

# STEPS Centre Research: Our Approach to Impact

Adrian Ely and Nathan Oxley

# Impact

A large abstract graphic on the right side of the cover, consisting of several thick, overlapping, curved lines in various shades of green and grey, creating a sense of movement and depth.

## STEPS Centre Research: Our Approach to Impact

The 'impact' of research has seen a dramatic rise up the UK's policy agenda in recent years. But what does 'impact' really mean? How do researchers and others respond to the new 'impact agenda' and how might we best plan, monitor and report on impact? This working paper attempts to provide answers to some of these questions by reviewing various understandings of 'impact' and describing the approach used by the ESRC STEPS Centre in its second five-year phase of funding. In particular, we draw on our experience of adapting and employing a down-scaled version of 'participatory impact pathways analysis' (PIPA) and reflect on its utility and potential as a tool for planning relatively small-scale social science/interdisciplinary research projects conducted with partners in developing countries. In using PIPA, the STEPS Centre has adapted the idea of 'impact pathways' in line with its broader 'pathways approach', which focusses on complex and dynamic interactions between knowledge, politics and 'social, technological and environmental pathways to sustainability'. In this way, PIPA has been useful in articulating and exploring the potential impact of STEPS Centre projects: it has helped to map out the networks known to the researchers, appreciate different perspectives held by the team members and generate an understanding of the narratives, networks and policy processes under study. Although the possibility for detailed ex ante prediction of impact pathways is limited, using PIPA has helped teams to be ready to maximise communication and engagement opportunities, and to link research across different STEPS Centre projects and beyond. The working paper also describes how PIPA may be used iteratively in a way that enables reflexive learning amongst research teams. Lastly, we speculate on the ways in which PIPA may be further developed and used in ex post impact monitoring and evaluation into the future.

### About the Authors

**Dr Adrian Ely** is a Lecturer at SPRU – Science and Technology Policy Research at the University of Sussex, UK and Head of Impact and Engagement at the ESRC STEPS Centre (Social, Technological and Environmental Pathways to Sustainability). Adrian's research has focussed on the regulation and governance of biotechnology for sustainable development, and he previously convened the project Innovation, Sustainability, Development: A New Manifesto, which engaged colleagues at Sussex and partners from around the world in debates around STI for poverty alleviation, environmental sustainability and social justice.

**Nathan Oxley** is a Communications Officer for the ESRC STEPS Centre, and also works on digital communications and events for the Africa-based Future Agricultures Consortium. He has worked for over 10 years on digital and printed communications in the private, non-profit and academic sectors, specialising in conveying ideas about sustainable development to diverse audiences.

### About the STEPS Centre

Today's world is experiencing rapid social, technological and environmental change, yet poverty and inequality are growing. Linking environmental sustainability with poverty reduction and social justice, and making science and technology work for the poor, have become central challenges of our times. The STEPS Centre (Social, Technological and Environmental Pathways to Sustainability) is an interdisciplinary global research and policy engagement hub that unites development studies with science and technology studies. We are developing a new approach to understanding and action on sustainability and development in an era of unprecedented dynamic change. Our pathways approach aims to link new theory with practical solutions that create better livelihoods, health and social justice for poor and marginalised people. The STEPS Centre is based at the Institute of Development Studies and SPRU Science and Technology Policy Research at the University of Sussex, with partners in Africa, Asia and Latin America. We are funded by the ESRC, the UK's largest funding agency for research and training relating to social and economic issues.

[www.steps-centre.org](http://www.steps-centre.org)

Follow us on Twitter @stepscentre

### Other titles in this series include:

- |                       |                                                                                |
|-----------------------|--------------------------------------------------------------------------------|
| <b>Approach</b>       | Pathways to sustainability: an overview of the STEPS Centre approach           |
| <b>1. Dynamics</b>    | Dynamic Systems and the Challenge of Sustainability                            |
| <b>2. Governance</b>  | Understanding Governance: pathways to sustainability                           |
| <b>3. Designs</b>     | Empowering Designs: towards more progressive appraisal of sustainability       |
| <b>4. Agriculture</b> | Agri-Food System Dynamics: pathways to sustainability in an era of uncertainty |
| <b>5. Health</b>      | Health in a Dynamic World                                                      |
| <b>6. Water</b>       | Liquid Dynamics: challenges for sustainability in water and sanitation         |

For more STEPS Centre publications visit:

[www.steps-centre.org/publications](http://www.steps-centre.org/publications)



# **STEPS Centre Research: Our Approach to Impact**

**Adrian Ely and Nathan Oxley**

**STEPS Working Paper 60**

Correct citation: Ely, A. and Oxley, N. (2014) *STEPS Centre Research: Our Approach to Impact*, STEPS Working Paper 60, Brighton: STEPS Centre

First published in 2014

© STEPS 2014

Some rights reserved – see copyright license for details

ISBN: 978-1-78118-148-5

Acknowledgements: The authors wish to thank Katharina Welle, Andy Stirling, Julia Day, Melissa Leach, Chris Barnett and Boru Douthwaite for comments on earlier versions of this paper and Puay Tang, Jordi Molas-Gallart, Marina Apgar, Jeff Knezovich and Barbara Befani for useful discussions. We would also like to thank all the members of the STEPS Centre and our research partners who have been responsible for conducting the Phase II research projects outlined in this document, and for their patience and enthusiasm in engaging with impact discussions and the work of the ICE Unit. Finally we would like to thank our primary funders, the UK Economic and Social Research Council (ESRC).

For further information please contact: STEPS Centre, University of Sussex, Brighton BN1 9RE

Tel: +44 (0) 1273915673; Email: [steps-centre@ids.ac.uk](mailto:steps-centre@ids.ac.uk); web: [www.steps-centre.org](http://www.steps-centre.org)

STEPS Centre publications are published under a Creative Commons Attribution – Non-Commercial – No Derivative Works 3.0 UK: England & Wales Licence (<http://creativecommons.org/licenses/by-nc-nd/3.0/legalcode>)

Attribution: You must attribute the work in the manner specified by the author or licensor.

Non-commercial: You may not use this work for commercial purposes.

No Derivative Works: You may not alter, transfer, or build on this work.

Users are welcome to copy, distribute, display, translate or perform this work without written permission subject to the conditions set out in the Creative Commons licence. For any reuse or distribution, you must make clear to others the licence terms of this work. If you use the work, we ask that you reference the STEPS Centre website ([www.steps-centre.org](http://www.steps-centre.org)) and send a copy of the work or a link to its use online to the following address for our archive: STEPS Centre, University of Sussex, Brighton BN1 9RE, UK ([steps-centre@ids.ac.uk](mailto:steps-centre@ids.ac.uk)).



# Contents

List of tables and figures.....	iii
Acronyms.....	iv
1. Introduction: The STEPS Centre ICE Unit and our Impact Focus.....	1
What is this paper about?.....	1
The STEPS Centre’s research and the role of the ICE Unit.....	1
Communication and Engagement - Lessons from Phase 1.....	2
Impact – towards a strategic approach.....	2
2. What is this thing called ‘impact’?.....	4
Framing impact.....	4
Responses to the impact agenda.....	6
Conceptualising and reporting social science research impact.....	7
Insights from international development programming.....	8
Towards a realistic, reflexive and proportionate approach to impact.....	8
3. The STEPS Centre’s use of Participatory Impact Pathways Analysis (PIPA).....	10
4. What have we learned from using PIPAs in Phase 2 project impact planning?.....	13
Broad participation – benefits and limitations.....	13
Network-mapping and supporting preparedness.....	13
Observing and facilitating changes in networks.....	14
Informing research into power, politics and pathways.....	14
Exploring political sensitivity and adapting projects accordingly.....	15
How PIPA has informed communications and engagement.....	15
Assisting the organisation of research.....	15
Identifying relevant quantitative and qualitative data to document productive interactions.....	16
5. Beyond Planning and Reporting: Opportunities for reflexive learning around research and impact.....	17
Summary – openness and flexibility in impact work.....	17
Using PIPA iteratively to enhance impact and inform ex post impact evaluation.....	17
Reflexive learning amongst project teams and stakeholders.....	19
Further developments of our impact work within and beyond small-scale critical social science research projects.....	19
References.....	21

## List of tables and figures

- Figure 3.1 The PIPA Process
- Table 3.1 Comparison of conventional use of PIPA (as used in the Challenge Program on Water and Food) with that used in STEPS Phase 2 core projects

## Acronyms

BIS	Department for Business, Innovation and Skills
CDI	Centre for Development Impact
CGIAR	Consultative Group on International Agricultural Research
DDDAC	Dynamic Drivers of Disease in Africa Consortium
DECC	Department of Environment and Climate Change
DEFRA	Department for Food and Rural Affairs
DIFD	Department for International Development
EBP	Evidence Based Policy
ESRC	Economic and Social Research Council
FCO	Foreign and Commonwealth Office
GRIID	Research on Innovation for Inclusive Development
HEFCE	Higher Education Funding Council of England
ICE	Impact, Communications and Engagement
IDRC	International Development Research Centre
IDS	Institute of Development Studies
ILAC	Institutional Learning and Change
LSE	London School of Economics
OECD	Organisation for Economic Co-operation and Development
MDG	Millennium Development Goal
PIPA	Participatory Impact Pathways Analysis
RCUK	Research Councils UK
REF	Research Excellence Framework
SIAMPI	Social Impact Assessment Methods for research and funding instruments through the study of Productive Interactions between science and society
SPRU	Science and Technology Studies
STEPS	Social, Technological and Environmental Pathways to Sustainability
STS	Science and Technology Studies
UK	United Kingdom
UN	United Nations

# 1. Introduction: The STEPS Centre ICE Unit and our Impact Focus

## ***What is this paper about?***

The STEPS Centre (Social, Technological and Environmental Pathways to Sustainability) is a global research and policy engagement hub based at the Institute of Development Studies and SPRU Science and Technology Studies at the University of Sussex and funded by the Economic and Social Research Council (ESRC). Our approach brings together development studies and science and technology studies (STS), looking in particular at the self-reinforcing interactions between social, technological and environmental systems and the politics of knowledge that inform policies in this area. The STEPS Centre approach calls the ways these systems interact and change ‘pathways’, and seeks to identify pathways that can lead to more socially just, sustainable futures, especially for poorer people and communities.

