in completely new kinds of risk assessments and new ways of making better risk assessments. None of these seven elements are completely new as such, but they have not been previously used in a tight combination.

The main responsibility of this work has lied in KTL. So far the role of Foodfiles and TUDelft has mainly been to actively study the risk-analysis methodology used in BENERIS project.

**The seven fundamental new elements in benefit-risk assessment**

**1. Purpose: Better societal decisions**
Risk assessments are always done for a purpose. When the purpose is kept clear in mind and preferrably explified and made public, it guides the process and making of assessment product. The ultimate general purpose is to improve societal decision-making by providing good descriptions of chosen parts of reality to the decision-makers. The process of describing the purpose is now an integral part of the method, and the purpose then crucially affects the content of the work and the final product.

**2. Causality**
The method is based on a causal chain approach. This implies that the descriptions produced in the

assessments should cover the relevant phenomena from emissions to exposures to health effect and their impacts. However, it should be emphasized that the method does not only describe issues that are associated with the causal chain. It describes those issues that **cause** effects along the chain, and it describes how the causes and effects are related. This makes, of course, making risk assessment challenging, if not even difficult, tasks. Strict emphasis on causality, however, should be the shoden way to e.g. estimate the impacts of policies on emissions and consequently to health effects.

**3. Collective structured learning**

Science is inherently an area that is based on learning from previous experience, and this is not a new concept. However, **collective structured** learning means something more. It is an idea of a common pieces of information that are being built together (see collaborative work). These pieces can - and should - be used as the building blocks of new assessments. What is new is that there are procedures for extracting information from previous work and assessments, and making it **centrally** available for others. This enhances the efficiency, effectiveness and quality of the assessments made using the general method.

**4. Value judgements**

Impact assessment is about estimating impacts that have positive or negative value judgements attached to them. These values must be acknowleldged already in the process of making the assessments, not only in the risk management phase. Otherwise there is a risk that the relevance of the assessment is poor. Combining science and values requires methods to distinguish these two things from each other within an assessment and bringing the values to explicit scrutiny.

**5. Variable structure**

In order to make coherent assessments, there must be a certain structure within the assessment. As we want to perform a system that contains several assessments that are all coherent with each other, there must be a universal structure for all the assessments. Variables with certain attributes, and linkages between these variables are the universal structure. The current suggestion of the attributes is 1) name, 2) scope, 3) description, 4) definition, 5) unit, 6) result, 7) discussion. Each of the attributes has been defined a specific content, and some of them also contain more detailed subtitles.

**6. Collaborative work**

Collaborative work means more than just dividing tasks within a group into pieces that belong to someone. It is a new way of working. Its best properties can be seen in situations where there is a diverse (and maybe unknown) group of potential participants. Using fairly simple rules, this group can work with little or no central guidance and still gather rapidly relevant information. The risk assessment method should contain these rules in aim to be able to facilitate stakeholder involvement and collecting and synthesising information. To facilitate the synthesis procedures, an **assessment workspace** is developed for performing risk assessments. The purpose of the assessment workspace is to offer an interface for accessing and applying all the specific methods included in the method. Even more importantly, its purpose is to act as a platform for doing and managing the assessments in one place (in contrast to a platform where the assessor can only download things and then do the specific assessment separately somewhere without feedback to the workspace). This feature of assessment workspace also makes it possible to extract information from the previous assessments that have been performed using the workspace (see above).

**7. Dealing with disputes**

When a diverse group of people participate in making a risk assessment, it is clear that disputes may arise. One of the most teaching part of risk assessments is to understand these disputes and the reasons why a particular outcome occured. There must be a way to deal with disputes, find a resolution, and document the choices made so that they can be defended afterwards. Argumentation theory offers methods for this. For further details, see a manuscript dealing with this issue.

**Bayesian belief networks (BBNs)**

The main objective of WP1 is to develop comprehensive risk analysis methods which integrate both adverse and beneficial health effects of food products. The modeling technique to be applied in the benefit-risk analysis in the BENERIS project is Bayesian Belief Network (BBN) recognized as a very efficient tool that captures and integrates both the decision modeling and benefit-risk modeling of food.

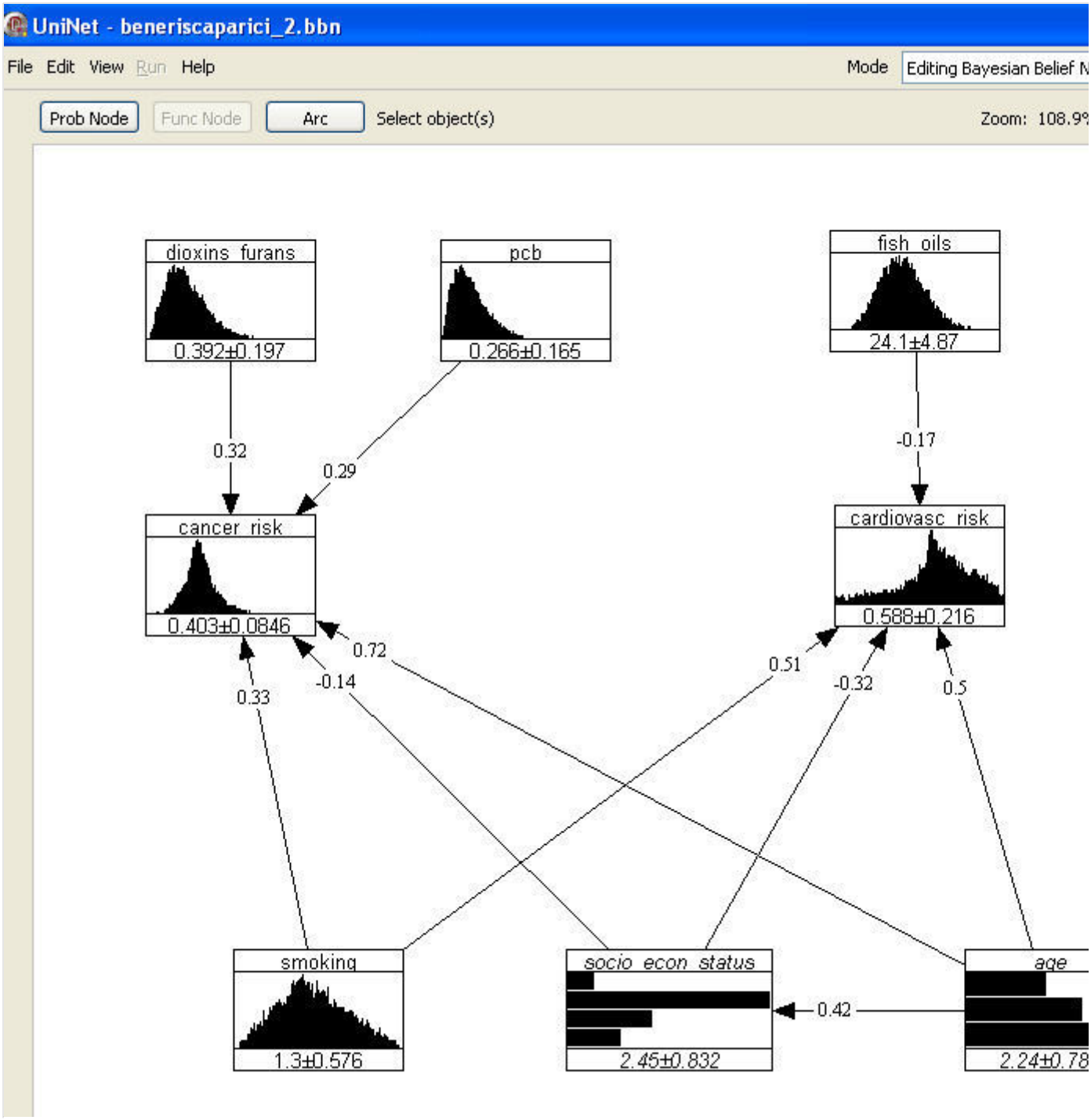
The responsibility of TUDelft in this work package is to develop and quantify a general Bayesian Belief Network for the benefit-risk analysis of the two case studies considered in the project. Actions taken during the reporting period are described below.

TUDelft has proposed a general Bayesian Belief Network (common for two case studies) which has been further approved by other project participants. In more detail, TU Delft has defined and described the nodes of the general BBN and has specified casual relations between them. Nodes of this BBN have been associated with random variables representing decision nodes, personal and nutritional effectors, and various health endpoints caused by food consumption. These variables can be related via mathematical expressions, that is personal and nutritional effectors can be functions of decision variables and each health endpoint can be represented as a mathematical function of personal and nutritional effector variables. With regard to this BBN TU Delft has proposed and discussed two strategies to create and quantify the network that integrate both functionalities between BBN nodes and graphical model interface.

At each stage of work within this work package TUDelft has prepared a detailed report.

Reports submitted:

- "Food Risk-Benefit BBN".
- "Modeling tool for BENERIS project".
- "Dose-response modeling for BENERIS project".
- "Generalized method for modeling dose-response relations-application to BENERIS project".



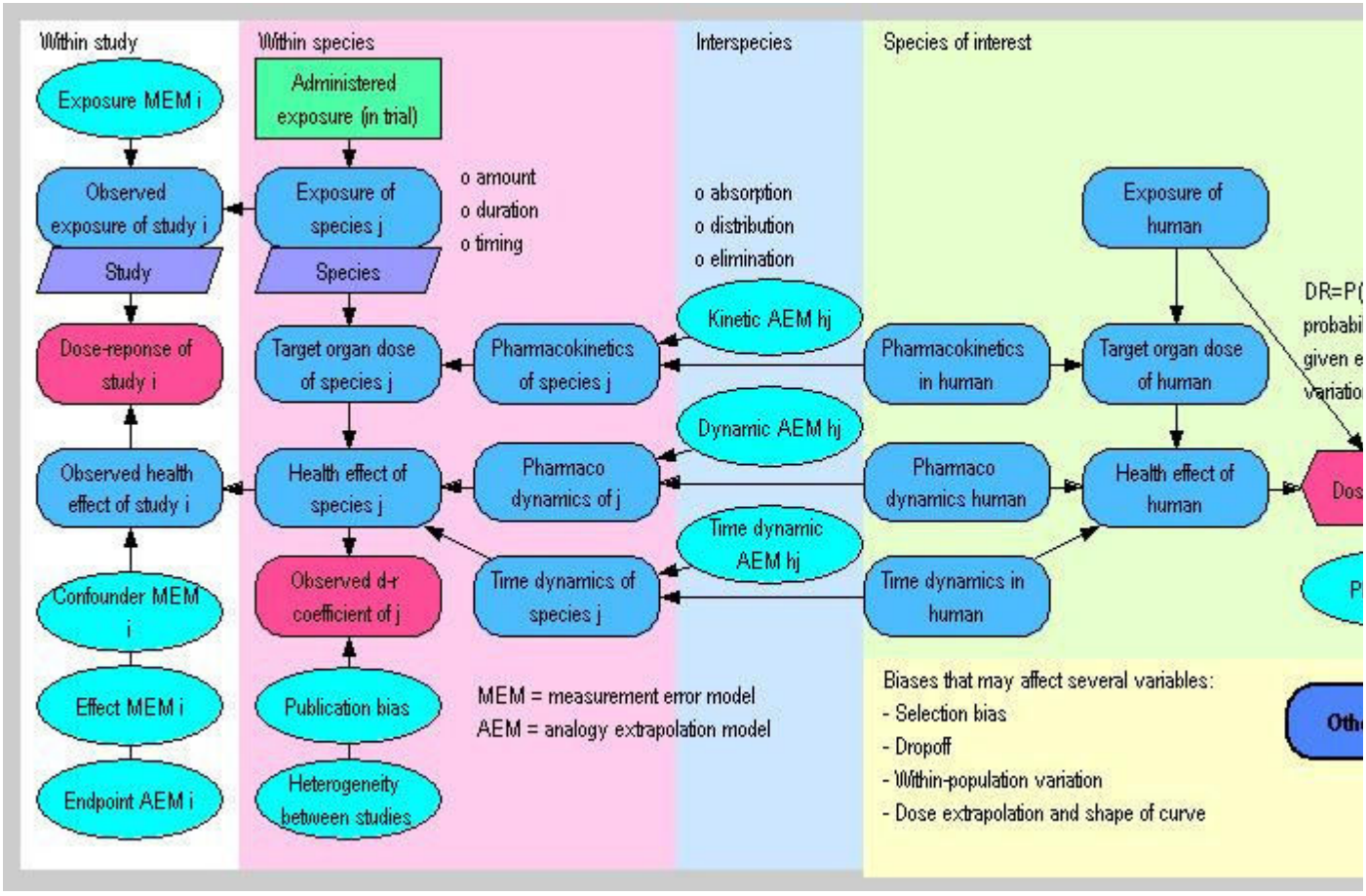

An example of a BBN. The fish case study model.

**Combining epidemiological and toxicological data**

The methodological work on combining toxicology and epidemiology has started in collaboration with INTARESE project. The main focus has been on developing a generalizable conceptual model for including all important sources of bias into consideration when extrapolating data from a single study or group of studies into another population (and maybe species). The main partner involved in KTL. The current understanding of this model is shown in the graph below.

The basic idea is to describe all potential sources of bias, including extrapolations from animal to human, from high to low doses, and confounders such as other exposures in observational studies. When this is done in a systematic - and quantitative if possible - way with both epidemiological and toxicological data in several cases, we will gradually increase our knowledge and understanding on the importance of each potential bias. This helps us to make inference from a single study or a group of studies to the species as a whole, and from one species to another. Practical exercises with case studies are ongoing to test this

approach.


