

Science, technology and innovation: a key priority for the 2030 Agenda

The 2030 Agenda for sustainable development strives for ambitious development outcomes in a wide range of sectors, building on the gains under the MDGs and addressing new challenges. Poverty eradication and sustainability are cross-cutting priorities for efforts made by all actors, at all levels. Accordingly, the Sustainable Development Goals (SDGs) are equally ambitious in scope and scale¹ and attention to the means of implementation (MOI) – of financial and non-financial nature – is high.

The pivotal importance of technology innovation and the capacity of countries to formulate and implement related policies for eradicating poverty and achieving sustainable development, especially at local and community level, have repeatedly been reaffirmed as key means of implementation, alongside finance and trade². Solutions that technology innovations can generate, and the level of access they can enable, were already key during the MDG era, where they have proven to be important enablers for social and economic transformations that enable sustainable growth, human development and poverty eradication. They are particularly important for the implementation of the 2030 Agenda.

As such, technology innovation and capacity building have gained in importance at global level. This is mainstreamed throughout the SDGs and the 2030 Agenda, including in goal 17 on the means of implementation. The outcome document of the Third International Conference on Financing for Development (FFD-3), the Addis Ababa Action Agenda, recognizes that "the creation, development and diffusion of new innovations and technologies and associated know-how, including the transfer of technology on mutually agreed terms, are powerful drivers of economic growth and sustainable development" (OP 114). It also reflects the decision to establish a Technology Facilitation Mechanism and the work of the High-level Panel on the feasibility and organizational and operational functions of a

¹ Report of the Open Working Group of the General Assembly on Sustainable Development Goals, A/68/970, United Nations (2014)

² See, for example, the Summary of the President of the General Assembly on the High-Level Thematic Debate on "Means of Implementation for a transformative post-2015 development agenda," Feb 9-10, 2015.

Preparing for development cooperation for the 2030 Agenda, and the 2016 DCF

The 2030 Agenda for Sustainable Development builds on the successes of the past two decades and strives for "sustainable development and ensuring the promotion of an economically, socially and environmentally sustainable future for our planet and for present and future generations." Major challenges remain in achieving this vision. Action will be needed on a wide range of areas including poverty eradication, inequality, economic growth, industrialization, employment, food security and nutrition and sustainable agriculture, water and sanitation, health and population, energy, and climate change.

Accordingly, the Sustainable Development Goals are sweeping and ambitious in scope. Understandably so, financing and other means of implementation (MOI) for the 2030 agenda and SDGs have received great attention. The SDGs contain a goal explicitly focused on financing and other MOI. At the same time, these MOI are also streamlined in other substantive goals.

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The views presented in this brief do not necessarily represent those of the United Nations or the Republic of Korea. The study aims to generate ideas for the post-2015 discussions in advance of the Third International Conference on Financing for Development in Addis Ababa in July 2015 and the High-level Meeting of the Development Cooperation Forum in New York in July 2016.



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proposed technology bank and STI capacity building mechanism for LDCs (OP 123). Challenges such as uneven spread of access and capacity, transfer on preferential terms, lack of infrastructure and investment in research and development were all concerns in the negotiations of the outcome document of FfD-3 and the 2030 agenda.

It is widely acknowledged that technology innovation and capacity building can contribute both by: i) underpinning and advancing inclusive economic and social development as a whole, by providing new opportunities for people; and ii) addressing specific sectoral developmental challenges.

International development cooperation³ plays a key and multi-faceted role in supporting technology facilitation and capacity building in both these interlinked dimensions. Delivered in the form of cross-border financial transfers, technical support, capacity building and policy advice, international development cooperation remains vital to provide assistance to facilitate innovation, including through close linkages to scientific advancement and training, complementary to domestic efforts. There are multiple ways in which international development cooperation, in all its forms and facets, can support countries in their efforts to develop and deploy technology solutions and establish robust and effective innovation systems

that make them competitive and raise living standards.

