An accountability framework for technological innovation

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Technological innovation in agricultural science forms an important element in the effort to reduce poverty. In this Brief, we offer recommendations to help an organization conducting technological research and design (R&D) to become more accountable. These recommendations are based on four principles developed by the One World Trust which capture the dimensions of accountability.

Introduction

Accountability for an R&D organization "comprises the processes and practices that an organisation puts in place to keep all their stakeholders informed, take into account and balance their interests, and to ensure equitable responses to their concerns" (Blagescu et al., 2005). To become accountable, therefore, research managers of organizations conducting R&D must identify and balance the interests of a range of stakeholders.

The key tension lies in identifying and prioritizing research projects; will they be driven by the needs of farmers, or by the funding windows defined by donors, or by the interests of internal staff members? Research managers must also ensure their organization is open and transparent, while avoiding sharing sensitive information; they must invest in accountability relationships and processes while not overloading the organization with bureaucracy; they must encourage participation of beneficiaries and the government in a meaningful and yet manageable way; and they must use evaluation processes for internal learning as well as for donor reporting.

This Brief identifies paths and strategies to guide research managers through these difficult decisions.

Box 1. Accountability key points

Accountability:

- Is based on principles of participation, transparency, evaluation and feedback management;
- Offers an overarching framework, drawing on good practices derived from several areas, but tying them into a single framework;
- Is about identifying and balancing the priorities of different stakeholders, in positioning the institution and at the lower project-level;
- Stakeholders include: the end users - the farmers; the National Agricultural Research and Extension Service (NARES); donors - whether public or philanthropic; and the wider scientific community.

We use four key principles throughout this Brief:

1. *Participation*. Participation concerns the way in which an organization involves stakeholders in its decision-making processes and activities and gives them a voice in the activities of the organization.
2. *Transparency*. Transparency describes the way in which an organization makes available information about its activities and aims.
3. *Evaluation*. Evaluation allows a research organization to reflect on and learn from past experiences and provides evidence-based support for the reporting of progress and impact.
4. *Feedback management*. Feedback management describes ways in which an organization invites feedback, comments and critique of its activities.

To realize accountability, an organization must embed these principles into its day-to-day processes through building a culture which recognizes the importance of accountability and which reflects on accountability in a holistic way (see Box 2 and Mayne (2008), on building an evaluative culture).

Box 2. Measures to embed accountability principles

Accountability principles:

- Leadership. Accountability will not be instituted by fiat, but rather through persistence, persuasion and making the case for its value.
- Public commitments. Consistent application of accountability principles requires public commitments, communicated publicly to all stakeholders.
- Governance. A senior manager should be allocated responsibility for putting accountability in place, and the board should provide oversight.
- Developing strong policies. Policies and guidelines should be designed in a participatory manner, obtaining wide internal buy-in, and tailored to context, organizational requirements and resource availability.
- Resource allocation. Budgets should be formulated to ensure accountability processes are resourced, and that staff are adequately trained in their use.
- Review. Processes and approaches should be reviewed periodically.

Practical implementation of accountability in key processes

This section outlines how the principles of transparency, evaluation, participation and feedback management can be implemented in four key decision-making and research processes common to most research organizations:

1. *Strategy formulation;*
2. *Project identification and design;*
3. *Conducting research; and*
4. *Communicating research and drawing conclusions.*

Process 1: Strategy formulation

For every organization, the strategy is a vital document. It positions an organization, interprets its mission and defines

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the research niche which will form the focus of (typically) three to five years of work. For agricultural research centres, the strategy locates the organization in the midst of a complex mix of actors from the private, public and non-profit sectors. As a document positioning the organization in a complex field, a strategy should be flexible and provide direction, but allow the organization to react to changing circumstances. Ideally, it will identify programmes, which allow organizations to build ongoing relationships and structure the identification of projects (Process 2).

Participation. While obtaining internal buy-in to the strategy is vital, the strategy can benefit from input from several external stakeholders:

- Donors. Understanding the 'market' for research and the funding environment are important for ensuring that the strategy is financially sustainable. The strategy should be seen, in part, as a fund-raising document and should look to create a diversified funding base.
- Intended beneficiaries. Insofar as the mission intends to further the interests of a particular group (whether 'rice farmers' or more specific communities) it is important that this group - the 'intended beneficiaries' (see Box 3) - are engaged in the development of the strategic plan. This will ensure that it takes into account their priorities. Where the group is as large and indistinct as rice farmers, manageable methods to collect its priorities include using targeted focus groups (as IRRI's strategy, for example, currently uses to a limited extent) or engaging representative grassroots institutions, specific communities, coalitions and civil society organizations as proxies.
- The wider innovation system. Research managers should consider engaging the wider innovation system, including the NARES, private sector actors, the Ministry of Agriculture, international and national policy-makers and the users of products from the research. These can be consulted through workshops during the formulation of the strategy plan, or brought in as peer reviewers.