Within study
Within species
Interspecies
Species of interest
Exposure MEM i
Administered exposure (in trial)
Observed exposure of study i
Exposure of species j
o amount
o duration
o timing
o absorption
o distribution
o elimination
Exposure of human
Study
Species
Dose-reponse of study i
Target organ dose of species j
Pharmacokinetics of species j
Kinetic AEM hj
Pharmacokinetics in human
Target organ dose of human
DR=P(
probabi
given e
variatio
Dynamic AEM hj
Observed health effect of study i
Health effect of species j
Pharmaco dynamics of j
Pharmaco dynamics human
Health effect of human
Dos
Time dynamic AEM hj
Confounder MEM i
Observed d-r coefficient of j
Time dynamics of species j
Time dynamics in human
P
Effect MEM i
Publication bias
MEM = measurement error model
AEM = analogy extrapolation model
Biases that may affect several variables:
- Selection bias
- Dropoff
- Within-population variation
- Dose extrapolation and shape of curve
Endpoint AEM i
Heterogeneity between studies

# WP2: "Database"

## Workpackage progress of the period

The work done in Workpackage 2 is described in detail below, under the sub-workpackage titles.

### Deliverables

| No. | Name | WP no. | Due (project month*) | Actual / foreseen date | Reasons for deviation and recuperative measures | Estimated indicative person-months | Used indicative person-months | Lead contractor(s) |
|---|---|---|---|---|---|---|---|---|
| D7 | Database review: contaminant food intake | 2 | 8 | July, 2007 | Delayed due to retirement of key personnel (Anders Møller). Two new persons were hired in the Department of Nutrition in DTU, and the work will be finalised within a few months. | 2 | 2 | DTU |
| D9 | Ethical approval | 2 | 12 | March 12, 2007 | | 0.3 | 0.3 | KTL |
| D10 | Food diaries | 2 | 12 | March 30, 2007 | | 3.7 | 4 | KTL |
| D11 | Food intake data | 2 | 12 | March 30, 2007 | | 2 | 1 | FIN |
| D12 | Contaminant levels in fish | 2 | 12 | Existing PCDD/F, PCB, PBDE, and Met-Hg levels delivered to relevant partners on 13 Sep 2006 | | 1 | 1 | KTL |

## General description of WP2 (whole-project duration)

| | |
|---|---|
| WP number | 2 |
| WP name | Database |
| WP leader | DTU / Ole Ladefoged |
| Partners involved | KTL, FSAI, DTU, FVST, Lendac, FIN |

# WP2.1: "Food intake studies"

## Workpackage progress of the period

### Objective

1. To identify European food and nutrient intake patterns and develop on a country basis.
2. To develop rapid analytical tools for data integration purposes.
3. To make the integrated repository available to stakeholders such as risk assessors and authorities.

### Starting point at beginning of reporting period

Project launch.

### Progress towards objectives

Data collecting and computation completed on food consumption data for Finnish, Spanish and Irish populations, as classified by gender, age classes, various food stuffs and fish species. In addition, some nutrient intakes from Finnish and Spanish populations were classified as above.

### Contractors involved

KTL, DTU, FIN, FSAI

### Deviations from the project workprogramme

A need to strengthen the linkage between WP1 and WP2 was identified.

### Corrective actions taken / suggested

A workshop for promoting method usage in WP2 work will be organised. The probable time is 19-20 Sept 2007.

### Milestones

| Name | WP no. | Due (project month*) | Actual / foreseen date | Reasons for deviation and recuperative measures | Lead contractor |
|---|---|---|---|---|---|
| Distributions of nutrient intakes and food consumption relevant to risk-benefit analysis among 25-64 year old adult population | 2.1 | not determined | | | DTU, FIN, KTL |
| Distributions of nutrient intakes and food consumption relevant to risk-benefit analysis among pregnant women | 2.1 | not determined | | | DTU, FIN, KTL |
| Distributions of nutrient intakes and food consumption relevant to risk-benefit analysis among 1-, 3- and 6-year old children | 2.1 | not determined | | | DTU, FIN, KTL |

## General description of WP2.1 (whole-project duration)

| | |
|---|---|
| WP number | 2.1 |
| WP name | Food intake studies |
| WP leader | FSAI / Iona Pratt |

| | |
|---|---|
| Partners involved | KTL, FSAI, DTU, FVST, FIN |
| Workpackage objectives | ■ To review the existing databases and their availability for chemical contaminant data in Europe, and integrate available data.<br>■ To estimate average nutrient intakes and food consumption in various subgroups based on national registries in three countries and to explore the use of the data in benefit-risk analysis.<br>■ To estimate distributions of nutrient intake and food consumption relevant to benefit-risk analysis in a number of populations, and also the variability in exposure among various subgroups in the population.<br>■ To identify food consumption patterns and food choices that determine the intake of those nutrients and contaminants that are related to benefit/risk-balance of a food item.<br>■ To explore the usability of these patterns in another country than in which they were developed.<br>■ To find out the effects of certain policy options on dietary habits and on intake of important nutrients and contaminants (e.g. vitamin D, n-3 fatty acids, dioxins, PCBs). As an example, we will test the hypothesis whether a recommendation to restrict fish eating would increase meat consumption. |

For the description about database work, see Workpackage 2.4. Here we describe the analysis and collection of the nutrient intake and food consumption data.

The Finnish food consumption data have been prepared. The 3-day food records of 2858 children aged 1, 3 or 6 years have been entered and checked. The food consumption and nutrient intake from foods and dietary supplements have been estimated and tabulated. Special attention was placed on fish consumption which was reported in species level, whenever appropriate. The Spanish food consumption and nutrient intake from foods and dietary supplements have also been estimated and tabulated. EPIC food categories were used in food classification. For both Finland and Spain, we have collected food consumption data for several age groups starting from 1-year-old and 3-4-year-old children up to 65-74-year old adults. The results are for men and women separately. These results will be used for new benefit-risk analysis, and to extend the current fish case study to new populations.

FSAI has completed data entry on food consumption data for Irish adults aged 18-64 (n= 967) and Irish children aged 5-12 (n = 594), and these data are now available for uploading into the Beneris database. While nutrient intake by these populations is currently not held by FSAI, these data could be obtained from the Irish Universities Nutritional Alliance (IUNA), if deemed to be useful. FSAI also has extensive data on POPs and heavy metals (including Mercury) in fish and – these contaminant data will be uploaded into the Beneris database in the near future.

# WP2.2: "Contaminant concentration"

## Workpackage progress of the period

### Objective

Find out associations between external dose (intake) and internal dose (concentrations in the body).

### Starting point at beginning of reporting period

Project launch.

### Progress towards objectives

The preparation and chemical analysis of 130 placenta samples for methyl mercury (DTU) and other pollutants including PCDD/Fs, PCBs, PBDEs, organotin compounds, and PCNs (KTL) has started.

**Contractors involved**

KTL, DTU

**Deviations from the project workprogramme**

No deviation.

### General description of WP2.2 (whole-project duration)

| | |
|---|---|
| WP number | 2.2 |
| WP name | Contaminant concentration |
| WP leader | KTL / Terttu Vartainen |
| Partners involved | KTL, DTU |
| Workpackage objectives | ■ The general objective is to find out association between external dose (intake) and internal dose (concentrations in the body). The immediate objectives are<br>■ To analyse contaminants (PCDD/Fs, PCBs, PBDEs, organotin compounds, PCNs and Hg/methyl-Hg) from 50-200 placentas. |

The chemical analysis of 130 placenta samples have been discussed and planned in detail between Food-DTU and Hannu Kiviranta, KTL. Special emphasis was placed on prevention of accidental contamination of the samples during work-up (including homogenisation) and storage. The homogenised samples as well as a set of non-homogenised identical samples were received in Denmark. The latter set is to be used to resolve possible cases of contamination of the homogenised placenta samples. Work is now in progress to dissolve the homogenised samples by high-pressure wet-ashing using a mixture of nitric acid and hydrogen peroxide. The samples are treated in batches comprising 15 unknown samples, one whole blood CRM and two blanks. Once dissolved, the trace element content in the samples will be measured (over the spring of 2007) by semi-quantitative ICP-MS. A selection of analytes, including selenium and mercury, will be subsequently be submitted to full quantitative analysis. In Kuopio final method adjustment for placenta POP analyses has been performed during the winter after sending samples to Denmark. This work will speed the process of placenta analysis which will start before summer 2007.

## WP2.3: "Contaminant intake studies"

### Workpackage progress of the period

**Objective**

To combine existing and new data of food diary data with data of contaminants.

**Starting point at beginning of reporting period**

Project launch.

**Progress towards objectives**

A probabilistic intake estimation method (Monte Carlo simulation) has been developed and tested, using data from WP2.1 and WP2.2.

### Contractors involved

KTL

### Deviations from the project workprogramme

No deviation.

### Milestones

| Name | WP no. | Due (project month*) | Actual / foreseen date | Reasons for deviation and recuperative measures | Lead contractor |
|---|---|---|---|---|---|
| Intake of different contaminants in different subpopulations is compared with the TDI values of EC and WHO. | 2.3 | not determined | | | KTL |
| Food consumption advice is given for relevant subpopulations. | 2.3 | not determined | | | KTL |

## General description of WP2.3 (whole-project duration)

| | |
|---|---|
| WP number | 2.3 |
| WP name | Contaminant intake studies |
| WP leader | KTL /Tero Hirvonen |
| Partners involved | KTL, FSAI, DTU, FIN |
| Workpackage objectives | ■ To combine existing and new data of food diary data with data of contaminants. The special emphasis is on children and the developing foetus. |

A probabilistic intake estimation method (Monte Carlo simulation) has been developed and tested. We compared the following estimation methods: 1) Monte Carlo simulation using the whole food consumption data and the contaminant concentration data 2) Monte Carlo simulation using distributions of food consumption and contaminant concentration, and 3) Deterministic calculation using the whole food consumption data and average contaminant concentrations. We also assed the impact of energy underreporting on intake estimates. We found out that for the mean contaminant intake the methods gave results that were rather close to each other. For the 95th percentile the methods gave more varied results. Energy underreporting did not significantly distort the results.

# WP2.4: "Database work"

## Workpackage progress of the period

### Objective

1. To develop an integrated repository of surveillance, nutrient and food consumption data.
2. To develop tools for making the accumulated data readily available to key stakeholders.

### Starting point at beginning of reporting period

Project launch.

**Progress towards objectives**

Based on evaluation of the existing work with food databases, it was concluded that the collection of data for benefit-risk analyses should be designed so that there is special emphasis on the applicability and simplicity of the data.

**Contractors involved**

DTU, KTL

**Deviations from the project workprogramme**

Work in progress. However, a delay in D7 (see details above in the table of all WP2 deliverables)

**Corrective actions taken / suggested**

New personnel hired; D7 work will be finished in a few months.

**Milestones**

| Name | WP no. | Due (project month*) | Actual / foreseen date | Reasons for deviation and recuperative measures | Lead contractor |
|---|---|---|---|---|---|
| A decision will be made on which parts of the national data will be integrated and on what level | 2.4 | 9 | 18 | The repository was deemed to require continuous development and will be discussed in the upcoming workshop (Sept 2007). | DTU |

## General description of WP2.4 (whole-project duration)

| | |
|---|---|
| WP number | 2.4 |
| WP name | Database work |
| WP leader | DTU / Ole Ladefoged |
| Partners involved | KTL, DTU, Lendac |
| Workpackage objectives | ■ To develop an integrated repository of surveillance, nutrient and food consumption data,<br>■ To develop a robust system capable of receiving datasets from multiple sources on an ongoing basis,<br>■ To develop a rapid analytical tool for deriving intake estimates for key contaminants and essential nutrients to address the overall aims of the project.<br>■ To develop tools for making the accumulated data readily available to key stakeholders involved in risk analysis including the European Food Safety Authority and national authorities. |

The work related to combining existing databases has lead to several important conclusions that have affected the plans of further work. First, DTU participated the SafeFoods project, where detailed information have been gathered on food consumption databases from Holland, Sweden, Italy, and Denmark. From this work the conclusion was that it is very difficult and time consuming to integrate food consumption data between the countries. Therefore, the collection of data for benefit-risk analyses should be designed so that there is special emphasis on the applicability and simplicity of the data. The data reformatting and collection should not be done between Ireland, Finland, and Denmark before these these issues have been resolved. Second, the rapid development of the benefit-risk analysis method created new requirements for the database to be developed. Third, the review of the existing database has been

delayed due to the retirement of Anders Møller (DTU) from the project.

It was therefore concluded that the design and structure of the databases must be thought through from a novel basis. The main emphasis during the first year should be on developing the benefit-risk analysis methods. Then, the implications of the method to the database work should be clarified in the beginning of the second year. The actual integrated repository development should therefore mainly occur during the second year. The review of existing databases is ongoing, and two experienced people will prepare the document within the next few months. We have an agreement with Holland that the Finnish residue database on dioxins could be used together with the Dutch database developed in the SafeFoods project.

# WP3: "Case 1: Fish"

## Workpackage progress of the period

### Objective

To conduct a BRA on fish for general European population and to susceptible subpopulations such as pregnant and nursing mothers and their children. Quantification of key health implications, uncertainties and policy options and further study needs.

### Starting point at beginning of reporting period

Project launch

### Progress towards objectives

- A BBN developed for the full BRA of fish.
- Literature review on health effects of fish was completed. Evaluation of the most relevant health effect indicators of fish is under way.
- The preliminary BRA on fish was finalised and submitted for publication"

### Contractors involved

KTL, Foodfiles, TUDelft

### Deviations from the project workprogramme

No deviation.

