



FMD and CSF Coordination Action



Risk Research Workshop

FMD and CSF Coordination Action –
Workpackage 3, Risk Research
Danish Technical University,
Lindholm, Kalvehave
Denmark



FMD and CSF
Coordination Action



**State of FMD and CSF risk research: gaps, priorities,
action points**

*Proceedings of the First Workshop of the Risk Research Workpackage
of the FMD-CSF Co-ordination Action
held in Copenhagen, Denmark, 10-11 November 2005*

AGENDA

Item	Time	10 November 2005
1	1300	Welcome and introduction of participants
2	1330	Presentation of the project; Review of activity areas reported in the questionnaire; Participants and mode of cooperation; Objectives of the meeting (Matthias Greiner)
3	1415	Each participant presents one risk assessment study (max 10 min per participant)
4	1800	End of workshop programme day 1
5	1930	Social gathering

Item	Time	11 November 2005
6	0900	Typical assignments, restrictions, limitations of risk assessments (discussion)
7	0945	Web-based registry of risk assessment reports (discussion)
8	1300	Criteria for peer review of risk assessments
9	1430	Further planning and assignment of tasks
10	1600	End of the meeting

PRESENTATIONS (ITEMS 2 AND 3)

The WP leader welcomed the participants and presented the project. The participants introduced themselves and their institutes. The presentations can be downloaded from WP3's homepage.

TYPICAL ASSIGNMENTS AND TYPICAL ISSUES (ITEM 6)

Scope of our discussion

There are different "levels" of risk assessment studies and it is necessary to focus the discussion and our WP on the most relevant levels. We differentiate

- "pure research" (objectives formulated from a research point of view)
- applied research (overarching goals determined by management problem; freedom to choose operational objectives, approaches, methods, ...)
- consultancy (objective, scope and procedures agreed between consultant and client)

We decided not to consider the first category further. For practical reasons, RAs can also be differentiated in "small" and "big" assignments, depending on the time and resources needed to complete them.

The discussion topics below were chosen because they present typical issues in practice. For example, the lack of clarity on the procedures and expectations may lead to frustration and dissatisfaction on all parts involved in a risk analysis.

Terminology

In the summary of the discussion, some terms will be used that describe a "typical setting" of RA. Our working definitions for these terms are:

- client: the party that commissions a risk assessment and usually provides payment for the work
- consultant: the party that conducts the risk assessment
- stakeholder: any party that decides to become informed about and involved in a risk analysis or decision-making process for example because they may be affected by the hazard or by possible risk decisions.

Agreement between client and consultant

As a basis of any assignment, the client has to formulate the risk question clearly and in writing. The goals of the assignments will be stated in qualitative terms. The consultant will make sure that the deliverables are realistic with the resources available. If required, the client and consultant may agree on the data that will be considered for the analysis.

General scientific procedures

The quality of data must be assessed and appropriate analysis methods must be chosen. Any underlying assumption should be stated, documented, if possible, or justified. Additional hazards that are not specifically excluded from the scope of the analysis may become apparent during the study. We were of the opinion that it is good scientific practice to mention such hazards in the report. This can include, for example, animal welfare aspects

Specific issues regarding release assessment

Release assessments require in many cases an estimation of the probability of disease in the source population (for example in the exporting country). Animals and commodities will only be traded if appropriate health certifications are available. This includes absence of former-list-A diseases.

An estimation of the probability of the presence of disease and prevalence level requires knowledge about (a) the implementation and performance of surveillance in the source population, (b) the reliability of the veterinary services in its task to ensure that the surveillance systems is implemented as described and (c) a prior probability of the country being affected. All methods and approaches used to estimate any of these components must be fully transparent, clearly described and should be used in a consistent manner. This applies also to the use of unofficial data and information.

Small versus big assignments

Here we address the issue that some assignments have to be done within days or even hours while a proper risk assessment takes a considerably longer time. It was agreed that small and big assignments are principally not different, as both should address a risk problem in a scientifically sound way with the given resources. Most importantly, they will differ in the level of uncertainty in the outcome, which must be clearly communicated to the client and stakeholders.

