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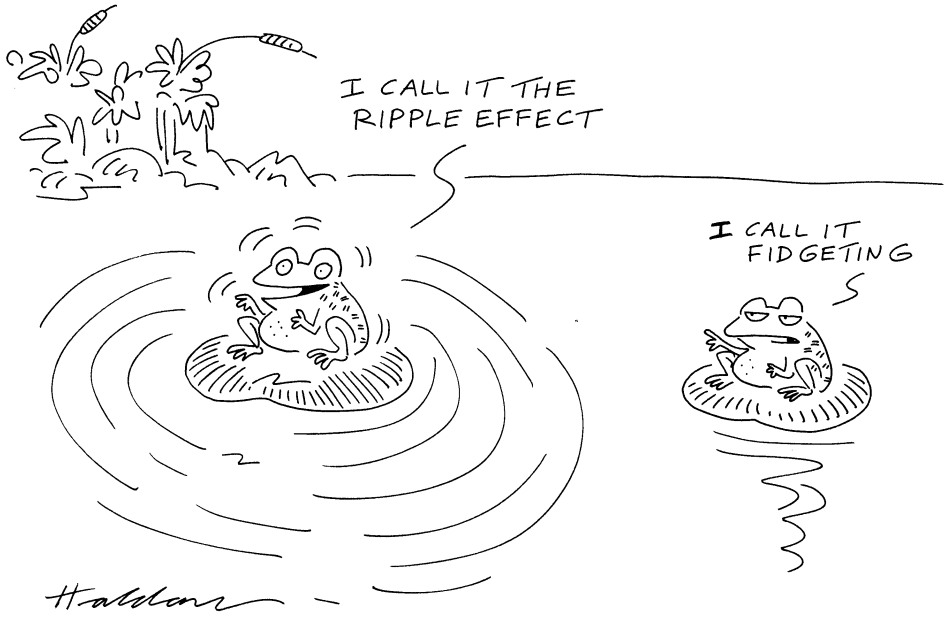
Rural Economy and
Land Use Programme

Telling stories:

Accounting for knowledge exchange



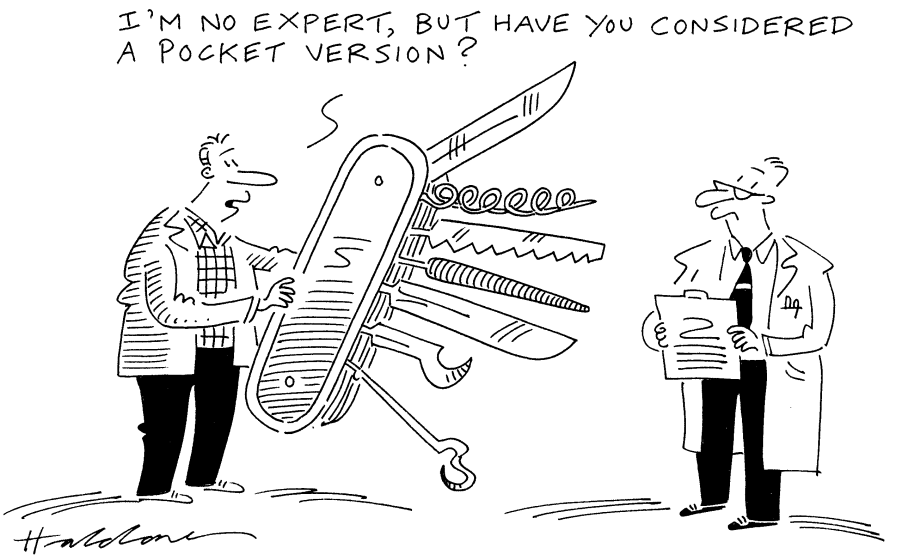
Telling stories: Accounting for knowledge exchange