Evaluation. A strategy will be prepared in the light of previous experiences of the organization, and should, therefore, draw on previous evaluations. Indeed, it may usefully include additional evaluation processes and reviews - such as, for example, innovation histories (Douthwaite and Ashby, 2005) or analyses of 'Most Significant Changes' (Davies and Dart, 2005) - to help internalize lessons.

Box 3. 'Downwards' accountability: intended beneficiaries

The International Rice Research Institute aims to "improve the health of rice farmers and consumers". Bioversity promotes "the greater well-being of people, particularly poor people in developing countries". Claims like this need to be underpinned by demonstrable accountability to their claimed or intended beneficiaries - the 'rice farmers' or 'poor people in developing countries'. Frequently, these are the intended users of research. Therefore, when a research organization makes a claim to be acting, through its research, on behalf of another, that claim should be supported by building an ongoing accountability relationship.

A move from the project funding-model to a longer-term programme of work - involving overlapping projects which learn from each other and which build relationships with a network of beneficiaries - facilitates an ongoing relationship. To be accountable, an organization must canvass the views of beneficiaries when designing its priorities and projects; must involve beneficiaries in the implementation of projects and the evaluation of activities; and must maintain open channels of communication.

- Risk of 'mission creep and capture'. A tension exists where the priorities of the intended beneficiaries are not on donors' agendas. Researchers can face a dilemma. They must respond to the donors, with a view to securing financial sustainability, while simultaneously ensuring the relevance to the goals of the intended beneficiaries. Where possible, the manager should prioritize the latter. In such circumstances, an organization should seek to sell the value of its mission to donors. Building a diversified funding portfolio, based on close relationships with several donors, is ideal, but is no easy feat. However, a programmatic structure with long engagement in a particular field and a reputation for quality and legitimacy can help persuade and shape donor priorities to accord with those of the intended beneficiaries.

Process 2: Project identification and design

While the strategic plan provides the basis on which projects are developed, it also usually (assuming appropriate levels of flexibility) requires a process of interpretation by which research priorities are identified and projects designed. This process of interpretation and design should be accountable.

Participation. Many research projects will be identified on the basis of technical criteria identified by researchers ('supply-led' identification) often informed by the research background and programmatic structure of the organization. To be accountable, insofar as possible, supply-led priorities and proposals should invite inputs from key external stakeholders:

- Intended beneficiaries. Frequently, accountability is weaker to this group of stakeholders than to others, such as donors (Lindstrom, 2009). However, gaining the input of intended beneficiaries' is vital, since it is they who know their own needs and the complexities of their own context.
- Donors. Inevitably, research organizations must seek donor funding. Donor-demand therefore plays an important role in the identification and development of projects. However, just as donor priorities can capture the strategy of a research organization, they can also increasingly dictate the content of projects and the trajectory of programmes - the risk of mission creep.
- Other internal stakeholders. Project designers should consult as widely as possible on the knowledge within an organization when designing a project, bringing in expertise from several disciplines where appropriate.
- Academic field. A research organization must position its projects to support and capitalize on other expertise, if necessary though forming partnerships and links with other researchers.

A number of mechanisms can be used to engage this diverse range of stakeholders: a programmatic advisory board which regularly engages a range of experts and donor and user representatives in project design; internal programming boards drawing widely on the experience within the organization to formulate or review project documents; focus groups including user groups and claimed beneficiaries; and external peer review of project proposals.

As with strategy setting, the biggest challenge arises if the donors' and beneficiaries' priorities are at odds. There is no easy solution, except to build relationships with a diversified set of funders (including looking at developing a consultancy practice or capacity building), and if possible to shape donor priorities. This requires strong relationships with both donors and intended beneficiaries, good evidence of the beneficiaries' needs, and a reputation for legitimacy and credibility.

Transparency. Details on grants, evaluation frameworks, donors, projects and the process of project identification should be made public. These should be posted on the project website, and if necessary, managers should explore more active means of communicating the information to key stakeholders.

Evaluation. From the stage of identifying research projects to the formulation of the proposals, researchers should look to embed a

monitoring and evaluation framework appropriate to the activity. As with participation, this must take into account different audiences or groups of users. A recent survey, for example, suggests that accountability to some groups - donors, internal stakeholders - is stronger than accountability to others, such as beneficiaries (Lindstrom, 2009).

Depending on the users and their needs, different methods of evaluation may be appropriate: some research products may need impact assessments, while others require outcome-oriented tools (e.g. impact assessments in CIMMYT, or see La Rovere et al., 2008 or Participatory Impact Pathways Analysis, Douthwaite et al., 2008). In choosing an appropriate tool, it is important to consider the audience for - or users of - the evaluations (Patton and Horton, 2009).

Process 3: Conducting research

Research expertise, the factor which makes an organization successful and financially sustainable, can distance researchers from their stakeholders and particularly the intended beneficiaries. In order to ensure the ongoing relevance of their work and to harness most effectively the existing capacity in the innovation system, researchers need to contextualize their work and maintain relations with the users of the technological product.