This paper introduces our approach to integrating impact planning into our portfolio of research projects. Each of these projects focusses on pathways to sustainability in very different contexts across the world, but they are united in their aim to better-understand the emergence of dominant pathways of change and to influence them in a way that responds to the diverse voices of usually marginalised groups. Through our research and engagement we hope that this will contribute to improved conditions for these groups through enhancing poverty alleviation, environmental sustainability and social justice. Our particular approach to social science research requires a tailored approach to impact planning that is realistic, reflexive and proportionate. The paper describes how we have employed ‘Participatory Impact Pathways Analysis’ (PIPA) alongside our research in a way that aids team-building and generates an understanding of the narratives, networks and policy processes under study. We hope that the paper is of particular use to other research groups struggling to bring impact and engagement into their work in a meaningful way.

We begin by reviewing the context of our increased attention to impact, before going on to look at how we have begun to think more explicitly about it in our projects.

## ***The STEPS Centre’s research and the role of the ICE Unit***

The Centre has, since 2006, been involved in more than twenty different research projects through partnerships in five continents from across the global North and global South. In each project we have worked with partners to investigate the ways in which power and politics have shaped the dominant narratives associated with pathways of change. Part of our aim as a research centre is to ‘broaden out’ and ‘open up’ policy debates (Stirling *et al.* 2007) to include the diverse voices of those often marginalised in political processes. Our research thus hopes to reveal marginal or subaltern pathways – ways of knowing and acting that are not currently privileged in policy narratives – and to explore their potential as alternative pathways to sustainability.

As part of this broad aim, the Centre’s existing communications team was extended to form a group working on impact, communications and engagement (the ICE Unit) at the outset of its second phase of work in 2011. From the start of Phase 2 (2011-2016), this Unit has been working across the Centre’s projects and domains (food and agriculture, health and disease, water and sanitation and energy and climate) to further integrate impact, communications and engagement into our work.

We seek to:

- Create more sustained engagement with users and Southern partners and amplify our links and affiliations and build strategic networks for influencing policy and practice
- Develop effective systems for impact planning, monitoring and evaluation
- Embed effective, innovative and impactful communications into the research process in order to deliver relevant, useful and accessible findings to audiences who can act on them

This document outlines the ways in which we have chosen to tackle the second of these objectives, in particular in relation to the eight core projects that are being supported in Phase 2. Our approach to impact builds on the successes and lessons (primarily in the communications and engagement areas) of Phase 1.

### ***Communication and Engagement - Lessons from Phase 1***

The Centre's first five year funding period (2006-2011) allocated significant resources (an average of just over 1 full-time equivalent staff member over five years) to communicating our research. Alongside more traditional research communications such as policy briefings, publications, media work, in-country activity and events, online communications and social media provided important ways of sharing our work and exchanging views with multiple stakeholders.<sup>1</sup> Aided to varying extents by these activities, the Centre's research and scholarship began to influence thinking in academic<sup>2</sup> and policy<sup>3</sup> circles.

The empirical research from across our projects led to a greater understanding of pathways to sustainability in varying contexts. By the end of Phase 1 we had published 44 working papers, 17 books and 19 peer-reviewed journal articles. At the same time, we recognised that, 'understanding a problem is not the only way to go about solving it. Action or interaction are quite common substitutes for "analysis".' (Lindblom and Cohen 1979). With this in mind, STEPS members have made efforts, where possible and appropriate, to engage proactively in decision-making processes. Research-driven engagement with policy took place primarily at the level of specific projects, but also through individual membership of national and supranational advisory committees.<sup>4</sup>

Our cross-cutting project 'Innovation, Sustainability, Development: A New Manifesto' drew together much of the STEPS Centre's Phase 1 work, at the same time engaging closely with partners from across the world. Through a series of background papers, seminars and 20 roundtables across four continents, the project provided a platform for diverse views to be heard, as well as a Manifesto, produced by the Centre itself (launched at the Royal Society in 2010). This integration of communications and engagement with our research led to various ideas emerging from the Manifesto project influencing policy debates, for example (in the case of the 3D agenda) being advocated in a debate in the House of Commons (Hansard 2012).

Whilst we made substantial gains in Phase 1 in terms of integrating communications and engagement into research, we realised that impact considerations were implicit in project design and implementation, and that they featured most prominently in end-of-project discussions. A new approach to impact planning has been adopted since 2011 in which we have explicitly discussed impact and engagement strategies at an early stage in the research cycle and, by collaborating closely with every member of the STEPS Centre, have also begun to develop systems for planning, enhancing and monitoring impact planning.

### ***Impact – towards a strategic approach***

This paper aims to illustrate how impact can be incorporated in a realistic, reflexive and proportionate way into the kinds of relatively small-scale, internationally-focussed social science research projects that the STEPS Centre undertakes. In advance of discussing the details of this approach, the next section positions the ICE Unit's perspective within the context of ongoing impact debates in the United Kingdom (UK) around research and international development. We then introduce the PIPA tool as practised within the Centre's Phase 2 projects. Section 4 provides lessons learned to date around the tool's utility in *ex ante* (i.e. before

---

<sup>1</sup> To provide an illustration, during a two-year period in Phase 1 (Jan 2008-March 2010) there were 76,122 unique visitors (more than 1.3 million hits) to our website and nearly 20,000 views of our blog 'The Crossing'.

<sup>2</sup> The flagship book in our EarthScan/Routledge Pathways to Sustainability series 'Dynamic Sustainabilities' (Leach *et al.* 2010) ranked number 10 in the Cambridge Programme for Sustainability Leadership's global top 40 sustainability books (CSR International 2011).

<sup>3</sup> STEPS Director, Melissa Leach's ideas were cited in reports by the House of Commons Science and Technology Committee 'Building Scientific Capacity for Development' (Science and Technology Committee 2012).

<sup>4</sup> These include the Science Advisory Council of the UK Department of Environment, Food and Rural Affairs (DEFRA), the European Commission 'Research for Sustainable Development' Committee and the United Nations (UN) Committee on Food Security amongst others.

or near the beginning of a project) impact planning and in laying the foundations for future monitoring of impacts. In the final section we discuss insights from the STEPS ICE Unit's approach to impact that could aid in the future use of PIPA, and might inform wider debates in our field of study.

## 2. What is this thing called ‘impact’?

The ‘impact agenda’ has, under various names, been debated for several decades, both in academic and policy (including international development) circles. Contemporary debates link back to earlier controversies around the relevance of scientific research and questions of where decision-making power and accountability should lie when allocating funds towards it. In the UK, the 1918 Haldane Report discussed the idea that basic research be conducted in independent research institutions and that allocations for this kind of research should be decided by bodies led by research scientists rather than civil servants or politicians. At the same time, it argued that government departments should commission their own applied research to inform decisions (for a fuller account of the complex history of these ideas, see Edgerton (2009)). The Rothschild Report in 1971 advocated the transfer of about 25 per cent of research council funds back to government departments to be used within a ‘customer-contractor’ relationship. The Steward Report in the following year sought to establish criteria for governing the allocation of resources to science, i.e. arguing that the applicability of science could to some extent be predicted, and paving the way for the relevance and potential for application of science to become a justifying factor in allocations. Together, these reports ‘put forward the eminently sensible principle that research and development activities should be accountable not only to scientific peers, but to society in general, and more specifically to the users of their results’ (Scott 2004).

These debates – around relevance, accountability and impact of research - have seen a resurgence of interest in the past few years in the UK (Smith 2012). The political situation following the 2007–8 global financial crisis precipitated a squeeze on public expenditure in which research, like other areas (including international development), was put under greater pressure to justify its resource allocations.

Within and beyond these debates, ‘impact’ itself can be understood in many different ways.

### ***Framing impact***

The word ‘impact’ came into use in a figurative sense to mean ‘forceful impression’ two centuries ago (Nerlich 2012). It implies movement, collision and the exertion of force: more metaphorically solid than influence, effect and benefit (though these are words often used with or in place of ‘impact’). Problematically, this metaphor of impact may serve to create an image at odds with how knowledge interacts with, say, public policy, i.e. through a complex, iterative process with many potential causes and drivers of change. In the real world, therefore, impact is much more difficult to pin down.