### Deliverables

| No. | Name | WP no. | Due (project month*) | Actual / foreseen date | Reasons for deviation and recuperative measures | Estimated indicative person-months | Used indicative person-months | Lead contractor(s) |
|---|---|---|---|---|---|---|---|---|
| D6 | Table of benefits of fish | 3 | 6 | Oct 13, 2006 and Nov 1, 2007 | Delivered in time by FFiles, distribution by KTL delayed due to changes in personnel and tasks. | 1 | 1 | FFiles |

### Milestones

| Name | WP no. | Due (project month*) | Actual / foreseen date | Reasons for deviation and recuperative measures | Lead contractor |
|---|---|---|---|---|---|
| Review of the initial prioritization of the most important health benefits. Possible changes in work plan | 3 | 6 | 6 | | FFiles |

## General description of WP3 (whole-project duration)

| | |
|---|---|
| WP number | 3 |
| WP name | Case 1: Fish |
| WP leader | FFiles / Henna Karvonen |
| Partners involved | KTL, TUDelft, FFiles, DTU, FIN |
| Workpackage objectives | The general objective is to perform risk-benefit analysis on fish based on the methods developed in WP1; nutrition and contaminant information collected in WP2; and benefit dose-responses derived in this WP. We will estimate the dose-response slopes for different health benefits of fish including uncertainty around these estimates. A key task is to quantify the cardiovascular benefits of fish on different population subgroups, like cardiovascular patients vs. healthy adults, using the large body of published literature. Other potential benefits of fish include beneficial effects during pregnancy and early childhood on childhood development, allergies, and osteoporosis. All of these effects will be reviewed, prioritized and the most important effects and their uncertainties will also be quantified. |

In general, WP3 aims at performing benefit-risk analysis on fish consumption based on methods developed in WP1 and data on consumption and contaminants collected in WP2. TU Delft has had the main responsibility of developing the Bayesian belief network, while KTL, together with FFiles, has prepared the preliminary case study.

**Application of BBN on fish**

In this work package TUDelft is mainly responsible for preliminary Bayesian Belief Network for fish consumption. Actions taken during the reporting period are described below.

As a result of discussions during meetings and telephone conference among project participants the scope of the first case study on fish has been defined. Both the content of draft BBN model for general aim in this case study and the smaller sub-model to be analyzed in the first place have been specified.

Smaller BBN for the fish case study consists of three sets of nodes: nutritional effectors, personal effectors and health endpoints, and each variable from the two first sets is connected with the impacted health effect via directed arrow in the BBN. Each endpoint node can be represented as a function of variables linked to this node. In the risk assessment this function is known as dose-response relation. Because of limited information about dose-response relations for health effects chosen for fish case study, TU Delft has developed and applied to this specific case a generalized method for modeling and quantification of these relations. This method has attractive features: is flexible, can be used to estimate health effects of various natures (expressed as probability or size of the effect) and to quantify the uncertainty around these estimates. It also guides the overall data collection effort and shows places where this effort can best be focused.

Based information provided on smaller BBN model TUDelft has produced a model emulator. That is, TUDelft has created and fully quantified a BBN that imitates the real BBN. It is a fictitious model since it is not supported by real data. TUDelft has also actively worked on developing BBN software that assists decision-making, handles any continuous variables and allows for functional relations between BBN nodes.

Detailed specification on methods and software developed by TUDelft in WP3 will be the subject of Deliverable D8.

**Benefits and risks of fish as food**

In this work package Foodfiles is responsible for reviewing the existing data from clinical trials and epidemiological studies on the various health effects of fish. During the first six months of the project Foodfiles made on overview on the beneficial nutrients and health effects of fish. The results of this overview were summarized in tables. Based on the collected information the relationships between most

important effects and intake of fish or its nutrients are currently illustrated by Analytica-software. Next step will be quantifying the health benefits of fish and omega-3 fatty acids on cardiovascular disease and mortality for the further development of the benefit-risk analysis.

A preliminary benefit-risk analysis of fish (case 1) has been produced. A research manuscript has been sent to a peer-reviewed journal (Leino et al., 2007). This work was mainly done in KTL, with collaboration with FFiles. The full Bayesian belief network (BBN) model has been developed, and the data collection for the model has started.

As another thread of work, KTL has been writing a draft chapter "The risks and benefits of consumption of farmed fish" in a book "Improving farmed fish for the consumer" by Prof Øyvind Lie, NIFES, Norway. This work is a collaboration with the EU project AQUAMAX. The chapter is still under preparation, and the book will be published during the second year of the Beneris project.

Report submitted:

- Tables on the health effects of Fish (D6)(Tables on Beneris web-site Nov 1st, 2006 and report in PDF-format Feb 2nd, 2007)

Milestones and expected result during the first 18 months of the project

- Review and initial prioritization of the most important health benefits. (month 6, task conducted in the agreed timetable)
- Quantification of the effect of fish on cardiovascular disease and mortality. Identification of the need for further expert elicitation and other work. (month 18, currently under processing)

# WP4: "Case 2: Vegetables"

## Workpackage progress of the period

### Objective

To perform a BRA for vegetables in diet.

### Starting point at beginning of reporting period

Project launch.

### Progress towards objectives

Not started yet (needs further development and application of methods in WP3).

### Contractors involved

FIN

### Deviations from the project workprogramme

The launch postponed, pending results from WP1 and WP3.

### Corrective actions taken / suggested

Work will be launched in the upcoming workshop.

## General description of WP4 (whole-project duration)

| | |
|---|---|
| WP number | 4 |
| WP name | Case 2: Vegetables |
| WP leader | FIN Lluis Serra-Majem |
| Partners involved | KTL, FSAI, DTU, FIN |
| Workpackage objectives | ■ To perform a preliminary benefit-risk analysis for vegetables in diet. A special focus will be on alternative sources of nutrients, such as supplements and food fortification.<br>■ To perform an updated benefit-risk analysis based on the preliminary analysis, the new intake data from several countries, and the redefined scope based on discussions among Beneris researchers. |

Due to the large methodological development, and the need to first apply the methods in the Fish case study (WP3), there has been no hurry to start the second case study. Therefore, little work has been done within the WP4. The work will get into full speed during the second year of the project.

# WP5: "Dissemination"

## Workpackage progress of the period

### Objective

To develop an internet interface for publishing risk assessment results, as well as models for assessments and for collecting end-user feedback.

### Starting point at beginning of reporting period

Project launch.

### Progress towards objectives

- Beneris website was opened.
- A tool for transforming BRA models into web pages was developed.
- The planning of a Gordon conference was started.

### Contractors involved

Lendac, FSAI, KTL

### Deviations from the project workprogramme

No deviation.

### Deliverables

| No. | Name | WP no. | Due (project month*) | Actual / foreseen date | Reasons for deviation and recuperative measures | Estimated indicative person-months | Used indicative person-months | Lead contractor(s) |
|---|---|---|---|---|---|---|---|---|
| D2 | Beneris website | 5 | 2 | June, 2006 | | 2 | 2 | Lendac |

### Milestones

| Name | WP no. | Due (project month*) | Actual / foreseen date | Reasons for deviation and recuperative measures | Lead contractor |
|---|---|---|---|---|---|
| Decision on the server and platform to be used: Either Lendac or KTL | 5 | 2 | 2 | | Lendac, KTL |

## General description of WP5 (whole-project duration)

| | |
|---|---|
| WP number | 5 |
| WP name | Dissemination |
| WP leader | FSAI / Iona Pratt |
| Partners involved | KTL, TUDelft, FSAI, DTU, FVST, Lendac, FIN |

| | |
|---|---|
| Workpackage objectives | ■ To develop an internet interface for publishing risk assessment results. Specifically,<br>■ to develop a method to publish entire benefit-risk models over the Internet using XML;<br>■ to develop methods to collect feedback from end-users about benefit-risk analyses;<br>■ to enhance the availability of existing databases through this interface.<br>■ To disseminate the results and to evaluate the relevance and usefulness of the work done in the project from the perspective of an end-user / authority. |

Overall, the dissemination activities are scheduled in the mid-term and end of the project. The first year has mainly been about developing methods and tools for dissemination. There has been four streams of activities here:

- The Beneris website has been opened.
- The preparations for a Gordon-type conference have been started.
- Tools to publish models in the internet have been developed.
- A benefit-risk analysis (case 1: fish) has been started in the Internet.

Beneris website

Lendac Data Systems are primarily involved in the information dissemination (WP5) area of Beneris. Lendac's initial focus was on developing the Beneris website (www.beneris.eu) to provide public access to the Beneris project. This particular aspect of the project was completed on schedule in month 2 of Beneris. The website was set up to provide an overview to the various aspects of Beneris from project objectives to participant information. The website contains comprehensive information on all aspects of Beneris and includes project summary, project objectives, participants list, potential impact, work package details, news, events, posters, publications and links to other relevant websites. The website includes an overall search engine to facilitate location of relevant data. The website has been designed to include various levels of editorial control including website administration, editorial committee level and members area editing to facilitate information dissemination. Additional features will be added to the site as requirements arise particularly in the areas of information dissemination, user response and polls at the later stages of Beneris. Lendac Data Systems have also been working on the development of a search engine. Lendac have also been involved in administration and project design aspects of above developments.

Lendac activities have been focused on the WP5 dissemination area of Beneris including:
(a) Registration & development of www.beneris.eu website and incorporating website content from various sources.
(b) Development of data transformation models particularly between Analytica XML MediaWiki platforms to facilitate internet publishing.
(c) Development of internet interface and publishing tools to facilitate results dissemination.

Gordon conference

Beneris project in collaboration with Qalibra project, and Sytyke (Graduate School of Environmental Health) will organise a conference about environmental health in the Valamo monastery (http://www.valamo.fi) , Finland, on December 3-5, 2007. The theme of the conference is **Benefit-risk analysis: how to learn from previous assessments?** The conference is open to all aspects of environmental health. Risks and benefits of food are emphasized. The arrangements of the conference are ongoing.

Tools to publish models

The tools to publish models are directly linked to the overall method development (Workpackage 1). The main achievements are described there, and here we only focus on the dissemination aspects. We have

developed an Internet interface in collaboration with Intarese (http://www.intarese.org) project. The interface makes it possible to describe the contents and results of benefit-risk analyses, and enable stakeholders to bring up related issues and concerns. The internet site (http://heande.pyrkilo.fi) exists already, and the major properties that the interface will have are known. The basic functionalities have been installed.

To help the modelling-publishing interface, Lendac together with KTL has developed a web tool that automatically transforms a benefit-risk model into a structured description on a webpage. This functionality works with Analytica files saved in XML format. Analytica is the main platform for producing these models in Beneris. The basic functionalities exist, but there is further work needed with formatting and readability of the outcome pages. The Internet interface also provides the original XML models, so that an enduser who has Analytica program, can download the full model and run it himself. (A browser version without editing capabilities is freely available). Further, Analytica has a graphical interface, and the models are described as influence diagrams. We have linked this property in our Internet interface so that these diagrams can be presented in the Internet. The enduser can then access detailed model descriptions just by clicking a certain part of the influence diagram. However, this functionality is not fully automated. The tools and some current examples can be found from http://heande.pyrkilo.fi.

Methods to collect feedback have been developed. A manuscript is about to be submitted to a peer-reviewed journal ([[Pyrkilo method|Tuomisto et al., 2007). A web interface (http://heande.pyrkilo.fi) has been developed to express the functionalities of the method. A draft version exist already, but a lot of work is needed to improve the user-friendliness of the website.

Dissemination of benefit-risk analysis of fish

The fish case study has been used as an example for dissemination activities and methods. There is a submitted manuscript on this (Leino et al., 2007) about the preliminary benefit-risk assessment of fish. At the same time of submission, the benefit-risk model of this case was published in the Internet. Further work is going on to publish also the detailed descriptions of the model contents and conclusions in a way that they can be understood without modelling experience. In addition, a possiblility to give feedback about the model and its conclusions is available already now. This feature will be developed further.

**Future plans of dissemination**

The actual dissemination aspects will primarily start in year 2 of the project, as the first draft benefit-risk assessments have only recently become available from (Leino et al., 2007). Evaluation work will be done in collaboration with other projects, including Qalibra and Intarese, as part of the cluster activities (WP6).

FSAI and Lendac Ltd, both located in Dublin, Ireland, have already liased on aspects of the dissemination strategy and will meet again early in year 2 to progress the milestones and deliverables (D5, D26, D31, D43, D45, D46) of this part of the project. As indicated, these are not scheduled until years 2 and 3 of the project. Progress is thus on target according to the established milestones of Beneris.

The evaluation of the methodologies developed will start during the second year. There must be enough practical experience about producing benefit-risk information, about publishing it over the Internet, and about collecting feedback from stakeholders, before any evaluation is possible. The first evaluation will be based on the Leino et al. model and manuscript (Leino et al., 2007). The evaluation work will be done in collaboration with other projects, including Qalibra and Intarese.

The Internet interface will be developed further. There is major work to be done in order to facilitate the use of the interface by endusers. Also the methods and guidance for risk assessors are needed and being developed. The main issues are about structuring the benefit-risk analysis work in a practical way, and effective ways of publishing complex issues in the Internet.

The work on enhancing database availability will start during the second year of the project, when the integrated repository has taken its shape. Because of the active development of the overall methods (Workpackage 1) and the delays in intagrated repository (Workpackage 2), we had concluded that the time

was not ripe for writing the Dissemination plan in the early phase of the project. Now, as these issues have clearly matured, the Dissemination plan will be written during the next few months.

# WP6: "Cluster activities"

## Workpackage progress of the period

### Objective

To establish a platform for cluster activities between Beneris and Qalibra projects

### Starting point at beginning of reporting period

Project launch.