Participation. Reviews of literature on policy-relevant research and technological research and development show similar evolutions for both research processes. These range from a linear model where research forms a step distinct from the dissemination of its products, to a model where policy formulation or research can best be understood as systemic and complex. Ongoing interaction and feedback loops with key groups of stakeholders can help ensure the relevance of an improved agricultural input or product (whether engaging in policy-relevant research or developing technological products). These key groups are:

- Expertise in the innovation system. Researchers should draw as much as possible on the wider research community, by engaging in partnerships and networks. Collaborative research projects allow researchers to draw on expertise external to the organization.
- Policy-makers/next users. The success of a research product will frequently hang on its uptake and acceptance by the users of the product. Consequently, researchers must ensure that their products are adapted to users' expectations. This will involve building users' ownership and familiarity with the project through involving them in research and development activities.
- Intended beneficiaries. Some research disciplines within agricultural science are more suited to work in isolation than to participatory research. The challenge for these research disciplines is to allow laypeople to participate meaningfully in the decision-making processes of an organization. Drawing on the context and needs knowledge of the intended users can improve the relevance of the research, whether it is technological innovation or policy-relevant research. Thus, in the case of technological research, the team should consider building into projects innovation processes under which prototypes are tested through iterative feedback loops, are adapted to context by users and are altered accordingly. In the case of policy-relevant research, an organization should engage policy-makers' intended beneficiaries early in the project and maintain contact through regular meetings and mechanisms such as advisory boards and newsletters.

Transparency. Being transparent while collecting and analyzing data has both ethical and instrumental motivations. Ethically, the principle of informed consent is common to many systems, and in many research disciplines informs interactions with all research subjects. Instrumentally, clarity about the purpose of the research will increase stakeholder ownership of the research and will thus lower the risk that those involved disengage. Transparency entails that researchers explain the nature and purpose of the research, and what will be done with the information, and that they seek permission to proceed with the project.

Evaluation. Continual and ongoing assessment of the research will be useful for three reasons:

1. Monitoring ensures that the research remains on track and is meeting its goals;
2. Monitoring allows research managers to highlight problems early, to try to adapt to these problems and, if necessary, to adapt the theory of change and project activities to the evolving understanding; and
3. Monitoring allows accurate and timely reporting to the funder.

All three activities are essential for good monitoring. Wherever possible, research managers should resist the temptation to permit the considerations of internal progress management to eclipse the needs of the donors or vice versa. A tension can arise between the donor's requirements to deliver on specific milestones, and the lessons learned from an evolving understanding of the project and the best way to achieve impact. Building relationships with donor representatives and justifying proposed changes to activities in a timely fashion can help to defuse this possible tension.

Process 4: Communicating research and drawing conclusions

Communicating research is not simply an activity to be conducted at the end of the project, but one which should build on prior networking and linkages. As research draws to a close and recommendations are formulated, the termination of a project should involve the following in the communication of project successes.

Evaluations. Commonly, the termination of a research project will be accompanied by a reporting requirement stipulated by the funder during the course of the research. Evaluations will need to respond to several stakeholders, i.e. the contractual demands of donors as well as internal learning requirements. For the latter, evaluation processes should seek to draw lessons from the project and introduce these into future project design (Process 2). This will require both resources and an organizational culture with a willingness to learn from what did not go well, as well as what did. The processes of the evaluation should seek to engage a range of interested and involved stakeholders, and the results should be communicated widely.

Transparency. Frequently, once a project is finalized, organizations struggle to 'close the loop' of communication with those involved in the research, since their project has run out of funds. On conclusion of any project, organizations should make an active effort to communicate clearly the outcomes and outputs of the project to those involved in the innovation process. Ideally, this will build on the communication and engagement that happened throughout the project, and may come as part of a further 'loop' of project identification and design.

Transparency is particularly important in communicating policy-relevant research work. Transparency should extend to the basis for policy recommendations and support for their recommendations. This allows a research organization to justify its position and invite criticisms of its arguments, thereby generating increased credibility and legitimacy. High quality research is a necessary, but not sufficient condition for successful communication of a policy recommendation - research findings must also be couched in accessible formats, be built on ongoing relationships and respond to concrete needs (van Kerkoff and Lebel, 2006; Jones and Walsh, 2008; Mitchell, 2006).

The conclusions of a research project should be communicated to all stakeholders, including those involved in collecting the research. Evaluations should form part of this activity of closing the loop.

'Backstop' processes: information release and complaints handling

Information-release and complaints-handling mechanisms provide support for the introduction of accountability into other decision-making processes. Complaints-handling mechanisms show stakeholders that the research organization takes its accountability to them seriously and forges stronger bonds between the two as a result. A commitment to release information on request is an important guarantor of transparency.

The general commitment is, however, subject to several caveats, whereby research organizations maintain some level of secrecy, either to protect sources or to protect staff conducting sensitive research.

Further reading

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