Whilst definitions of impact are innumerable, here we focus on those adopted by institutions most relevant to our work in Phase 2 (UK-funded social science research focussing on challenges linked to international development). Definitions are, of course, not the only means through which the impact of research is framed. Beyond the codified guidance offered by each institution lies a plethora of social processes (interactions between individuals, committees and procedures) that shape the ways in which these definitions are operationalised. Nevertheless, a brief glance at the definitions themselves is instructive.

The STEPS Centre’s research is funded by the ESRC and, like other investments, the Centre is required to report to the ESRC regularly on impact (both academic and economic-societal). Researchers seeking funds from the ESRC and other research councils also need to provide ‘impact summaries’ and ‘pathways to impact’ statements relating to the proposed research. In its guidance for its investments, the ESRC lists three categories of impact: instrumental, conceptual and capacity building (ESRC 2013b). ESRC recognises that social science impact operates ‘in the context of complex non-linear policy and practice development processes, where research is only one of many influencing factors’ (ESRC 2013a).

ESRC’s approach to impact has been formulated in partnership with the cross-research council secretariat, Research Councils UK (RCUK), which also has to cater for impact associated with natural science research (for example basic research in molecular biology or physics). RCUK has defined, ‘economic and societal impacts’ as, ‘the demonstrable contribution that excellent research makes to society and the economy’. (RCUK 2013)

RCUK's notion of 'Pathways to Impact' includes such diverse elements as 'environmental sustainability', 'commercialisation', 'evidence based policy-making and influencing public policies' and 'cultural enrichment' (RCUK 2010).

Within the UK universities (including the University of Sussex, where the STEPS Centre is based), demands on researchers to report on the wider impacts of their work have also intensified in recent years in response to their (the universities) evaluation under the Research Excellence Framework (REF), which takes place in 2014 and will play a role in determining budgetary allocations from the Higher Education Funding Council of England (HEFCE). For the purposes of the REF, the UK's Research Excellence Framework defines impact as 'an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia' (REF 2011). It includes an effect on, change or benefit' to:

- the activity, attitude, awareness, behaviour, capacity, opportunity, performance, policy, practice, process or understanding
  - of an audience, beneficiary, community, constituency, organisation or individuals
  - in any geographic location whether locally, regionally, nationally or internationally.
- (REF 2011)

Whilst this wording represents a relatively broad definition of impact, the REF (2011) also puts more specific demands on institutions reporting impact, for example asking them to provide up to six outputs of the research (appearing over the past twenty years) that underpin an effect, change or benefit (which has itself materialised between 2008-2013). Together these outputs are supposed to demonstrate that the research was 'predominantly of at least two-star quality'<sup>5</sup> (REF 2013). Many of those who work in policy-engaged social science research might question how feasible and realistic this template is, given that changes associated with this kind of work are often brought about by long-term interactions between researchers and societal actors in advance of, in parallel to, or even in the absence of, formal research outputs.

Although supported by the research councils, the work of the STEPS Centre is also relevant to a number of government departments (Departments for Business, Innovation and Skills (BIS), Energy and Climate Change (DECC), Environment, Food and Rural Affairs (DEFRA) and the Foreign and Commonwealth Office (FCO)) but is perhaps most closely linked to that of the Department for International Development (DFID). Much of DFID's work in this area relates to monitoring the impact of specific development interventions (e.g. vaccination programmes, education or agricultural capacity-building). Its wider approach also looks at impact on policy through the lens of 'research uptake' (which 'includes all the activities that facilitate and contribute to the use of research evidence by policy-makers, practitioners and other development actors' (DFID 2013)). Since 2010 DFID has been working formally with theory of change, an approach which seeks to elicit and reflect critically on assumptions about how and why change happens through discussion and mapping exercises (Vogel 2012).

Beyond the UK Government, STEPS also engages with international bodies working on international development (e.g. the Organisation for Economic Co-operation and Development (OECD)) (see Kraemer-Mbula and Wamae 2010, who cite STEPS work). The OECD Development Assistance Committee's definition of impact as, 'positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended' (OECD-DAC 2002) retains the underlying element of change and causality, but is open to a complex, multi-causal view of how change happens.

The few examples listed above suggest a variety of ways to frame impact. But they also illustrate an imperative for openness and flexibility when defining it. There is no unique consensus on what impact means. This may depend on context, whose perspective is taken, which 'users' are specified, and the values involved (Brewer 2011). So the wide array of definitions, while provoking confusion in some quarters, allows impact

---

<sup>5</sup> Stars represent the REF's approach to assigning quality to a particular research output, such as a peer-reviewed journal article. Two-star is quality that is recognised internationally in terms of originality, significance and rigour.

to be applied to a range of disciplines, practices, perspectives and values, linked by a central, if nebulous, metaphor.

### ***Responses to the impact agenda***

Responses to the rising importance of research impact have varied across the natural and social sciences. Researchers and commentators have interpreted demands for 'impact' in different ways, assigning various motivations for their increasing appearance and adopting different approaches as to how they should be addressed.

**Political justification:** Pressure on researchers to plan and assess impact is driven by pressure on the public bodies that fund it, fuelled by understandable concerns about how taxpayers' money is spent. Public resentment of researchers in ivory towers is stronger than ever (Shapin 2012). In an effort to provide political justification for significant research spending at a time when many public services are being cut, funding allocations for research depend increasingly (at least according to government rhetoric) on the social and economic impact that research is supposed to generate.

**Valuing research:** Demonstrating 'value for money' through impact is often linked to the idea of a 'social contract' between researchers and public funding bodies, where impact is seen as a return on the investment made in researchers by the government (Martin 2011). In making the case for further or increased funding of whole disciplines of research, 'value' (in a wider sense, not just in terms of return on investment) could be a more appropriate word than 'impact' for talking about the benefits of the social sciences (Brewer 2013). The Campaign for Social Science aims to, 'see social science as publicly valued and appreciated, and, 'as a necessary core ingredient of a successful economy and society' (Campaign for Social Science 2013).

**Cynicism:** One view of the UK 'impact agenda' sees it as part of the 'audit culture in higher education and its imposition as part of utilitarian approaches to public accountability'. In this context, 'impact is contentious, disputed and hostile' (Brewer 2011). In the USA, Sarewitz (2011) has suggested that asking researchers to include reflections related to potential research impact in their applications for grants 'will yield not serious analysis, but hype, cynicism and hypocrisy'<sup>6</sup>. Moriarty (2013) has criticised the impact agenda for requiring natural scientists to orient their work in advance towards the needs of business, stifling the exploratory nature of research.

**Impact Activism:** A more optimistic view of impact is to see it as a useful framework within which to reflect on how research can contribute to social change. Academics are increasingly encouraged to engage with open access, digital media including blogging, dialogue with different publics, and the media. Many, however, have always seen these as core to their academic work and a motivating factor in their research career. Jasanoff (1996) has described the normative project of much work in STS as attempting 'to render more visible the connections and the unseen patterns that modern societies have taken pains to conceal, often by enlisting the unquestionable forces of the physical world as represented by the voices of scientist-seers'.

**Reflexive Critique:** A further view questions the framing of research in terms of impact at all, asking why this has become so dominant and what effect this might have. This is firstly a philosophical point relating to the causal metaphor of impact. However much it is qualified and described in nuanced ways, the idea of linear causality is at odds with an understanding of how research interacts with society in complex, dynamic and mutually-constitutive ways. It is secondly a political point, the limited framing of impact, and the evaluation of research in these terms, has the potential to forcefully align understandings of the benefits of research

---

<sup>6</sup> Dan Sarewitz was commenting on US shifts around the National Science Foundation's 'criterion 2' - the means by which peer reviewers checking applications for funding from the US National Science Foundation assess whether the potential project will promote education and training, broaden participation, improve infrastructure for research and education, disseminate knowledge or deliver more general social benefits. The full quote is: 'motivating researchers to reflect on their role in society and their claim to public support is a worthy goal. But to do so in the brutal competition for grant money will yield not serious analysis, but hype, cynicism and hypocrisy' (Sarewitz 2011).

with the interests of powerful actors. For example, if a funding body decides to emphasise the importance of research contributing to the profits of a given industry, then research that is critical of that industry (or even emphasises aspects other than profit) would fare badly in 'impact' terms, regardless of its broader value to society. In this way, impact can be said to have a potential disciplining effect on the direction of research, limiting its ambition, scope and freedom in a more subtle way than has been seen through other mechanisms such as deliberate interference in the publishing process (see for examples Bryden and Mittenzwei 2013). In other words, impact can be an instrument of power.

STEPS researchers respond in multiple ways, including those above, to the impact agenda. Recognising the political realities that demand justification for research funding, but also the wider value of research to society, we try to move beyond a cynical, 'instrumental' framing of impact. Undertaking impact planning in the early stages of our research ensures explicit attention to our normative agenda, whilst allowing us to adopt a reflexive approach that utilises and stretches the flexibility of our funders' definitions and requirements.

The STEPS Centre has also been informed by recent work that has aimed to understand impact as it relates to research in the social sciences.

### ***Conceptualising and reporting social science research impact***

There have been many attempts to conceptualise and report impact in the research arena. These have recently been subject to reviews, some of which are discussed below.

