

Composition of panels

Lay panel:

- Mette Hjorth Mikkelsen, 26, B.Sc. (geography), Copenhagen
- Jesper Gottlieb Hansen, 22, nursing student, Odense
- Ursula Kasler, 36, waitress, Århus
- Hans-Erik Jensen, 48, operation manager, Rødby
- Christina Christensen, 32, M.Sc. (biology), Frederiksberg
- Ryan Klitholm, 35, production gardener trainee, Odder
- Susanne Rude, 40, welfare officer, Agger
- Christian Krogsgaard Jensen, 69, old-age pensioner, Herning
- Anni Rasmussen, 51, assistance nurse, Odense
- Bjarne Boysen, 39, vice president, Tarm
- Uffe Ke Rasmussen, 27, student (biology), Charlottenlund
- Ellen Kristiansen, 58, lecturer, Værløse
- Niels Bødker, 50, graduate of mercantile economics, Ringe
- Jane Gregersen, 29, semiskilled worker, Horsens

Expert panel

- Kjeld Hansen, Bæredygtighed ApS
- Carl Hugod, Danish National Board of Health
- Ib Knudsen, National Food Agency
- Anders Carlsen, Danish Environmental Protection Agency
- Per Gregersen, Department of Environmental and Occupational Medicine, County Hospital of Køge
- Finn Bro-Rasmussen, Technical University of Denmark
- Christian Ege, Centre for Alternative Social Analysis
- Thomas Breinholt, the union magazine Ingeniøren
- Ella Maria Bisschop-Larsen, Danish Consumer Council
- Gitte Plambek, Asthma and Allergy Association
- Ulla Hansen Telcs, Confederation of Danish Industries
- Per Kristensen, Danish Agrochemical Association
- Hans Siggaard Jensen, Copenhagen Business School

Key question 1

Is the basis for risk evaluation / establishment and control of threshold values sound?

- a) Are the scientific methods sufficient?
- b) Is it reasonable to transfer results from animal experiments to humans?

- c) Will threshold values be improved by the introduction of a fourth safety factor?
- d) Do data from producers of chemical substances constitute a fair and adequate foundation for establishing threshold values?
- e) Are the possible sanctions against transgressions of threshold values sufficient?

The panel believes that scientific methods (from animal experiments to threshold values) are subject to major uncertainties. There is no reason to doubt the actual results. The uncertainties arise in the translation of test results to e.g. threshold values (via safety factors).

But uncertainties also arise because experiments are conducted on the basis of current knowledge - and documented suspicions of - the toxic effects of chemical substances. We only find answers to the questions we ask, and we can never be certain that we are asking the right questions. An example is the justified suspicion that plasticizers have oestrogenic effects.

Despite this suspicion, studies of the effect of such substances are not considered when threshold limits are set up, which the panel finds inexcusable.

The panel notes that animal experiments are currently the most common method. However, we have to realise that translation of research results from animal experiments to humans contains a range of limitations. Humans live for an average of 70-80 years, whereas test animals live for only a very few; thus they cannot reveal the effects of long-term exposure even though they go through a complete life cycle.

In addition, animal experiments do not reveal "weak" effects, such as nausea, personality changes, hallucinations, etc., which chemical substances may provoke in humans.

Based on experiments proving that animals are adversely affected, become ill or die, it is fair to assume that humans will be adversely affected, too. The differences between animals and humans imply, however, that just because animals are not affected, we cannot deduct that neither will humans be (example: the Thalidomide case).

The Danish Environmental Protection Agency has proposed the introduction of a fourth safety factor to account for the uncertainties not covered by the other safety factors. The panel believes that an additional safety factor cannot replace either an optimisation of the scientific methods or efforts targeted at minimising the application of hazardous chemical substances.

Threshold values as such do not protect people from the effects of hazardous chemical substances; rather they act as a kind of safeguard. A fourth safety factor may, if no better solution is found, contribute to an improved level of protection.

At the moment, risk evaluation and establishment of threshold values for pesticides are almost exclusively based on manufacturers data. In the eyes of the panel this fact is problematic. Optimally, the preparation of a data basis for all chemical substances should be in the hands of a completely independent body, financed by the manufacturers.

In reality, the manufacturers will continue to carry the financial and practical responsibility for testing new products, so the approving and controlling bodies should be appropriated more resources for cross-checking of data.

The panel believes that existing possible sanctions are adequate. However, we doubt that they are used sufficiently.

Key question 2

Where in the process of evaluating risks / establishing threshold values do ethical considerations fit in?

- a) Is the necessity/fairness of animal experiments considered?
- b) Do the ethical attitudes of experts reflect those of the population?

From an ethical point of view, animal experiments are a dubious, but necessary evil. Considerations for the welfare of humans come before the welfare of animals. This means that animal experiments related to the vital health of humans, including the testing of medicine, substances in food and the working environment, must be considered ethically acceptable.

The panel believes that animal experiments must not be an option if there are real alternatives (e.g. in vitro experiments). In addition, the need for animal experiments must be limited by a reduction of the volume of new chemical substances through e.g. substitution. Animal experiments must only be conducted to develop substances which, after critical evaluation, are deemed necessary.

