Innovations and Poverty Reduction in Asia

The Role of Donors

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Poverty Reduction in Asia

- In the last forty years or so, developing Asia has had more success than any other developing regions in reducing poverty.
- The east Asian miracles economies achieved in thirty years what took the western Europe three hundred years.
- Between 1978 and 2004, China transported more than 400 million people out of extreme (dollar-a-day) poverty, an unprecedented achievement in human history.
Poverty Reduction in Asia

- The rate of poverty reduction has not been uniform across developing Asia. A considerable volume of poverty still exists in South Asia.
- Between 1990 and 2004, South Asia reduced its dollar-a-day poverty from 479 million to 446 million—that is by 30 million.
- In India, poverty fell from 376 million to 371 million during the period. In the face of rising population, this however represented a significant reduction in dollar-a-day poverty.
Defining Innovations

- Innovations are represented by shifts in the production functions. These are shifts in output without any concomitant increase in factor inputs.
- One can distinguish three distinct but related kinds of influences that bring about these shifts:
  - Technological: These are embodied in new types of technologies, machines etc.
  - Business/managerial: These are embodied in new business practices and processes.
  - Institutional: These are represented in institutional changes—i.e., changes in formal rules, informal constraints and enforcement characteristics.
Productivity Impact of Innovations

- Impact of innovations on production is captured by growth in total factor productivity (TFP).
- Growth in TFP is that part of growth in output that is not accounted for by changes in the growth in factor inputs used in production.
- Growth in TFP = Growth in Output - [vector of growth in inputs. Vector of factor shares]??
Estimates of TFP for Asia

- It is well known that estimating TFP is fraught with many conceptual and measurement problems
- Estimates of Asian TFP growth has been subject of many controversies
- Range of estimates is enormous.
  - Earlier estimates of Larry Lau and Alwyn Young suggest little or no TFP growth in the miracle economies in Asia
  - Recent estimates by the World Bank in its *Global Economic Prospects 2008* suggest that Asia was the leader in TFP growth between 1990-2005. Its TFP growth has exceeded that of the developed world. Asia is fast closing the technology gap with the developed world
TFP Estimates for Asia

- Given the range and fluidity of the estimates of TFP growth, it is difficult to arrive at a robust quantitative link between innovations and their impact on poverty reduction.

- If the estimates of Lau-Young are to be believed, much of the growth (and poverty reduction) in much of Asia was driven more by mobilization of capital and labor than any innovation. However, given the availability of surplus labor, this process can continue to be a driving force behind growth even for sometime to come.

- Given the cacophony that exists in the measurement of TFP growth, it is no wonder that no estimate is available on the quantitative significance of innovations on economic growth.

- In the absence of robust estimates of TFP growth as well as their decomposition into different types of innovations, it is difficult to establish quantitative links between types of innovations on the one hand and growth and poverty reduction on the other.
Innovations and Poverty Reduction

- Given the above caveats, one can make a few remarks with regard to innovations and poverty reduction in Asia, based on observation of broad patterns of growth and poverty reduction and the types of innovations.
- It seems that all three types of innovations had a role in poverty reduction in developing Asia.
- However, the importance of different types of innovations varied from country to country and from period to period.
- These differences had a bearing on the differences in economic outcomes in terms of economic growth and poverty reduction across countries.
Technological Innovation and Poverty Reduction

- Since the 1960s, growth in agriculture in Asia was largely driven by the new seed-and-fertilizer technology. Between 1970-1995, cereal production in Asia doubled, thereby leading to an increase in per capita availability of food.

- Notwithstanding population growth, the increase in food availability helped avert the impending food crisis and forestalled the slide into poverty for much of monsoon Asia.

- This technological innovation, which played a significant role in averting extreme poverty, seems to have hit a wall. Much of Asia is once again faced with a specter of rising food prices and hunger.

