1 Introduction

There are three main reasons for assessing the policy impact of research: auditing, learning and cost-effectiveness analysis. Impact assessment of policy research will help ascertain:

- whether a particular project has the desired impact on policy (auditing)
- what are the main factors affecting programme success and failure (learning)
- what is the cost of achieving the outcomes compared to other interventions (cost-effectiveness).

Programme assessment along these lines will help programme managers to discontinue ineffective programmes, to improve the operations of future interventions, and to choose among alternative interventions having the same goals. Exploring conditions to improve existing evaluations of welfare impacts of policy interventions is highly desirable.

In this article we review the literature on impact assessments of ‘policy-oriented’ research in agriculture. Our article seeks to build on the work of others, notably IFPRI, CGIAR, IDRC, ODI RAPID, GDN, NR International and ECDPM. Indeed, the area of research impact is not a new area of enquiry but an emergent one (see for broad-sweeping introduction Sumner et al. 2009).

2 Studies of agriculture research impact assessment

2.1 Studies chosen

We identified 13 studies of agriculture research impact assessment (see Table 1). Each study is a study of the impact of an earlier piece of policy-oriented research.

These 13 studies cover a range of country contexts – Bangladesh, Indonesia, Jordan, Kenya, Malawi, Mexico, the Philippines, Syria, Uganda and Viet Nam – as well as a range of policy changes – rationing, food for education, pulp and paper policy, barley fertilisation, conditional cash transfers, dairy marketing, fisheries management, rice marketing, food security, pesticides, water management and urban agriculture and a range of welfare impacts including agriculture productivity, schooling and consumer surpluses.

Most impact studies of policy research in agriculture reveal that analysing attribution and influence of ‘policy-oriented’ research is certainly not an easy task. As earlier noted, there is ‘uncertainty in determining a causal link between research and the outcome of a policy or the value of a policy outcome’ (Timmer 1998: 11) and there is difficulty of quantifying the actual policy or welfare impact. All studies reviewed found severe difficulties in assessing impact on welfare outcomes and either renounced doing so.
or assessed impact under a number of heroic assumptions.

The majority of the studies reviewed employed either a policy evaluation approach, which assumes that research determines policy change and studies the effect of this policy change on welfare indicators, or an economic modelling approach, which looks at the effect of research on welfare directly, ignoring the complications and subtleties implied by the policy process.

The research reviewed on policy impacts of agriculture policy-oriented projects has involved, in almost all cases, qualitative approaches and studies of people’s perceptions (except one case where a combination of episode study, case study and outcome mapping was undertaken). Qualitative approaches are useful when they provide retrospective narratives that illustrate how research influences policy (Ryan and Garrett 2003: 2–3). Case studies provide rich, qualitative data for analysis and are the most used approach in assessing how research interacts, influences and impacts policy processes in any particular context.

Key informant interviews have been the widely preferred tool in all of these cases. These interviews have been taken either face to face, by telephone or email. The CGIAR (2008: 84) observes that ‘the studies that relied on single-interviewer taped conversations seemed to establish more credibility on the issue of influence than those that drew solely on written questionnaires, especially mailed-in responses’.

In each of these 13 studies it is possible to identify the ‘vision of success’ (VoS), the ‘pre-conditions’ and the ‘interventions’. Table 2 lists the ‘visions’ used.

In some cases the studies are based solely on policy impacts as the ‘vision of success’ (and it is assumed welfare impacts follow); in other studies it is both policy impacts and welfare outcomes. For example, welfare impacts include agricultural productivity, environmental benefits or improvements in schooling. These might be thought of as ‘end-goal visions of success’. In contrast, policy impacts might be labelled an ‘intermediate vision of success’ and include policy change, changes in policy implementation and other policy changes outlined earlier.

2.2 ‘Pre-conditions’
We listed the ‘pre-conditions’ in each of the 13 studies. For example, aspects highlighted relating to policy actors such as the existence of policy ‘champions’ in government and support from donors in terms of funding and influence.

Aspects relating to the policy narrative highlighted were the already existing credibility of research organisations and researchers built in the long run and research conforming to policymakers’ expectations.