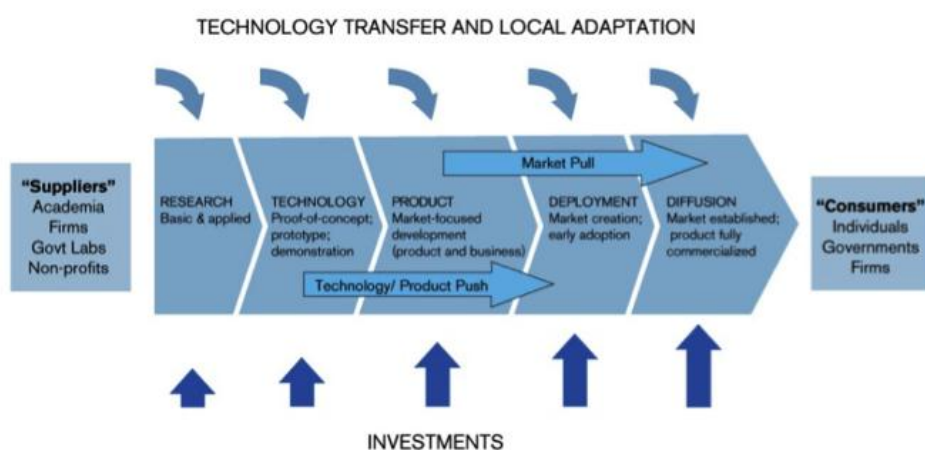
This policy brief aims to examine how different types and instruments of international development cooperation can promote technology innovation and capacity building in the post-2015 setting. It should assist all stakeholders to engage more effectively in global policy dialogue on this issue.

The remaining part of this brief will be structured as follows: Section 2 will provide a stylized overview of the technology innovation cycle. Section 3 reviews how technology innovation currently takes place at national, sectoral and global levels. Section 4 provides an overview of development cooperation modalities and instruments and their role in technology facilitation and capacity building, while section 5 analyses six key objectives international development cooperation can aim to achieve in support of technology facilitation and capacity building.

Technology innovation: What is needed for it to succeed?

The technology innovation process consists of different stages – see Figure 1 for a stylized overview⁴. Innovations may take shape in different ways, e.g. through radical innovation vs. incremental steps, or as “new to the world” vs. “new to the

Figure 1: The stages of technology innovation – a typology



³ For a working definition of international development cooperation see “What is development cooperation?”, available at: http://www.un.org/en/ecosoc/newfunct/pdf15/2016_dcf_policy_brief_no.1.pdf

market” innovations, with the latter focusing on

⁴ For a more detailed overview of the innovation process and some of its key characteristics, please refer to: http://www.un.org/en/ecosoc/newfunct/pdf15/dcfrok_technology_brief.pdf

the adaptation or modification of existing tools and technologies to local contexts, rather than development of new technologies and products per se that address key developmental challenges. Technology deployment and diffusion is an integral part of the innovation cycle.

The type of activities, skills and financial and other resources needed to promote technology innovations depends on the nature of the technology as well as the specific country context. Specific needs may also vary according to the stage of the technology cycle. Success at developing (or adapting) and deploying a technology, therefore, hinges upon the capacity of countries to close the “innovation gaps” throughout the various innovation stages for that technology.

Thus, in many cases, it depends on tailored policy efforts involving a range of actors⁵ and the provision of a conducive business enabling environment. In particular in cases without a market signal to develop or adapt sustainable development technologies, a more strategic approach and active interventions by the governments and public institutions to address such “market failures” will be necessary⁶.

Technology innovation at different levels: a snapshot of key trends

This section aims to provide an overview of the range of efforts involved in technology facilitation, innovation and capacity building at different levels (see, for example, Kemp, Schot, and Hoogma, 1998) – to overcome these ‘market failures.’

At the national level

Investments in innovation vary widely between countries. While developing countries do participate in activities related to science, technology and innovation (STI), including in research and development (R&D), their STI systems are generally small in scale, relatively limited in scope, and

⁵ Analysts of innovation processes refer to “innovation systems” as underpinning innovation, where an innovation system comprises of interacting actors (involved in the complex set of activities surrounding the development of technologies and bringing them to market) and institutions (“rules of the game” such as culture and policies that characterize the environment in which these activities are undertaken).