The DESCRIBE project at Exeter University, which sought to investigate definitions, evidence and systems for capturing the impacts and benefits of research, describes two conceptualisations of impact in its final report:

1. impact as a *journey*, distinguishing between 'interim impacts' (e.g. changes in policy and practice), and final indicators 'that capture the consequences of these changes for the end recipient of the service or policy' (p.21);
2. *contribution analysis* – which also includes the idea of a staged 'journey' but identifies how research influences change at each stage (Stevens *et al.* 2013).

The LSE Public Policy Group's Handbook on impact for social scientists expresses impacts as *primary* ('brute facts', defined as 'a recorded or otherwise auditable occasion of influence') or *secondary* (difficult to observe, but can have desirable or undesirable moral implications (for example, an ill-advised change in policy) (LSE Public Policy Group 2011). The point about undesirable impacts is crucial, as the desire for impact often carries the unspoken assumption that the piece of research in question is accurate (with an associated normative assumption that any impact will be positive).

Another useful way of conceptualising impact is in relation to 'productive interactions' (Molas-Gallart and Tang 2011) which focus on 'contacts' between researchers and stakeholders. Molas-Gallart and Tang propose 'Social Impact Assessment Methods for research and funding instruments through the study of Productive Interactions between science and society' (SIAMPI) as a framework within which different kinds of interactions, recorded using mixed quantitative and qualitative techniques, can be understood. Methods can characterise the social response among stakeholders by recording internet usage of publications, press releases, and other online and written material, or through network analysis techniques. This may be a way to approach impact indirectly by focussing on how interactions and stakeholder groups themselves evolve and feedback on each other. It moves the focus on to interaction rather than seeing impact as something that is 'done to' stakeholders.

### ***Insights from international development programming***

Alongside increased pressure to account for and justify international development expenditure, the development community has seen a sudden surge popularity of *experimental methods*, partly as a response to public despondency about the effectiveness of aid programmes, and internal strife within the development economics establishment (Picciotto, 2012). This relates to a renewed focus on ‘evidence based policy’ (EBP) which seeks to distance policy making from ideological bias and provide more rigorous understandings of the causative effects of different kinds of development interventions. The origins of EBP lie in the bio-medical sector and come with assumptions about the preferred research methods used, and the expected behaviour of policy makers, in response to the evidence of ‘impact’ that they generate (Stern *et al*, 2012). These assumptions have been contested, as we will discuss briefly later.

‘Theory of change’ responds to the rather instrumental views of impact planning in development programmes by inviting researchers to consider not only the logical sequence of a project, but to reflect on the ‘values, worldviews and philosophies of change’ (Vogel 2012: 3) among a group of stakeholders. It encourages participants to make their assumptions explicit, to discuss normative questions and ideology, and to consider actors in context. It emphasises critical reflection and participatory group discussion around a process which involves visual mapping of actors and change processes (Vogel 2012). One of the aims of PIPA, discussed in the following section, is to elicit and discuss theories of change.<sup>7</sup>

Drawing on some of these concepts and insights, the STEPS Centre has tried to develop a response to the impact agenda that can be utilised alongside the Centre’s more general ‘pathways approach’.

### ***Towards a realistic, reflexive and proportionate approach to impact***

The ICE Unit adopts a realistic, flexible approach motivated not only by a need to respond to the impact agenda but also by our normative commitments. Like several of the perspectives above, this approach recognises that our own research, like any, will only provide *contributions* to any particular societal change. These are understood to arise as a result of complex interactions between research outputs, researchers and stakeholders in a way that draws on the wider STEPS pathways approach (Leach *et al*. 2007).

The STEPS pathways approach emphasises diverse forms of knowledge, different framings (of systems, sustainability, etc) and how they can influence possible trajectories of change. This requires an appreciation of how research partners and other stakeholders view the potential ‘impact’ of our research, and a need to be open and reflexive to the limits and situatedness of our own analytical framings and normative assumptions.

With a focus on complex and dynamic systems, the pathways approach encourages being open to uncertainty and surprise and to nonlinear policy processes, while recognising that policy processes are not purely chaotic (Leach *et al*, 2010: 137). In these contexts, several kinds of ‘policy spaces’ are relevant, to greater or lesser extents, for researchers looking to inform debates and action on sustainable development. Conceptual spaces, bureaucratic spaces, invited spaces and practical spaces (Leach *et al*. 2010: 138) all require different forms of engagement from research and engagement institutions like the STEPS Centre, and will as a result contribute to different impact pathways.

Within the pathways approach, knowledge and society interact and co-evolve in unpredictable ways. If impact is a ‘journey’, as outlined in DESCRIBE’s report, it is one with many twists and turns (and not one that is susceptible to prediction). The ‘pathways approach’ also recognises that these complex interactions can sometimes be self-reinforcing, strengthening dominant narratives and trajectories favoured by powerful actors, and crowding out alternatives favoured by marginal groups. Through questioning and destabilising the dominant narratives that close these alternatives down, research can help to open up opportunities for

---

<sup>7</sup> <http://pipamethodology.pbworks.com/w/page/70341466/INTRODUCTION%20TO%20PIPA>

more inclusive, democratic debate. In this sense, some of the most productive interactions may be adversarial and challenging rather than supportive.

At the planning stage, this approach translates to identifying key actors, thinking about how we would expect them to (or like them to) respond to our work and exploring what changes in behaviour might emerge as a result. As a project progresses, it means being able to adapt to events and changes to the policy landscape. In our monitoring we try to record instances when stakeholders engage with the research, similar to the 'productive interactions' of the SIAMPI approach (Molas-Gallart and Tang, 2011) (for example tracking basic indicators like website hits, attendance at workshops or events). On their own, these 'brute facts' are not indicative of impact, but can (*ex ante*) point to possible future pathways and (*ex post*) facilitate reporting, for example when they link to secondary impacts (e.g. shifts in policy as understood by London School of Economics (LSE) Public Policy Group 2011). In the longer term, robust reporting of impacts on the envisaged final beneficiaries of our research (through poverty alleviation, environmental sustainability and social justice – what Stevens *et al.* 2013 would call final indicators) would require significant resources in order to be undertaken properly and even then (as discussed in the final section of this paper) it would raise significant challenges. The approach we adopt at all stages of the research, therefore, needs to be parsimonious and proportionate to the resources available.

We now turn to a detailed discussion of Participatory Impact Pathways Analysis (PIPA) – the tool that the STEPS Centre has used as part of the above approach to incorporate impact planning into the early stages of projects.

### 3. The STEPS Centre's use of Participatory Impact Pathways Analysis (PIPA)

This section explores why the STEPS Centre has come to use PIPA and how we have adapted it for use in our projects.

Participatory Impact Pathways Analysis (PIPA) (Douthwaite *et al.* 2007a; Douthwaite *et al.* 2007b) – was developed from earlier ideas in program theory and pioneered within the CGIAR Challenge Program on Water and Food with support from the CGIAR Institutional Learning and Change (ILAC) programme (see Watts *et al.* 2008). It has been applied in a number of different contexts, primarily to plan and monitor the impact of research for development projects.

When used in the Consultative Group on International Agricultural Research (CGIAR), PIPA can involve a number of stages but it usually 'centres on a three day workshop bringing together project implementers, participating "next users" (people and organizations who will use what the project will produce), "end users" (people served by the "next users") and politically important actors' (Douthwaite *et al.* 2009). Its role is to generate a shared understanding of how and when a project might bring about different impacts (equivalent to a theory of change) in the hope that through research and engagement, the various actors involved will be able to better-work together to help achieve those impacts. PIPA can also provide a guide to future monitoring and evaluation of impacts associated with milestones set at the outset of a project. The main elements in the 'conventional' PIPA process are illustrated in Figure 3.1 below.

