Project information

Keywords
contaminants, risk assessment, dioxin, reindeer

Project title
Dioxins in reindeer and reindeer herders (and their families) from Sør-Varanger – lessons learned and risk management in theory and practice

Year
2016

Project leader
Torkjel Sandanger

Geographical localization of the research project in decimal degrees (max 5 per project, ex. 70,662°N and 23,707°E)
Svanvik: 69.453496, 30.043898

Participants

Project leader(s)/institutions

Torkjel M Sandanger (NILU/UiT)

Project participants/institutions

Eirik Mikkelsen, Anne Katrine Normann (NORUT)

Anita Evenset, Guttorm Christensen (APN)

Martine D Hansen, Erik Anda, Therese H Nøst (UiT)

Arja Rautio (Thule Institute, University of Oulo, Finland

Administrative responsible for lead institution (name and e-mail)

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Flagship
Hazardous Substances

Funding Source

Fram Centre funding: 400 000

UiT funds: 20 000

Summary of Results

Highlights:

The main finding of this project is that new sampling and analysis of reindeer meat from this area confirm that there is elevated concentrations of dioxins in reindeer from this are but variations in concentrations indicate that these findings are not consistent.

Communicating findings from the researchers to the national food authorities have proven to be challenging and, this is a process that takes and has taken considerable amount of time. The national food authorities seem to rely heavily on the scientific committees to react to new data even though the scientists think the findings indicate a need for risk reduction strategies. They appear passive to the updated information by the scientists.

The reindeer herding representatives were not concerned about the indicated elevated dioxin concentrations in reindeer meat from this area. They have been informed both in meetings in Svanvik and by e-mail.

Main findings from communication with national food authorities:

This project demonstrates the sender of information (scientists) being met with modest interest from the receiver (authorities, industry). The responsible public system does not catch up or demand knowledge from scientists who provide both new and relevant information. The active role of scientists is met with passivity on behalf of public authorities, i.e. the authorities do not respond to being exposed to scientific knowledge. The scientists have few clues about how – if at all - their research results are welcome, processed, or applied internally in the organization. To add to this puzzle, it is unclear who is at the receiving end: what persons or which departments, and even at what regional levels, the research results are reviewed. Our findings (i.e. results of communication efforts) are analyzed in a theoretical frame of sender – receiver in communication. Furthermore, we see this in parallel to the general perception that researchers are not the best to "give back" to society in terms of popularizing research results; this is a case that shows that it might not always be on part of scientists. We also see our case in comparison to other science areas, where other public departments actively seek, receive and process information from scientists, and use this to increase their competence for soliciting and funding more research. We discuss whether our communication effort explains the lack of reaction. Instead of summoning meetings, maybe a short folder with pictures and quick-to-read-information may have rendered different results.

Master and PhD-students involved in the project

PhD Martine D. Hanssen

For the Management

The concentrations of dioxins are elevated in reindeer from the Svanvik/Jarfjord area. Past and recent data indicate that this has been the case for decades even though the concentrations today are variable and slightly lower than two decades ago.

The dioxin concentrations have not been assessed in frequent reindeer consumers, but it seems likely that concentrations will be elevated in families with substantial intake. This needs to be assessed.

The communication with the national food authorities have been challenging and the scientists have found it challenging to communicate their findings.

Published Results/Planned Publications

Platform presentation at Food security conference Oulo:Toxic elements in food from the Russian, Norwegian and Finnish border area

Planned publications: Dioxins and POPs in reindeer from the Svanvik Jarfjord area in the Norwegian Russian border area.

Communicated Results

The results were disseminated at the yearly open meeting at Svanhovd, with representatives from the city council (formannskapet) including the reindeer herding representatives and the state food authorities and local media.

Resulted in a newspaper article.

A newspaper chronicle is planned by the end of the year discussing the findings of dioxins in reindeer meat from the Svanvik/Jarfjord area and how this is handled by the national food authorities.

Interdisciplinary Cooperation

This project is an interdisciplinary project with social scientists observing the interaction between scientists and national food authorities as the project progresses with new data.

Here the clear benefit is that the actual interaction between scientists and national food authorities is observed by a third independent party.

Disciplines involved: Environmental chemistry, social science, public health, community medicine, biology.

Budget in accordance to results

The Fram Centre Funding was the only source of funding for the project besides the UiT financed PhD position. This project is a follow up of a large KOLARCTIC financed project led by the Fram centre.

The funding has provided new and valuable information that adds certainty to our findings. In addition, we have been able to assess the communication with national food authorities.

Could results from the project be subject for any commercial utilization

No

Conclusions

a) Indicate future research and/or perspectives which the project results have led to

The elevated concentrations of dioxins in reindeer from the Svanvik/Jarfjord area clearly indicate the need to identify the source of this exposure.

The consequences of elevated dioxin in reindeer meat for the blood levels of reindeer herders and their families need to be investigated.

b) List and describe new methods or techniques that have been developed during the project or that the project has revealed a need for

New ways of communicating findings from research projects to the national food authorities that result in rapid actions are needed.