International Initiative for Impact Evaluation

Evidence gap map

Multi-sector

Eric Sales/ADB

Mapping the evidence on science, technology, innovation and partnerships for development

Science, technology, innovation and partnerships (STIP) play an important role in accelerating the outcomes of development programmes in low- and middle-income countries (L&MICs). As organisations move towards prioritising STIP-related development programmes and policies, it is critical to inform these decisions with high-quality evidence.

Rigorous impact evaluations of STIP interventions can provide evidence on:

- unproven approaches
- cost-effectiveness
- developing scientific and innovative capabilities
- improving development outcomes by employing technology for programming
- how to build partnerships for improving the delivery of programmes and policies.

3ie has produced an evidence gap map that identifies the impact evaluation and systematic review evidence base for how STIP interventions accelerate development outcomes in L&MICs. This map is useful for informing research investments and policy and programming stock-taking of available evidence.

Highlights

- The majority of impact evaluations measure outcomes for global health interventions, with the largest evidence base on the impact of mobile-based health (m-health) interventions.
- Only seven systematic reviews were identified, and all seven were related to health.
- Several clusters of evidence have not yet been synthesised.
- Limited evidence exists on the impact of STIP-related interventions on marginalised and vulnerable populations.
- The majority of impact evaluations measure individual or household outcomes compared with firm level or community outcomes.
- There is limited to no evidence across several priority STIP intervention categories. Notably, no evidence exists on the implementation of development assistance through partnerships and multistakeholder initiatives.

What is STIP?

Science	**Science** interventions build the capacities of L&MICs to produce their own scientific and technological research.
Technology	**Technology** includes interventions that use mobile devices and/or the Internet to enhance development programming in L&MICs.
Innovation ecosystems	**Innovation ecosystems** represent the necessary enabling environment to encourage private sector actors to innovate, often combined with assistance such as subsidies.
Partnerships	**Partnerships** and innovative financing mechanisms help support interventions and initiatives to improve development outcomes.

Main findings

There is a large body of evidence around STIP-related interventions, with clusters of related studies in several areas. Of the 397 impact evaluations and 7 systematic reviews included, 220 studies evaluate technology-related interventions. Of the 51 L&MICs covered, the majority of studies are concentrated in Kenya, India and China. There are 14 countries with only one completed rigorous impact evaluation, while 24 countries have fewer than 10.

M-health has the largest number of studies under technology-related interventions. Other well-represented areas under the STIP intervention categories include: studies on science, technology, engineering and mathematics education; grants and subsidies for innovation; digital information systems other than m-health; innovative financing; technology-assisted learning; digital finance; and access to capital for innovation.

The majority of included studies measure outcomes for global health interventions. Education, agriculture and food security, and economic growth, finance and trade are also sectors with several studies. Studies on STIP interventions that assess the impact on democracy, human rights and governance, as well as crises and conflict, are underrepresented.

Marginalised and vulnerable populations are underrepresented in STIP-related impact evaluations. Rural populations are relatively well represented in the evidence base, yet there are no studies that measure effect sizes for ethnic minorities or people living with disabilities, and very few (one each) that measure effect sizes for other marginalised or vulnerable populations.

There is a lack of systematic reviews, and very few of the ones included cover the impact evaluations that 3ie identified for this gap map. There is enough clustered, high-quality evidence to support synthesis in digital finance (mobile money systems), digital information systems for agriculture and food security, m-health, innovation ecosystems programmes in Latin America, and innovative finance.