### Progress towards objectives

- Beneris kick-off meeting on May 2006.
- Joint web page opened.
- Collaboration with TU Delft and CSL about modeling.
- Cluster coordination.
- Joint project meetings planned/organized.
- Gordon conference in preparation.
- Scientific advisory panel appointed.

### Contractors involved

KTL, FVST, FFiles, Lendac, FSAI

### Deviations from the project workprogramme

Dissemination plan postponed due to changes in overall methodology.

### Corrective actions taken / suggested

The draft plan will be prapared in July, 2007 and distributed between projects.

### Deliverables

| No. | Name | WP no. | Due (project month*) | Actual / foreseen date | Reasons for deviation and recuperative measures | Estimated indicative person-months | Used indicative person-months | Lead contractor(s) |
|---|---|---|---|---|---|---|---|---|
| D3 | Kickoff meeting | 6 | 2 | May 23-24, 2006 | | 2 | 2 | KTL |
| D5 | Beneris&Qalibra dissemination strategy | 6 | 4 | A draft to be finished by July, 2007, for distribution between projects. | Postponed due to changes in overall methodology. Discussions are going on between KTL, FSAI, and Lendac. | 1 | 1 | FSAI, KTL |

### Milestones

| Name | WP no. | Due (project month*) | Actual / foreseen date | Reasons for deviation and recuperative measures | Lead contractor |
|---|---|---|---|---|---|
| Project kick-off meeting | 6 | 2 | 23-24 May, 2006 | | |
| Sharing data on concentrations (exposure assessment) for different fish species (Salmon & herring from BENERIS and other oily fish from QALIBRA) | 6 | 12 | 18 | Data format will be fixed in the upcoming workshop in September. | KTL |

## General description of WP6 (whole-project duration)

| | |
|---|---|
| WP number | 6 |
| WP name | Cluster activities |
| WP leader | KTL / Anna Karjalainen |
| Partners involved | KTL, TUDelft, FSAI |
| Workpackage objectives | The objective is to establish a platform for cluster activities between Qalibra and Beneris projects and report about them to the Commission. |

### Workpackage progress of the period

Main achievements in the period:

- The first Cluster meeting and a report containing the output from the Cluster meeting (deliverable D3)
- Cluster website (performed and maintained by Qalibra)
- Finalization of the membership of the Scientific Advisory Panel (SAP).

Summary of activities in WP6 during the first project year:

- The first Cluster meeting of the Qalibra and the Beneris projects was organized and planned by IFL/Matis in cooperation with KTL, RIVM and CSL. The meeting was held at RIVM, Netherlands May 23rd-24th 2006 at the same time as both projects conducted their separate kick-off meetings. IFL/Matis was wrote a report containing the output from the Cluster meeting in July, 2006.
- The cluster website (www.qalibra-beneris.eu) was developed by CSL (Qalibra) in collaboration with Beneris in July, 2006.
- The first draft of a cluster agreement between Qalibra and Beneris has been written by IFL/Matis. The cluster agreement is being finalised by IFL/Matis.
- The membership of the Scientific Advisory Panel (SAP) for Qalibra and Beneris has been finalized.
- CSL (Qalibra) has liaised with Beneris about methods for quantifying uncertainty. To progress this, a CSL scientist visited TU Delft to learn about the methods for dealing with uncertainty in expert opinion in Beneris.
- KTL has started to organise the joint Qalibra/Beneris mideterm meeting to be held in Helsinki, Finland, October 31st - November 2nd. The meeting issues have been communicated with Qalibra.
- The Qalibra/Beneris cluster coordination was changed from Eva Yngvadottir to Helga

Gunnlaugsdottir. This change does not cause changes in the responsibilities between Qalibra and Beneris.

Deviations from the plan

- Due to delay in other workpackages, sharing data on concentrations (exposure assessment) between Qalibra and Beneris will be delayed by 2 months to Month 14 instead of Month 12.
- Due to improvement in the methodological work, dissemination strategy of Qalibra and Beneris has been postponed from month 4 to month 17.

**Plans for next project period**

- A Cluster agreement between Qalibra and Beneris will be finished.
- Midterm meeting. KTL, together with IFL/Matis, will organise a meeting of the Scientific Advisory Panel (SAP) in connection with the joint cluster meetings. The meeting with the Scientific Advisory Panel, will be used to monitor and discuss the progress and results in the projects in context with the plan and will hence be used for quality control of the projects.
- A Gordon-type conference about environmental health risk assessment for PhD students and experts will be organised in Valamo monastery, Finland, on December 3rd-5th, 2007. A special focus will be on benefit-risk analysis and nutrition. KTL will organise the conference in collaboration with Altagra/CSL from Qalibra, and the Graduate School of Environmental Health.
- The dissemination strategy of the cluster will be integrated by close consultation between BENERIS and QALIBRA, under the joint responsibility of the lead partners for dissemination in each project (WU and FSAI), in collaboration with KTL.

# WP7: "Management"

## Workpackage progress of the period

### Objective

To provide partners with the relevant information and to make the project to work smoothly in concert

### Starting point at beginning of reporting period

Project launch.

### Progress towards objectives

- Kick-off meeting organised.
- Steering committee elected.
- Framework development agreed upon.
- Project deliverables prepared.
- Upcoming Gordon conference and 2nd project meeting prepared.
- Partners informed via email on relevant issues.

### Contractors involved

KTL, all

### Deviations from the project workprogramme

- The tentative plan of a Gordon conference was materialised.
- The partner DFVF went through organisational arrangements, and the responsibilities were taken over by DTU.

### Corrective actions taken / suggested

None needed.

### Deliverables

| NNo. | Name | WP no. | Due (project month*) | Actual / foreseen date | Reasons for deviation and recuperative measures | Estimated indicative person-months | Used indicative person-months | Lead contractor(s) |
|---|---|---|---|---|---|---|---|---|
| D4 | Project brochure and poster | 7 | 3 | Feb 1, 2007 | Changes in personnel and tasks. | 0.3 | 0.1 | KTL |
| D13 | First year report | 7 | 12 | May 14, 2007 | | 0.5 | 1 | KTL |

### Milestones

| Name | WP no. | Due (project month*) | Actual / foreseen date | Reasons for deviation and recuperative measures | Lead contractor |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Kick-off meeting | 7 | 2 | 23-24 May, 2006 | | KTL |
| End of preliminary phase (month 6), framework development completed and all partners informed and agreed on their tasks | 7 | 6 | 6 | | KTL |

## General description of WP7 (whole-project duration)

| | |
|---|---|
| WP number | 7 |
| WP name | Management |
| WP leader | KTL /Jouni Tuomisto |
| Partners involved | KTL, TUDelft, FFiles, FSAI, DTU, FVST, Lendac, FIN |
| Workpackage objectives | The objective of this activity is to guarantee a smooth and effective collaboration between partners, and an organised processing of different activities so that all partners are working in concert, and at the end of each year and at the end to take lead in reporting activities. |

The work under Workpackage 7 is described under Section 3 - Consortium management.

## Table 1.2.2. All deliverables of the reporting period

**Deliverables of the first reporting period (all WPs)**

| No. | Name | WP no. | Due (project month*) | Actual / foreseen date | Reasons for deviation and recuperative measures | Estimated indicative person-months | Used indicative person-months | Lead contractor(s) |
|---|---|---|---|---|---|---|---|---|
| D1 | Workplan pyrkilo | 1 | 2 | June 19, 2006 | | 2 | 3 | KTL |
| D2 | Beneris website | 5 | 2 | June, 2006 | | 2 | 2 | Lendac |
| D3 | Kickoff meeting | 6 | 2 | May 23-24, 2006 | | 2 | 2 | KTL |
| D4 | Project brochure and poster | 7 | 3 | Feb 1, 2007 | Changes in personnel and tasks. | 0.3 | 0.1 | KTL |
| D5 | Beneris&Qalibra dissemination strategy | 6 | 4 | A draft to be finished by July, 2007, for distribution between projects. | Postponed due to changes in overall methodology. Discussions are going on between KTL, FSAI, and Lendac. | 1 | 1 | FSAI, KTL |
| D6 | Table of benefits of fish | 3 | 6 | Oct 13, 2006 and Nov 1, 2007 | Delivered in time by FFiles, distribution by KTL delayed due to changes in personnel and tasks. | 1 | 1 | FFiles |
| D7 | Database review: contaminant food intake | 2 | 8 | July, 2007 | Delayed due to retirement of key personnel (Anders Møller). Two new persons were hired in the Department of Nutrition in DTU, and the work will be finalised within a few months. | 2 | 2 | DTU |
| D8 | Improved dose response | 1 | 10 | March 22, 2007 | | 5 | 5 | TUDelft, KTL |
| D9 | Ethical approval | 2 | 12 | March 12, 2007 | | 0.3 | 0.3 | KTL |
| D10 | Food diaries | 2 | 12 | March 30, 2007 | | 3.7 | 4 | KTL |
| D11 | Food intake data | 2 | 12 | March 30, 2007 | | 2 | 1 | FIN |
| D12 | Contaminant levels in fish | 2 | 12 | Existing PCDD/F, PCB, PBDE, and Met-Hg levels delivered to relevant partners on 13 Sep 2006 | | 1 | 1 | KTL |
| D13 | First year report | 7 | 12 | May 14, 2007 | | 0.5 | 1 | KTL |

* Month 0 corresponds to 1 April, 2006

## Table 1.2.3. All milestones of the reporting period

**Milestones related to the first reporting period (all WPs)**

| Name | WP no. | Due (project month*) | Actual / foreseen date | Reasons for deviation and recuperative measures | Lead contractor |
|---|---|---|---|---|---|
| Kick-off seminar | 1 | 2 | 23-24 May, 2006 | | KTL |
| Distributions of nutrient intakes and food consumption relevant to risk-benefit analysis among 25-64 year old adult population | 2.1 | not determined | | | DTU, FIN, KTL |
| Distributions of nutrient intakes and food consumption relevant to risk-benefit analysis among pregnant women | 2.1 | not determined | | | DTU, FIN, KTL |
| Distributions of nutrient intakes and food consumption relevant to risk-benefit analysis among 1-, 3- and 6-year old children | 2.1 | not determined | | | DTU, FIN, KTL |
| Intake of different contaminants in different subpopulations is compared with the TDI values of EC and WHO. | 2.3 | not determined | | | KTL |
| Food consumption advice is given for relevant subpopulations. | 2.3 | not determined | | | KTL |
| A decision will be made on which parts of the national data will be integrated and on what level | 2.4 | 9 | 18 | The repository was deemed to require continuous development and will be discussed in the upcoming workshop (Sept 2007). | DTU |
| Review of the initial prioritization of the most important health benefits. Possible changes in work plan | 3 | 6 | 6 | | FFiles |
| Decision on the server and platform to be used: Either Lendac or KTL | 5 | 2 | 2 | | Lendac, KTL |
| Project kick-off meeting | 6 | 2 | 23-24 May, 2006 | | |
| Sharing data on concentrations (exposure assessment) for different fish species (Salmon & herring from BENERIS and other oily fish from QALIBRA) | 6 | 12 | 18 | Data format will be fixed in the upcoming workshop in September. | KTL |
| Kick-off meeting | 7 | 2 | 23-24 May, 2006 | | KTL |
| End of preliminary phase (month 6), framework development completed and all partners informed and agreed on their tasks | 7 | 6 | 6 | | KTL |

* Month 0 corresponds to 1 April, 2006

# Section 3 - Consortium management

The objective of this activity is to guarantee a smooth and effective collaboration between partners, and an organised processing of different activities so that all partners are working in concert, and at the end of each year and at the end to take lead in reporting activities. In addition to this, the consortium managament has promoted contacts with other players in the field of risks, benefits, and food.

Project management occurred under Workpackage 7.

The Kick-off meeting was organised as a joint meeting with QALIBRA in Bilthoven, the Netherlands, in May 2006. It included cluster activity issues with QALIBRA, a steering group meeting and other administrative issues of Beneris, and introduction of all partners into the general approach of benefit-risk analysis as seen in Beneris. There were many practical issues that could not be handled in the kick-off meeting, and therefore another meeting was organised soon after that in Helsinki in June 2006. It was mostly a WP2 meeting, and the database and nutrient data issues were dealt with. WP7 participated to promote smooth information flow between the different parts of Beneris.

EFSA organised *the 6th EFSA scientific colloquium: Risk-Benefit Analysis of Foods: methods and approaches* in Tabiano, Italy, on 13-14 July 2006. The main issues there were about finding proper summary metrics for different risks and benefits of food. The basic message from the discussions was that disability-adjusted life years (DALYs) are a reasonable proxy for summarising health effects for the time being. Beneris had three delegates in the meeting from KTL and FSAI. During the meeting, we had a brief Beneris meeting about method development and dissemination issues. In addition, the Qalibra coordinator was in the meeting, and we had discussions on the cluster activities.

Most of the project management has been run over email and phone contacts. During the first year, the Steering group had two meetings: one during the kick-off, and another one in December 2006. The latter meeting was a teleconference.

Beneris has had close contacts to another EU project, namely Intarese. Its focus is on environmental health risks. Although the topics in Beneris and Intarese are different, the methodologies have great similarities, and they have been developed jointly. To promote this, KTL organised a joint workshop in Kuopio in March, 2007. There were more than ten people from Beneris and Intarese, and a Finnish fish health risk project Evaher. Participants were from six different institutes from different parts of Europe.

