

## Challenges and Opportunities for Capturing Impact in ICT Initiatives in Agriculture

During the past decade, the power of Information and Communication Technology (ICT) to improve productivity and reduce costs has increasingly been applied to the enhancement of agricultural and rural development and to sectors which have been slow to adopt and benefit from technology. Although internet penetration continues to grow across the world, many farmers and rural entrepreneurs lack internet access and/or the skills to take advantage of computers, mobile technology and the internet to provide information relevant to their work. This means that they also generally lack access to accurate and timely information on markets, production processes, crops and livestock disease, as well as access to services such as land registration databases, permits, and information on government regulations.

Since about 70% of the world's population targeted by the Millennium Development Goals (MDGs) lives in rural areas and predominantly depends on agriculture for their sustenance, improving agriculture and rural development is key to meeting the MDGs. In the past few years, ICT initiatives in agriculture have proliferated and the resources devoted to ICT in rural development portfolios have expanded in the hope that ICT can make a substantive difference in agricultural productivity and farmers' incomes in order to help developing countries reach the MDGs. Yet rigorous, field-tested knowledge about "what works and why" is relatively scarce, as is a deeper understanding of the enabling factors and conditions that lead to success or failure of ICT for development initiatives.

ICT will only become an effective and mainstream tool for poverty reduction and sustainable development if the proponents of ICT for development can provide more rigorous evidence, strategies, benchmarks, indicators, and promising practices that are directly relevant to the core poverty-reduction and development priorities of developing countries and their international partners. In order to achieve this, a few methodological and operational aspects will need to be considered.

### Methodological aspects

The methodology applied to assess the impact of ICT for development projects must consider:

- the logical assumptions applied to arrive at results
- the indicators used to denote impact as well as the rationale for selecting these
- qualitative factors for assessing progress, and
- quantitative data, the timing of monitoring and impact assessments



Credit: Katalyst

### Universal set of indicators

There are different opinions regarding the possibility of a universal shared set of indicators or some sort of an ICT impact indicator index for agriculture. Agreeing to a general list of indicators could make it easier to compare diverse agricultural projects which incorporate ICT initiatives. However, the very different underlying conditions and objectives of such projects could make it complex or unrealistic to have a common set of indicators for all ICT in agriculture projects.



Credit: Katalyst

### Objectives of impact assessment indicators

The key objective of impact assessment is to enable donors, the public and other stakeholders to better understand the results of ICT project interventions while making it easier for practitioners to learn from mistakes and/or adopt similar approaches while tailoring them to their local contexts. In addition, some extend the use of indicators beyond ICT-specific indicators (service market adoption, penetration of new services offered, user satisfaction with ICT services, etc.) to show exactly how and why changes are taking place in the lives of the poor.

### Qualitative aspects of impact assessment

Techniques such as stories, short videos, field visits, community immersions, etc. can be used to complement number-based approaches to ICT impact assessment. Hard indicators such as numbers are generally used to convey “outreach” which is one of the key indicators required by investing donors. A key challenge, however, is to communicate impact in a more human way by taking into account qualitative assessments of benefits.

### Regular monitoring during projects

Carrying out regular monitoring during projects is the preferred option as it allows flexibility in terms of adjusting parameters while keeping in view the current context. Although log-frames are widely used in practice as a key tool to assess the impact of ICT initiatives, these cannot be and should not be relied on as the one and only approach. Increasing preference is noticed towards the use of “logical results chains” which allow more flexibility in terms of tracking non-linear impact at activity level, and the ability to modify intervention parameters during its course, if suggested by the data generated from the market system and target beneficiaries.



Credit: Katalyst

## Operational aspects

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### Key operational criteria

While considering operational aspects of ICT impact assessment for agriculture, every project should consider three key aspects while capturing impact:

- 👉 Clearly identifying and defining target beneficiaries;
- 👉 Describing how exactly they are impacted;
- 👉 The extent to which the project can capture and record the intended impacts for specific development interventions.