We disagreed to the common notion that "less important risks" will always be assessed in a qualitative way while "important risks" will always be analysed using quantitative methods. It was emphasised that the risk question is always posed in qualitative terms. If a qualitative ("small") assessment provides a clear answer with acceptable level of uncertainty, there will be no need for further quantification. On the other hand, a recommendation of a qualitative assessment may well be to collect missing data/information and to conduct a quantitative analysis. Quantitative analyses are not always better than qualitative analyses. There is a risk that the numerical outcomes of the latter camouflage severe flaws in the assumptions, data quality or methods used. This needs to be addressed when quality indicators for RA are formulated.

Often it is a matter of resources and data available that practically determines the level of analysis. More importantly, one should consider the level of required precision or acceptable uncertainty.

Reporting and communication

Stakeholders should be involved in the presentation of study results. Data may be provided by stakeholders. The level of uncertainty must be communicated along with the results and the resources used (for example working time) should be stated in the report.

The presentation of both quantitative and qualitative results is a difficult task. Generally, results may be presented in relation to other known risks. The relative risk measure must then be interpreted in relation to the reference risk.

In qualitative assessments one should take care not to confuse a semantic scale for probabilities (high, moderate, low, negligible) with a scale used by decision makers to express the level of acceptance of any given risk category. In other words, a low risk can be negligible in one circumstance and unacceptable in another. Attempts should be made to express the uncertainty in the qualitative results.

In quantitative assessments, a useful data summary should be given, which typically includes the median and the 90th, 95th and 99th percentile. The impact of relevant factors should be shown by sensitivity analysis.

In general, the uncertainty of the results and its sensitivity to input variables is an important part of any risk communication.

DATABASE REGISTER FOR RISK ASSESSMENT STUDIES (ITEM 7)

The goals of the register (see database documentation) was reviewed. Briefly, the register should serve as a tool for risk analysts to track information useful to conduct their own assignments. The initiative will only be sustainable if the benefit outweighs the effort to enter information. It was agreed that the database is a good tool but several simplifications were suggested.

First, the relational structure (one main report linked to several hazards as sub-reports) has been abandoned because the information from such wide or multi-purpose studies can be captured with the available descriptors. Several data fields were removed and a few new were added. To cut a long story short, the figure below presents the data fields that will make up the database. There is a full updated database description on the homepage.

PEER-REVIEW (ITEM 8)

We decided that reports can be labelled as "peer-reviewed" in the database but we would not upload the review. The peer-review in itself will be an important tool to provide feedback on

unpublished work to the authors of a report. The fact that a report is published or not provides no sufficient evidence of its quality because of the specific acceptance criteria of scientific journals (publication bias).

We agreed that the paper M. McGill, L. Fewtrell, and D. Kay. Towards quality assurance of assessed waterborne risks. Wat.Res. 34:1050-1056, 2000 (find it uploaded to the project webpage under project workshop) will be a good basis to draft guidelines for evaluating risk assessment reports.

FURTHER PLANNING AND ASSIGNMENT OF TASKS (ITEM 9)

It should be considered that Matthias Greiner will quit as participant and leader of the WP due an upcoming professional change. It was suggested that Larry Paisley (DFVF) is appointed as new leader of the WP in 2006.

No.	Task	Activity leader	Who involved	Start date	Delivery date
1	Finalise database description	MG		ASAP	done
2	Implement web database	MG	WP 9	ASAP	30 Nov 05
3	Review online data base and enter own reports	MG	whole group	30 Nov 05	15 Dec 05
4	Draft guidelines on quality assessment	MG, LP	whole group	ASAP	15 Dec 05
5	Review and comment guidelines	LP	whole group	15 Dec 05	Mar 06 2006
6	Draft review article	NN	participants who are willing to contribute actively	2006	2006

We agreed that the next meeting could be around the same time of the year in 2006. The venue is not yet decided. Participants who volunteer to host the group are welcome to contact Larry Paisley.

Data fields of the WP3 risk assessment data base (status after WS meeting Nov 2005).