In addition to Intarese, Beneris has developed contacts with other institutes and projects developing environmental health risk assessment. These include the Centre of Excellence of Environmental Health Risk Analysis, located in KTL; the Environmental Risk Assessment Centre (ERAC) (a joint enterprise of the National Geology Survey, Finland, the University of Kuopio, and KTL); and the Graduate School of Environmental Health. People from Beneris have participated in the activities organised by these centres, both as lecturers and audience. There has also been active reserach collaboration together with the centres.

The cluster management was the responsibility of Qalibra, and it is described in more detail in Workpackage 6. One thing worth mentioning here is that the partners from the projects Beneris, Qalibra, and Aquamax, joined forces to apply for the Nordic Centre of Excellence of Food. However, the application was not successful.

**Changes in personnel. Consortium management problems and corrective actions.**

There has been one change in the Workpackage leader's list. WP6 leader Maria Rusanen has left KTL. The new WP6 leader is Anna Karjalainen from KTL. There have also been smaller personnel changes within the partner institutes, but these have not affected the project management. Eva Yngvadottir, the former coordinator of Qalibra, has left; the new coordinator of Qalibra is Helga Gunnlaugsdottir.

There have not been major problems or disagreements in the project management. The main problems have related to the fact that the project is supposed to apply a benefit-risk method in several workpackages (especially WP2 and WP3), although it is being developed in WP1 at the same time. This has caused

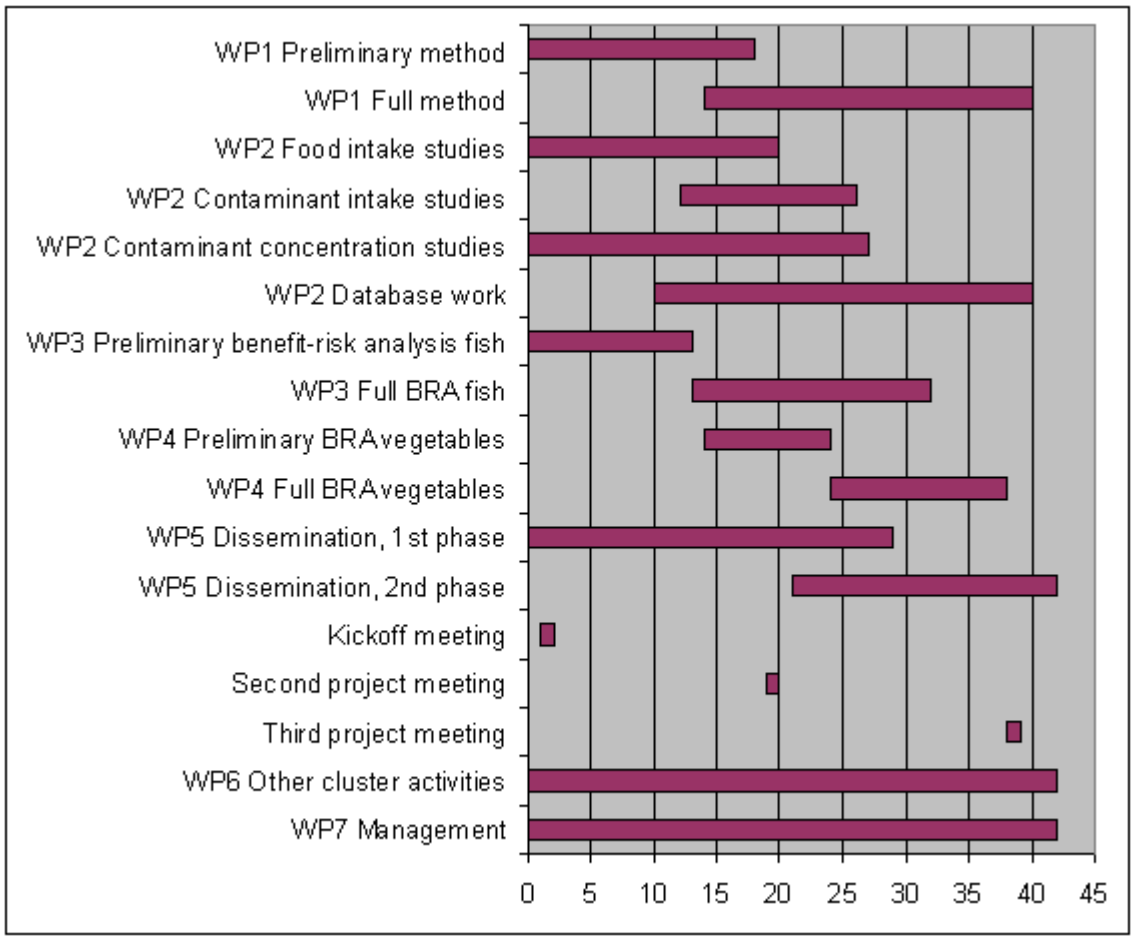
delays and confusion. The problem has been acknowledged, and it will hopefully abate in the future. This is because the method development is now reaching some level of maturity, which makes it possible to apply it. However, the future problems are anticipated to occur in the method application, as the new approach is very different than a traditional risk assessment. Therefore, guidance documents will be produced, and online help will be provided. The mid-term meeting and the Gordon conference will also promote the new method. Also training workshops are considered during the second year.

**Table 1.3.1. Consortium Management Problems.**

| WP title | WP no | WP leader | Problem | Corrective Actions Taken | Contractor(s) involved | Contractor's comments |
|---|---|---|---|---|---|---|
| Cluster activities | 6 | KTL | The coordination of Qalibra changed | Contacts created to the new coordinator | KTL | |
| Methods | 1 | KTL | The development in the method caused delay and confusion | The method development will be finalised by month 15, and the new guidance (Pyrkilo guide 2, due month 14) will be distributed almost in the planned time. Additional training will be organised if necessary. | All | |
| Databases | 2.1, 2.4 | FSAI, DTU | Formatting and combination problems of nutrient data has delayed the integration of data into a repository. | The data structure has been clarified (together with the method development, see above). Discussion and decisions on the issue will be finalised within the next few months. | FSAI, DTU, KTL, FIN | |
| Databases | 2.4 | DTU | The database review is delayed due to retirement of key personnel. | New people have been recruited, and the work will be finalised soon. | DTU | |

### Project timetable and status

There are no major changes in the project timetable. The start of Case 2 (Vegetables) and the database work has been postponed slightly. On the other hand, the preliminary benefit-risk analysis of fish has been finalised slightly sooner than anticipated. The current timetable is shown below.


WP1 Preliminary method
WP1 Full method
WP2 Food intake studies
WP2 Contaminant intake studies
WP2 Contaminant concentration studies
WP2 Database work
WP3 Preliminary benefit-risk analysis fish
WP3 Full BRA fish
WP4 Preliminary BRA vegetables
WP4 Full BRA vegetables
WP5 Dissemination, 1st phase
WP5 Dissemination, 2nd phase
Kickoff meeting
Second project meeting
Third project meeting
WP6 Other cluster activities
WP7 Management
0
5
10
15
20
25
30
35
40
45

# Section 4 - Other issues

The ethical issues in Beneris relate to the handling of human samples and data. Due to this, all studies have been performed applying the ethical rules of the respective institutes. The ethical approvals of the relevant studies have been compiled as Deliverable **D9 Ethical approval** in March, 2007.

In addition to the deliverable, there are no previous recommendations or other issues related to this section.

# Annex I - Plan for using and disseminating the knowledge

Beneris will produce a website for working on and disseminating benefit-risk analyses of food. The results of the analyses have potentially high economic interest and hopefully will result also in commercial use. However, the website itself and its contents are open and distributed freely on a non-profit basis. The website has been opened (http://heande.pyrkilo.fi), and the first benefit-risk analysis on fish (Case 1) has recently been launched.

**Table 1/I. Exploitable Knowledge and its Use.**

| Exploitable Knowledge (Description) | Exploitable Product(s) or Measure(s) | Sector(s) of Application | Timetable for Commercial Use | Patents or Other IPR Protection | Owner & Other Partner(s) Involved |
|---|---|---|---|---|---|
| Benefit-risk analyses (BRA) of food issues. The content is open and freely available to all. | A website to collect, organise, and distribute BRA information. http://heande.pyrkilo.fi | Food safety. Environmental health. | - | Based on General Public Lincense. | Owner: KTL. All partners involved in developing the website and/or producing information. |

## Dissemination of Knowledge

**Table 1/II. Dissemination of Knowledge - Overview.**

| Planned/Actual Dates | Type + | Type of Audience ++ | Countries Addressed | Size of Audience | Partner Responsible |
|---|---|---|---|---|---|
| March 14-16, 2007 | Scientific speach given on the model development within Beneris, and involved in the fortcoming meeting entitled Moving Toward Cumulative Risk Assessment | Research, SETAC(1) and SRA(2) related | USA | ca. 50 | 2. TUDelft, Roger Cooke |
| Will be submitted to editor review in June, 2007 | Book chapter (Woodhead Publishing Ltd., editor in chief: Oyvind Lie) written in collaboration with AQUAMAX | Basicly anyone | - | - | 1. KTL, Jouko Tuomisto |
| February 2007 | Booklet to be published by Irish Department of Agriculture outlining short details of FP6 projects with Irish participation | Government Departments, general public | Ireland | - | 4. FSAI, Iona Pratt and 7. Lendac, Don Lehane |

(1) SETAC=Society of Environmental Toxicology and Chemistry (Midwest Regional Chapter)

(2) SRA=Society for Risk Analysis (Chigago Regional Chapter)

+ Includes press releases (press/radio/TV), media briefings, conferences, exhibitions, publications, project website, posters, flyers, direct e-mailing, film and video

++ General public, higher education, research, industry (sector x)

## Publishable results

**Table 1/III. Publishable Results.**

| Result Description | Possible Market Applications | Stage of Development | Collaboration Sought or Offered | Collaborator Details | IPR Granted or Published | Contact Details |
|---|---|---|---|---|---|---|
| A website to collect, organise, and distribute information on issues relevant for benefit-risk analyses (BRA) of food. http://heande.pyrkilo.fi | The content is open and freely available to all. | The first development website has been opened. The first BRA has been launched to test the system. | Interested parties are welcome to contribute to the case studies with their own information, as long as it is offered under General Public License. | Main developer: KTL | Based on General Public License. | Jouni Tuomisto, KTL, P.O.Box 95, FI-70701 Kuopio, Finland. email: jouni.tuomisto[at]ktl.fi |

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

Instrument: STP-Specific Targeted Project

# *Appendices*

# First year report (D13)

Due date of deliverable: **May 15th, 2007**
Actual submission date: **June 29th, 2007**
Dissemination level: **PU**

Start date of project: **April, 1st 2006**
Duration: **3,5 years**

Organisation name of the lead contractor for this deliverable:
**National Public Health Institute** (Jouni Tuomisto)

**Revision 1**

# Contents

## Appendices

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|---|---|---|
| | EUROPEAN COMMISSION<br>RESEARCH DG SCIENCE AND SOCIETY | Science and Society Reporting Questionnaire |

**Project No.:** 22936

**Project Acronym:** Beneris

**Project Full Name:** Benefit-risk assessment for food: an iterative value-of-information approach

## Specific Targeted Projects

# Science and Society Reporting Questionnaire

**Period covered: from** 01/04/2006 **to** 31/03/2007

**Start date of project:** 01/04/2006

**Project coordinator name:**
Dr Jouni T. Tuomisto

**Project coordinator organisation name:**
Kansanterveyslaitos (National Public Health Institute)

**Date of preparation:** 11/05/2007

**Date of submission (SESAM):**
11/05/2007 14:22:27 CET

**Duration:** 42

**Version:** 1

# Specific Targeted Projects
# Science and Society Reporting Questionnaire

## GENERAL INFORMATION

| | |
|---|---|
| **Project No.:** | 22936 |
| **Project acronym:** | Beneris |
| **Project full name:** | Benefit-risk assessment for food: an iterative value-of-information approach |
| **Period number:** | 1st |
| **Period covered - start date:** | 01/04/2006 |
| **Period covered - end date:** | 31/03/2007 |
| **Project start date:** | 01/04/2006 |
| **Project duration [months]:** | 42 |
| **Project coordinator name:** | Dr Jouni T. Tuomisto |
| **Project coordinator organisation name:** | Kansanterveyslaitos (National Public Health Institute) |
| **Date of submission:** | 11/05/2007 |

# ETHICS

| Which (if any) of the following does your research project involve? | |
|---|---|
| **Human beings:** | Yes |
| **Human biological samples:** | Yes |
| **Human embryos or human embryonic stem cells:** | No |
| **Non human primates:** | No |
| **Personal data:** | Yes |
| **Genetic information:** | No |
| **Other animals:** | No |
| **Other:** | Yes |

| | |
|---|---|
| **To what extent do you believe ethical issues are relevant to your research project?** | Significant relevance |
| **Do you have Ethicists or others with considerable ethics experience involved in the project?** | No |
| **Did your project have a separate EC ethical review?** | No |
| **How much (including the value of time spent, as well as paid-out costs) do you estimate your project (when it is completed) will have spent on considering and dealing with ethical issues? (Euro)** | 10000 |

# GENDER (to be completed for CA's, SSA's and STREP's)

| | |
|---|---|
| **Did you undertake Gender Equality Actions in your research project?** | No |

| | |
|---|---|
| **If no, why not?** | Other |

**Other**

The team was already in the beginning rather balanced related to gender. A good proportion of workpackage leaders and other significant researchers were women. Particular gender issues or problems were not seen, and there was no need for additional action.

| If yes, which of the following actions did you carry out and how effective were they? | |
|---|---|
| **Design and implement an equal opportunity policy** | |
| **If yes, rate?** | |
| **Implement mentoring schemes for women:** | |
| **If yes, rate?** | |
| **Family friendly working conditions:** | |
| **If yes, rate?** | |

| | |
|---|---|
| **Was there a gender dimension associated with the research content?** | Yes |

