

Innovation systems for low income countries

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In the paper I discuss how to use an innovation system perspective on low income countries. In the first part I present 'a general theory of innovation systems. In the second part I relate the general perspective to the reality of low income countries.

In the first part I take as starting point an analysis of the innovation process as being cumulative, interactive and rooted both in codified and tacit knowledge. On this basis I introduce a general theory of innovation linking the innovation process to the division of labor and to interaction among agents. I give special emphasis to missing links and the role of advanced users and on this basis I propose a definition of the innovation system.

In the second part where I discuss the use of the innovation system perspective on low income countries I address four different themes.

1. What is the possibility to build cooperation at the regional Africa level between national attempts to build knowledge platforms in specific fields such as health, energy and transports. A special challenge is to do this in such a way that it links up with users.
2. How to build service and manufacturing activities on the basis of existing raw material, commodity production and agriculture sectors. Here I propose the use of the concept 'industrial complex' in order to take into account the political forces and interests that need to be mobilised.
3. Engineering as intermediating between science and industry. This referred both to the importance of engineers within firms and in the specific innovation processes and to their potential role in designing strategies for innovation and development at the level of national innovation systems.
4. Inclusive and need-driven innovation and economic development. Not all innovations can and should be inclusive in all possible dimensions – innovation always involves destruction and therefore there is a need to build 'welfare systems' that compensate victims. But there is a number of areas where innovation can be oriented toward societal needs and promote inclusion.

Conclusion: It is useful to use a broad definition of the innovation system when addressing the reality of low income countries. Building formal and informal institutions that support interactive learning is a key challenge. The most challenging task is to find effective ways to upgrade the capacity of users and to stimulate the demand for knowledge.