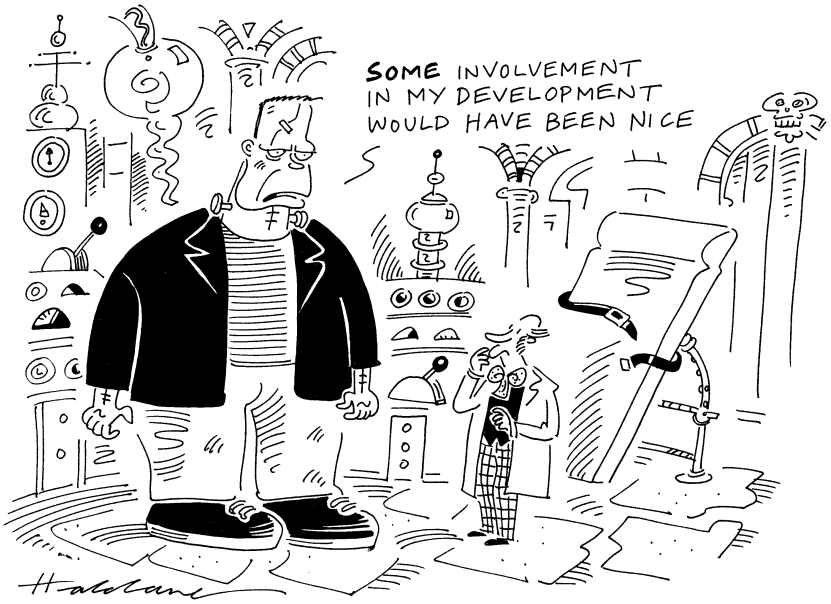
By integrating social and natural sciences, Relu takes a fresh look at innovation. The programme has taken a novel approach to stakeholder involvement that recognises the myriad ways in which research findings ripple outwards into policy and practice. Conventional approaches to knowledge transfer have been linear and fixated on technology. They tend to emphasise new technological developments rather than people. For this reason they have overlooked the social practices that technologies hook into and mould and the changes in behaviour that research can influence. We need new technologies that go with the grain of society, and social change, and creatively exploit opportunities. As well as the "hard innovation" of technological developments and evidence-based policy making we need to recognise and acknowledge the "soft innovation" of behaviour change within business and everyday life.

How does Relu approach knowledge exchange?

Relu aims to engage a wide range of stakeholders at all stages and levels of the programme and this has led it to adopt a philosophy of knowledge exchange and collaborative knowledge production.

Knowledge exchange represents a radical departure from the prevailing linear model of knowledge transfer. The linear model can only envisage knowledge moving in one direction. Research takes place in the laboratory, leading to scientific discoveries and technological breakthroughs that are then disseminated to potential users. These users are inexpert and passive, with nothing worthwhile to contribute to the research process. In order to make use of the findings they must adjust their policies and practices to fit.





Relu's philosophy is different. It embodies four main principles:

- **Stakeholders must be engaged throughout the research process**
- **The scientist is not the only source of knowledge – non-academics have knowledge and expertise to contribute**
- **Transfer of ideas and information happens through multiple channels, including informal networks and the movement of people between research and practice**
- **Networking and exchange activities can build connections for effective transfer of knowledge**

These principles dissolve the sharp distinctions between knowledge producers and users. They enable knowledge exchange to take place during the actual process of knowledge production, in the form of new connections, perspectives and understandings.

