

Case Study 5: Competency Groups

bringing together scientific and local knowledge to develop collaborative flood risk modelling

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Humanitarian decision-making level: Community

Geographic region: Pickering, Yorkshire and Uckfield, Sussex, United Kingdom

Relevance of approach across scientific disciplines: Trans-disciplinary approaches; Governance of science; Indigenous knowledge

General:
Builds shared understanding of the problem between at risk community and scientific experts from across different disciplines. Does not promise, and is delinked from, a solution. A useful approach for framing a collaborative approach to a highly contested issue and engaging participation beyond those with a direct stake in the problem. Tangibly demonstrates the value of co-production in building confidence and creating new knowledge.

For modelling and flood risk science:
The approach simplified the model so that it included the features deemed to be important to the area of focus. Instead of having to devote efforts to making an off-the-shelf model fit the place to be modeled, the approach concentrates on developing a model tailor-made to the place.

The modeling approach brings in key elements of the decision-making process at the start, together with types of knowledge that are usually either excluded, or not taken into account until the end. This knowledge includes specific understandings about suitable (and unsuitable) locations for trying out solutions. It increases the potential for solutions not just to make a difference, but also to be practicable.

SUMMARY DETAILS

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Watch a video of the approach:
[Understanding Environmental Knowledge Controversies: The Case of Flood Risk Management](#)

Read more:
[Making space for people in Flood Risk Management Ryedale Flood Research Group](#)

DIALOGUE PROCESS

Summary of dialogue process:

- Enabled community access to the technology and scientific information employed to inform flood risk management (modelling).
- Built shared understanding amongst at risk communities and scientists of a controversial issue of local concern., and a channel for community concerns to inform and revise expert scientific advice
- Shaped more locally acceptable flood risk management measures.

Explanation of dialogue process: Competency Groups are forums for collaborative thinking which examine the science and politics of flood risk modeling and consider how to improve the way in which the public are involved in decisions about managing flood risk.

The approach involves natural and social scientists collaborating with volunteer residents in localities in which flood risk management is already a matter of public controversy. Competency Groups ‘slow down’ reasoning in order to understand how local flood risk problems and solutions are framed both by the ‘experts’ and community members. Competency Groups do not try to include representatives of pre-existing stakeholder groups, but to create new communities of knowledge.

The Competency Group approach aims to:

- Trace existing flood management policies back through to the scientific knowledge claims and practices that inform them;
- Enable those affected by flooding to try out alternative ways of framing and ameliorating the local flooding problem; and
- Produce a collective model of local flooding and associated proposals for action that enable the Group’s work to travel and, potentially to make a difference, in local civic and policy networks.

The first Group was convened in Ryedale (running September 2007 to June 2008) and the second, in Uckfield (running September 2008 to May 2009). It was evident from local press coverage in Ryedale that flood risk management was a hot issue, intensified by the July 2007 flood event that occurred shortly after the Group advertised for local members to join the Group. In Uckfield the controversy was less intense, with the experiences of the 2003 winter floods receding as the Competency Group began its work, but reignited by the news that the town had been declared ineligible for funds to undertake adequate flood risk management schemes.

Competency Groups support the development of a shared understanding of the scientific and policy issues, though not necessarily a consensus on the causes of, and solutions to, flooding. The approach employed modeling to open up new thinking, rather than to produce definitive solutions. Flood science has to use computer models to predict the risk and impact of future flooding events, and to understand how these may be affected by changes such as housing development. These models are generic in that they are designed to work anywhere, provided they are driven by appropriate local information, such as river flows and catchment topography. In many cases, they incorporate local knowledge, such as where water reached in an historical flood event. This information allows the model's parameters to be changed so that the model can incorporate this local information. However, this conventional approach only makes partial use of the local knowledge that can improve understanding of a flood problem. In order to make the model work, local knowledge is transferred to the generic model, but the model itself is left intact. As a result, it is the model that frames the type of solution that can be tried out. The framing itself cannot be questioned. This severely limits the extent to which issues of local circumstance, difference and contingency are included in the flood risk management process. Local people are rarely involved in identifying possible solutions, as these are determined by the ready-made model.

