



Inclusive innovation in the developing world: challenges and opportunities

Raundi Halvorson-Quevedo,
Development Co-operation Directorate, OECD

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Structure of the presentation

- A picture of STI potential – and the challenges poor countries face
- What is “inclusive innovation”?
- What have OECD donors done?
- What are the “newer” trends in ODA?
- Korea’s development co-operation



What is the OECD?

- **Intergovernmental “space” for policy exchange and guidance**
- **Think tank-cum-international conference centre**
- **34 Member countries, broadening engagement with rest of world**
- **30-plus core Committees (including the DAC)**
- **Statistics, policy analysis and co-ordination, exchange of good practice, standard-setting, recommendations, international disciplines**



Science, Technology and Innovation: great promise for the future

- Recent game-changing innovations:
 - New vaccines dramatically reduce disease
 - Mass payment systems
 - Toilets w/o water that generate electricity
 - Crowd-sourcing information cuts death and crime
 - New drought-resistant seeds
- Today LDCs can leap-frog outdated technology:
 - Energy-saving and renewable resources
 - Soil management
 - Micro-irrigation
 - Communications and e-government
 - Recycling



But poor developing countries still face massive challenges

- Poverty, increasing inequality, unmet basic needs, conflict and fragility
- Each year there are:
 - 2 million preventable infant deaths
 - 61 million children unschooled
 - 850 million people are hungry
 - 1 billion people live in slums
 - 1.3 billion people have no access to electricity
 - 1.5 billion people live in conflict
 - 4 billion people live on less than US\$ 2 each day



What is “inclusive innovation”?

- *“The challenge of inclusive innovation is to deliver high-performance products, processes and services at an ultra-low price for resource-poor people, from housing to transport and from medicines to computers. Such innovations should not just be affordable – they should be extremely affordable. For achieving this, one cannot rely in incremental innovation – it calls for extreme, or disruptive, innovation.”*

Dr. R.A. Mashelkar



- Inclusive innovation takes three forms:
 - Frugal innovation – stripped down, “no frills”:
 - Examples: bicilavadora, micro-windmill battery recharger, foot-powered water pumps, US\$ 800 handheld electro-cardiogram machine, US\$ 24 water filter
 - Grassroots (social) innovation – networks, collaboration, traditional knowledge:
 - Examples: e-Choupal, Honey Bee Network, village internet kiosks
 - Innovative business models:
 - Examples: MPESA, CEMEX home construction, Hollard funereal insurance



Inclusive innovation in China and India

- China: the “spark” programme:
 - 1980s, increase non-farm income
 - Flexible, demand-driven package -- technology, information, technical assistance, marketing, developing supply networks/chains
 - 67 000 projects, 20 million jobs!
- India: National Innovation Foundation
 - Scouting, spawning, sustaining, and scaling up grassroots initiatives
 - National competitions, guidance/validation, seed capital, patents, commercialisation



The nature of the beast

- Africa: 40% GDP in informal sector
- Social capital is most important form of capital
- Innovation for BOP is not R&D-driven: ownership and initiative must be local
- Grassroots challenges – “finding”, finance, unclear IPR, commercialisation



Changing approach for promoting science, technology and innovation

- Continuing problems with technology transfer (including appropriate technology) – risk-aversion, \$, skills
- Improved research systems, more knowledge – but not used
- Future:
 - Build innovation capacity
 - Enhance use of knowledge
 - Creating social and economic change



How have donors helped?

- Strengthening science capacity – especially in agriculture, health and energy
- Support knowledge systems (universities, research institutes, technical capacity-building, labs)
- Entrepreneurship
- Technology transfer through twinning, jt. Ventures
- Appropriate technology



- Donors actually doing “inclusive innovation” for many years:
 - Products such as energy-efficient cook-stoves, micro-hydro dams, hand-powered radios, oral rehydration kits, alternative feedstocks
 - Processes such as one-stop health care delivery, immunisation campaigns, agricultural input/extension partnerships
 - Risk capital to pilot and perfect business models: microcredit, mobile phones for money transfers (safe, reliable, scaled)



What are donors doing today in the innovation field?

- Venture capital
- “Grand challenges”: identify global problem, solicit solutions, prizes/awards
- ICT propagation: MPESA seed capital, village ICT centres, local content
- Global/regional technology-cum-innovation trust funds (WB)
- “Pull mechanisms”: create demand for innovation to unleash creativity and resources of the private sector – guaranteed prices, patent buyouts, prizes



Korea's support for development

- An “emerging donor”: proven leadership (Busan, G20)
- Quickly ramping up: ODA now at US\$1.3 billion p.a.
- Sector focus: infrastructure, education
- Emerging focus – green growth, adapting to climate change (Green Climate Fund)
- More could be done: sharing Korea's development experience (industrial, administrative, capacity-development)
- One of 4 pillars: help Koreans abroad



How could Korea's aid support science, technology and innovation?

- Propitious moment: Korea is in rapid-expansion mode and will consolidate and refine focus
 - Champion for building innovation “systems” (policies, instruments, networks)
 - Press for more private sector and civil society participation in aid efforts
 - Explore S&T solutions for green growth and climate change for the “bottom of the pyramid”
 - Share Korea's knowledge about development: technology strategy, public policy choices and evolution over time, innovation re: administration and governance



What can you do?

- Encourage joint projects and research with developing country universities, research institutes, laboratories
- Locate MNC research in developing countries (“inclusive innovation/reverse engineering” create new products/services for established markets)
- Share Korea’s development experience in fostering entrepreneurship, industrialisation process, state-led rural development, innovative administration and e-government



How can you help promote inclusive innovation?

- Inclusive innovation
 - Start with the poor, needs they identify – and work backwards
 - Establish R&D centres in LDCs
 - Focus less on science, more on innovation systems and policies
 - Support existing initiatives and ideas
 - Identify funding sources and risk-taking entrepreneurs
 - Build networks across actorsand down



GO CO-CREATE!!!!

THANK YOU!

For further information
please write to ino4dev@oecd.org
or visit <http://oe.cd/inclusive>

Raundi.Halvorson-Quevedo@oecd.org