**If yes please specify:**

In the research, there are gender differences in e.g. food consuption and nutrition behaviour. This issue has been understood and acknowledged in the research. Both males and females are being studied equally.

| | |
|---|---|
| **How much (including the value of time spent, as well as paid-out costs) do you estimate your project (when it is completed) will have spent on considering and dealing with gender issues? (Euro)** | 10000 |

## SCIENCE EDUCATION, TRAINING AND CAREER DEVELOPMENT

| | |
|---|---|
| **Does this project anticipate having a direct impact on the local economy?** | No |
| **If yes, is the project:** | |
| **Stimulating employment:** | |
| **Retaining highly trained personnel:** | |
| **Creating possible spin-out/start-up companies:** | |
| **Does your partnership employ and train researchers?** | Yes |
| **Does your project involve working with young people at schools?** | No |
| **Is there any education material being produced directly or indirectly by your project?** | Yes |
| **How much (including the value of time spent, as well as paid-out costs) do you estimate your project (when it is completed) will have spent on considering and dealing with Science Education, Training and Career? (Euro)** | 10000 |

## ENGAGING WITH ACTORS BEYOND THE RESEARCH COMMUNITY

| | |
|---|---|
| **Is the project likely to generate outputs (expertise or scientific advice) which could be used by policy makers?** | Yes |
| **If yes, is this a primary or secondary objective of the project?** | Secondary |
| **Did your project engage in significant communication with the public before research commenced?** | No |
| **Was the focus or methodology of your project modified in response to any communication with the public?** | No |
| **Does your project involve someone whose role is solely to communicate with the public?** | No |

# USE AND DISSEMINATION

| How many articles were published? | |
|---|---|
| **In refereed journals:** | 0 |
| **Other journals:** | 2 |
| **How many patents have been applied for?** | 0 |
| **How many other Intellectual Property Rights were applied for?** | 0 |
| **How many spin-offs were created?** | 0 |
| **Have you issued press releases related to your project (and if yes, how many)?** | No |
| **If yes please specify number:** | |
| **Have you held media briefings? If yes, how many, and on average roughly how many journalists attended?** | No |
| **If yes please specify number of briefings:** | |
| **If yes please specify average number of journalists:** | |

| Roughly how many items covering your project in the printed press, on radio or television can you identify? | |
|---|---|
| **Press:** | 0 |
| **Radio:** | 0 |
| **Television:** | 0 |

| Roughly how many items were: | |
|---|---|
| **Specialist Press:** | 0 |
| **Non-specialist Press:** | 0 |
| **National Press:** | 0 |
| **International Press:** | 0 |
| **Was there on-line information about the project?** | Specific web site |
| **Roughly how frequently has it been updated?** | weekly |
| **Do you have an e-mail mailing list to send news about the project?** | No |
| **If yes please specify number of subscribers:** | |
| **Have you created or participated in an event (e.g. workshop, conference, information day) in order to communicate with the public (not just other researchers or the press)?** | No |

| | |
|---|---|
| **Roughly how many people attended these events and learned about your project?** | 0 |
| **Have you produced a video or DVD film about your project?** | No |
| **If yes, how effective do you believe it has been in communicating with the public?** | |
| **Have you produced posters, flyers or brochures about your project?** | Yes |
| **If yes, how effective do you believe they have been in communicating with the public?** | Unable to assess |
| **In how many different languages were these products (video/DVD, posters, flyers, brochures) produced?** | 1 |

| **How have you distributed these products (video/DVD, posters, flyers, brochures)? Please tick all methods you have used.** | |
|---|---|
| **Sent on request:** | Yes |
| **Sent to schools/academic institutions:** | No |
| **Distributed through government agencies/public buildings/libraries etc.** | No |
| **Sent to potentially interested non-governmental bodies (NGOs, citizen's associations etc)** | No |
| **Other:** | No |
| **Other, please comment:** | |

## TOTAL COMMUNICATION SPEND

| | |
|---|---|
| **How much (including the value of time spent, as well as paid-out costs) do you estimate your project (when it is completed) will have spent on communication activities (engaging with the public, use and dissemination) as described in the current questionnaire? (Euro)** | 10000 |

## COMMENTS

**If you have any comments about your experience of meeting the Science and Society objectives within your project, or any suggestions of improvements to the programme please add them here.**

Most of the anticipated science and society activities will occur only after the first year.

| | |
|---|---|
| **Attachments** | |
| **Name** | |
| **Date** | |
| **Signature** | |

| | | |
|---|---|---|
| | EUROPEAN COMMISSION<br>RESEARCH DG<br>SOCIO-ECONOMIC DIMENSIONS IN FP6 | Socio-Economic Reporting Questionnaire |

**Project No.:** 22936

**Project Acronym:** Beneris

**Project Full Name:** Benefit-risk assessment for food: an iterative value-of-information approach

## Specific Targeted Projects

# Socio-Economic Reporting Questionnaire

**Period covered: from** 01/04/2006 **to** 31/03/2007

**Start date of project:** 01/04/2006

**Project coordinator name:**
Dr Jouni T. Tuomisto

**Project coordinator organisation name:**
Kansanterveyslaitos (National Public Health Institute)

**Date of preparation:** 11/05/2007

**Date of submission (SESAM):**
11/05/2007 13:48:08 CET

**Duration:** 42

**Version:** 1

# Specific Targeted Projects
# Socio-Economic Reporting Questionnaire

## GENERAL INFORMATION

| | |
|---|---|
| **Project No.:** | 22936 |
| **Project acronym:** | Beneris |
| **Project full name:** | Benefit-risk assessment for food: an iterative value-of-information approach |
| **Period number:** | 1st |
| **Period covered - start date:** | 01/04/2006 |
| **Period covered - end date:** | 31/03/2007 |
| **Project start date:** | 01/04/2006 |
| **Project duration [months]:** | 42 |
| **Project coordinator name:** | Dr Jouni T. Tuomisto |
| **Project coordinator organisation name:** | Kansanterveyslaitos (National Public Health Institute) |
| **Participant organisation name:** | Kansanterveyslaitos (National Public Health Institute) |
| **Date of submission:** | 11/05/2007 |

## SOCIO-ECONOMIC RESEARCH ACTIVITIES

| | |
|---|---|
| **Do your tasks in the project include socio-economic research activities?** | Yes |
| **If yes, what is the estimated total budget allocation that addresses these activities (when the project will be completed)?** | 50000 |

## FORESIGHT METHODS

| | |
|---|---|
| **Do your tasks in the project include foresight methods?** | Yes |
| **If yes, what is the estimated total budget allocation that addresses these activities (when the project will be completed)?** | 20000 |

## SOCIO-ECONOMIC SCIENTISTS

| | |
|---|---|
| **How many person/months (estimated) are allocated to researchers with a background in social sciences, to perform your tasks for the project (when it will be completed)?** | 5 |

| | |
|---|---|
| **Attachments** | |
| **Name** | |
| **Date** | |
| **Signature** | |

| | | |
|---|---|---|
|  | EUROPEAN COMMISSION<br>RESEARCH DG<br>SOCIO-ECONOMIC DIMENSIONS IN FP6 | Socio-Economic Reporting Questionnaire |

**Project No.:** 22936

**Project Acronym:** Beneris

**Project Full Name:** Benefit-risk assessment for food: an iterative value-of-information approach

## Specific Targeted Projects

# Socio-Economic Reporting Questionnaire

**Period covered: from** 01/04/2006 **to** 31/03/2007

**Start date of project:** 01/04/2006

**Project coordinator name:**
Dr Jouni T. Tuomisto

**Project coordinator organisation name:**
Kansanterveyslaitos (National Public Health Institute)

**Date of preparation:** 11/05/2007

**Date of submission (SESAM):**
11/05/2007 13:50:01 CET

**Duration:** 42

**Version:** 1

Specific Targeted Projects

Socio-Economic Reporting Questionnaire

## GENERAL INFORMATION

| | |
|---|---|
| **Project No.:** | 22936 |
| **Project acronym:** | Beneris |
| **Project full name:** | Benefit-risk assessment for food: an iterative value-of-information approach |
| **Period number:** | 1st |
| **Period covered - start date:** | 01/04/2006 |
| **Period covered - end date:** | 31/03/2007 |
| **Project start date:** | 01/04/2006 |
| **Project duration [months]:** | 42 |
| **Project coordinator name:** | Dr Jouni T. Tuomisto |
| **Project coordinator organisation name:** | Kansanterveyslaitos (National Public Health Institute) |
| **Participant organisation name:** | Technische Universiteit Delft |
| **Date of submission:** | 11/05/2007 |

## SOCIO-ECONOMIC RESEARCH ACTIVITIES

| | |
|---|---|
| **Do your tasks in the project include socio-economic research activities?** | Yes |
| **If yes, what is the estimated total budget allocation that addresses these activities (when the project will be completed)?** | 156000 |

## FORESIGHT METHODS

| | |
|---|---|
| **Do your tasks in the project include foresight methods?** | No |
| **If yes, what is the estimated total budget allocation that addresses these activities (when the project will be completed)?** | |

## SOCIO-ECONOMIC SCIENTISTS

| | |
|---|---|
| **How many person/months (estimated) are allocated to researchers with a background in social sciences, to perform your tasks for the project (when it will be completed)?** | 0 |

| | |
|---|---|
| **Attachments** | |
| **Name** | |
| **Date** | |
| **Signature** | |

| | | |
|---|---|---|
|  | EUROPEAN COMMISSION<br>RESEARCH DG<br>SOCIO-ECONOMIC DIMENSIONS IN FP6 | Socio-Economic Reporting Questionnaire |

**Project No.:** 22936

**Project Acronym:** Beneris

**Project Full Name:** Benefit-risk assessment for food: an iterative value-of-information approach

## Specific Targeted Projects

# Socio-Economic Reporting Questionnaire

**Period covered: from** 01/04/2006 **to** 31/03/2007

**Start date of project:** 01/04/2006

**Project coordinator name:**
Dr Jouni T. Tuomisto

**Project coordinator organisation name:**
Kansanterveyslaitos (National Public Health Institute)

**Date of preparation:** 11/05/2007

**Date of submission (SESAM):**
11/05/2007 14:15:30 CET

**Duration:** 42

**Version:** 1

# Specific Targeted Projects
# Socio-Economic Reporting Questionnaire

## GENERAL INFORMATION

| | |
|---|---|
| **Project No.:** | 22936 |
| **Project acronym:** | Beneris |
| **Project full name:** | Benefit-risk assessment for food: an iterative value-of-information approach |
| **Period number:** | 1st |
| **Period covered - start date:** | 01/04/2006 |
| **Period covered - end date:** | 31/03/2007 |
| **Project start date:** | 01/04/2006 |
| **Project duration [months]:** | 42 |
| **Project coordinator name:** | Dr Jouni T. Tuomisto |
| **Project coordinator organisation name:** | Kansanterveyslaitos (National Public Health Institute) |
| **Participant organisation name:** | Oy Foodfiles ltd |
| **Date of submission:** | 11/05/2007 |

## SOCIO-ECONOMIC RESEARCH ACTIVITIES

| | |
|---|---|
| **Do your tasks in the project include socio-economic research activities?** | No |
| **If yes, what is the estimated total budget allocation that addresses these activities (when the project will be completed)?** | |

## FORESIGHT METHODS

| | |
|---|---|
| **Do your tasks in the project include foresight methods?** | No |
| **If yes, what is the estimated total budget allocation that addresses these activities (when the project will be completed)?** | |

## SOCIO-ECONOMIC SCIENTISTS

| | |
|---|---|
| **How many person/months (estimated) are allocated to researchers with a background in social sciences, to perform your tasks for the project (when it will be completed)?** | 0 |

| | |
|---|---|
| **Attachments** | |
| **Name** | |
| **Date** | |
| **Signature** | |

| | | |
|---|---|---|
|  | EUROPEAN COMMISSION<br>RESEARCH DG<br>SOCIO-ECONOMIC DIMENSIONS IN FP6 | Socio-Economic Reporting Questionnaire |

**Project No.:** 22936

**Project Acronym:** Beneris

**Project Full Name:** Benefit-risk assessment for food: an iterative value-of-information approach

## Specific Targeted Projects

# Socio-Economic Reporting Questionnaire

**Period covered: from** 01/04/2006 **to** 31/03/2007

**Start date of project:** 01/04/2006

**Project coordinator name:**
Dr Jouni T. Tuomisto

**Project coordinator organisation name:**
Kansanterveyslaitos (National Public Health Institute)

**Date of preparation:** 11/05/2007

**Date of submission (SESAM):**
11/05/2007 13:49:37 CET

**Duration:** 42

**Version:** 1

# Specific Targeted Projects
# Socio-Economic Reporting Questionnaire

## GENERAL INFORMATION

| | |
|---|---|
| **Project No.:** | 22936 |
| **Project acronym:** | Beneris |
| **Project full name:** | Benefit-risk assessment for food: an iterative value-of-information approach |
| **Period number:** | 1st |
| **Period covered - start date:** | 01/04/2006 |
| **Period covered - end date:** | 31/03/2007 |
| **Project start date:** | 01/04/2006 |
| **Project duration [months]:** | 42 |
| **Project coordinator name:** | Dr Jouni T. Tuomisto |
| **Project coordinator organisation name:** | Kansanterveyslaitos (National Public Health Institute) |
| **Participant organisation name:** | Food Safety Authority of Ireland |
| **Date of submission:** | 11/05/2007 |