⁶ These can range from development of technologies related to drugs and vaccines for neglected diseases, or the development of markets for these technologies, to deployment of technologies for renewable energy through feed-in tariffs, to give a few examples.

often dominated by public investments. Proxies to assess trends, such as the number of publications and scientific and technical journals, indicate that some countries, such as China and India, have significantly increased their performance in recent years, yet still have not caught up with traditional global leaders. There is, though, an increasing recognition of the importance of appropriate policy frameworks to promote innovation, hence the trend to elaborate and adopt ‘national innovation strategies.’ However the integration of SD goals in these strategies is not always systematic.

Results from the Global Innovation Index⁷ indicate great diversity in the innovative capabilities and performance among countries. These are mostly correlated with per-capita income or, in the case of some larger developing countries, the size of their economy.

Overall, the linchpin of any effort to promote technology facilitation and capacity building is adequate capacity and skills sets at the country level.

At the sectorial level

The understanding of trends in science, technology and innovation to meet development challenges in different sectors is limited. Information on such trends is often not systematically collected or analyzed.

Generally, R&D investments – domestic and international – in areas such as energy, agriculture, and health have increased in many countries. Yet, a perceived mismatch between the scale of such investments to meet development challenges in these and other areas remains prevalent, despite the urgency of such challenges.

International development cooperation dedicated to sectoral innovations also varies greatly by type and magnitude. For example, while development cooperation in health and agriculture can be dedicated to the entire technology innovation cycle, similar investments in energy may often focus more on enabling factors or partnerships for operationalization. Efforts to use development cooperation to build scientific and technical capacity in research and education/training can constitute up to 10% of sectoral assistance provided (as estimated by the OECD), but such investments remain volatile and still insufficient in relation to the scale of the challenges.

At the global level

⁷ <https://www.globalinnovationindex.org/>

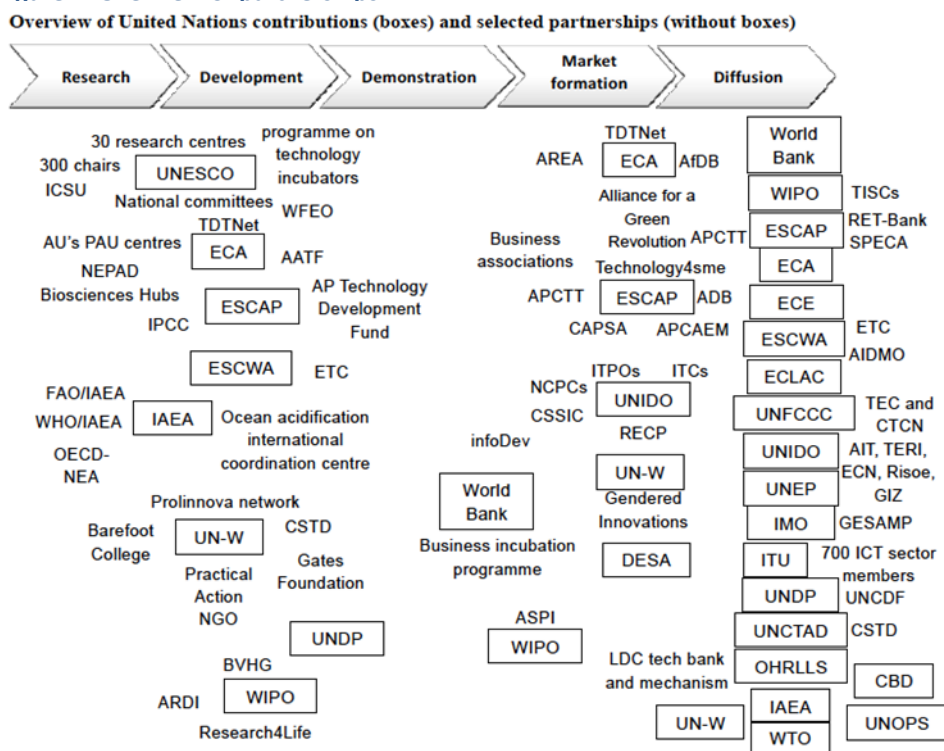
The global landscape of science, technology and innovation (STI) is characterized by dominant industrialized countries that determine investments, capabilities, and performance levels and some developing countries that increasingly provide public and private investments in STI activities. A significant portion of developing country investments is shouldered by emerging economies such as Brazil, China, and India. Together with others they also increasingly engage in global collective knowledge generation and industrial production activities to strengthen STI activities.