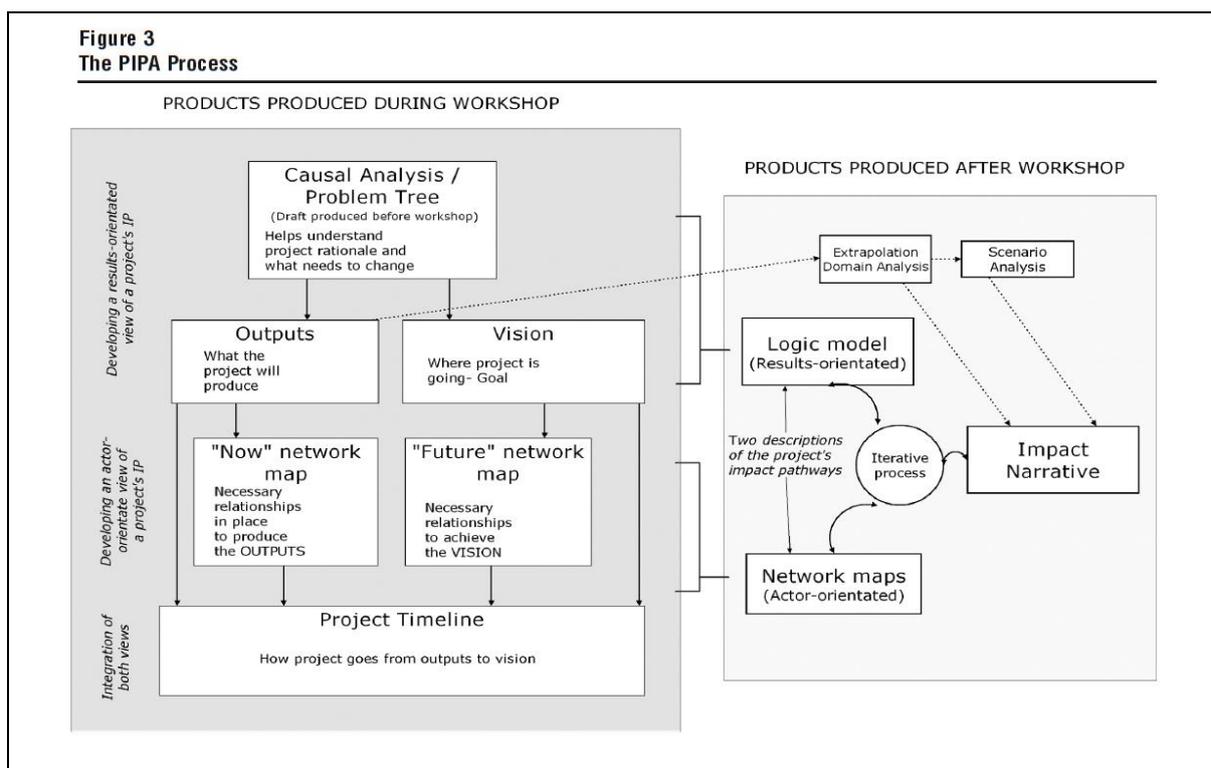


Figure 3.1: The PIPA Process

This diagram (taken from Douthwaite *et al.* 2007a) shows what is produced by a PIPA workshop, from a statement of the problem, outputs, vision, network maps, a project timeline, logic model, to an impact narrative.

STEPS Centre research projects differ from CGIAR programmes in a number of important ways and we have adapted the PIPA process accordingly. For example, the Challenge Programme on Water and Food in which PIPA was pioneered started with a budget of \$12 million/year over 10 years and aspirations of a measurable impact on the MDGs (Douthwaite 2013). STEPS Centre Phase 2 core projects have comparatively small

budgets (between £52K and £175K) and are run over three years. CGIAR programmes that have used PIPA often incorporate the development and introduction of technologies and training to enhance agricultural development, whilst the STEPS Centre’s projects are primarily social science explorations of framings, options and the role of knowledge in policy processes. These differences have required the scaling down of PIPA and an emphasis on some elements over others.

Whilst we acknowledge that our version of PIPA does not do full justice to the robust and well-founded designs of its originators, we believe that the core essence of PIPA remains in our own version, and we offer this ‘downscaled’ form in an attempt to adapt the tool for use in smaller, critical social science research projects.

Table 3.1 below represents the conventional stages of the PIPA process (during and after the workshop exercise itself) and the simplified process most often practiced within the STEPS Centre’s core projects.

Stage in the ‘conventional’ PIPA process (Douthwaite <i>et al.</i> 2007a)	PIPA stages used by STEPS Centre Phase 2 core projects
<b><i>(products produced during the workshop)</i></b>	
Causal analysis/problem tree (helps understand project rationale and what needs to change)	Advanced agreement amongst project team on 'the problem and the change required to overcome it', drawn from concept note
Outputs (what the project will produce)	Developed from project concept note, enhanced through PIPA
Vision (where the project is going - Goal)	Linked to advanced agreement on problem and change required to overcome it)
‘Now’ network map	‘Now’ network map - photographed
‘Future’ network map	Not used <i>ex ante</i> although a further mapping process is expected after the projects end
Project timeline	Included in concept note and updated on the basis of PIPA discussions.
<b><i>(products produced after the workshop)</i></b>	
Logic model	Not explicitly used (contained within ‘impact pathways section’ of concept note)
Impact narrative	Developed from project concept note, enhanced through PIPA and used to update ‘impact pathways’ section
Network maps	‘Now’ network map recorded photographically or in some cases using graphical software, record of discussion during workshop
Domain analysis or scenario analysis (as used in the CPWF)	Not used

Table 3.1: Comparison of conventional use of PIPA (as used in the Challenge Program on Water and Food) with that used in STEPS Phase 2 core projects

At inception, each of the STEPS Centre’s core projects was described within a short concept note that outlined project details, problems and questions, research design and methodology and output milestones. This was drawn up primarily by the project convenor, but with input from partners (selected on the basis of their expertise, experience and previous history of collaboration). These concept notes also included a brief section on ‘impact pathways (academic and ideas-shifting, policy or practice; to be refined through later PIPA exercises)’. These concept notes were drawn up by STEPS members, based on implicit understandings of ‘the

problem and the change required to overcome it', built up over discussions and collaborations with project partners – often over many years – and took the place of the causal analysis/ problem tree used in conventional PIPA.

Because networks and power relations are crucial to our understanding of how change happens, the network mapping is at the centre of the STEPS version of PIPA, and takes up the majority of time in the process (usually two to three hours at a project inception meeting). Practically, this translates to STEPS project teams working together to assemble a 'now' network map of relevant stakeholders using coloured cards on large sheets of paper. The 'now' network mapping is similar to other methods, like outcome mapping and network analysis that focus on the importance of the actors and the project's relationship and influence on them.

Every person present is encouraged to contribute as many cards as they wish. These are used to identify actors (down to the individual level) or organisations, including those inside and outside the project, and to map their various connections (for example shared membership or close collaboration or interaction). The cards may be grouped by geographical location (in multi-country projects) or by proximity to various debates, by common consent. A number of conventions have been offered in PIPAs facilitated by ICE Unit members (for example different coloured cards for funding organisations, policy-makers, etc), however projects have been encouraged to innovate and experiment with new variations that suit their own contexts. Piles of three different colours of beans or counters are then placed on each card to indicate an actor's expected response to the project's aims (i.e. favourable, neutral/uninterested or negative). The number of beans in a pile offers an approximate (subjective) indication of the actor's relative power and significance in the network (the extent of their influence over the change that the project wants to see). This allows us strategically to identify which actors we should communicate and engage with during the research process. The 'now' network map is photographed for future reference.

During this process, participants are encouraged to discuss relationships between actors, power relations, engagement and communications strategies, and any risks and opportunities. These discussions are audio-recorded for future reference and the initial ideas are written up by the project convenor, who produces an updated and expanded 'impact pathways' section of the concept note on the basis of the PIPA discussions. As with the original concept note, this and the other outputs of the PIPA are for internal (STEPS Centre) use, rather than for communicating with other stakeholders.

This version of PIPA is relatively simple to undertake. The ICE Unit has produced a 'PIPA pack' containing the hardware (largely standard facilitation materials such as flip-chart paper, coloured paper circles, pens etc) required to run a PIPA and a 'practical guide to PIPA' that has been provided to all project convenors and improved on the basis of feedback. In many cases, a member of the ICE Unit has been present to facilitate the PIPA exercises. In others, project convenors or other STEPS members have been able to facilitate the process themselves, and have adapted the PIPA their own needs.

PIPA emphasises looking ahead, at the beginning of a project, to possible pathways of influence among actors and institutions. At the centre of our understanding of policy processes and change is the importance of networks, power relations and politics. We also recognise that we are only one of many actors and influences that contribute to social processes. PIPA is an approach which allows the discussion of these dynamics as part of mapping possible pathways of change.

In keeping with the broader idea of 'theory of change', PIPA encourages the sharing and discussion of assumptions and views about how and why change happens at the beginning of a project, followed by a series of reflections on progress or change throughout the project's duration. It does not presume that these assumptions will all be correct – much of the value of PIPA comes from testing and reflecting on those assumptions as a project progresses, and at its end.

## 4. What have we learned from using PIPAs in Phase 2 project impact planning?

In the following section, we reflect on our experiences and lessons from using PIPA on a number of STEPS Centre research projects. The information presented draws on observations made by STEPS members in the first half of Phase 2 (collected both during PIPA exercises and in meetings/interviews with Adrian Ely in 2012 and 2013), and in particular through a survey and open discussion at a Centre-wide meeting in June 2013, when the membership shared their experiences and learning.

This section discusses how using PIPA has helped us to plan, enhance and record impact; problems with implementing PIPA in some contexts; and some unexpected positive and negative consequences of using the PIPA approach, going beyond the direct focus on impact.

### ***Broad participation – benefits and limitations***

The PIPA approach encourages stakeholders in a research project to participate in planning for impact. For most STEPS projects, resource limitations (e.g. to pay for travel and subsistence) meant that it was not possible to achieve the desired level of participation, and PIPAs were confined to the project team (STEPS members and primary partners). In some projects partners include, not only researchers, but also activists, private sector representatives, politically important actors or development practitioners.

Where more people than the project team were able to attend (e.g. in the Indian ‘Environmental health in transitional Spaces’ project<sup>8</sup>), it resulted in a wider pool of knowledge about key actors and networks, and a better informed debate about the best ways of reaching out to them. The project on ‘Uncertainty from Below’<sup>9</sup> also reported this positive effect, as well as a strong team-building benefit to the PIPA process. It ‘helped focus on the project objectives and bring the group together... It helped to get local partners to feel more involved and also united the group’ (‘Uncertainty from Below’ Project). Whilst much work on participatory techniques emphasises the benefits of broadening out participation, we have also found that the team-building benefits of PIPA have in some cases been enhanced by the inclusion of research partners without other stakeholders, at least in initial discussions (Intensifying livestock systems project)<sup>10</sup>.