General information					
Title	.....			
Publishing date					
Institution	.....			Funding body or client	
Contact person	.....			Contact email	
Report homepage	.....			Report uploaded	
Abstract				Citation	
Assessment ...	<input type="checkbox"/> is completed			<input type="checkbox"/> has quantitative aspects	
	<input type="checkbox"/> is published			<input type="checkbox"/> has been peer-reviewed	
Hazards					
Source population	<input type="checkbox"/> EU	<input type="checkbox"/> non-EU			.....
Risk population	<input type="checkbox"/> EU	<input type="checkbox"/> non-EU			.....
Disease	<input type="checkbox"/> FMD	<input type="checkbox"/> CSF		<input type="checkbox"/> other	.....
Host species	<input type="checkbox"/> cattle	<input type="checkbox"/> small rum		<input type="checkbox"/> swine	<input type="checkbox"/> other
Commodity	<input type="checkbox"/> live	<input type="checkbox"/> fresh	<input type="checkbox"/> cured meat	<input type="checkbox"/> milk	<input type="checkbox"/> other
Environment	<input type="checkbox"/> soil	<input type="checkbox"/> air		<input type="checkbox"/> water	<input type="checkbox"/> other
Components and communication					
Release assessment	<input type="checkbox"/>				
Exposure assessment	<input type="checkbox"/>				
Consequence assessment		<input type="checkbox"/> public health		<input type="checkbox"/> welfare	<input type="checkbox"/> economy
Risk communication		<input type="checkbox"/> stakeholders		<input type="checkbox"/> press	<input type="checkbox"/> science
					<input type="checkbox"/> ecology

LIST OF PARTICIPANTS

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Design of a data base for collection of information regarding risk assessments for CSF and FMD

Matthias Greiner

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Summary

This is the description of a data base for risk assessment reports for FMD and CSF, in partial fulfilment of D2 of the WP3.

Introduction

Risk assessments are often conducted in response to ad hoc risk problems of risk managers or other clients. The fact that many such assessments are not published entails that they are typically not subjected to a peer-review system and not included in standard literature data bases. Thus, issues of quality assurance and accessibility arise. The criteria for selection and peer-review for scientific journals, on the other hand, may or may not follow important principles in risk assessment, depending on the orientation of the journal.

The data base shall be an inventory of risk assessment studies in the area of FMD and CSF risk research and risk assessment that assists risk analysts to retrieve information about ongoing and completed assessments. The data base should survive the project. Therefore, it is essential that it will be maintained beyond the duration of the project and updated by the members of the project group (and other risk analysts: to be decided by the project group). This is only realistic if the individual risk analyst realises that the benefits of the inventory for the own work will outweigh the efforts to provide information to the inventory and if the risk analysis community realises that the inventory as such and the communication structures stimulated by the inventory will positively contribute to development of harmonised scientific standards and formats for RAs.

Methods

The purposes of the data base determine its functionality:

Purposes, operational goals and requirements

Purpose for the user of the information	Functionality and implementation
Make existing and ongoing RAs accessible and provide links to full report, website, institution, author	Electronic questionnaire linked to a report data base, which is available online Issues: limited user –access?
Make key information searchable	SQL-like facilities on all data fields of the data base (see Data fields related to for contents)
Assist in building up a de facto working standard	Implicit
Requirements for the data provider	Functionality and implementation
Can complete questionnaire in no more than 30 min	Free-text fields are limited and can be completed by copy/paste; Use mainly check boxes and indexed keywords
Promote institutions and authors	Optional links to reports from the same author or institution

STRUCTURE OF THE DATA BASE

The database consists of one table. The data fields are organised in groups to describe general features and features related to the main components of a formal risk analyses (OIE scheme). The tables consist of yes/no data fields and text fields. If possible, all text fields will be linked to lists of pre-defined entries, which can be extended by the user.

Data fields related to general information

Parameter	Data field	Type^a	Default/remark
Report identification*	ID	number	automatic
Report title*	Title	Text (400)	
Publishing year*	Year	Date/number	
Institution*	Institute	Text (150)	
Client or funding body	Fund	Text (150)	
Contact person	Contact	Text (60)	
Contact person email	Email	Text (60)	
Internet version	URL	Link (150)	
Uploaded version	Fulltext	Link	Upload to CA homepage if possible

Citation*	Cite	Text (150)	Autor A, Autor B, Autor C. Title. Institution, YEAR
Main text not in English	nonEnglish	yes/no	
Peer-reviewed publication	Public	yes/no	
Peer-review completed	Peer	yes/no	
Quantitative summary ass.	Quantitative	yes/no	
Completed assessment	Complete	yes/no	
Abstract*	Abstract	Text (5000)	if available

- *required field.