Within and beyond the United Nations, a number of partnerships exist for innovation across the technology innovation cycle, specifically dedicated to global developmental and environmental objectives. These partnerships focus mainly on the development and diffusion of new and improved technologies, the delivery of financial development cooperation to adapt and deploy such tech-

to address developmental and environmental challenges (see table 1 below for an overview of modalities and instruments).

There has been a remarkable proliferation of actors in and modalities of international development cooperation in recent years. This provides opportunities for development cooperation actors to play an even more important role in facilitating technology innovation post 2015. Developing country governments will remain the key players, not only by virtue of defining their development objectives, but also through their central role in supporting the development and diffusion of innovations and capacity building for meeting developmental challenges. Private-sector actors, especially firms, are both a potential source of funds for development cooperation and, given their technical capabilities, active participants in activities aiming to address developmental challenges. More recently, a range of social enterprises have emerged that couple the relative flexibility and

Figure 2: Overview of partnerships



nologies, and the provision of targeted policy advice to shape policies to enable related local activities (see Figure 2).

International development cooperation for technology innovation

As section 3 has already indicated, international development cooperation has played, and continues to play, a key and multifaceted role in the facilitation of science, technology and innovation

nimbleness of the private sector with the focus on development objectives. NGOs with the ability to raise resources for development activities, contribute to the innovation process through their understanding of ground realities and facilitate technology diffusion, are also increasingly important players. Lastly, providers of philanthropic aid have been playing an increasingly important role in many areas relevant to the post-2015 development agenda. Their ability to provide 'devel-

Table 1: Development cooperation types, modalities and instruments

Type	Main modalities and instruments
OFFICIAL	
Financial (and in-kind) transfers	Grants , including General Budget Support, investment projects, core support to NGOs or contributions to Multilateral Institutions
	Loans and equity (and quasi-equity) investment, such as concessional loans or Multi-donor Trust Funds
	Public-Private Partnerships
	In-kind transfer
Capacity support	Organizational and human resources , including decentralized cooperation, university cooperation or institutions and capacity building programmes
	Technology cooperation , such as cooperation among research centers
	Sharing policy experiences , such as advice and capacity and institution building
Policy change	In-country, changing global rules and policy coherence
PRIVATE	
Financial (and in-kind) transfer	Private grants , Innovative finance, Public-Private Partnerships or Social impact investment
Capacity support	Organizational and human resources , including institutions and capacity building programmes
	Technology cooperation , e.g. for drug development and access
Policy change	Social Corporate responsibility initiatives or fair trade

opment risk capital,’ and take a ‘system perspective’ makes them particularly interesting partners for the facilitation of STI.

International development cooperation has a rich and long history in science, technology and innovation. The Consultative Group on International Agriculture (now termed just as CGIAR) is, perhaps, the most prominent example, given the major role it has played in transforming agriculture in developing countries since the 1960s. More recently, the enormous efforts and investments in making available vaccines and other health technologies for developing countries are remarkable examples of internationally supported technology advancement. International multi-stakeholder partnerships in these and other areas greatly contributed to strengthening local production capacities and to developing and making accessible new products. Also, information and communication technologies for development have advanced

considerably through international development cooperation⁸.

A growing range of development cooperation actors is engaged in advancing and leveraging technology to address various global challenges

through different modalities of development cooperation, both financial and technical. These include bi- and multilateral actors and non-governmental entities, ranging from private firms to philanthropic organizations, non-profit organizations, universities, public research institutions and others. South-South development cooperation plays a particularly significant role in this type of development cooperation.

Technology innovation and capacity building post-2015: what role for development cooperation?

