

## Argumentation paper: **Promotion of innovation systems**

### **Promoting Innovation (systems) = strengthening the innovative capacities of the private sector in developing and emerging economies**

#### **Key statements – Innovation (system) promotion in development cooperation**

- ▶ Innovative products and processes are essential for companies to participate in markets and to sustain competitiveness.
- ▶ In the context of private sector development innovation is understood as the commercially successful introduction or implementation of a new or improved product or process.
- ▶ The interaction between various actors (particularly the state, research institutions and the private sector) to generate innovation is described as an innovation system.
- ▶ The aim of innovation (system) promotion is to strengthen an (local, regional, national or sectoral) innovation system and hence to enable partner countries to generate innovation on a long term and sustainable basis.
- ▶ Innovations can make a key contribution to poverty reduction and to solving social and ecological problems.
- ▶ The innovative capacities of developing and emerging countries is a topic of growing importance within the international donor community, as shown by the Least-Developed Country Report by the United Nations Conference on Trade and Development (UNCTAD, 2007) and the Innovation Strategy of the Organisation for Economic Co-operation and Development (OECD, 2009).

## ► The importance of innovations for developing and emerging economies

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**Innovative products and processes are essential for companies to participate in markets and to sustain competitiveness.** Trade liberalisation, the merging of financial markets, labour mobility and the spread of new information and communication technologies (ICT) have changed the conditions for economic activity, resulting in new potential for developing and emerging countries. Low costs of labour and abundant raw materials are no longer the distinguishing competitive factors: Knowledge, access to knowledge and its successful use and implementation in innovative products, processes and services are becoming increasingly important for sustainable economic growth and for securing and creating employment and income opportunities. Innovations not only help increasing productivity and competitiveness, they also offer a potential to solve social and ecological problems (e.g. climate change, water scarcity). Experience in least developed countries (LDCs) shows that ICT (e.g. mobile phones) and innovative business models (e.g. e-business, social franchising; social enterprises) can help reduce information asymmetry and improve access to products, basic services (education, health) and development-relevant knowledge. In addition, innovations have the potential to address the needs of poor and disadvantaged population groups ('base of the pyramid' approach).

However, options for generating innovation differ depending on the context in developing and more

advanced countries: Natural resource endowments, industrial structure and institutions play a crucial role here. Innovative capacity does not depend (only) on the use of certain technologies or the performance capability of research institutions. It also depends on collaboration between actors of the private sector, the state as well as education and research institutions, but also linkages with international innovation networks.

This is where the challenge lies for many developing and emerging countries: The performance of individual actors in these countries is often inadequate, but more importantly there is insufficient interaction between them, as can be observed by the mismatch between research institutions and the private sector in many countries. Policy measures, e.g. in education, research, economic and industrial policy, are often not coherent. Many economies lack market- and competition-compatible incentives for research and innovative economic activity as well as a legal and regulatory framework to promote private investment in research and development. As a result, resources are wasted and growth potential is not used to the fullest extent. The options for international networking (e.g. through ICT, networks, public-private partnerships) and integration into global value chains provide an opportunity to harness the potential of innovations for economic development for LDCs.

## ► A definition of innovation

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**In the context of private sector development innovation is understood as the commercially successful introduction or implementation of a technical or organisational novation.** These innovations can be the result of the development of a new product or process

(new to the world) or product or process improvements (new to the market, new to the firm). Innovation includes the adaptation and diffusion of products and processes in a new country context and to country- and locally-specific conditions.

## ► The emergence of innovation: innovation systems

**The interaction between various actors to generate innovation is described as an innovation system.**

Research and development is an important source for innovation. It is carried out in companies and private or public-sector research institutions and is 'exploited' by the private sector. Collaboration between actors from the research community, the private sector and politics

as well as a framework with incentive systems conducive to innovation are thus essential for innovative capacity. International cooperation between different actors is hence becoming increasingly important, allowing knowledge and the resources associated with it to be used as global public good for local innovations (e.g. Open Content, Open Source, Open Innovation).

## ► Innovation promotion

**The aim of innovation promotion is to strengthen an innovation system, i.e. to enable it to generate innovations on a sustainable basis.**

Innovation systems do not function on their own: Market failure (e.g. information asymmetry; conflicting incentives or a lack of them) justifies political intervention, aiming to increase the innovative capacities and activities of companies and research institutions in the country. Depending on the country context, various options may exist to promote innovation. A need for action arises at two areas in the innovation system as well as at the level of framework conditions conducive to innovation:

- Promotion of capacities of individual actors to generate, apply and implement knowledge (reinforcement, e.g. by developing education infrastructure, building research capacity, supporting private sector research and development, creating a demand for innovation).
- Promotion of capacities for interaction, particularly between the state, the private sector and research institutions (bridging, e.g. by promoting dialogue

forums, exchange and partner programmes between the scientific community and the private sector, ICT and quality infrastructure, technology transfer institutions).

Innovation promotion in this sense is a systemic approach. The coherence and coordination of conventional instruments for economic development, resulting from a dialogue process with the actors, is important here: This includes measures to support appropriate framework conditions (e.g. appropriate systems of intellectual property rights, ICT and quality infrastructure, creation of incentive systems) and support for targeted policies or organisations (e.g. education and science policy, innovation networks) as well as measures to promote innovative companies (e.g. consultancy services, financial services, ICT). 'Innovation system promotion' is thus an apt term to use. Through a combination of various approaches, innovation promotion can create synergies between various key priority areas of development cooperation (e.g. education, environment).

## ► Innovation promotion by German Development Cooperation (DC)

Germany and its innovation system enjoy a very good reputation in the field of innovation and technology development in a number of countries (e.g. as a result of the brands such as Fraunhofer Institute and Steinbeis), making Germany an increasingly sought-after partner in coopera-

tion. The German DC implementing organisations have experience and knowledge with which they can respond to the demand (e.g. analysis of innovation systems, promotion of technology transfer institutions and incubators, ICT and quality infrastructure, innovation financing).

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