### Attribution

Without careful attention to control for external factors that may affect project results, it is easy to mistakenly attribute a positive agricultural outcome to a program intervention. For instance, simply providing information does not necessarily ensure increased crop production or income for target beneficiaries. The availability and feasibility of solutions recommended in the information distributed, as well as unrelated factors such as good monsoon rains, government subsidies for irrigation, etc., all influence the issue of “attribution” significantly and thus make it difficult to measure. Since agriculture is a vast open system, intended impacts could take place due to a combination of attributing factors where access to and use of ICT are just two of many contributing factors.

### Common indicators for public and private partners

When an ICT project for agriculture is undertaken by an alliance of private and public sector stakeholders, it is useful to collaborate early on by establishing a common set of impact assessment indicators which should be complementary and should serve the needs of the involved parties from the outset of the project.

“Successful ICT initiatives in agriculture often require the collaboration and participation of private sector companies. When it comes to the measurement of impact, the private sector entities are mostly focused on issues such as financial feasibility, market scenario, penetration statistics, etc. [This] information, although required, [does] not serve the prime purpose of development organizations.

Hasan Shahriar, Bangladesh

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## Conclusion

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The “Results Chain” tool spoken about in the DCED guidelines is one of the tools that ICT for development practitioners can use for measuring and capturing impact. In this line, it is imperative that the ICT for development community continue putting more focus on the topic of ICT impact assessment in agriculture. The forum argued that indicators of impact assessment have been inappropriately limited to the level of ICT services penetration, uptake and usage-related statistics. Whereas the most important assessment should be tracked at the beneficiary level, specifically to find out if ICT effectively increases income, growth or whether or not they have any positive influence in the quality of life of the agricultural communities, farmers, etc.

## Resources & References

- 👉 **The Donor Committee for Enterprise Development (DCED)** is working with many organizations to develop skills to explicitly identify the logic of their intervention programmes in sufficient detail to map a “results chain” that can be used for measurement and capturing impact. <http://www.enterprise-development.org/page/measuring-and-reporting-results>
- 👉 **The Katalyst project audit experience according to DCED standards** <http://www.enterprise-development.org/media/KatalystDCEDstatement.pdf>
- 👉 **ICRIER WP 246. Socio Economic Impact of Mobile Phones on Indian Agriculture**, Surabhi Mittal, Sanjay Gandhi and Gaurav Tripathi. <http://www.icrier.org/page.asp?MenuID=24&SubCatId=175&SubSubCatId=691>
- 👉 **ICT Adoption in Agriculture**, The free, public domain e--book “ICT Adoption in Agriculture” provides a wealth of information - specifically on ICT adoption affecting production and productivity. <http://departments.agri.huji.ac.il/economics/gelb-main.html>
- 👉 **UNCTAD study on measuring impact** [http://www.unctad.org/en/docs/dtlstict2011d1\\_en.pdf](http://www.unctad.org/en/docs/dtlstict2011d1_en.pdf)
- 👉 **Report of the 2009 consultation on ICTs held at ICRISAT**, In December 2009 the “International Consultation on Agricultural Research for Development and Innovation: Addressing emerging challenges and exploiting opportunities through Information and Communication Technologies” was held at ICRISAT in Patancheru (Hyderabad, India). One of the topics covered by the consultation was the evaluation of the impact of ICT adoption in agriculture. <http://www.fao.org/docs/eims/upload/276320/ICT%20Hyderabad%20Workshop%20Paper.pdf>

*This Policy Brief is based on the input of e-Agriculture Community members who participated in the online forum held from 25 September to 6 October, 2011.*

*The complete discussion can be found (in English) in the Forum Archive at [www.e-agriculture.org/forums/archives](http://www.e-agriculture.org/forums/archives).*

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Further information and resources can be found in  
[www.e-agriculture.org](http://www.e-agriculture.org)