Harnessing the potential of science, technology and innovation, closing technology gaps and scaling up capacity building at all levels are essential for the shift towards sustainable development and poverty eradication⁹. First and foremost, this requires that development actors are aware of the key role of technology and innovation for achieving sustainable development outcomes and integrate it into their programs. There is some movement on this front, such as the establishment of the Global Innovation Fund¹⁰ by USAID, DFID and SIDA (although there is no explicit mention of MDGs/SDGs in the conceptualization of its mission).

⁸ For a brief overview, see “Quick guide: ICT4D in International Development Agencies: Policies, Strategies and Key Documents,” infoDev/World Bank.

⁹ See Paragraph 5 of the Addis Ababa Action Agenda.

¹⁰ <http://www.globalinnovation.fund/>

More specifically, development cooperation modalities and instruments can support at least the following aspects of Agenda 2030:

Aligning actions and building on past experiences in a changing STI landscape

The roles of development cooperation actors involved in technology innovation – from governments to academic/research labs and firms – are evolving. Trends include, for example:

- (i) Efforts made to create new organizational forms and leverage new approaches that aim to facilitate innovation either in specific stages of the technology cycle or across the cycle¹¹;
- (ii) Large private firms and social enterprises, increasingly involved in helping poor people and marginalized groups, drive R&D and production¹²;
- (iii) Academic researchers increasingly involved in directly bringing technologies they develop to market, including for addressing developmental challenges¹³.

The type of support these actors provide, and their newly found roles, greatly determine innovation outcomes and often provoke a shift in focus by others, including governments, in many contexts. It is positive that dynamics in the STI landscape are shaped by a diligent focus on impact and outcome. Yet, more systematic monitoring of actions by various actors could help to better assess how effective they are in addressing overall government priorities and the sustainable development goals. Overall, it will be necessary to dedicate more resources to ensuring that each development actor, with their own objectives, strategically aligns to national priorities and coordinates with other actors.

Building long-term capacity to innovate in line with local realities

¹¹ Examples include product development partnerships in the health arena, the Advanced Research Projects Agency-Energy (ARPA-E) (<http://arpa-e.energy.gov/>), Climate Innovation Centers (Sagar, Bremner, and Grubb (2009); <http://www.infodev.org/climate>), and the Climate Technology Center and Network under the UN-FCCC (<http://www.unep.org/climatechange/ctcn/>).

¹² Vodafone is a major partner, for example, in m-pesa, a mobile-phone based money transfer service.

¹³ An interesting example is the Embrace infant warmer that was designed by a group of students in a Design for Extreme affordability course at Stanford and then brought to market through a social enterprise that they established.

Given the large disparities in investments and capabilities across countries to address global developmental challenges, development cooperation actors play an important role in providing resources to governments and other actors to increase the scale and quality of innovation. Local capabilities and capacity are vital to support technology development or deployment processes. If they are limited, a focus by external partners on the long-term provision of resources to strengthen national innovation capabilities and capacity are crucial.

Development of such capabilities and capacity is challenging even under the best of conditions. To fully support and manage technological innovation, a wide variety of skills and capabilities is needed. A first, non-trivial step is to understand and fully grasp what kind of support would be needed. It needs to take into account the activities of, and the challenges faced by, the full range of actors in the innovation ecosystem (universities, private firms, providers of finance, government agencies, etc.), the state of institutions (policies and the regulatory framework) and virtuous interactions between all of these. It should also be noted here that different countries may need different kinds of capacities – LDCs, for example, may need to focus mainly on the capacity needed to adapt and diffuse technologies whereas the larger emerging economies could also engage in the development of new technologies.

The often prevailing lack of markets and demand in the case of sustainable development technologies adds another layer of complexity to the innovation process and thus to the process of developing relevant capabilities and capacity. A systematic, yet tailored approach to build long-term capacity is therefore needed to deliver on the ambitious post-2015 development agenda. It needs to take into account the differences in requirements for different technologies and focus, among other things, on (higher) education, training, R&D, and deployment. It would be useful to systematically assess how different development cooperation modalities and instruments are and can be further used to help make such domestic efforts more productive.