The ethical attitudes of experts do not necessarily reflect the attitudes of the population. Nor is this necessary. But persons with a background in professional ethics should be involved in ethical evaluations.

Key question 3

We use more and more chemical substances in the production of foods, clothing, produce and flowers and packaging. Has the use of chemical substances outdistanced our knowledge on the effect of the substances?

- a) Why use chemical substances whose hazards are known - but whose effects are not sufficiently documented?

- b) Are non-assessed substances regarded as non-hazardous?
- c) Do threshold values offer sufficient protection when:
 - Several chemical substances react in combination?
 - Breakdown products are formed?

According to a survey from 1980, more than 100,000 chemical substances are officially registered in the EU, and today marketing is largely unhampered. Hazardous effects are constantly cropping up for chemical substances which have been used for several years; effects which have never been seen before and have consequently not been studied (e.g. oestrogenic substances).

It is unclear how mixtures of chemical substances effect humans.

In some cases, breakdown products are more hazardous than the original product, and this fact substantially increases the volume of potentially hazardous substances.

Even with access to all available experts and resources it would prove impossible to test the effects of all these substances - individually and in different mixtures.

In the panels view, it is alarming that humans are subjected to so many potentially hazardous substances.

The recommendations of the panel are:

The content of hazardous chemical substances in air and soil must be minimised. Drinking water and basic foods must be kept free of hazardous chemical substances.

Development of cleaner technology must be furthered. Hazardous chemical substances must be banned, where they may be replaced by less hazardous ones.

In the long run, all chemical substances in use must be approved. We propose that, for a start, studies should be conducted on chemical substances suspected of being hazardous and which are used extensively.

Rules for marketing of new chemical substances must be made more stringent. Substances must be approved before they are released.

Products must be labelled to enable consumers to refrain from buying products containing unwanted substances.

Prices must reflect the actual costs - including for cleaning up any pollution, treatment of

chemically-induced diseases, etc.

The panel believes that the principle of reversed onus of proof must also be introduced into the area of chemical substances: any doubts should benefit the citizens.

The application of chemical substances is expanding too rapidly. It is important that we catch our breaths and revise their application.

The panel advocates that politicians visibly increase their responsibility for the area and recommends the setting up of an action plan in consideration of the above proposals.

Key question 4

Which international guidelines govern the relations between Denmark, the EU and third countries in matters of threshold values?

- a) What are Denmark's possibilities for influencing threshold value establishment in relation to the EU and third parties?
- b) What are the possibilities of the EU and third countries on influencing threshold value establishment in Denmark?
- c) Is it possible for Denmark to have lower threshold values than the EU? If Yes/No - what are the consequences?
- d) How will Denmark control the observance of threshold values for imported products (foods, clothing, market gardening, packaging, chemicals, etc.)?

Is it possible for Denmark to avoid the import of unwanted chemical substances?

At this point in time, Denmark is moving away from having its own independent legislation on the environment. Legislation has increasingly been transferred to the EU. Considering its origins as a free trade area, the EU often prioritises the free movement of goods over environmental concerns. We believe that this priority rating threatens Denmark's position as a leading country in environmental concerns.

In other international relations, common regulations are only guidelines, but we are uneasy about the fact that the "liberalised" threshold values in the WHO guidelines are used as reference values in matters concerning drinking water.

In certain areas, Denmark will be able to uphold lower threshold values and tighter regulations than the rest of the EU. And the panel believes that this right must be maintained and expanded.

The panel recommends:

- that Denmark strives to implement narrower regulations for the food area in both the EU and third countries
- that Denmark should to a wider extent use the existing possibilities in the EU treaty by invoking the environmental guarantee
- that the control of imported goods be tightened
- that goods exceeding the threshold values should be denied entry into Denmark.

Key question 5

What do the authorities do to disseminate information about the risk of chemical substances to the population?

a) How is information prioritised?

- how is information distributed?
- how do authorities ensure that information is correctly interpreted?

b) Should authorities take on greater responsibility for disseminating information on the risk of chemical substances, so that focus on specific substances by the media and producers is not given too great a weight?

c) How do we ensure the existence of sufficient and reliable information, so that citizens are given the opportunity of deciding on risks?

Until now, the authorities have informed the population via leaflets, reports and similar publications which primarily reach citizens who are already well-informed. However, the majority of the population obtains most of its information via newspapers, radio and television. Although there is a vast amount of information available, the population still distrusts the information.

The authorities should assume a far more active role in presenting information to all citizens, so that the sensationalist papers will not be the only ones to catch the attention of the population. Today, the information activities of the authorities are primarily targeted at reassuring the population when uncertainty arises.

The authorities should set up a strategy stipulating the objectives of the information conveyed to the population.

With a view to limiting the use of chemical substances, the panel suggests a strategy aimed at creating confidence and raising awareness as well as changing behaviour.

To achieve this objective, the authorities should consider coordinating their information activities. Information should be easier to obtain and comprehend.

