

# **The RISCOM Model in practice – recent experiences from new areas of application**

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## **1. Introduction**

The RISCOM project started with a pilot study in 1997[1], funded by the Swedish Nuclear Power Inspectorate (SKI) and the Swedish Radiation Protection Institute (SSI). The RISCOM Model was further developed, tested and used as part of the European RISCOM II project [2]. The VALDOC Summer School in 2002 suggested the establishment of a Transparency Forum for the enhancement of awareness in complex issues of global importance which are, or can be considered to become, subject to political decisions and public debate [3]. In recent years the RISCOM Model has been used to analyze the prerequisites for transparency in several areas, and the Transparency Forum idea has been applied in practical situations, most notably for risk assessment of mobile telephone systems and cleaning-up and remediation of contaminated sites. In a recent article, a structured approach was suggested to improve transparency and awareness in the biotechnology sector [4]. In this paper we summarize recent experiences in applying the RISCOM model in different policy making areas, comment on some aspects where the model offers unique possibilities and emphasize some crucial issues with regard to future applications.

## **2. The Democratic Context**

In policy issues with a high technological and scientific content it is common that experts set the agendas too narrowly, there is mistrust in expertise and authorities, fragmentation by interest groups and low awareness level in the political system. Often, early narrow framing leads to a decision-making basis that is insufficient, or even irrelevant, for the political decisions, resulting in frustration and inability to solve important societal problems.

In spite of a recognition of the need for citizen participation in general terms, experts and policy makers often show quite another attitude to the role of lay people. The point of departure is still often that new technologies should be “accepted” by the public, and that there are barriers against “acceptance”. European citizens are said to base their attitudes towards research in new areas not

on concrete evidence but on “images of fear, stereotypes and beliefs”. The concept of “sound scientific evidence“ is often used to exclude the lay people from having any influence on policy matters. Debates on issues like nuclear waste management, genetic modification and radiation from telecom antennas tend to see participants fixed in their positions already at an early stage. Some of the problems in society’s dealings with complex issues are:

- The dominance of experts makes important issues narrowly framed as technical/scientific thus losing relevance in the social and political perspective.
- Interest groups, including industries and NGO:s but also expert groups, tend to present a fragmented picture which may favour their own position.
- Media, advertising and entertainment dominate everyday life in modern society – thousands of messages in numerous channels flood citizens every day. The result is shortened attention span and complex messages are more or less ignored.

It is clear that most policy issues with some complexity involve not only factual issues with uncertainties, but also values, emotions and vested interest. All these factors should be made transparent to policy makers and the general public before decisions are made. What is needed is thus arenas for the clarification of the factual and value-laden domains. This will not come by itself for example in a participative or deliberative society. We suggest the introduction of such a function into the existing framework of representative democracy, especially since this in itself would increase its legitimacy, thus making alternative models of democracy less needed.

### **3. The RISCUM Model**

The RISCUM Model has been extensively described elsewhere. It evolved from the need of transparency in decision processes for managing nuclear waste [1, 2, 5, 6]. However, it provides a general model for transparency and participatory democracy in areas facing decisions on complex technical issues and projects with uncertain but potentially large consequences for environment and society [4].

The RISCUM model stresses the need for communicative action in the organisational context in which the decision process is taking place. It relies on the Theory of Communicative Action [7] and the Viable System Model (VSM) for recursive organisations [8]. Dialogues to provide transparency should be oriented to understanding, i.e. be characterized by communicative action. In such dialogues, everyone involved raises three claims which he is prepared to fulfill, namely that his statements are true and right and that he is truthful. The focus on dialogue to reach understanding among the actors thus sets strong conditions on the way discussions should be conducted.

The organisational theory aids the unfolding of the complex issues into *recursive levels of meaningful dialogue*. These recursions make the transparency problem manageable. It also provides insights into the many concurrent dialogical loops inside the organisations responsible for the decision process and between these organisations and the outside stakeholders. These *transparency loops* show how *authenticity* is created and manifested, and how *awareness* of outside stakeholders is strengthened. They also indicate how *stretching* takes place, i.e., how arguments presented to the major stakeholders in the decision process impose re-evaluation and re-assessment of their earlier standpoints.