Identifying and filling technology gaps

There are high expectations for international development cooperation to play a key role in systematically identifying and filling specific technology innovation gaps in the post-2015 era, related to both urgent short-term developmental chal-

allenges and long-term efforts to build capabilities and capacity to better make use of STI opportunities at country level.

Table 2 below provides an illustrative overview of the type of activities development cooperation actors can engage in to facilitate such technology innovation. It identifies possible actions to (i) develop new technologies (“new to the world”, such as new vaccines, and focusing on Base of the Pyramid [BoP] such as mobile banking solutions); (ii) adapt existing technologies (“new to the market” and “frugal” innovations, i.e., making them more affordable); and (iii) technology deployment and diffusion. It also provides specific suggestions on how to strengthen capacity building, ranging from strengthening education to deepening capabilities in firms and ecosystem development.

The overview shows how different development cooperation actors can take on leading roles in what is a web of activities related to successful technology innovation. It demonstrates that a mix of financial, technical and policy support may be needed throughout all the stages of the innovation cycle and for different types of activities. To further specify the type of contribution different development cooperation actors can make, it would be helpful to conduct further analysis on how this web of activities can take shape in a specific country context. This may also be helpful to sharpen the role national and local governments can take in this.

Table 3 details the type of support development cooperation actors can provide to support technology innovation at different stages of the cycle. It is a schematic overview of an ideal scenario of bringing together different actors and their resources. It would benefit from further analysis in specific country contexts. It can help to further unpack the key challenges in technology innovation including coordination across different stages of the cycle.

Table 3 further indicates that technical and policy support from private and public actors alike are vital throughout the cycle. Strategic interventions to help create markets and demands for “public goods” innovations are particularly important. The engagement of the private sector in large scale deployment of technology seems to be particularly relevant in many contexts.

Equally, financial support will often also be needed from basic research to technology diffusion and

involve different actors, with government agencies particularly tasked to provide much needed grants and support at the stage of research, while philanthropic organizations, multilateral development banks and private actors are better placed to support development/adaptation and commercialization/diffusion stages.

New ways to promote innovation

The emergence of a number of innovative institutional arrangements to promote and facilitate technological innovations for development is a positive trend. Many of them rely on substance-driven partnerships and networks with other actors to marshal, in a coordinated and systematic manner, the technical, financial, and other resources to develop technical solutions for specific problems. Tools such as new resource facilities and innovation prizes provide incentives for different actors to engage in such initiatives. It can be expected that they will be even more relevant for Agenda 2030, especially given limitations in financing and supporting technology innovations.

ODA has been the cornerstone of development cooperation and will remain crucial for countries most in need in the post 2015 era. Realizing the SDGs, including through the facilitation of technology innovation, will require an unprecedented amount of resources beyond ODA. The development financing landscape has already changed dramatically in many countries, with many other flows, both public and private, increasingly outshining ODA. Against this backdrop the view of development finance for Agenda 2030 is very different from that of the past, with innovative financing, such as global levies, debt-based instruments, state guarantees, and venture philanthropy becoming a major part of this landscape.

Such innovative sources of finance may allow for greater support of high-risk activities such as R&D and deployment of technologies and infrastructure, if lower-cost capital becomes available for such deployment. These sources of funds are often less tied to national policy positions and may also be able to fund global technology facilities that are aimed at assisting developing countries in meeting their sustainable development challenges.