For one STEPS-affiliate project (The Dynamic Drivers of Disease in Africa Consortium)<sup>11</sup> PIPA involved teams looking at four emerging zoonoses in five countries. The broad participation of epidemiologists, anthropologists, veterinary pathologists, experts in agricultural extension and public health revealed and enabled discussion of different understandings and framings between team members.

As well as the degree of participation, the site of the PIPA plays an important role in determining the mode of participation of different actors. ‘The PIPA was more useful with partners in location [in Delhi] than it was here in Sussex. The PIPA got them going because they could relate it to their work and local actors. It got people on the level that is their comfort zone. And it made the project feel more do-able’ (‘Uncertainty from Below’ project).

### ***Network-mapping and supporting preparedness***

*Ex ante*, we have used PIPA to sensitize us to enabling productive interactions. The project on ‘Grassroots innovation: historical and comparative perspectives’<sup>12</sup> conducted a PIPA with team members and partners from the UK, India, Argentina and the USA in March 2012, mapping out networks at national and international levels. This allowed the project to identify key organisations with whom to engage in the following months.

---

<sup>8</sup> [http://steps-centre.org/project/environmental\\_health](http://steps-centre.org/project/environmental_health)

<sup>9</sup> <http://steps-centre.org/project/uncertainty/>

<sup>10</sup> <http://steps-centre.org/project/intensifications/>

<sup>11</sup> [http://steps-centre.org/project/drivers\\_of\\_disease/](http://steps-centre.org/project/drivers_of_disease/)

<sup>12</sup> <http://steps-centre.org/project/grassroots/>

The Grassroots Innovation Project has since benefited from a number of productive interactions with members of the international network GLOBELICS and the International Development Research Centre (IDRC). Since this, members of the project have increasingly engaged with a growing international network of scholars that emerged out of one of IDRC's programmes. Working with the Group for Research on Innovation for Inclusive Development (GRIID) has enabled the project to embed its research within a growing international field and learn from other colleagues, strengthening our position when subsequently engaging with policy actors such as the OECD.

Beyond this, the project reported that one lesson from undertaking PIPA was, 'Don't underestimate what you know at the start of a project.' In other words, the exercise yielded an unexpectedly large amount of information about networks and about the knowledge of those taking part. The strength of a short, intensive PIPA exercise is perhaps to elicit 'what you know' quickly and effectively from a number of people, not comprehensively, but as a starting point for further work and discussion.

### ***Observing and facilitating changes in networks***

It is worth remembering that a PIPA cannot, and does not attempt to, predict all the changes that might take place in networks and policy processes, even over a short period of time. This makes it important to revisit and adapt the PIPA over the course of a project. In any case, the observed changes are relevant to the STEPS Centre's interest in understanding dynamics and system change.

The project on environmental health in transitional spaces used PIPA iteratively. They have so far adopted two approaches, one clustering actor networks on the basis of geographical proximity and one clustering them around research themes and concepts. The PIPA has already been revisited twice by the project team, who have also developed an electronic version of the PIPA map<sup>13</sup>, which is more portable and possible to use virtually (important because the project team is split between different countries and time zones).

The same project has facilitated changes in networks, as well as providing opportunities for learning, by helping to establish a new interdisciplinary research team in India (combining researchers from several departments at Jawaharlal Nehru University and representatives of the Non-Governmental Organisation Toxicslink).

The project on 'Political ecologies of carbon in Africa'<sup>14</sup> studies five carbon sequestration and offsetting schemes in Kenya, Ghana, Sierra Leone and Zambia, and their links to international markets for carbon. The project PIPA in October 2013 identified a number of strategies (workshops, roundtable meetings, etc) in each country to enable and promote productive interactions between actors who would not otherwise be brought together.

### ***Informing research into power, politics and pathways***

Understanding networks of actors and their influence is important for planning for impact in any research project, but it is a topic of particular interest to the STEPS Centre's research. All projects are designed in a way that employs the STEPS pathways approach (Leach *et al.* 2007) and each typically explores how pathways to sustainability are either supported or 'closed down' by power, institutions and networks. The use of PIPA complements the general STEPS Centre research methodology, which involves the following overlapping and mutually co-constituting stages:

- Engage actors
- Explore framings
- Characterise dynamics
- Reveal strategies

---

<sup>13</sup> This is not an innovation of STEPS – see <http://boru.pbworks.com/w/page/13774900/Draw%20network%20maps>

<sup>14</sup> [steps-centre.org/project/carbon/](http://steps-centre.org/project/carbon/)

This means that two related ‘mapping’ processes may take place in a STEPS project: (1) the visual mapping of actors and networks during the PIPA; and (2) the analytical mapping of actors as part of the research to understand power, framings, dynamics and other elements of the system under examination. These two maps (only one of which is, of course, visually-represented) will not be the same but will overlap and can inform each other. This iteration between the impact planning process and the research can result in the PIPA being refined and improved by the research, and vice versa. For example, the project on ‘Bats and the construction of risk in Ghana’<sup>15</sup> reported, ‘[the project team] made some assumptions in PIPA about media and wildlife groups being far apart, but [they turned out] in fact [to be] close.’ The Project specifically sets out to examine different framings of zoonotic spillover from bats to humans, how they change over time, and how these influence policy. As the Project progressed, its findings helped to correct the assumptions made in the first PIPA exercise.

It is also relevant to this point that STEPS projects do not observe situations from a distance, they are embedded in them and interact with them. Opportunities exist for research into politics and networks to inform future iterations of PIPA (e.g. suggesting additional actors or providing a more robust estimate of power and alignment with the project vision).

### ***Exploring political sensitivity and adapting projects accordingly***

Critical engagement with power-laden and sensitive policy processes can create risks. While we aim to challenge dominant narratives about the future, this cannot ignore practical limitations of the safety or wellbeing of local partners. One project in particular has highlighted a situation where local politics can be highly resistant to perceived criticism, and is therefore advocating a more indirect approach to engaging with policy makers. Beyond this immediate strategy, the local partners will continue to seek impact long after the STEPS project concludes.

### ***How PIPA has informed communications and engagement***

The setup of the STEPS ICE Unit reflects the strong links between these interlinked, and often over-lapping, areas of activity. For some projects the PIPAs have been a vital part of developing communications and engagement strategies.

For example, in the project on ‘Uncertainty from Below’, the PIPA helped to identify actors in India at different levels: at community level (referred to as ‘below’ in a project designed to understand and highlight these views, which may be neglected and important); at ‘middle’ level (i.e. in local government administration); and ‘above’ (e.g. professional researchers and other experts). This helped to identify the need for a local communications officer to be employed within the project, working to mediate and facilitate dialogues between people from these different levels, and to suggest priority groups for this communications officer to engage with.

PIPAs have also yielded lists of targeted individuals and institutions, which have helped in prioritising mailing lists, timings and messages to engage different audiences. All of these have been useful for informing project communication strategies and the planning of the ICE Unit.

### ***Assisting the organisation of research***

PIPA mapping exercises also assisted the organisation of research in concrete, practical ways. The bats project also reported using the PIPA as an ‘intellectual check’ on who was interviewed in the first part of the research. The project team referred to the PIPA to identify gaps (i.e. people who could be interviewed to add different perspectives). Likewise, the PIPA conducted for the STEPS-affiliate ‘Pro-poor, low carbon development’<sup>16</sup> Project generated an initial invitation list for the first project workshop, to be held in Nairobi.

---

<sup>15</sup> <http://steps-centre.org/project/bats/>

<sup>16</sup> [http://steps-centre.org/project/low\\_carbon\\_development/](http://steps-centre.org/project/low_carbon_development/)

### ***Identifying relevant quantitative and qualitative data to document productive interactions***

The different kinds of data to be collected on productive interactions have been explained and discussed with project teams and partners at the outset of the PIPA exercise, allowing them to envisage and identify the kinds of evidence that they need to help collect. Project teams are also made aware of the data that will be collected and made available to them to enable them to inform communication and engagement. Publication downloads and website visits (which are monitored through Google Analytics) can be seen as moments of engagement but, in the vast majority of cases, it is impossible to deduce how individuals will react to reading a webpage or a publication. Tracking the rising or falling interest in a topic (at particular times, in particular places, or in response to a communication from STEPS) can inform communications plans, as we try to maximise the opportunity for our target audiences to be exposed to and interact with our work.

Qualitative data has been collected in a number of forms, for example emails or websites referencing our outputs and ideas, quotes from policy reports, mentions of our work in parliamentary debates, mentions in advocacy documents, references in scientific advice to regulators, and use of our ideas in research funding calls. This evidence of primary impacts has been combined with anecdotal evidence of productive interactions in the form of conversations with relevant actors, strategic meetings with stakeholders and appointments to advisory positions. These interactions are being logged for future reference in case they can help to illustrate contributions to impact at a later date.

STEPS has also used 'Impact stories', short prose narratives which describe interactions over time with a particular group. These are used to demonstrate where we have made particular efforts to seek impact and can capture qualitative information that is useful for reporting and reflection.