Data fields related to hazard identification

Parameter	Data fields	Type	Default/remark
Hazard identification	HazardID	Number	identifies the hazard
Geography of source population: European Union Non-European Union*	HazardSourceEU HazardSourceOtherGeo	yes/no	one may select EU and non-EU if appropriate
Geography or country of source population*	HazardSourceGeo	Keyword list	Countries may be entered separated by commas
Geography of risk population: European Union Non-EU	HazardRiskEU HazardRiskOtherGeo	yes/no	one may select EU and non-EU if appropriate
Geography or country of risk population*	HazardRiskGeo	Keyword list	Countries may be entered separated by commas
Disease	HazardFMD HazardCSF HazardOtherDis	yes/no	
Other disease	HazardDis	Keyword list	Diseases may be entered separated by commas

Host species	HazardCattle HazardSmallR HazardSwine HazardOtherHost	yes/no	
Other host species	HazardHost	Keyword list	species may be entered separated by commas
Commodity	HazardLive HazardFreshMeat HazardCuredMeat HazardMilk HazardOtherComm	yes/no	
Other commodity	HazardComm	Keyword list	commodities may be entered separated by commas
Environment	HazardSoil HazardAir HazardWater HazardOtherEnv	yes/no	
Other environment	HazardEnv	Keyword list	Items may be entered separated by commas

*required field.

Data fields related to release assessment, exposure assessment and consequence assessment

Parameter	Data field	Type	Default/remark
Release assessment conducted	Release	yes/no	
Exposure assessment conducted	Exposure	yes/no	
Consequence assessment conducted	Conseq	yes/no	
Public Health issues	ConseqPH	yes/no	
Economical issues	ConseqEcon	yes/no	
Ecological issues	ConseqEcol	yes/no	

Data fields related to risk communication

Parameter	Data field	Type	Default/remark
Stakeholder groups informed	CommunStake	yes/no	
Press informed	CommunPress	yes/no	
Scientific papers	CommunSci	yes/no	

DATA ENTRY SCREEN

Data fields related to general information

Parameter	Description (max characters)	Example
Report identification	number	Not to be filled by the user
Report title	Text (400)	Classical swine fever and wild boar in Denmark: A risk analysis
Publishing year	number	2005
Client or funding body	Main funding source	Danish Institute for Food and Veterinary Research and Danish Bacon and Meat Council
Institution	Leading institution	Danish Institute for Food and Veterinary Research
Contact person	Full name	Matthias Greiner
Contact person email	email	mgr@dfvf.dk
Internet version	Link	http://www.dfvf.dk/Files/Filer/EpiLab/WILDRISK_2005.pdf
Uploaded version	Link	
Citation	please use standard format as shown	Alban L, Andersen MM, Asferg T, Boklund A, Fernández N, Goldbach SG, Greiner M, Højgaard A, Kramer-Schadt A, Stockmarr A, Thulke HH, Uttenthal A, Ydesen B. Classical swine fever and wild boar in Denmark: A risk analysis. Report of a Project of the Danish
Main text not in English	yes/no	<input type="checkbox"/>
Peer-reviewed publication	yes/no	<input type="checkbox"/>

Peer review completed	yes/no	<input checked="" type="checkbox"/>
Person entering the data	Full name	Matthias Greiner
Quantitative summary ass.	yes/no	<input checked="" type="checkbox"/>
Completed assessment	yes/no	<input type="checkbox"/>
Abstract	Text (15000)	Introduction: Currently there is no established population of free-range wild boar in Denmark. In order to preserve nature and manage national biodiversity, ...

Data fields related to hazard identification

Parameter	Description (max characters)	Example
Geography of source population: EU	yes/no	<input checked="" type="checkbox"/>
Geography of source population: Non-EU	yes/no	<input checked="" type="checkbox"/>
Geography or country of source population	Text (200)	
Geography of risk population: EU	yes/no	<input checked="" type="checkbox"/>
Geography of risk population: Non-EU	yes/no	<input type="checkbox"/>
Geography or country of risk population	Text (200)	Denmark
Disease: FMD	yes/no	<input type="checkbox"/>
Disease: CSF	yes/no	<input checked="" type="checkbox"/>
Disease: other	yes/no	<input type="checkbox"/>
If other disease, which	Text (100)	
Host species: cattle	yes/no	<input type="checkbox"/>
Host species: small rum	yes/no	<input type="checkbox"/>
Host species: swine	yes/no	<input checked="" type="checkbox"/>