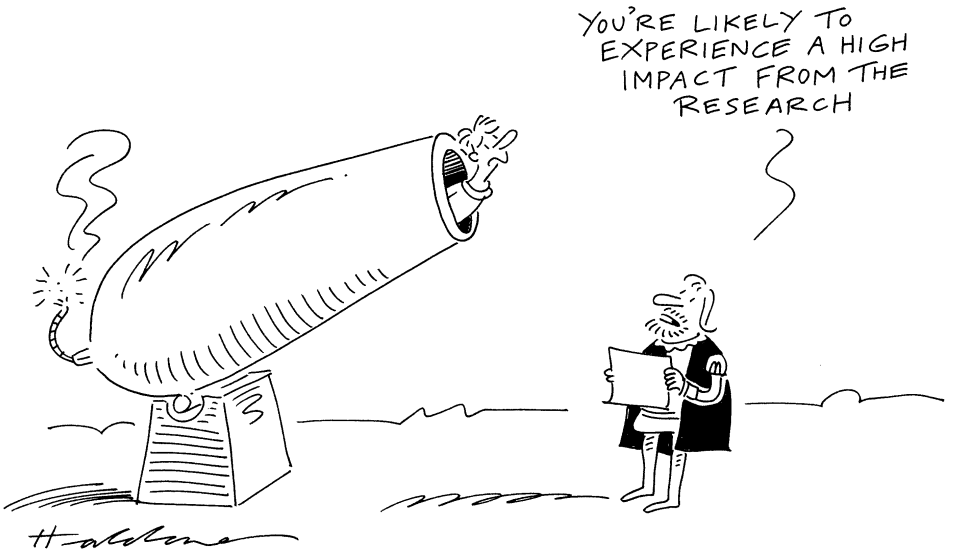
Relu's ***Understanding Environmental Knowledge Controversies*** project helped give new momentum to efforts to rethinking flood risk management options in Ryedale, North Yorkshire. Local and regional Environment Agency officials talked of the issue having become 'stuck', and there was a lot of controversy and bitterness among local people following serious floods in the area. The formation of the Ryedale Flood Research Group as part of the Relu project helped to give local people a forum and to bring their local expertise together with academic flood risk modelling skills to develop a proposal using bunds. This is now being taken forward as a Defra demonstration project.

But does it work?

How can we tell whether these principles are resulting in effective knowledge exchange? Relu is attempting to capture both the shorter and longer term effects through a new tool called the Stakeholder Impact Analysis Matrix, or SIAM.

We know that several thousand stakeholders are engaged with the Relu research projects and these include policy makers, practitioners, businesses and voluntary organisations. The aim of SIAM is to track their involvement in the research, to see what they bring to it and what they take away.

We collect the data via the routine annual report that each project's principal investigator completes. We ask them to tell us about the impact of the research on the stakeholders, as well as the impact that the stakeholders have had on the research.



What information does SIAM provide?

Taking 2008 within the Relu programme as an example: There were 21 projects, most in mid or end phases of research. Of over 1000 stakeholders who were involved, 37% were public sector, 36% private sector, 15% members of the public (eg consumers) and 12% third sector.

This graph shows the nature of stakeholders' involvement with Relu – as project partner, steering group member, consultee etc. It is important to know this, in order to learn what works and what doesn't work in knowledge exchange.

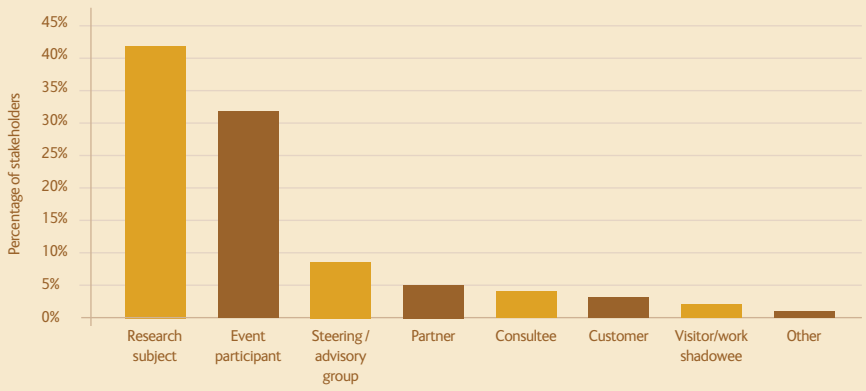
We can see that most of the stakeholders are involved as research subjects, for example as interviewees, survey respondents or members of focus groups. A third had been involved as event participants and almost one in 10 had been members of advisory groups. At the other end of the scale, a much smaller number have contributed as partners, or hosted researchers on Relu's work shadowing scheme or were visiting fellows to projects.

Stakeholders were making a variety of contributions to projects. Many were involved in shaping the direction of the research. The SIAM data also show that stakeholders from different sectors seem to be contributing differently. The public sector appears to be more involved in framing research objectives and project design, while the private sector is more prominent in supporting data collection and in providing access to facilities and study sites.