Table 2: A taxonomy of possible innovation cooperation objectives and activities for the post-2015 development agenda					
	Nature of Activity	Likely leading countries and actors	Key Development Cooperation partners	Key Development Cooperation Activity	Example
Development of new technologies and processes to meet developmental challenges	Significant "new to the world" innovations	Industrialized country firms, development assistance agencies, government agencies, universities, and philanthropies; specialized S&T organizations (e.g., CGIAR).	Firms, development assistance agencies, government agencies; universities, philanthropies	Supporting technology development (FS, TS); Organizing/supporting partnerships among innovation actors (CB); Creation of demand/markets for solution (PS, FS)	Development of drugs and vaccines for neglected diseases; drought-resistant crops; clean cookstoves
	"Inclusive" innovation focusing specifically on BoP	Industrialized or developing country firms, universities, social enterprises; development assistance agencies; philanthropies	Firms, universities, philanthropies, civil society; development assistance agencies	Supporting technology development (FS, TS); Organizing/supporting partnerships among innovation actors (CB); Creation of demand/markets for solution (PS, FS)	Mobile banking solution (e.g., m-pesa)
Adaptation and modification of technologies and processes for developing country context	Incremental/"New to the market" innovations	Developing country firms and government agencies; subsidiaries of multinational firms	Firms, universities, philanthropies	Supporting technology development (FS, TS); Organizing/supporting partnerships among innovation actors (CB); Creation of demand/markets for solution (PS, FS)	Modifying energy appliances for specific climatic conditions
	Cost-reducing ("frugal") innovations	Developing country firms, universities, and government agencies; multinational firms; social enterprises	Firms, universities, philanthropies	Supporting technology development (FS, TS); Organizing/supporting partnerships among innovation actors (CB); Creation of demand/markets for solution (PS, FS)	Low-costs health technology (e.g., Embrace baby warmer)
Diffusion of innovations to meet developmental challenges	Enhancing deployment at scale	Developing country government agencies, firms, social enterprises	Development assistance agencies and philanthropies; expert advisory entities	Demonstration and pilot studies (FS, TS); Development of business/deployment models (TS, CB); Risk mitigation for early adopters (FS, TS); Development of policies to facilitate diffusion (PS,FS)	Feed-in tariffs to promote renewables deployment
	Knowledge generation capabilities; skilled manpower development	Developing country universities; education ministries	Universities; development assistance agencies	Research and educational collaborations (FS, TS, CB); Higher education policy refinement (TS, PS, CB)	Scientific collaborations
Building STI capabilities	Learning by doing	Developing country firms; government industrial development agencies	Development assistance agencies	Strengthening firm technological capabilities (FS, TS, PS, CB); Innovation ecosystem development (TS, PS, CB)	Contract manufacturing
	Strengthening innovation ecosystems	Developing country STI ministries	Development assistance agencies; expert advisory entities	Innovation policy development and implementation (TS, PS, CB); Building innovation policy analysis capabilities (TS, PS, CB)	Entrepreneurial support; strengthening university-industry linkages; increased R&D investments
			FS: Financial Support; TS: Technical Support; PS: Policy Support; CB: Capacity Building		
			Source: Ambuj Sagar		

Table 3: Dimensions of support for different stages of the technology cycle for addressing post-2015 development agenda					
	Basic and applied research	Technology development/adaptation	Product development/adaptation	Commercialization	Large-scale diffusion
Technical	Universities, firms, govt labs	Universities, firms, govt labs	Established firms; startups		
	(Joint research; collaboration on pre-commercial technologies; joint technology/proof-of-concept development)	(Joint prototype development; demonstration; product design)	Firms		
Financial	Research funding	Translational funding	Establishment of manufacturing facilities; risk mitigation for early adopters	Establishment of supply chains	
	Government agencies, firms	Government agencies; firms	Banks; specialized govt and private organizations		
Policy analysis, design, and implementation	Government agencies, firms (Grants, funds for collaborative research)	Philanthropy, multilaterals & bilateral aid agencies, government agencies, firms (Support for product design; demonstration & user trials; establishment of manufacturing facilities; financial instruments to mitigate risks for early adopters)			
	Promoting R&D investments	Facilitating demonstration	Facilitating market creation	Mainstreaming	
Business/delivery models design and implementation	S&T Ministries; Line Ministries	Line Ministries	Line Ministries		
		Research/Advisory bodies (Best practice/knowledge sharing, policy design)			
Business/delivery models design and implementation		Demonstration; deployment pilots	Reaching early adopters	Reaching users at scale	
		Firms, civil society			
			Research/Advisory bodies (Best practice/knowledge sharing; model design)		
	Domestic actors				
	International partners				Source: Ambuj Sagar

Promoting coordination, broader coherence and optimal allocation of resources

Addressing global development goals through technology innovation requires careful balancing of different concerns and trade-offs across multiple dimensions. The impact of different modalities of international development cooperation on technology innovation and capacity building often depends on how effectively such concerns can be

addressed, the effective coordination among all stakeholders involved and policy coherence at the national and global levels. Policy advice and expertise provided by development cooperation actors is vital in supporting governments and other actors to take well-informed decisions that ensure the scarce financial and other resources are optimally deployed.