Host species: other	yes/no	<input checked="" type="checkbox"/>
Other host species name	Text (100)	wild boar
Commodity: live animal	yes/no	<input checked="" type="checkbox"/>
Commodity: fresh meat	yes/no	<input checked="" type="checkbox"/>
Commodity: cured meat	yes/no	<input checked="" type="checkbox"/>
Commodity: milk	yes/no	<input type="checkbox"/>
Commodity: other	yes/no	<input checked="" type="checkbox"/>
Other commodity name	Text (100)	swill
Environment: soil	yes/no	<input type="checkbox"/>
Environment: air	yes/no	<input type="checkbox"/>
Environment: water	yes/no	<input type="checkbox"/>
Environment: other	yes/no	<input type="checkbox"/>
Other environ. name	Text (100)	

Data fields related to release assessment, exposure assessment and consequence assessment

Parameter	Description (max characters)	Example
Release assessment conducted	yes/no	<input checked="" type="checkbox"/>
Exposure assessment conducted	yes/no	<input checked="" type="checkbox"/>
Consequence assess: Public Health	yes/no	<input type="checkbox"/>
Consequence assess: Welfare	yes/no	<input type="checkbox"/>
Consequence assess: Economy	yes/no	<input checked="" type="checkbox"/>
Consequence assess: Ecology	yes/no	<input checked="" type="checkbox"/>

Data fields related to risk communication

Stakeholder groups	yes/no	<input checked="" type="checkbox"/>
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informed		
Press informed	yes/no	<input checked="" type="checkbox"/>
Scientific papers on conferences	yes/no	<input checked="" type="checkbox"/>

RETRIEVAL SCREEN

The retrieval screen is the user-interface for defining selection criteria in the search for specific reports. It supports the selection of reports based on yes/no data fields and text fields. All fields shown on the retrieval screen correspond to the respective fields shown on the Data entry screens. One example is shown below

Completed, recent risk assessments for airborne spread of FMDV

General information			
Title	.....	Main text not English	<input type="checkbox"/>
Publishing date	2000 to 2005		
Institution	.....	Funding body or client	
Contact person	.....	Contact email	
Report homepage	.....	Report uploaded	
Abstract		Citation	
Assessment ...	<input checked="" type="checkbox"/> is completed <input type="checkbox"/> is published	<input type="checkbox"/> has quantitative aspects <input type="checkbox"/> has been peer-reviewed	
Hazards			
Source population	<input type="checkbox"/> EU <input type="checkbox"/> non-EU	.....
Risk population	<input type="checkbox"/> EU <input type="checkbox"/> non-EU	.....
Disease	<input checked="" type="checkbox"/> FMD <input type="checkbox"/> CSF	<input type="checkbox"/> other	.....
Host species	<input type="checkbox"/> cattle <input type="checkbox"/> small rum	<input type="checkbox"/> swine <input type="checkbox"/> other	.....
Commodity	<input type="checkbox"/> live <input type="checkbox"/> fresh <input type="checkbox"/> cured meat	<input type="checkbox"/> milk <input type="checkbox"/> other	.....
Environment	<input type="checkbox"/> soil <input checked="" type="checkbox"/> air	<input type="checkbox"/> water <input type="checkbox"/> other	.....
Components and communication			
Release assessment	<input type="checkbox"/>		
Exposure assessment	<input type="checkbox"/>		
Consequence assessment	<input type="checkbox"/> public health	<input type="checkbox"/> welfare <input type="checkbox"/> economy	<input type="checkbox"/> ecology
Risk communication	<input type="checkbox"/> stakeholders	<input type="checkbox"/> press <input type="checkbox"/> science	

Yes/No data fields

If the yes/no check boxes are ticked, the query selects all entries with the respective data fields recorded as "yes". Else, all records, "yes" and "no", shall be selected.

Full text fields

The query selects all entries which consist of or include the exact match of the search term.

OUTPUT SCREENS

The data base entries selected by the query are displayed as HTML pages in a format similar to the retrieval screen. The contents of the output screens can be downloaded as comma-separated text files (.csv). This format allows export to MS-EXCEL.

Results and conclusions

A pilot version of the data base was created in ACCESS and presented during a project workshop in November 2005. Using the feedback from the project group, a final version was implemented (WP9), which supports online data entry.

The data base should be the core part for the review process of risk assessments. The systematic collection of information will support the process of peer-review. Criteria for peer-review are to be developed by the project group. A similar scheme could be useful for the collection of information about risk assessments in other areas. If developed using a similar the data structure, other data bases could be merged with the CA data easily.

Annex (Acknowledgement and list of project participants)

The members of the project group contributed to the description through their comments on earlier drafts and discussion during the workshop.

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