Finally, there are ‘pre-conditions’ relating to the policy context highlighted such as a conducive policy environment and receptiveness towards research, demand for research-generated evidence and the long-standing presence of research institutions and their programmes.

However, it is important to note that one of the difficulties in comparing various studies is that they employ different frameworks for analysis. For example, while some studies explicitly examine the policy actors, narratives and context (e.g. Hooton et al. 2007), other studies such as those that are part of CGIAR (2008) use a method (the Impact Pathways Method) which does not necessarily capture these aspects in a comparable way.

2.3 ‘Interventions’
We listed the ‘interventions’ in each of the 13 studies. All the projects that funded these studies made explicit attempts to inform policy and had well-designed communication strategies. In terms of networking, agricultural policy-oriented research collaboration and engagement of a range of policy and decision-makers become very important. For example:

- Researchers worked in collaboration with the Ministry of Agriculture and Rural Development in the case of rice policy change in Viet Nam.
- In Bangladesh researchers collaborated with decision-makers and operated within the decision-making system to facilitate their use of information.
- In Syria researchers linked up with one key ‘policy champion’ who was a member of the Fertilizer Allocation Committee.
### Table 1: Studies of agriculture research impact assessment

<table>
<thead>
<tr>
<th>Impact assessment (details and reference)</th>
<th>Study which the impact assessment explored</th>
<th>Type of impact assessment and timing</th>
<th>Overall VoS: welfare impacts</th>
<th>Intermediate VoS: policy impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food for Education programme (FFE) in Bangladesh Babu (2000)</td>
<td>Ahmed and Billah (1994)</td>
<td>Policy evaluation Closure + elapsed time (4 years)</td>
<td>Increase enrolment and school attendance of children assisted by a school feeding programme. The impact on per capita calories consumption is simulated</td>
<td>Behavioural change in policy implementation – 1994/95 – decision to expand the FFE programme</td>
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</tbody>
</table>
In terms of ‘messaging’, in all of the cases of policy impact of research, it is seen that documentation and dissemination of research findings is one key element to influence policymakers. The research outputs can take various forms such as reports, papers, training manuals, posters, policy briefs, journal publications and conference presentations. In almost all the cases, a series of workshops, conferences and seminars were organised to disseminate the research findings. This is not a one-time effort. In almost all of the cases there have been several publications and dissemination events targeting various stakeholders and policymakers at various levels.

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<tr>
<td>Community-based Fisheries Management (CBFM) in Bangladesh Pemsl et al. (2008)</td>
<td>Various publications (see list in Pemsl et al. 2008)</td>
<td>Preconditions testing Closure</td>
<td>Increase in income from fisheries and other positive environmental effects – but the effects were not quantified</td>
<td>Behavioural changes in policy implementation – ongoing – Changes in opinion and awareness of CBFM among relevant policymakers</td>
</tr>
<tr>
<td>Community based food security and capacity building in Malawi Ryan (1999b)</td>
<td>Various publications (Ryan 1999b)</td>
<td>Preconditions testing Closure</td>
<td>Malnutrition and mortality, but the effects are not quantified</td>
<td>Policy framing impact – early 1990s – awareness within the government of Malawi of the need for community-based food security and monitoring systems. Establish Master’s degree programme at Bundu College of Agriculture, degree established in 1994</td>
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<tr>
<td>Greywater Reuse in Jordan Surani (2003)</td>
<td>Faruqui and Al-Jayyousi (2002); Faruqui (2003);</td>
<td>Policy evaluation Closure</td>
<td>No welfare outcomes are quantified</td>
<td>Policy procedural impact – 2003 – Revision of the National Housing Codes and formation of a National Committee to formulate Greywater Reuse Guidelines</td>
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<tr>
<td>Urban Agriculture Ordinances in Uganda Hooton et al. (2007)</td>
<td>Maxwell (1994, 1995); Van Nostrand (1994); Atukunda (1998); Urban Harvest (2005)</td>
<td>Preconditions testing Closure + elapsed time (since there are various pieces of research the exact number of years varies)</td>
<td>Food security, but impact is not quantified</td>
<td>Policy content impact – A set of five new ordinances on urban agriculture passed</td>
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In terms of opportunism, the identification of a favourable environment for adoption of the new policy is crucial. For example, in Bangladesh the timing of research coincided with the need for information. It is also seen from the cases that no matter how robust the research findings are, unless there is a favourable policy environment consisting of a strong political will, a receptiveness to change, and the existence of trust between and among those most responsible for policy, the adoption or changes of policy becomes difficult as shown by the case of IRRI (International Rice Research Institute) research in Philippines. In the case of Malawi, UNICEF’s persistent call for greater attention to the food insecurity problems and malnutrition in the 1980s created a receptive environment in which the government sought research to inform policy choices.