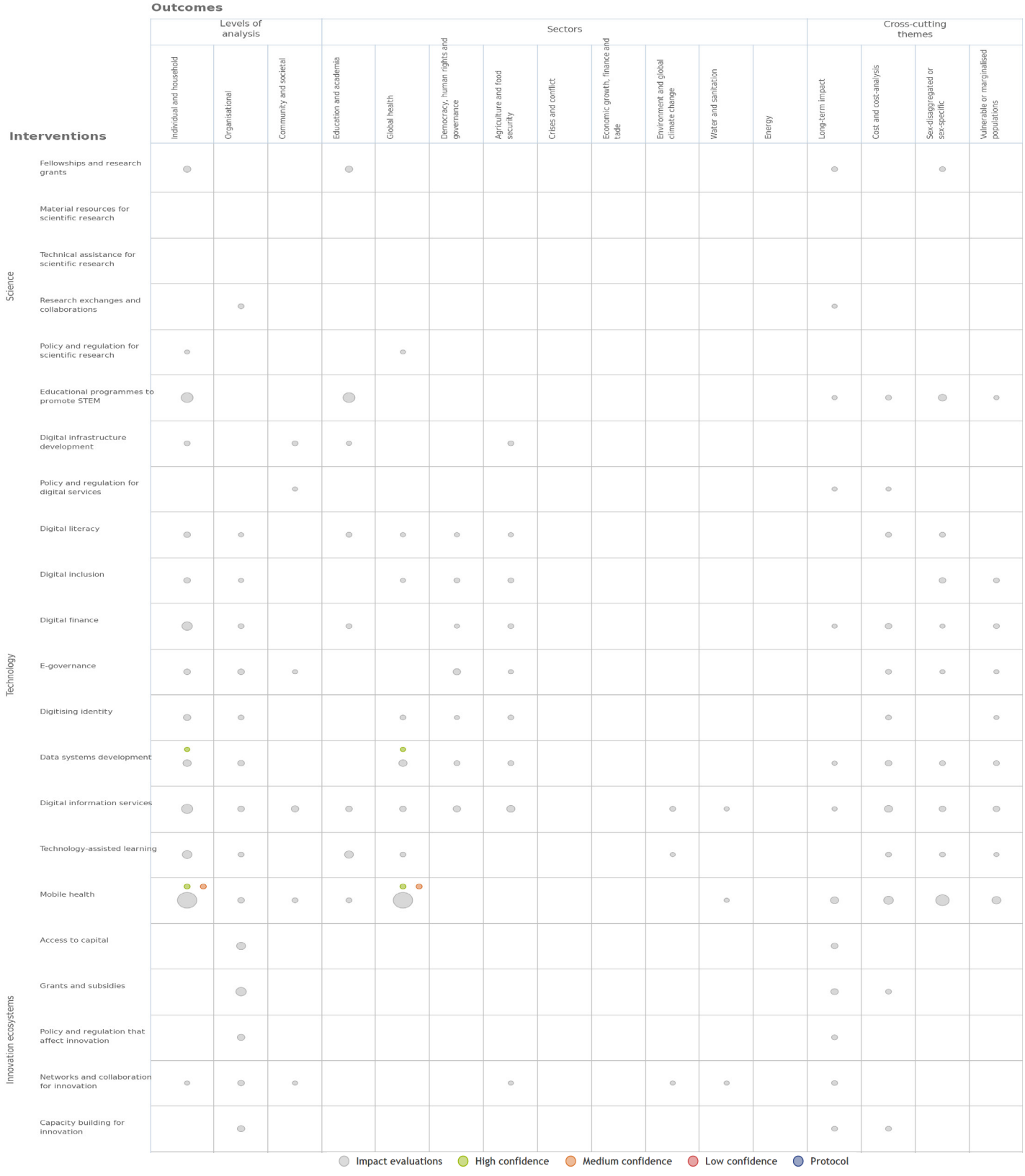
The distribution of evidence remains uneven or absent across several priority STIP intervention categories. 3ie's consultation with key decision makers, programme managers, researchers and donors pointed to the need to fill the evidence gap on digital infrastructure development, digital inclusion, digitisation of identity, data systems development, innovative ecosystems programmes in Sub-Saharan Africa and greater research collaboration. There is also a need for evidence on the impact of digital inclusion on vulnerable and marginalised populations.

How to read the evidence gap map

3ie evidence gap maps are presented using an interactive online platform that allows users to explore the evidence base and findings of relevant studies. Bubbles appearing at intersections between interventions and outcomes denote the existence of at least one study or review.

The larger the bubble, the greater the volume of evidence in that cell. The colour of each bubble represents the type of evidence and, for a systematic review, a quality rating (as indicated in the legend). In the online version of the evidence gap map, hovering over a bubble displays a list of the included studies for that cell. The hyperlinks for these studies lead to user-friendly summaries on the 3ie evidence database. Users can filter the evidence by type of evidence, quality rating (for systematic reviews), region, country, study design and population.

Science, technology, innovation and partnerships evidence gap map



What are 3ie evidence gap maps?

3ie evidence gap maps are thematic collections of information about impact evaluations and systematic reviews that measure the effects of international development policies and programmes. The maps present a visual overview of included existing and ongoing studies or reviews in a sector or sub-sector in terms of the types of programmes evaluated and the outcomes measured. This evidence is mapped onto this framework graphically, identifying where evidence exists and where there are gaps.

Map reports provide all of the supporting documentation for the evidence gap maps, including the background information for the theme of the map, methods and results. 3ie evidence gap maps are available through an interactive online platform on the 3ie website that allows users to explore the studies and reviews in each map. Visit http://www.3ieimpact.org/en/evidence/gap-maps/ to find out more.

About this map

This brief is based on *Science, technology, innovation and partnerships for development: an evidence gap map,* 3ie evidence gap map report 6, by Shayda M Sabet, Anna C Heard and Annette N Brown. 3ie created the science, technology, innovation and partnerships evidence gap map as part of a scoping research project funded by the US Global Development Lab at USAID. This report, the interactive version of the map and a scoping paper on STIP are available on 3ie's website. The authors include 320 completed impact evaluations, 77 ongoing impact evaluations and 7 completed systematic reviews that met their criteria. They categorised the evidence across 25 intervention types and 16 outcome categories, using a STIP framework developed in consultation with USAID and other key stakeholders.

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