#### **4. Applications in four areas**

Ideally, the RISCUM model is applied in three steps, (1) pre-understanding, (2) unfolding into levels of meaningful dialogue and design of transparency fora, (3) dialogues in the transparency fora. The first step involves contacts with main stakeholders and application of the theoretical tools to obtain a pre-understanding of the organisational context and how issues raise claims of facts, legitimacy and authenticity. The following steps require broad involvement of stakeholders both inside and outside the organisations responsible for the decision process. For the second step this can be realised through a broadly based reference group with representatives from all major stakeholders. The transparency fora should as far as possible remain open to the public.

It is, however, important not to see the three steps as a linear process. Each step frames the following ones and it is important to allow for feed-back loops between the steps questioning the framing and permitting reframing. Issues raised in the second step may require renewed analysis and the results from the debates in the transparency fora may require another unfolding or redesign. In reality, the steps merge into each other.

So far, four areas have exposed to the application of RISCUM:

- nuclear waste management
- mobile telephone systems
- cleaning-up and remediation of contaminated sites
- certain technologies for electricity production

These four areas represent very different stages in the application of the RISCUM model. Management of nuclear waste is the area where the model has been most comprehensively applied. In the electricity area, the theoretical tools have been applied to obtain a pre-understanding of context and issues in three specific energy projects.

The RISCUM Model has emerged as a result of efforts in the area of nuclear waste management to make decision processes for e.g. the selection of sites for final disposal transparent. This is also the area where the model was first applied when hearings were designed for the Swedish site selection process. This has been described by Andersson, Wene, Drottz Sjöberg & Westerlind [9] and evaluated by Drottz Sjöberg [10]. However, the model is generally applicable to decision

processes on technically complex issues with large benefits but with uncertain and potentially very unfavourable consequences. Now the model is becoming widely appreciated and also used in other areas.

One current area of application is the introduction of the third generation (3G) of cellular phones which has caused much discussion in Sweden. The time table and the level of ambition in terms of access to the system all over the country was early set at the highest political level. The development of 3G has, however, caused opposition and controversy in an number of municipalities. There are concerns over radiation risks from the masts, which are built with much higher density than for the previous GSM system, although the authorities assure that there are no such risks. Resistance groups have emerged, and there are municipalities wanting to establish zones free from masts. In 2005, industry, authorities, municipalities and critical groups agreed to form a joint Transparency Forum using the VALDOC approach with the RISCUM Model through an initiative taken by the Swedish Radiation Protection Authority [11]. In this forum the stakeholders could agree on the structuring of the problem in different levels of dialogue and on the format and contents of a series of three seminars that followed the agreed level structure.

Another area of application is contaminated waste landfills and sediments. As the awareness about the existence of waste landfills, contaminated sites and contaminated sediments, and their risks for humans and the environment, has gradually increased world-wide - so has the need for assessing and managing them in the best possible way. The technical complexity and potentially high costs associated with remediation projects require efficient, reasonable and democratic risk reduction policies and strategies. In a recent project the RISCUM Model has been used to diagnose the Swedish national programme for cleaning-up and remediation, and recommendations were made for measures to improve transparency and awareness before decisions are made, see [12].

Most often, the municipality engagement is quite low in the early pre-study phase and varying in the main-study phase where alternatives are investigated and solutions are proposed. However, it is the municipality that in the end must decide on the remediation project and various possible alternatives. It was thus recommended that the municipalities should be given resources within the national programme for competence development and stretching. The main aim with transparency and awareness raising efforts on the local level should be to give the municipality decision making bodies and the citizens the best possible decision-making basis. This recommendation is now being followed up at two of the major remediation projects in Sweden – one former shipyard (Bohus Varv) and the Sala silver mine.

It was also recommended that bodies on the national level allocate stretching resources for their own purpose. Here, the main aim should be to enhance the capabilities of the Environmental Protection Agency and the county administrations for making the prioritisation between different projects, for developing risk assessment methods and for developing new remediation methods.

In the area of electricity production three energy projects were analysed as case studies, a number of observations were made (see[13]).Also this area would benefit

from using the Transparency Forum concept given that an appropriate organizational solution can be found.