## 5. Beyond Planning and Reporting: Opportunities for reflexive learning around research and impact

This final section reflects on the dominant definitions of impact provided in Chapter 2, a summary of the approach taken by the ICE Unit and some ideas for further-developing PIPA in similar research contexts (both within and outside of the STEPS Centre).

### ***Summary – openness and flexibility in impact work***

An overly linear/structured understanding of impact misses important aspects of research-society interaction and can lead to a myopic focus on limited goals and objectives. This does not mean that a focus on ‘impact’ is always either regressive or progressive, but it does call for an awareness of the potential for overly-structured impact approaches to constrain the possibilities for valuable research. With that in mind, the ICE Unit’s approach that retains a broad notion of impact allows us to use the concept flexibly in the very different contexts in which we work.

We have drawn on a number of useful insights that can help us to guide our work. Recognising the strengths and limits to measurement and documentation of different primary/secondary impacts and productive interactions, helps us to put in place systems for compiling qualitative and quantitative evidence. Rather than seeking evidence for linear, causal (attributable) impacts on end beneficiaries, recognising that our research can only hope to provide contributions to an ‘impact pathway’ is a more humble, and some would say honest and realistic, approach.

This flexible approach allows us to fulfil our reporting requirements whilst reducing the potential for impact to have a negative, ‘disciplining’ effect. It allows us to monitor and support the normative goals of our projects, helps us to collect robust data for reporting, and also to strengthen our research into the role of knowledge and power in policy processes.

### ***Using PIPA iteratively to enhance impact and inform ex post impact evaluation***

Whilst we have downscaled and simplified the original form of PIPA we have retained the core features of the tool and applied them to small, critical social science projects. We have identified strengths and limitations of this form of PIPA with regard to impact planning and informing communications and engagement activities, as well as benefits associated with team-building, supporting political understanding and alignment. At the same time we have found that PIPAs can also function as a research tool, mapping out networks of actors around the policy processes under study and helping us to understand how they, and we, may be able to influence the ways in which these play out in reality. These insights into the ICE Unit’s scaled-down version of PIPA suggest various ways in which we can continue to use it in the second Phase of the STEPS Centre, as well as a number of potential further developments of the tool.

One key insight is the strength that multiple iterations of PIPA can have in planning, preparing and monitoring for impact and change in our areas of research. In tandem with the work that team members do studying the policy networks, narratives and processes that surround our projects, PIPA allows them to embed themselves in these processes of change, recognising the role that the knowledge generated within the STEPS Centre can play in contributing to the outcomes that play out. Identifying the values, interests, power and strategies that different actors use to pursue their desired outcomes can strengthen our own understanding of how policy processes unfold. From this, we can become more aware of how to act when engaging in such processes.

Iterations through the course of the project can help us to enhance our impact and monitor it as it goes along. Beyond this, a common requirement of external bodies (e.g. funders) is that of an *ex post* evaluation of the attributable impact of a development research project or programme (often leading to the ‘output, outcome,

downstream impact blues', see Smutylo 2011). We intend to use the mapping component of PIPA *ex post* in December 2014 to revisit and identify our contributions to change over the lifetime of our projects.<sup>17</sup>

There are many continuing challenges to robust *ex post* reporting of impacts associated with projects such as those described in this paper, two of which are:

- Time frames: it can take 10 years to move from basic research to useful technologies and then another 10 years to see wide-scale impacts (Collinson and Tollens 1994). Similar (or even longer) timescales can be expected with the kinds of research that is being carried out by the STEPS Centre. Whilst longer-term impact monitoring and evaluation is not provided for in our current grant from the ESRC, the STEPS Centre hopes to continue its work beyond our ESRC funding window (March 2016) and will therefore need to plan (and secure resources) for monitoring over more realistic timescales.
- Complexity: interventions in complex systems are notoriously difficult to evaluate. The search for ways to understand these processes has drawn explicitly from complexity science (Ramalingam *et al.* 2008) however it is far from clear how these ideas can be used in a proportionate way to identify contributions from small projects such as our own.

The key issue for the STEPS Centre will be to recognise which of the monitoring data that we have gathered can realistically be analysed starting in late 2014, and the kinds of changes that cannot, due to the time and complexity challenges above. On this basis we can make an informed choice about the best analytical tools to apply to the data, both quantitative (from web analytics, event participation, etc.) and qualitative (details of productive interactions), that we have gathered since the outset of the projects.

Two difficulties that we will need to address are:

- Causality: given the non-linear, interactive nature of impact discussed above, attributing cause and effect is of course, not straightforward. Multiple iterations of PIPA may enable us to appreciate some of the recursive interactions between STEPS projects and their areas of study, but will see causality as multi-directional rather than emanating from our research.
- Biases: many approaches to *ex post* reporting and evaluation suffer from a self-selection bias (focussing on what the project is doing rather than other drivers of change), and on the kinds of changes that are expected rather than unexpected at the project outset. Broadening participation at *ex post* PIPAs may help to address this but experimental approaches (that can elsewhere provide more balanced treatment of drivers of change) would be disproportionate (in terms of the resources required) for our size of projects.

The ICE Unit is still formulating the precise plans for *ex post* impact evaluation but possibilities include:

- Adopting social network analysis as a way to analyse changes in power and influence or to the configuration of networks over the life of our projects. PIPA maps could be used to provide (admittedly subjective and extremely limited) pseudo-quantitative data which could be linked to qualitative impact stories/ stories of change across the time-frames of the projects.<sup>18</sup>
- Conducting a form of 'contribution analysis' or 'most significant change' analysis on the basis of the documented PIPAs and discussions within project teams and stakeholders.
- Using outcome harvesting (Wilson-Grau and Brit 2012) or other methods that can help to address unexpected changes.

---

<sup>17</sup> The PIPA mapping approach was actually first used by STEPS at the end of Phase 1, when we employed it in late 2010 for *ex post* analyses of the impact of our projects on the worlds of policy, academia and beyond.

<sup>18</sup> This has already been experimented with by Boru Douthwaite's team.

- Identifying suitable indicators for tracking in the longer-term that could link data collected up until 2014 with potential longer-term changes for end-beneficiaries, which would need to be monitored beyond the culmination of the Centre's second phase.

### ***Reflexive learning amongst project teams and stakeholders***

Beyond the short projects outlined in this paper, the STEPS Centre aims to engage with partners over the long-term. In some cases, project teams have a history of collaboration spanning decades. Sensitivity to local knowledge and the dynamic of long-term policy engagement by local research partners are important to any discussion of impact for our projects. A possible use of PIPA that has to date not been adequately exploited is to reflect on our own levels of power and knowledge, and to monitor the impact that our research and engagement has on those through the timescale of the projects.

As our approach is about opening up policy processes, challenging dominant narratives and creating opportunities for learning (especially from marginalised perspectives), it is appropriate that our research is sufficiently reflexive to allow its own re-framing and re-formulation on the basis of its findings. Impact on researchers (other than academic impact in the form of citations) is currently not included in ESRC/ RCUK/REF impact definitions, which highlight impacts on other actors. Development programming (see discussions of Theory of Change above) is much more familiar and aware of the importance of learning within individuals and institutions. There is a need for social science funders in the UK to recognise the double-hermeneutic characteristic (Giddens 1984) of the social sciences, in other words, that society is influenced and changed by concepts arising from social science research, and that those influences/ changes are thereafter reflected in the societal phenomena being researched, and to bring this into impact debates. The STEPS Centre's pathways approach is itself evolving on the basis of empirical evidence from the various projects underway.

### ***Further developments of our impact work within and beyond small-scale critical social science research projects***

The ICE Unit continues to learn from experiences with STEPS Phase 2 projects, in its impact planning (and PIPA) and how best to use the information gathered to document and enhance impact. As with other innovations, PIPA is an ever-evolving, mutating and recombining tool with which the STEPS Centre has only recently begun experimenting. A number of further developments are possible within the kinds of projects outlined above (both within and beyond the STEPS Centre and the UK).

An unexpected result of STEPS using PIPA has been to provoke interest among other research projects hosted at the Institute of Development Studies (IDS) in using the tool. This has led to productive discussions with the Centre for Development Impact (CDI), a collaboration between IDS and ITAD. PIPA is currently being used by the 'Dynamic Drivers of Disease in Africa' consortium (DDDAC) (itself much larger than individual STEPS projects) and a number of smaller initiatives. It will be useful to compare experiences between these different types of projects and the ways in which PIPA has been adapted and improved according to the specific goals, methods and normative assumptions of the research, as well as the differing donor requirements for robust and rigorous reporting. Application of some of the approaches lessons above in larger projects would open up the possibility of linking PIPA to more systematic, quantitative approaches to impact monitoring and evaluation, and would justify the greater resources necessary for such approaches.

Although much impact work in research projects at IDS/University of Sussex diverges significantly from the requirements of the large-scale CGIAR projects that initially pioneered PIPA, the ICE Unit is making efforts to link up with some of the practitioners that used PIPA in the CGIAR context so that relevant insights are taken on board and 'reinventing wheels' is avoided. There is particular interest in collaborating to develop the links from participatory approaches to theory of change (including PIPA) across to *ex post* impact assessment. Reflecting on and documenting these discussions and developments will continue to be one of the activities for which the ICE Unit will be responsible through to the culmination of STEPS Centre Phase 2 in March 2016.