Cross-cutting and overarching policies that may impede progress in technology innovation may benefit from further attention by development cooperation actors through policy debate at global level. One pressing example is the issue of intellectual property rights (IPRs), which have been highly-contested and polarizing in various domains of international cooperation. While resolving contrasting views on IPRs is not easy, they do need attention to ensure progress on innovation cooperation. The proposition that intellectual property should not become a hindrance to efforts to ensure that technologies relevant to achieve key sustainable development outcomes are made accessible and affordable to developing countries is one important guidepost in this discussion.

The broader, often unanticipated, implications of technology deployment and their social responses also have taken on increasing importance in recent years. While moving towards greater deployment of science and technology to achieve the post-2015 development agenda, it is important to keep in mind emerging issues at the interface of science, technology and society that may have implications for the acceptability of technologies.

Enhancing structured knowledge sharing and mutual learning

Many development cooperation actors – governments and non-state actors – are ideally placed to support, systematically review and structure learning experiences in all countries related to technology innovation. This can ensure that motivated agents build on past experiences and make use of new opportunities, often arising out of the fast-changing nature of the engagement of different actors. International development cooperation can help to develop institutional capacities for this purpose.

The Technology Facilitation Mechanism, which was launched at the United Nations Sustainable Development Summit in September 2015, mandated by the Addis Ababa Action Agenda, aims to increase the creation and use of innovative technologies for achieving the 2030 Agenda. It will be supported by:

- a) an annual multi-stakeholder STI forum to discuss STI cooperation around thematic areas for SDG implementation;
- b) an online platform as a gateway for information and lessons learned on existing STI initiatives and policies and
- c) a UN Interagency Task Team on STI to promote coordination, coherence, and cooperation within the UN System on STI related matters, enhancing synergy and

efficiency, in particular to enhance capacity building initiatives¹⁴.

As collaborative initiatives between all relevant actors, these three pillars of the new TFM will be instrumental in developing solutions for the challenges addressed in this policy brief, sharing knowledge and promoting mutual learning, and promoting coordination and policy coherence.

It would be useful to complement this effort with other, independent initiatives to track and analyze patterns in international development cooperation that support technology innovation and capacity building with a view to strengthening and improving these efforts.

Conclusion

International development cooperation has been playing an important role in supporting technology innovation and capacity building to address global developmental challenges. The growing diversity of modalities, instruments and actors engaged in international development cooperation, and innovative partnerships and initiatives, makes it a promising terrain for developing and developed countries alike to address new and increasingly urgent challenges.

Technology innovation and capacity building face great expectations. In order to achieve related commitments, international development cooperation must provide support in new and innovative ways all around. It can provide governments and other stakeholders with ample knowledge and guidance in a range of fields – on how to raise long-term financial resources; how to bring to fruition the respective strengths of different stakeholders; how to organize and follow through on technology innovation in complex and challenging environments; how to help countries address urgent short-term priorities while not losing sight of longer-term goals; how to address complex social, ethical and other consequences of technology innovation; or how to structure mutual learning over time.

This will not be an easy task. The different development cooperation modalities and instruments – technical and financial support, capacity building, and policy change support – can aid in facilitation of technology innovation to achieve the post-2015 development agenda, if carefully deployed, country owned and delivered through effective channels.

¹⁴ See paragraph 123 of the Addis Ababa Action Agenda.

To deliver on such a challenging promise, development cooperation actors will have to share a common understanding of what constitutes successful technology innovation at different stages of the technology cycle and long-term capacity building and develop further approaches to bring together resources, actors and actions that respond to local and national needs and their specif-

ic social, economic, political and institutional contexts. Such a careful approach, supported by dedicated analysis and policy dialogue at global level, can help propel technology innovation and ensure it supports national and global development priorities.

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