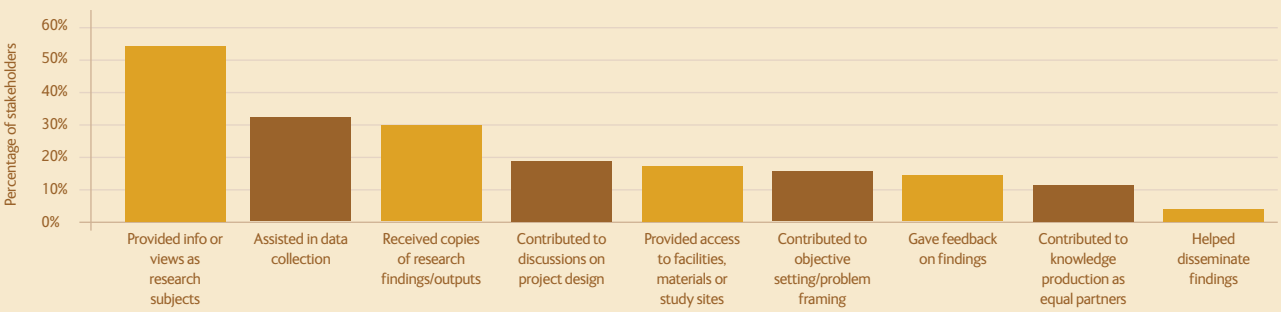
Prominent Relu stakeholders include:

Defra
Scottish Government
Environment Agency
Natural England
National Farmers' Union
Country Land and Business Association
Farming businesses
RSPB
National Trust

Nature of Relationship



Contribution to Project



What does SIAM tell us about effects of knowledge exchange during the research process?

SIAM shows us the researchers' perceptions about the impact non academics achieve on the research, during the life of the project.

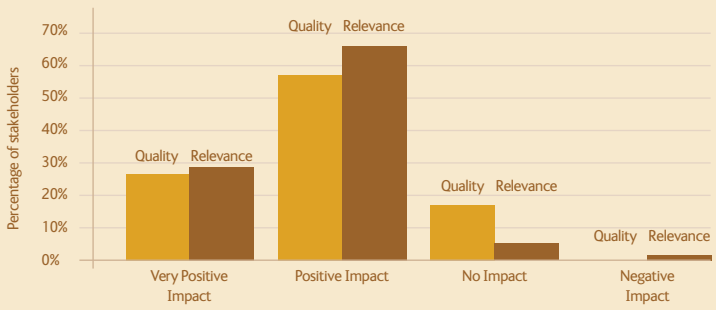
The first graph below shows that in most instances, Relu researchers were able to report a positive impact on the quality and relevance of the research. A significant proportion identifies these as very positive.

SIAM also shows the researchers' perceptions of the effect their project is having on these individuals and organisations during the same period, in terms of their practices and understanding (see lower graph).

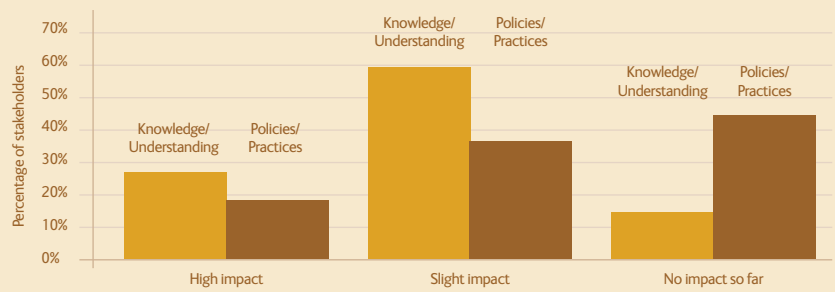
Most effects were still slight when the data were gathered, and as we would expect, impacts on stakeholder knowledge outstrips impact on policies and practices. However, this may be laying the foundations for future change.

The data can also be used to identify areas where the programme may be leading to high impacts. This can be a starting point for developing case studies, or in focusing longer term analysis.