## SOCIO-ECONOMIC RESEARCH ACTIVITIES

| | |
|---|---|
| **Do your tasks in the project include socio-economic research activities?** | Yes |
| **If yes, what is the estimated total budget allocation that addresses these activities (when the project will be completed)?** | 50000 |

## FORESIGHT METHODS

| | |
|---|---|
| **Do your tasks in the project include foresight methods?** | Yes |
| **If yes, what is the estimated total budget allocation that addresses these activities (when the project will be completed)?** | 10000 |

## SOCIO-ECONOMIC SCIENTISTS

| | |
|---|---|
| **How many person/months (estimated) are allocated to researchers with a background in social sciences, to perform your tasks for the project (when it will be completed)?** | 1 |

| | |
|---|---|
| **Attachments** | |
| **Name** | |
| **Date** | |
| **Signature** | |

**Project No.:** 22936

**Project Acronym:** Beneris

**Project Full Name:** Benefit-risk assessment for food: an iterative value-of-information approach

# Specific Targeted Projects
# Socio-Economic Reporting Questionnaire

**Period covered: from** 01/04/2006 **to** 31/03/2007

**Date of preparation:** 15/05/2007

**Start date of project:** 01/04/2006

**Date of submission (SESAM):15/05/2007**

**Project coordinator name:**
Dr Jouni T. Tuomisto

**Duration:** 42

**Project coordinator organisation name:**
Kansanterveyslaitos (National Public Health Institute)

**Version:**

# Specific Targeted Projects
# Socio-Economic Reporting Questionnaire

## GENERAL INFORMATION

| | |
|---|---|
| **Project No.:** | 22936 |
| **Project acronym:** | Beneris |
| **Project full name:** | Benefit-risk assessment for food: an iterative value-of-information approach |
| **Period number:** | 1st |
| **Period covered - start date:** | 01/04/2006 |
| **Period covered - end date:** | 31/03/2007 |
| **Project start date:** | 01/04/2006 |
| **Project duration [months]:** | 42 |
| **Project coordinator name:** | Dr Jouni T. Tuomisto |
| **Project coordinator organisation name:** | Kansanterveyslaitos (National Public Health Institute) |
| **Participant organisation name:** | Technical University of Denmark |
| **Date of submission:** | 15/05/2007 |

## SOCIO-ECONOMIC RESEARCH ACTIVITIES

| | |
|---|---|
| **Do your tasks in the project include socio-economic research activities?** | No |
| **If yes, what is the estimated total budget allocation that addresses these activities (when the project will be completed)?** | |

## FORESIGHT METHODS

| | |
|---|---|
| **Do your tasks in the project include foresight methods?** | No |
| **If yes, what is the estimated total budget allocation that addresses these activities (when the project will be completed)?** | |

## SOCIO-ECONOMIC SCIENTISTS 0

| | |
|---|---|
| **How many person/months (estimated) are allocated to researchers with a background in social sciences, to perform your tasks for the project (when it will be completed)?** | |

| | |
|---|---|
| **Attachments** | None |
| **Name** | |
| **Date** | **15th May, 2007** |
| **Signature** | |

**Project No.:** 22936

**Project Acronym:** Beneris

**Project Full Name:** Benefit-risk assessment for food: an iterative value-of-information approach

# Specific Targeted Projects
# Socio-Economic Reporting Questionnaire

**Period covered: from** 01/04/2006 **to** 31/03/2007

**Date of preparation:** 10/05/2007

**Start date of project:** 01/04/2006

**Date of submission (SESAM):**

**Project coordinator name:**
Dr Jouni T. Tuomisto

**Duration:** 42

**Project coordinator organisation name:**
Kansanterveyslaitos (National Public Health Institute)

**Version:**

# Specific Targeted Projects
# Socio-Economic Reporting Questionnaire

## GENERAL INFORMATION

| | |
|---|---|
| **Project No.:** | 22936 |
| **Project acronym:** | Beneris |
| **Project full name:** | Benefit-risk assessment for food: an iterative value-of-information approach |
| **Period number:** | 1st |
| **Period covered - start date:** | 01/04/2006 |
| **Period covered - end date:** | 31/03/2007 |
| **Project start date:** | 01/04/2006 |
| **Project duration [months]:** | 42 |
| **Project coordinator name:** | Dr Jouni T. Tuomisto |
| **Project coordinator organisation name:** | Kansanterveyslaitos (National Public Health Institute) |
| **Participant organisation name:** | Danish Food and veterinary Administration |
| **Date of submission:** | 11/05/2007 |

## SOCIO-ECONOMIC RESEARCH ACTIVITIES

| | |
|---|---|
| **Do your tasks in the project include socio-economic research activities?** | No |
| **If yes, what is the estimated total budget allocation that addresses these activities (when the project will be completed)?** | |

## FORESIGHT METHODS

| | |
|---|---|
| **Do your tasks in the project include foresight methods?** | No |
| **If yes, what is the estimated total budget allocation that addresses these activities (when the project will be completed)?** | |

## SOCIO-ECONOMIC SCIENTISTS 0

| | |
|---|---|
| **How many person/months (estimated) are allocated to researchers with a background in social sciences, to perform your tasks for the project (when it will be completed)?** | |

| | |
|---|---|
| **Attachments** | None |
| **Name** | **Kim Petersen** |
| **Date** | **11th May, 2007** |
| **Signature** | |

| | | |
|---|---|---|
| | EUROPEAN COMMISSION<br>RESEARCH DG<br>SOCIO-ECONOMIC DIMENSIONS IN FP6 | Socio-Economic Reporting Questionnaire |

**Project No.:** 22936

**Project Acronym:** Beneris

**Project Full Name:** Benefit-risk assessment for food: an iterative value-of-information approach

## Specific Targeted Projects

# Socio-Economic Reporting Questionnaire

**Period covered: from** 01/04/2006 **to** 31/03/2007

**Start date of project:** 01/04/2006

**Project coordinator name:**
Dr Jouni T. Tuomisto

**Project coordinator organisation name:**
Kansanterveyslaitos (National Public Health Institute)

**Date of preparation:** 11/05/2007

**Date of submission (SESAM):**
11/05/2007 13:50:31 CET

**Duration:** 42

**Version:** 1

Specific Targeted Projects

Socio-Economic Reporting Questionnaire

## GENERAL INFORMATION

| | |
|---|---|
| **Project No.:** | 22936 |
| **Project acronym:** | Beneris |
| **Project full name:** | Benefit-risk assessment for food: an iterative value-of-information approach |
| **Period number:** | 1st |
| **Period covered - start date:** | 01/04/2006 |
| **Period covered - end date:** | 31/03/2007 |
| **Project start date:** | 01/04/2006 |
| **Project duration [months]:** | 42 |
| **Project coordinator name:** | Dr Jouni T. Tuomisto |
| **Project coordinator organisation name:** | Kansanterveyslaitos (National Public Health Institute) |
| **Participant organisation name:** | Lendac Data Systems LTD |
| **Date of submission:** | 11/05/2007 |

## SOCIO-ECONOMIC RESEARCH ACTIVITIES

| | |
|---|---|
| **Do your tasks in the project include socio-economic research activities?** | Yes |
| **If yes, what is the estimated total budget allocation that addresses these activities (when the project will be completed)?** | 15000 |

## FORESIGHT METHODS

| | |
|---|---|
| **Do your tasks in the project include foresight methods?** | No |
| **If yes, what is the estimated total budget allocation that addresses these activities (when the project will be completed)?** | |

## SOCIO-ECONOMIC SCIENTISTS

| | |
|---|---|
| **How many person/months (estimated) are allocated to researchers with a background in social sciences, to perform your tasks for the project (when it will be completed)?** | 0 |

| | |
|---|---|
| **Attachments** | |
| **Name** | |
| **Date** | |
| **Signature** | |

**Project No.:** 22936

**Project Acronym:** Beneris

**Project Full Name:** Benefit-risk assessment for food: an iterative value-of-information approach

## Specific Targeted Projects

# Socio-Economic Reporting Questionnaire

**Period covered: from** 01/04/2006 **to** 31/03/2007

**Date of preparation:** 14/05/2007

**Start date of project:** 01/04/2006

**Date of submission (SESAM):** 14/05/2007 07:27:16 CET

**Project coordinator name:** Dr Jouni T. Tuomisto

**Duration:** 42

**Project coordinator organisation name:** Kansanterveyslaitos (National Public Health Institute)

**Version:** 1

Specific Targeted Projects

Socio-Economic Reporting Questionnaire

## GENERAL INFORMATION

| | |
|---|---|
| **Project No.:** | 22936 |
| **Project acronym:** | Beneris |
| **Project full name:** | Benefit-risk assessment for food: an iterative value-of-information approach |
| **Period number:** | 1st |
| **Period covered - start date:** | 01/04/2006 |
| **Period covered - end date:** | 31/03/2007 |
| **Project start date:** | 01/04/2006 |
| **Project duration [months]:** | 42 |
| **Project coordinator name:** | Dr Jouni T. Tuomisto |
| **Project coordinator organisation name:** | Kansanterveyslaitos (National Public Health Institute) |
| **Participant organisation name:** | Fundación Privada para la Investigación Nutricional |
| **Date of submission:** | 14/05/2007 |

## SOCIO-ECONOMIC RESEARCH ACTIVITIES

| | |
|---|---|
| **Do your tasks in the project include socio-economic research activities?** | Yes |
| **If yes, what is the estimated total budget allocation that addresses these activities (when the project will be completed)?** | 15000 |

## FORESIGHT METHODS

| | |
|---|---|
| **Do your tasks in the project include foresight methods?** | Yes |
| **If yes, what is the estimated total budget allocation that addresses these activities (when the project will be completed)?** | 3000 |

## SOCIO-ECONOMIC SCIENTISTS

| | |
|---|---|
| **How many person/months (estimated) are allocated to researchers with a background in social sciences, to perform your tasks for the project (when it will be completed)?** | 1 |

| | |
|---|---|
| **Attachments** | |
| **Name** | |
| **Date** | |
| **Signature** | |

| | | |
|---|---|---|
|  | EUROPEAN COMMISSION<br>RESEARCH DG WOMEN AND SCIENCE | Work Force Statistics (WFS) Periodic Report |

**Project No.:** 22936

**Project Acronym:** Beneris

**Project Full Name:** Benefit-risk assessment for food: an iterative value-of-information approach

## Specific Targeted Projects

# Work Force Statistics (WFS) Periodic Report

**Period covered: from** 01/04/2006 **to** 31/03/2007

**Start date of project:** 01/04/2006

**Project coordinator name:**
Dr Jouni T. Tuomisto

**Project coordinator organisation name:**
Kansanterveyslaitos (National Public Health Institute)

**Date of preparation:** 11/05/2007

**Date of submission (SESAM):**
11/05/2007 14:16:12 CET

**Duration:** 42

**Version:** 1

Specific Targeted Projects

Work Force Statistics (WFS) Periodic Report

## GENERAL INFORMATION

| | |
|---|---|
| **Project No.:** | 22936 |
| **Project acronym:** | Beneris |
| **Project full name:** | Benefit-risk assessment for food: an iterative value-of-information approach |
| **Period number:** | 1st |
| **Period covered - start date:** | 01/04/2006 |
| **Period covered - end date:** | 31/03/2007 |
| **Project start date:** | 01/04/2006 |
| **Project duration [months]:** | 42 |
| **Project coordinator name:** | Dr Jouni T. Tuomisto |
| **Project coordinator organisation name:** | Kansanterveyslaitos (National Public Health Institute) |
| **Participant organisation name:** | Kansanterveyslaitos (National Public Health Institute) |
| **Date of submission:** | 11/05/2007 |

# SCIENTIFIC LEADERSHIP AND MANAGEMENT - WORKFORCE STATISTICS

| Type of Position | Number of Women | Number of Men |
|---|---|---|
| Scientific manager | 0 | 1 |
| Scientific team leader / work package manager | 1 | 1 |
| Experienced researcher (>4 years) | 1 | 1 |
| Early researcher (<=4 years) | 1 | 0 |
| PhD student | 0 | 1 |
| Technical staff | 2 | 0 |
| Other | 0 | 0 |

| | |
|---|---|
| **Attachments** | |
| **Name** | |
| **Date** | |
| **Signature** | |

| | | |
|---|---|---|
|  | EUROPEAN COMMISSION<br>RESEARCH DG WOMEN AND SCIENCE | Work Force Statistics (WFS) Periodic Report |

**Project No.:** 22936

**Project Acronym:** Beneris

**Project Full Name:** Benefit-risk assessment for food: an iterative value-of-information approach

## Specific Targeted Projects

# Work Force Statistics (WFS) Periodic Report

**Period covered: from** 01/04/2006 **to** 31/03/2007

**Start date of project:** 01/04/2006

**Project coordinator name:**
Dr Jouni T. Tuomisto

**Project coordinator organisation name:**
Kansanterveyslaitos (National Public Health Institute)

**Date of preparation:** 11/05/2007

**Date of submission (SESAM):**
11/05/2007 14:17:20 CET

**Duration:** 42

**Version:** 1

Specific Targeted Projects

Work Force Statistics (WFS) Periodic Report

## GENERAL INFORMATION

| | |
|---|---|
| **Project No.:** | 22936 |
| **Project acronym:** | Beneris |
| **Project full name:** | Benefit-risk assessment for food: an iterative value-of-information approach |
| **Period number:** | 1st |
| **Period covered - start date:** | 01/04/2006 |
| **Period covered - end date:** | 31/03/2007 |
| **Project start date:** | 01/04/2006 |
| **Project duration [months]:** | 42 |
| **Project coordinator name:** | Dr Jouni T. Tuomisto |
| **Project coordinator organisation name:** | Kansanterveyslaitos (National Public Health Institute) |
| **Participant organisation name:** | Technische Universiteit Delft |
| **Date of submission:** | 11/05/2007 |