## 5. Insights gained

The status of the applications of the RISCUM Model varies much between the different fields and a thorough comparison between them remains to be done. At this stage we will only comment on a few items with regard to the results of our analyses of the organizational context and on the strength the RISCUM model as a tool to make the debates of controversial matters efficient.

### *The organisational context*

An external stakeholder judges the authenticity of the organisations responsible for decision and implementation by comparing what they do with what they say. Coherence between doing and saying emerges as the results of internal conversations between quite different parts of these organisations. E.g., for project organisations responsible for remediation this leads to fairly weak authenticity that may be further weakened by state procurement rules requiring competitive bidding at several stages of the project. Likewise, the authenticity of entrepreneurial organisations pioneering new technology such as wind power may be difficult to judge because they have not yet a track record. Uncertain authenticity may cause licensing authorities to impose more severe licensing conditions for such organisations than for established market actors, thus creating new barriers for market establishment. One case study shows seven years licensing period for an off-shore wind power project initiated by an entrepreneurial organisation. Take-overs of existing well-established organisations where the new owner impose new resource conditions may also threaten the authenticity of these organisations.

Unfolding recognises levels of meaningful dialogue which are used to structure the transparency debates. However, it is also important to observe relations among the levels. E.g., an electrical transmission grid creates local risks and nuisances, while the value of the project emerges only on the regional or national levels. Transparency fora have to be designed to permit participants to weight both costs and benefits of the project.

### *The application of the model*

A strong and stable result from all the applications is that unfolding into levels of meaningful dialogue is a powerful tool to manage complexity and to structure debates that are both fair and effective. There is a caveat to this conclusion, however. The structuring into levels of meaningful dialogue increases the risk for fragmentation and manipulation by strong stakeholders. The RISCUM model provides remedies against fragmentation and manipulation. First, the Viable System Model explicitly deals with the structuring and hinders strategic manipulation. Secondly, requiring communicative action makes unfolding to an integer part of transparency. In practice the possibilities for fragmentation and manipulation are strongly reduced by the open discussion within a broadly

composed reference group having the task to transfer the model to practical application in terms of format and content of seminars, hearings etc.

The Viable System Model provides valuable insights into issues regarding authenticity of the organisations responsible for the decision process, stakeholder awareness and stretching. Such results are important inputs to the discussions about unfolding and design of transparency fora. Although VSM analysis requires considerable resources, this result strongly suggests that such analysis is an important part of providing pre-understanding to the benefit of the later phases of a “transparency project” .

Claims of facts, legitimacy and authenticity acquire quite different meanings on different levels. Examples are contested scientific results. Peer reviews at the scientific level focus on interpretation of data, norms of good science and honesty of the dissenting scientist. In the decision process focus is on relevance for the issue in focus, i.e., the legitimacy of the produced arguments, and the authenticity of both the dissenting scientist and the peer review. Considerable confusion arises when the role of the expert/scientist on the two levels is confounded. Here again the RISCUM Model helps to address the problem and to clarify the different roles the expert/scientist may play.

## **6. Conclusions**

We believe that the RISCUM Model can be used within the framework of representative democracy to improve the decision processes. Deliberative processes have their role in society ( see e.g. [14] and [15]) but they also have their limitations as pointed out by e.g. David Held [16] and as elaborated in [4]. In the transparency approach they are mobilized for the purpose of clarification of issues rather than for shaping consensus.

In the actual implementation of the RISCUM Model in a specific area, the “transparency project”, e.g. a Transparency Forum, must have its own authenticity meaning that there must be no hidden agenda behind the implementation. It is clear that the actors taking part may have their own strategic purposes for their participation. However, the project provides a neutral arena where the RISCUM principles set certain rules that makes it more difficult for ALL actors to actually act strategically within the project. All actors must trust that the process has that neutrality. For this the organisational set up is crucial. For example there needs to be a process guardian, often manifested in the chair person of the reference group. Important aspects are also who hosts meetings, where they take place, who documents meetings and seminars, who moderates stretching sessions, who writes the final report etc. We recommend that the participants agree formally on these issues in the very beginning of the project. Our experience so far, e.g. from the mobile telephone project and the remediation projects, is that this can be done taking the specific characterises of the organizational context of the area in focus into consideration.

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