Stakeholder Impact on Research

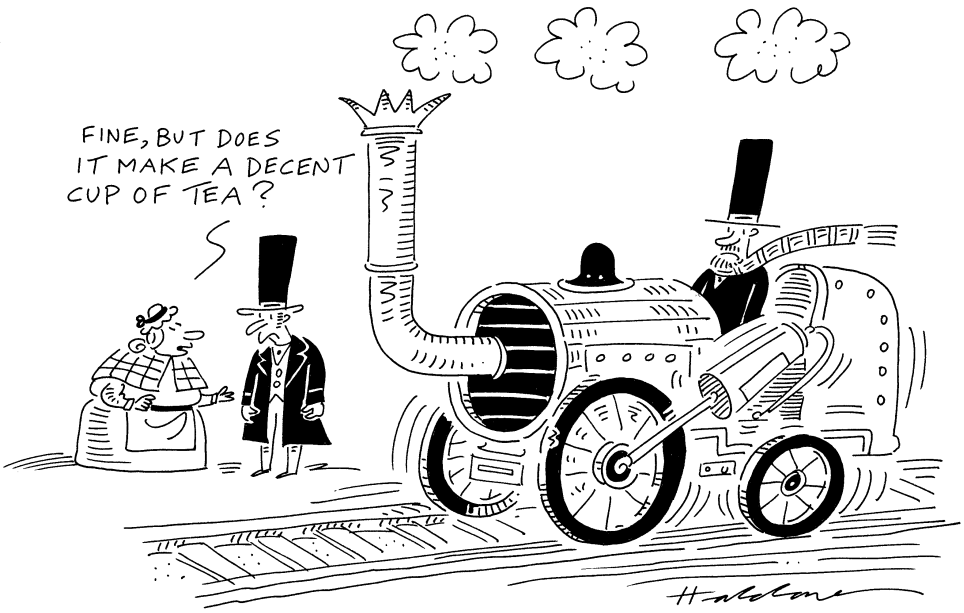


Research Impact on Stakeholder



Relu's ***Integrated Management of Floodplains*** project has made very measurable contributions to policy development. The team's findings on the impacts of the summer 2007 floods in rural areas were used to update the governmental scientific evidence base in a number of reports and horizon scanning exercises. This included being used to inform the influential Pitt Review "Learning Lessons from the 2007 Floods".

The Relu Project ***Comparative Merits of Consuming Vegetables Produced Locally and Overseas*** made close and early links with industry bodies that enabled them to feed their research results directly into areas where they would be most useful to businesses. The project was commissioned by the Horticultural Development Council and Hybu Cig Cymru (Meat Promotion Wales) to undertake further work on the carbon footprints of products. They also contributed evidence to the World Bank on the implications of carbon labelling for developing countries.



Does who you are matter?

SIAM can offer insights into how stakeholders are engaging with research and this is important information for researchers planning future projects.

The involvement of different sectors has different effects. For example, the involvement of societal stakeholders (the public, consumers) or the private sector is associated with more beneficial impacts on the research. Public sector organisations, on the other hand, were more likely to be affected by the research.

What kinds of relationships achieve highest impact?

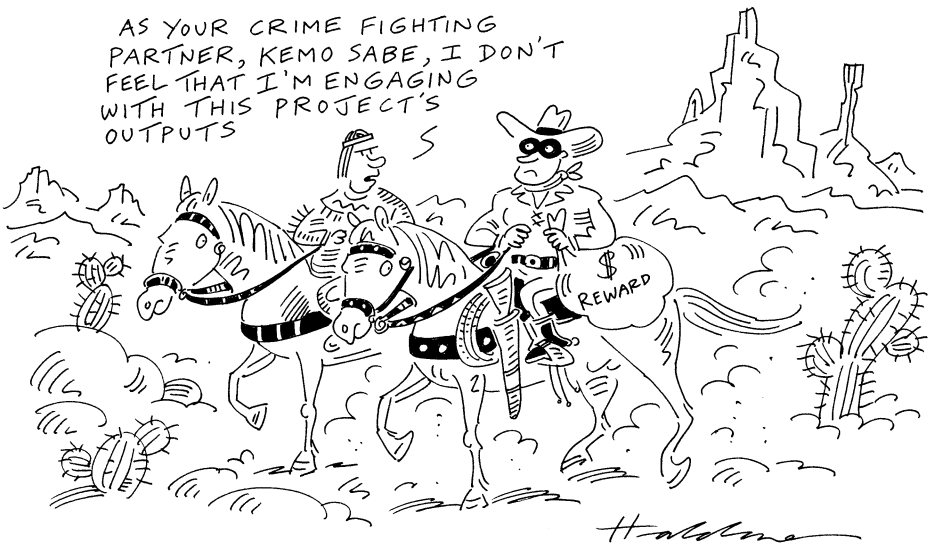
By linking together the engagement and the impact parts of the SIAM dataset we can explore what encourages successful knowledge exchange. We can look at what kinds of relationships are associated with what kinds of effect.