Three factors that one could draw from the set of 13 studies and interventions or what researchers can do to maximise their chances of impact are (i) ‘saturation’ – a high volume of written outputs and workshops/seminars, etc.; (ii) ‘recognition’ – of a conducive political environment if it exists; and (iii) ‘relationships’ – building long-term relationships to become a ‘trusted source’.

3 Conclusions

The review of the agricultural research impact studies suggests that there is no standard practice for the evaluation of research. The

<table>
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<th>Approach and examples</th>
<th>Key variables</th>
<th>The ‘how’ – methodology and methods</th>
<th>The ‘when’</th>
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<tbody>
<tr>
<td>Policy evaluation approach</td>
<td>Income, Poverty, Mortality, Nutritional status</td>
<td>This approach performs an impact assessment of a policy or project (using standard quantitative evaluation techniques). It identifies to what extent that policy or programme was the result of research (via surveys or other empirical methods). It simulates the impact of the project or policy effect on welfare indicators (often using parameters obtained from other studies).</td>
<td>After project completion</td>
</tr>
<tr>
<td>Preconditions testing approach</td>
<td>The ‘quality’ of research (e.g. standardisation of techniques and rigorous research processes) and/or the quality of leadership in terms of a decision-maker’s ability to make judgements on research ‘quality’</td>
<td>This approach tests functional relationships between links in the causal chain that runs from research to welfare (by using survey data or behavioural experimental methods).</td>
<td>After project completion and (experimentally) any time before and after the project</td>
</tr>
<tr>
<td>Economic modelling approach</td>
<td>Crop production, Consumer surplus, Producer surplus</td>
<td>This approach assesses the economic impact of research on producers and consumers of a particular commodity. Producers benefit through cost reductions but are affected by prices. Consumers benefit via price reductions. The changes in producer and consumer surplus can then be used to simulate the reduction in poverty or other welfare effects. The methods used are IRR (internal rate of return) and regression analysis.</td>
<td>Several years after project completion</td>
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Note: These approaches are about welfare impacts. It is possible simply to focus solely on policy impacts.

Table 2 Characteristics of main approaches to the estimation of the impacts of policy-oriented research

review, however, also concluded that provided we are willing to accept some assumptions, it is possible to test research project impacts along some dimensions of project operations by finding the appropriate indicators (and methodology). The overall goal – welfare impacts of research – is highly desirable but not always feasible. This type of assessment is made difficult by the time lag in the occurrence of welfare effects after the interventions, the availability of data to measure project effects or to perform simulations, and the theoretical problems of building a valid counterfactual and of identifying the determinants of success.

When a welfare assessment of research projects is not feasible, it is recommended that evaluators test intermediate project outcomes. The articulation of the theory of change of the project allows testing critical links in the causal chain running from research to welfare. In particular, what emerges from the review is the need to assess the impact of research on policy change. More effort should be spent in designing surveys of policymakers that allow a more accurate attribution of a given policy to research.

Finally, when the research-policy attribution problem is not easily approachable, an alternative method of assessing impact consists of testing the presence of fundamental preconditions for the success of research in influencing policies.

**Note**

1 A longer version of this article is available in Sumner *et al.* (2010 forthcoming). The authors would like to thank in particular Lawrence Haddad and Johanna Lindstrom for important comments on several earlier drafts of this and the longer article, as well as Nicola Jones and Nick Perkins for ongoing discussions.

**References**


Urban Harvest (2005) Urban Agriculture in Kampala, Uganda: Health Impact Assessment and Options for Improvements, final report to the CGIAR-Canada Linkage Fund of the Canadian International Development Agency (CIDA), International Potato Center (CIP), Lima