## References

- Brewer, J. (2011) 'The impact of impact', *Research Evaluation* 20.3: 255–256
- Brewer, J. (2013) 'The Public Value of the Social Sciences', lecture to the Academy of Social Sciences, UK, 4 July 2013
- Bryden, J. and K. Mittenzwei (2013) 'Academic Freedom, Democracy and the Public Policy Process', *Sociologia Ruralis* 53.3: 311-330
- Campaign for Social Science (2013) *Aims*, CfSS webpage, <http://campaignforsocialscience.org.uk/about-us/aims> (July 2013)
- Collinson, M.P. and Tollens, E. (1994) *The Impact of the International Agricultural Research Centers: Measurement, Quantification and Interpretation*, Issues in Agriculture, No. 6, Washington, DC: CGIAR Secretariat
- CSR International (2011) 'Cambridge Top 40 Sustainability Books of 2010 – Part 2', <http://www.csrinternational.org/2011/04/20/cambridge-top-40-sustainability-books-of-2010-part-2/> June 2013
- DFID (2013) *Research Uptake: A guide for DFID-funded research programmes*, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/200088/Research\\_uptake\\_guidance.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/200088/Research_uptake_guidance.pdf) (September 2013)
- Douthwaite, B., Alvarez, S., Cook, S., Davies, R., George, P., Howell, J., MacKay, R. and Rubiano, J. (2007a) 'Participatory Impact Pathways Analysis: A Practical Application of Program Theory in Research-for-Development', *Canadian Journal of Program Evaluation* 22.2: 127-159
- Douthwaite, B., Schulz, S., Adetunji, S. O., and Ellis-Jones, J. (2007b) 'Impact pathway evaluation of an integrated Striga hermonthica control project in Northern Nigeria', *Agricultural Systems* 92: 201-222
- Douthwaite, B., Alvarez, S., Thiele, G. and MacKay, R. (2009) 'Participatory Impact Pathways Analysis', chapter in I. Scoones and J. Thompson (eds) *Farmer First Revisited: Innovation for Agricultural Research and Development*, Oxford: ITDG Publishing: 290-293
- Douthwaite, B. (2013) 'Using Theory of Change to lever change', Joint STEPS Centre – CDI Seminar, Institute for Development Studies, 25 April 2013, available to view at [www.youtube.com/watch?v=wM6mpqTrFLM](http://www.youtube.com/watch?v=wM6mpqTrFLM)
- Edgerton, D. (2009) *The 'Haldane Principle' and other invented traditions in science policy*, History and Policy Paper 88, London: History and Policy
- ESRC (2013a) *Cultivating Connections: Innovation and Consolidation in the ESRC's Impact Evaluation Programme*, Swindon: ESRC
- ESRC (2013b) *What is impact?* ESRC website, accessed at <http://www.esrc.ac.uk/funding-and-guidance/impact-toolkit/what-how-and-why/what-is-research-impact.aspx>, July 2013
- Giddens, A. (1984) *The Constitution of Society: Outline of the Theory of Structuration*, Cambridge: Polity Press.
- Wilson-Grau, R. and Brit, H. (2012) *Outcome Harvesting*, Cairo: Ford Foundation MENA Region Office
- Hansard (2012) *House of Commons Parliamentary debates*, Volume 551, Part 54, 23 October 2012
- Jasanoff, S. (1996) 'Beyond Epistemology: Relativism and Engagement in the Politics of Science', *Social Studies of Science*, 26.2: 393-418
- Kraemer-Mbula, E. and Wamae, W. (eds) (2010) *Innovation and the Development Agenda*, Paris: OECD
- Leach, M., Scoones, I. and Stirling, A. (2007) *Pathways to Sustainability: an overview of the STEPS Centre approach*, STEPS Approach Paper, Brighton: STEPS Centre

- Leach, M., Scoones, I. and Stirling, A. (2010) *Dynamic Sustainabilities: Technology, Environment, Social Justice*, London: Routledge
- Lindblom, C. E. and Cohen, D. K. (1979) *Usable knowledge: social science and social problem solving*, New Haven and London: Yale University Press
- LSE Public Policy Group (2011) 'Maximizing The Impacts Of Your Research: A Handbook For Social Scientists', Consultation Draft 3, [http://www.lse.ac.uk/government/research/resgroups/LSEPublicPolicy/Docs/LSE\\_Impact\\_Handbook\\_April\\_2011.pdf](http://www.lse.ac.uk/government/research/resgroups/LSEPublicPolicy/Docs/LSE_Impact_Handbook_April_2011.pdf) (September 2013)
- Martin, B.R. (2011) 'The Research Excellence Framework and the 'impact agenda': are we creating a Frankenstein monster?' *Research Evaluation* 20.3: 247-254
- Molas-Gallart, J. and Tang, P. (2011) 'Tracing 'productive interactions' to identify social impacts: an example from the social sciences', *Research Evaluation* 20.3: 219-226
- Moriarty, P. (2013) *The spirit-crushing impact of impact*, physicsfocus blog, accessed online at <http://physicsfocus.org/philip-moriarty-the-spirit-crushing-impact-of-impact/> (December 2013)
- Nerlich, B. (2012) *Exploring the language of impact*, Making Science Public blog, accessed online at <http://blogs.nottingham.ac.uk/makingsciencepublic/2012/05/08/the-language-of-impact/> (July 2013)
- OECD-DAC (2002). Glossary of Key Terms in Evaluation and Results Based Management, Paris: OECD. <http://www.oecd.org/dataoecd/29/21/2754804.pdf>
- Picciotto, R. (2012) 'Experimentalism and development evaluation: Will the bubble burst?', *Evaluation*, 18.2: 213-229
- Ramalingam, B., Jones, H., Reba, T. and Young, J. (2008) *Exploring the science of complexity: Ideas and implications for development and humanitarian efforts*, ODI Working Paper 285, London: Overseas Development Institute
- REF (2011) *Assessment framework and guidance on submissions (updated to include addendum published in January 2012)*, <http://www.ref.ac.uk/media/ref/content/pub/assessmentframeworkandguidanceonsubmissions/GOS%20including%20addendum.pdf> (August 2013)
- REF (2013) *Impact Case Studies (REF 3b), Latest FAQs (September 2013)*, <http://www.ref.ac.uk/fag/impactcasestudiesref3b/> (17.10.2013)
- RCUK (2010) Typology diagram, accessed online at <http://www.rcuk.ac.uk/documents/impacts/RCUKtypologydiagram.pdf> (June 2013)
- RCUK (2013) *What do Research Councils mean by impact?* RCUK website, accessed online at <http://www.rcuk.ac.uk/kei/impacts/Pages/meanbyimpact.aspx> (June 2013)
- Sarewitz, D. (2011) 'The dubious benefits of broader impact', *Nature* 475: 141
- Science and Technology Committee (2012) 'Building scientific capacity for development, Fourth Report of Session 2012–13', London: House of Commons Science and Technology Committee
- Scott, A. (2004) "'Relevant" social science? The case of global environmental change research in UK universities', PhD thesis, Brighton: University of Sussex
- Shapin, S. (2012) 'The Ivory Tower: the history of a figure of speech and its cultural uses', *British Journal for the History of Science* 45.1: 1-27
- Smith, A. (2012) 'Making an impact: when science and politics collide', *Guardian*, 1 June 2012
- Smith, A., Arond, E., Fressoli, M., Thomas, H. and Abrol, D. (2012) 'Grassroots innovations for sustainable development: some enduring dilemmas', Proceedings: Global Research Forum on Sustainable Consumption and Production Workshop, 13-15 June 2012, Rio de Janeiro, Brazil

- Smutylo, T. (2011) 'The output, outcome, downstream impact blues', performance during an outcome-mapping workshop, available on the YouTube Channel of the Participatory Action Research and Training Centre on Food Security <http://www.youtube.com/watch?v=5f4rNEsyEYY> , accessed 22/11/2013
- Stern, E., Stame, N., Mayne, J., Fors, K., Davies, R. and Befani, B. (2012) *Broadening the Range of Designs and Methods for Impact Evaluations*, DFID Working Paper 38, London: Department for International Development
- Stevens, H., Dean, A. and Wykes, M. (2013) 'DESCRIBE Project: Final Project Report', Exeter: University of Exeter
- Stirling, A., Leach, M., Mehta, L., Scoones, I., Smith, A., Stagl, S. and Thompson, J. (2007) *Empowering Designs: towards more progressive appraisal of sustainability*, STEPS Working Paper 3, Brighton: STEPS Centre
- Vogel, E. (2012) *Review of the Use of 'Theory of Change' in international development*, Review Report commissioned by DFID [http://r4d.dfid.gov.uk/pdf/outputs/mis\\_spc/DFID\\_ToC\\_Review\\_VogelV7.pdf](http://r4d.dfid.gov.uk/pdf/outputs/mis_spc/DFID_ToC_Review_VogelV7.pdf) (September 2013)
- Watts, J., Horton, D., Douthwaite, B., La Rovere, R., Thiele, G., Prasad, S., Shaver, C. (2008) Transforming Impact Assessment: Beginning the Quiet Revolution of Institutional Learning and Change, *Experimental Agriculture* 44.2: 21–35