Two way impact, where both stakeholder and researchers are benefiting, generally comes out of a more active and sustained relationship. So how do we achieve high two way impact? The Relu experience has shown that membership of steering and advisory groups is important. Schemes such as work shadowing, where researchers spend time in contexts where their research may be used, and visiting fellowships which bring employees of outside organisations to spend time with the research team are also especially helpful.

Other relationships are more one-sided. Thus a customer relationship, or participating in events, is likely to improve the impacts of the research. In contrast, research subjects play a more positive role in influencing the relevance and quality of the research.

Being a project partner seems to result in high impact on the research but low impact on the stakeholder. However it may be that the project partner feels this role is worthwhile in order to target or focus the research effort. Or they may look to gain from the research in the long term.

Relu's ***Sustainable Uplands: Learning to Manage Future Change*** project worked with project partners "Moors for the Future", a consortium of national and local organisations set up to restore parts of the Peak District moorlands. This enabled effective communication with stakeholders and very active knowledge exchange in a range of areas. Moors for the Future Research Manager Aletta Bonn said: "The active engagement of stakeholders has been a strength in developing highly relevant science and promoting trust, ownership and greater understanding. In turn, stakeholders have developed their understanding of upland science and of the need for sound evidence. Relu results are now already incorporated into upland management and planning, and have led to several exciting follow-on joint projects."



Is knowledge exchange fixable?

Could we design stakeholder inputs to achieve specific knowledge exchange outcomes?

There does seem to be an association between what stakeholders bring to projects and impact. Some forms of contribution are quite one-sided. For example, stakeholders who assisted in data collection tended to have strongly positive impacts upon the research. On the other hand, those who provided feedback on findings were more likely themselves to experience high impacts from the research.

Then again, other forms of contribution have a positive influence in the round. These include contributing to objective setting and helping to disseminate findings.

By working from an early stage with policymakers at Defra, Relu's ***Modelling the Impacts of the Water Framework Directive*** project has been able to design and organise the timing of research work packages to provide key information when it was most needed. Their modelling work has demonstrated how different approaches, while delivering identical impacts, such as reductions in diffuse pollution, can impose very different effects on farm incomes. Variation in spatial targeting can also have very different impacts on farmers. This kind of information can help policymakers to avoid unintended consequences when designing interventions.