# SCIENTIFIC LEADERSHIP AND MANAGEMENT - WORKFORCE STATISTICS

| Type of Position | Number of Women | Number of Men |
|---|---|---|
| Scientific manager | 0 | 0 |
| Scientific team leader / work package manager | 0 | 1 |
| Experienced researcher (>4 years) | 1 | 0 |
| Early researcher (<=4 years) | 0 | 0 |
| PhD student | 1 | 0 |
| Technical staff | 0 | 1 |
| Other | 0 | 0 |

| | |
|---|---|
| **Attachments** | |
| **Name** | |
| **Date** | |
| **Signature** | |

| | | |
|---|---|---|
|  | EUROPEAN COMMISSION<br>RESEARCH DG WOMEN AND SCIENCE | Work Force Statistics (WFS) Periodic Report |

**Project No.:** 22936

**Project Acronym:** Beneris

**Project Full Name:** Benefit-risk assessment for food: an iterative value-of-information approach

## Specific Targeted Projects

# Work Force Statistics (WFS) Periodic Report

**Period covered: from** 01/04/2006 **to** 31/03/2007

**Date of preparation:** 11/05/2007

**Start date of project:** 01/04/2006

**Date of submission (SESAM):** 11/05/2007 14:18:29 CET

**Project coordinator name:**
Dr Jouni T. Tuomisto

**Duration:** 42

**Project coordinator organisation name:**
Kansanterveyslaitos (National Public Health Institute)

**Version:** 1

Specific Targeted Projects

Work Force Statistics (WFS) Periodic Report

## GENERAL INFORMATION

| | |
|---|---|
| **Project No.:** | 22936 |
| **Project acronym:** | Beneris |
| **Project full name:** | Benefit-risk assessment for food: an iterative value-of-information approach |
| **Period number:** | 1st |
| **Period covered - start date:** | 01/04/2006 |
| **Period covered - end date:** | 31/03/2007 |
| **Project start date:** | 01/04/2006 |
| **Project duration [months]:** | 42 |
| **Project coordinator name:** | Dr Jouni T. Tuomisto |
| **Project coordinator organisation name:** | Kansanterveyslaitos (National Public Health Institute) |
| **Participant organisation name:** | Oy Foodfiles ltd |
| **Date of submission:** | 11/05/2007 |

# SCIENTIFIC LEADERSHIP AND MANAGEMENT - WORKFORCE STATISTICS

| Type of Position | Number of Women | Number of Men |
|---|---|---|
| Scientific manager | 1 | 0 |
| Scientific team leader / work package manager | 1 | 0 |
| Experienced researcher (>4 years) | 4 | 0 |
| Early researcher (<=4 years) | 0 | 0 |
| PhD student | 0 | 0 |
| Technical staff | 0 | 0 |
| Other | 0 | 0 |

| | |
|---|---|
| **Attachments** | |
| **Name** | |
| **Date** | |
| **Signature** | |

| | | |
|---|---|---|
|  | EUROPEAN COMMISSION<br>RESEARCH DG WOMEN AND SCIENCE | Work Force Statistics (WFS) Periodic Report |

**Project No.:** 22936

**Project Acronym:** Beneris

**Project Full Name:** Benefit-risk assessment for food: an iterative value-of-information approach

## Specific Targeted Projects

# Work Force Statistics (WFS) Periodic Report

**Period covered: from** 01/04/2006 **to** 31/03/2007

**Start date of project:** 01/04/2006

**Project coordinator name:**
Dr Jouni T. Tuomisto

**Project coordinator organisation name:**
Kansanterveyslaitos (National Public Health Institute)

**Date of preparation:** 11/05/2007

**Date of submission (SESAM):**
11/05/2007 14:16:52 CET

**Duration:** 42

**Version:** 1

Specific Targeted Projects

Work Force Statistics (WFS) Periodic Report

## GENERAL INFORMATION

| | |
|---|---|
| **Project No.:** | 22936 |
| **Project acronym:** | Beneris |
| **Project full name:** | Benefit-risk assessment for food: an iterative value-of-information approach |
| **Period number:** | 1st |
| **Period covered - start date:** | 01/04/2006 |
| **Period covered - end date:** | 31/03/2007 |
| **Project start date:** | 01/04/2006 |
| **Project duration [months]:** | 42 |
| **Project coordinator name:** | Dr Jouni T. Tuomisto |
| **Project coordinator organisation name:** | Kansanterveyslaitos (National Public Health Institute) |
| **Participant organisation name:** | Food Safety Authority of Ireland |
| **Date of submission:** | 11/05/2007 |

# SCIENTIFIC LEADERSHIP AND MANAGEMENT - WORKFORCE STATISTICS

| Type of Position | Number of Women | Number of Men |
|---|---|---|
| Scientific manager | 1 | 0 |
| Scientific team leader / work package manager | 1 | 0 |
| Experienced researcher (>4 years) | 1 | 0 |
| Early researcher (<=4 years) | 0 | 0 |
| PhD student | 0 | 0 |
| Technical staff | 0 | 0 |
| Other | 0 | 0 |

| | |
|---|---|
| **Attachments** | |
| **Name** | |
| **Date** | |
| **Signature** | |

**Project No.:** 22936

**Project Acronym:** Beneris

**Project Full Name:** Benefit-risk assessment for food: an iterative value-of-information approach

## Specific Targeted Projects

# Work Force Statistics (WFS) Periodic Report

**Period covered: from** 01/04/2006 **to** 31/03/2007

**Date of preparation:** 08/05/2007

**Start date of project:** 01/04/2006

**Date of submission (SESAM):**

**Project coordinator name:**
Dr Jouni T. Tuomisto

**Duration:** 42

**Project coordinator organisation name:**
Kansanterveyslaitos (National Public Health Institute)

**Version:**

Specific Targeted Projects

Work Force Statistics (WFS) Periodic Report

## GENERAL INFORMATION

| | |
|---|---|
| **Project No.:** | 22936 |
| **Project acronym:** | Beneris |
| **Project full name:** | Benefit-risk assessment for food: an iterative value-of-information approach |
| **Period number:** | 1st |
| **Period covered - start date:** | 01/04/2006 |
| **Period covered - end date:** | 31/03/2007 |
| **Project start date:** | 01/04/2006 |
| **Project duration [months]:** | 42 |
| **Project coordinator name:** | Dr Jouni T. Tuomisto |
| **Project coordinator organisation name:** | Kansanterveyslaitos (National Public Health Institute) |
| **Participant organisation name:** | Technical University of Denmark |
| **Date of submission:** | 15/05/2007 |

# SCIENTIFIC LEADERSHIP AND MANAGEMENT - WORKFORCE STATISTICS

| Type of Position | Number of Women | Number of Men |
|---|---|---|
| Scientific manager | 0 | 1 |
| Scientific team leader / work package manager | 0 | 1 |
| Experienced researcher (>4 years) | 1 | 1 |
| Early researcher (<=4 years) | 0 | 0 |
| PhD student | 1 | 0 |
| Technical staff | 0 | 0 |
| Other | 0 | 0 |

**Attachments** None

**Name**

**Date 15th May, 2007**

**Signature**

**Project No.:** 22936

**Project Acronym:** Beneris

**Project Full Name:** Benefit-risk assessment for food: an iterative value-of-information approach

## Specific Targeted Projects

# Work Force Statistics (WFS) Periodic Report

**Period covered: from** 01/04/2006 **to** 31/03/2007

**Date of preparation:** 08/05/2007

**Start date of project:** 01/04/2006

**Date of submission (SESAM):**

**Project coordinator name:**
Dr Jouni T. Tuomisto

**Duration:** 42

**Project coordinator organisation name:**
Kansanterveyslaitos (National Public Health Institute)

**Version:**

# Specific Targeted Projects
# Work Force Statistics (WFS) Periodic Report

## GENERAL INFORMATION

| | |
|---|---|
| **Project No.:** | 22936 |
| **Project acronym:** | Beneris |
| **Project full name:** | Benefit-risk assessment for food: an iterative value-of-information approach |
| **Period number:** | 1st |
| **Period covered - start date:** | 01/04/2006 |
| **Period covered - end date:** | 31/03/2007 |
| **Project start date:** | 01/04/2006 |
| **Project duration [months]:** | 42 |
| **Project coordinator name:** | Dr Jouni T. Tuomisto |
| **Project coordinator organisation name:** | Kansanterveyslaitos (National Public Health Institute) |
| **Participant organisation name:** | Danish Food and veterinary Administration |
| **Date of submission:** | 11/05/2007 |

# SCIENTIFIC LEADERSHIP AND MANAGEMENT - WORKFORCE STATISTICS

| Type of Position | Number of Women | Number of Men |
|---|---|---|
| Scientific manager | 0 | 1 |
| Scientific team leader / work package manager | 0 | 0 |
| Experienced researcher (>4 years) | 0 | 0 |
| Early researcher (<=4 years) | 0 | 0 |
| PhD student | 0 | 0 |
| Technical staff | 0 | 0 |
| Other | 0 | 0 |

**Attachments** None

**Name Kim Petersen**

**Date 11th May, 2007**

**Signature**

| | | |
|---|---|---|
| | EUROPEAN COMMISSION<br>RESEARCH DG WOMEN AND SCIENCE | Work Force Statistics (WFS) Periodic Report |

**Project No.:** 22936

**Project Acronym:** Beneris

**Project Full Name:** Benefit-risk assessment for food: an iterative value-of-information approach

## Specific Targeted Projects

# Work Force Statistics (WFS) Periodic Report

**Period covered: from** 01/04/2006 **to** 31/03/2007

**Date of preparation:** 11/05/2007

**Start date of project:** 01/04/2006

**Date of submission (SESAM):** 11/05/2007 14:17:50 CET

**Project coordinator name:**
Dr Jouni T. Tuomisto

**Duration:** 42

**Project coordinator organisation name:**
Kansanterveyslaitos (National Public Health Institute)

**Version:** 1

# Specific Targeted Projects
# Work Force Statistics (WFS) Periodic Report

## GENERAL INFORMATION

| | |
|---|---|
| **Project No.:** | 22936 |
| **Project acronym:** | Beneris |
| **Project full name:** | Benefit-risk assessment for food: an iterative value-of-information approach |
| **Period number:** | 1st |
| **Period covered - start date:** | 01/04/2006 |
| **Period covered - end date:** | 31/03/2007 |
| **Project start date:** | 01/04/2006 |
| **Project duration [months]:** | 42 |
| **Project coordinator name:** | Dr Jouni T. Tuomisto |
| **Project coordinator organisation name:** | Kansanterveyslaitos (National Public Health Institute) |
| **Participant organisation name:** | Lendac Data Systems LTD |
| **Date of submission:** | 11/05/2007 |

# SCIENTIFIC LEADERSHIP AND MANAGEMENT - WORKFORCE STATISTICS

| Type of Position | Number of Women | Number of Men |
|---|---|---|
| Scientific manager | 0 | 1 |
| Scientific team leader / work package manager | 0 | 1 |
| Experienced researcher (>4 years) | 0 | 0 |
| Early researcher (<=4 years) | 0 | 0 |
| PhD student | 0 | 0 |
| Technical staff | 1 | 1 |
| Other | 0 | 0 |

| | |
|---|---|
| **Attachments** | |
| **Name** | |
| **Date** | |
| **Signature** | |

| | | |
|---|---|---|
|  | EUROPEAN COMMISSION<br>RESEARCH DG WOMEN AND SCIENCE | Work Force Statistics (WFS) Periodic Report |

**Project No.:** 22936

**Project Acronym:** Beneris

**Project Full Name:** Benefit-risk assessment for food: an iterative value-of-information approach

## Specific Targeted Projects

# Work Force Statistics (WFS) Periodic Report

**Period covered: from** 01/04/2006 **to** 31/03/2007

**Date of preparation:** 14/05/2007

**Start date of project:** 01/04/2006

**Date of submission (SESAM):** 14/05/2007 07:27:53 CET

**Project coordinator name:**
Dr Jouni T. Tuomisto

**Duration:** 42

**Project coordinator organisation name:**
Kansanterveyslaitos (National Public Health Institute)

**Version:** 1

Specific Targeted Projects

Work Force Statistics (WFS) Periodic Report

## GENERAL INFORMATION

| | |
|---|---|
| **Project No.:** | 22936 |
| **Project acronym:** | Beneris |
| **Project full name:** | Benefit-risk assessment for food: an iterative value-of-information approach |
| **Period number:** | 1st |
| **Period covered - start date:** | 01/04/2006 |
| **Period covered - end date:** | 31/03/2007 |
| **Project start date:** | 01/04/2006 |
| **Project duration [months]:** | 42 |
| **Project coordinator name:** | Dr Jouni T. Tuomisto |
| **Project coordinator organisation name:** | Kansanterveyslaitos (National Public Health Institute) |
| **Participant organisation name:** | Fundación Privada para la Investigación Nutricional |
| **Date of submission:** | 14/05/2007 |

# SCIENTIFIC LEADERSHIP AND MANAGEMENT - WORKFORCE STATISTICS

| Type of Position | Number of Women | Number of Men |
|---|---|---|
| Scientific manager | 0 | 1 |
| Scientific team leader / work package manager | 0 | 1 |
| Experienced researcher (>4 years) | 1 | 0 |
| Early researcher (<=4 years) | 1 | 0 |
| PhD student | 1 | 0 |
| Technical staff | 0 | 0 |
| Other | 0 | 0 |

| | |
|---|---|
| **Attachments** | |
| **Name** | |
| **Date** | |
| **Signature** | |