Among reasons for the project's greater success in Pickering, Yorkshire, the project team identified:

- Pickering had just suffered flooding;
- There was considerable interest in and unhappiness with the proposed flood risk management proposed.
- Good facilitation within and beyond group discussion essential. Constrained resources meant that this approach was not paralleled in Uckfield.
- The approach brought together a different group of people to the usual 'stakeholders'

METHOD

The Competency Group comprises 5-6 project team members and 5-8 local members (in the Pickering case, for example, group membership comprised two flood modellers, three assorted social scientists ('university' members) and eight volunteer residents ('local' members) from the town and upstream catchment), plus a dedicated camcorder operator. The project team put adverts in the selected villages, and invited participation from those interested. From amongst those who applied, the team used a geographically-selective approach and then selected those who were most open-minded. While not necessarily 'flood-victims', participants were also selected on the base of interest and the issue being of personal concern.

Group activities were built around bi-monthly meetings in which hands-on modelling became the key practice through which 'expert' and Group members' knowledge-claims about the local flood problem could be tried out. The facilitator undertook one-to-one follow up on group meetings, enabling voicing of individual concerns which were felt less easy to share in the group.

The Competency Group working practice centred on 'slowing down' reasoning. One of the primary means of achieving this 'slowing down' of reasoning was to work with various materials and artefacts that served to mediate or objectify the knowledge claims and practices of different members of the group and those informing local flood management, from photos and video footage to computer models and policy documents brought and/or produced by group members. This emphasis on the 'objectification' of knowledge claims and practices served two other purposes: first 'putting at risk' the knowledge practices of university as well as local members of the group, and second, as a means of supporting coproduction of collective knowledge.

How is this case study applicable to you?

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What potential do you see for changing and extending the method?

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Group meetings were supplemented by a variety of other activities, such as field visits, video recording, interviews with local figures and personal testimony work. Each Group was supported by a password restricted website hosting a resource depository for materials collected by group members (eg maps, transcripts, photos/videos, newspaper cuttings, policy documents etc) and a group blog. Audio and video recordings were made of every Competency Group meeting and transcribed for reference/use by all Group members.

To share emerging learning, the Group put on an exhibition in Pickering which was attended by 200 people.

Principles for the Competency Group working

- The group did not focus on decision-making
- No formal stakeholder representatives
- All willing to change their views.

Competency Group practice

- Consensus not necessary.
- Working with objects
- Good facilitation within and beyond group discussion essential.

IMPACT

Baseline against which impact measured:

Review of various points of view on the issue through interviews, collection of personal and community memories, review of local and national press coverage, as well as the processes through which earlier flood risk management proposals had been developed (the tools employed, the policy frameworks and the degree of local engagement). No specific empirical baseline on the state of the dialogue referenced.

Impact on vulnerability:

The approach was seen to have resulted in more socially robust knowledge and solutions. The area has not experienced flooding since the new approach was implemented, so is not clear if the alternative 'bund' approach to flood risk management – engendered as a result the Competency Group – is effective or not.

Informing specific humanitarian decision making process:

Overcame the conventional divide between 'lay' and 'expert', supporting the development of 'collective competence' across the group and building the confidence of local members in their knowledge. Members of the community have developed the Ryedale Flood Research Group, the leader of which has used the direct links to international scientific expertise developed through the Competency Group, to support the Research Group's ongoing work. The Competency Group built a model to test and develop appropriate siting for bunds. The UK Environmental Agency cancelled its plans to build a flood wall and the UK Department for Environment, Food and Rural Affairs (DEFRA) have financed a demonstration study to support flood risk management in Pickering, developing upstream storage by means of 'bund' (small dam-like structures which allow rivers and streams to continue to flow, but 'hold back' excess flow in temporary storage), a flood risk management approach which was earlier viewed as inappropriate.

Informing the focus of current/proposed scientific research:

Competency Group approach supports development of engaged and demanding 'users'. It enables community members to review and input community knowledge into flood modelling on which flood risk management strategies are being based.

Read more:

Landstrom, C, Whatmore, SJ, Lane, SN, Odoni NA, Ward N, and Bradley, S, (2011) Coproducing flood risk knowledge: redistributing expertise in critical 'participatory modelling'.

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Other material available on the Rural Economy and Land Use (RELU) website