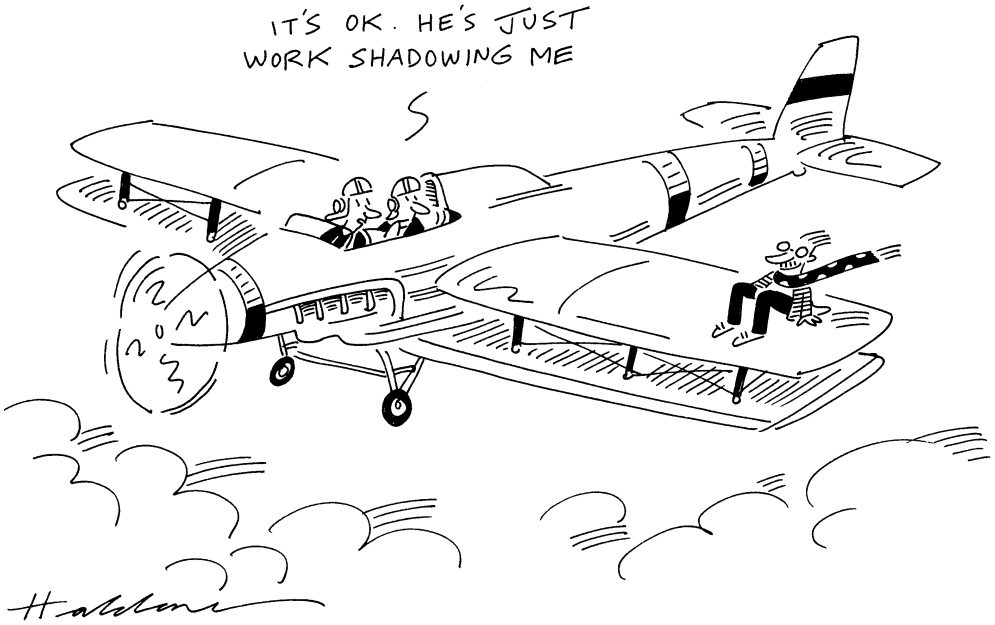
Relu's ***Testing a Community Approach to Catchment Management*** project, has brought together academics, local residents, institutional stakeholders and other interested parties into a group that has named itself the "Loweswater Care Project". The group is now meeting regularly "to gain a better understanding of the diverse challenges faced by the Loweswater catchment and together to seek economically, socially and ecologically viable ways forward and put them into practice". This approach has helped to set the research agenda and achieve important objectives such as installing a buoy to monitor water quality and making the data publicly available via the project website www.lancaster.ac.uk\fass\projects\loweswater

What about the non-academic perspective?

The researchers give us one perspective on knowledge exchange. But we can also use SIAM to identify the people and organisations who have contributed to the research. We can then survey these key groups, and compare their responses with the researchers' feedback. Although the researchers may think a particular finding has had high impact, people outside the research world may disagree, and vice versa. This kind of triangulation will provide valuable information about the relationships and mechanisms involved. But knowledge is complex, multi-faceted, controversial and may be contested. We cannot expect it to be without dispute and it is important to remember that disagreement and debate often enrich research.

Can SIAM help with the longer view?

Looking further ahead, SIAM offers an audit trail of the people involved in the research who may be able to provide information in the future, even long after projects have finished. It may then be possible to come back to individuals and organisations to gather information on longer-term effects – a first port of call in long-term impact analysis.



What's the story?

But numbers are not enough. They only give us part of the picture. We need to enrich that picture with some stories which can in turn help us to ask the right questions of the data.

SIAM can help us to identify the in-depth case studies that we need to tell us what worked, and what didn't work, so we can learn the most effective ways of involving non-academics in research in the future.

We can look more closely at the experience of people exchange, which has proved effective in the Relu programme. The data highlight the value of researchers work shadowing in stakeholder organisations and of stakeholders visiting research projects. Why does this work so well?

SIAM can also help target follow-up qualitative work on stakeholders identified as important bridges between research and practice. Who are they and how are they so effective?

And we can use case studies to look at the areas which are puzzling, where impact potential seems to be unfulfilled. We can identify areas from the database where we might have expected impact but it is not yet emerging. Is this a question of timing or is something going wrong? How can the problems be overcome in future? What does this tell us about the contingent nature of research impact?

Two researchers from Relu's ***The Role of Regulation in Developing Alternatives to Pesticides*** Project spent time work shadowing in the Pesticides Safety Directorate. This helped the academics to relate their thinking to the everyday practice of the regulatory agency and built up useful links, which also led to a subsequent visiting fellowship where staff from the PSD spent time with the project. Richard Davis: Director of Approvals, Pesticides Safety Directorate, Defra said: "Biopesticides have presented a fantastic challenge to both regulators and those developing alternative control measures. Working with the Relu team has helped people over that hurdle. They really enabled us to improve our technical skills and strengthened the scientific credibility of the PSD in this niche area. Our Biopesticides Scheme is now a pathfinder in Europe – no other member state has a scheme like this. The work shadowing and visiting fellowship provided us with an opportunity to expand people's skills at reasonable cost and also helped in developing the regulatory policy side of our work. Bouncing ideas off [a researcher] who has a different perspective is refreshing and helped staff to think about issues in a different way." The Pesticides Safety Directorate (PSD) is now part of the newly formed Chemicals Regulation Directorate.

Relu

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