The panel suggests that the following aspects should be covered by the considerations of the authorities:

- Reliable and educational features in radio and newspapers
- Snappy television spots that catch attention
- Informative and non-admonitory factual programmes on television
- Computer games for schools and youth clubs
- The information must be available where consumers need it (leaflets at cold counters on allergenic products)

Declarations of contents should contain warnings such as "...this product was cultivated with pesticides, growth regulators, preventive antibiotics treatment, etc."

The panel believes that information of this type could reach a new and wider target group.

Key question 6

What possibilities do individual citizens have for influencing the application of hazardous chemical substances?

a) What is known of the populations readiness to lower living standards to decrease the use of hazardous chemical substances?

Individual citizens may best influence the application of chemical substances through the foods they select. Consumers possibility of utilising this aspect presupposes that a real choice exists.

The panel suggests that studies should be effected on the consumption behaviour of the population and its wishes for production methods. These studies should document the populations willingness to change its habits to avoid use of chemical substances.

More indirectly, the population may exert influence through grassroot activities, political work and participation in the public debate, etc. The panel believes that the population generally perceives the distance from the individual citizen to the decision-makers as too long.

A precondition for exerting influence is that the knowledge base is sufficient. This is not always the case, and we believe that this is a real problem.

The panel agrees with many experts that the minimisation of the use of hazardous substances should not necessarily entail diminished standards of living.

Key question 7

Are threshold limits the best means of protecting the population against the effects of chemical substances?

- a) Which alternative methods are available?
- b) How is the development of cleaner technology prioritised to reduce the application of hazardous chemical substances?
- c) How may the population be induced to change consumption patterns to reduce the application of hazardous chemical substances?
- d) How is economic growth prioritised in relation to protection against hazardous chemical substances?
- e) Does the life quality of individuals get the same consideration as socio-economics when decisions are made on the application of chemical substances?

The panel believes that efficient protection of the population against hazardous chemical substances may only be achieved by developing cleaner technology.

Threshold values as a protective measure have a wide range of weaknesses: the risk processing aspect (i.e. transfer of test results to threshold value) is intransparent and unstructured, and threshold values only rarely consider combination effects or the effect of breakdown products, etc.

Despite their weaknesses, threshold values constitute an important tool both now and in the future for protecting the population, but they can never replace a minimisation of the application of hazardous chemical substances.

According to the authorities, the development of cleaner technology is already given high priority. The panel members underline that we consider this prioritising to be of the utmost importance.

The panel believes that the consumption habits of the population could be directed in a "cleaner" direction through:

General information

Labelling of products to provide choice

Improved production conditions to ensure that the supply of products reflects the demand

A pricing policy where the price of a product reflects the actual production costs

In the eyes of the panel, cleaner technology does not obstruct economic growth. But we have to think ahead and offensively to be able to introduce cleaner technology at the right pace.

Key question 8

How much influence do interest associations, independent experts, civil servants and manufacturers have on political prioritising in relation to protection of the population against hazardous chemical substances?

Interest associations (e.g. Danish Confederation of Trade Unions, Danish Employers' Confederation, consumer groups, environmental groups) may to some extent influence political activities in decision-making and advisory bodies. However, one precondition is that they must possess the necessary expertise and knowledge and have access to the necessary information. This is not always possible owing to e.g. business secrets, confidential negotiations and lack of transparency in governmental agencies.

By virtue of their higher greater financial resources, manufacturers have better opportunities for influencing political prioritising in practise. The panel thinks that politicians should bear in mind the disparity between manufacturers and consumers associations and consumers and environmental organisations in gaining influence.

The panel recommends:

- that consumers organisations etc. should be strengthened in national and international bodies

- that the duty to inform is made even more stringent and all involved parties should obtain wider access to information through a database where all data must be readily understood.

The panel believes that only a small minority of experts could be called independent -

primarily those attached to universities. Because of their expertise, such researchers may influence political prioritising. The panel urges the researchers to exploit this possibility.

Traditionally, the role of civil servant is defined as politically neutral, but civil servants in governmental agencies related to this area can influence political prioritising in many ways. Civil servants often have scientific degrees, and this gives them an advantage over politicians.

The panel wishes to underline that it is important for civil servants to be conscious of their responsibility for acting professionally and impartially.

Key question 9

Are too many, sufficient or too few resources (research, administration, information, etc.) spent on protecting the population against hazardous chemical substances?

a) Is the prioritisation of resources in the area optimum?

The panel believes that protection of the population against hazardous chemical substances and creation of a cleaner society based on prevention must be given high priority. But at the same time, we must underline that focus on the prioritising of resources is more important than their absolute volume.

The following aspects must be given higher priority:

- Prevention
- Information to the population
- Increased cooperation between involved governmental authorities.

Since resources in the area of the environment are limited, the clean-up process must be initiated where resources are best utilised.

The panel believes that requirements of increased resources for research and administration will not necessarily result in an overall increase in resource consumption. The resources for clean-up, control and administration may be reduced when the focus is put on prevention. Prevention pays off.