- Without further technological innovations, the productivity of agriculture is going to stagnate and the progress in poverty reduction will suffer a setback. There is a need for greater investments in agricultural research to herald a new agrarian revolution. The international donor agencies played a pivotal part in the last agrarian revolution in Asia and it can play a similar role in the next one.
Business Innovations and Poverty Reduction

- There is a micro-credit revolution ongoing in much of developing Asia.
- Although micro-credit is not a novel concept, the new micro-credit movement was pioneered by Professor Yunus of Bangladesh. He introduced new business practices that helped the poor without collateral to access finance.
- These business innovations include group lending, peer monitoring and targeting women, innovations that made poor ‘bankable’ and micro-finance a viable business.
- The availability of micro-finance has enabled the transient poor to stay out of poverty, helped improve their social indicators, enhanced the status of women and children within the household and arrested their slide into permanent poverty.
Institutional Innovations and Poverty

- While technological and business innovations played a critical role in the poverty reduction in Asia, the bigger role was played by institutional innovations—changes in the formal rules, informal constraints. This was particularly true in transitional economies such as China and Viet Nam.
- China introduced a set of institutional innovations that created a new environment that fostered incentives and bred competition and unleashed new creative capacities of the economies.
- The list of such incentives include the responsibility system in agriculture, township and village enterprises in industries, dual track pricing and liberalization and special economic zones.
- Viet Nam also followed a path of institutional innovations similar to China and was very heterodox in nature that deviated from the Washington Consensus promoted by donor agencies.
- Many Latin American countries that followed the bromide of Washington-consensus in designing their institutions did not succeed as much as Asia.
ICT and Poverty

- New informational and communication revolution has swept the developed world. It has played an important role in accelerating the productivity growth in advanced countries.
- ICT is an important component of the growth strategy of many Asian countries. While ICT may have played a role in boosting growth in some countries, many other countries remain largely unconnected.
- Nevertheless, efforts are underway to apply ICT technologies to accelerate growth and poverty reduction in poorer countries. These initiatives include:
  - Radio for disseminating market information
  - Internet for disseminating market information; delivering healthcare and educational contents; instituting e-governance
  - Cell phones for disseminating market information and delivering overseas remittances
- While donors may have played a role in some of these ICT efforts, much of these efforts remain domestic and often driven by private sectors and NGOs.
ICT and Poverty

- There is no rigorous evaluation study available that assesses the impact of ICT on productivity and poverty in poor countries.
- Productivity impact may be hamstrung by the lack of basic infrastructure of support in poor countries—such as qualified teachers, doctors, equipment and buildings.
- ICT is a knowledge tool that has a *magnification effect* on growth and poverty reduction only when a basic infrastructure of support for the knowledge sector exists. With little or no structure, ICT has little or nothing to magnify and can have little impact on productivity and poverty.
ICT and Poverty

- There are both optimists and pessimists on the role ICT can possibly play in poverty reduction.
- Optimists include Nobel laureate Muhammad Yunus who thinks that micro credit plus ICT means the end of poverty.
- Pessimists include Bill Gates who thinks that hooking people up to the Internet is not going to end poverty, cure disease, stop wars or solve the thousands of others social ills that plague the world.
- Jury is still out on the role of ICT in ending extreme poverty. Nevertheless, there is no two opinion that ICT can have an important indirect role in the process. However, for ICT to succeed, it requires a set of complementary conditions such as basic physical infrastructure and some degree of literacy.
Industrial Innovations and Poverty

- The principal driving force behind poverty reduction in the newly-industrializing economies of East Asia was their success in transferring bulk of their populations from agriculture to manufacturing through successful industrialization.
- This success was anchored in a strategy of outward-orientation. This openness to trade and investment was a conduit for the transfer of new technologies and business processes from the advanced industrialized countries.
- Industrial innovations were further accelerated by science and technology research in government and private sectors and investments in R&D.
- As industrial innovations are largely commercial activities, the role of donors was essentially limited.
Conclusions

- Parts of Asia have made significant strides in poverty reduction in the last 40 years or so. Some parts of Asia still remain mired in considerable poverty, despite some progress in economic growth and poverty reduction.
- Much of this progress was attained through non-technological, institutional and business innovations. However, technical innovations in the form of new seed-fertilizer played a critical role in agricultural breakthrough in Asia and averting mass hunger.
- All innovations, both technological and non-technological, require for their success a literate workforce and an economic environment that offers incentives and allows competition. Countries where these conditions existed did better than those where they did not.
Conclusions

- The bulk of the innovations in Asia were indigenous and had little to do with donors. In institutional innovations, the transitional economies essentially followed a heterodox strategy that was often opposed by donors.

- The future is not going to be replay of the past. As much of developing Asia further improves its policy framework and makes greater strides in economic growth and poverty reduction, the opportunity to harvest the low-lying fruits of institutional reform will diminish and the role of technological innovation will become salient.

- In the future, new technological innovations will be important in all sectors of the economy. In that process, the role of education will be critical for technological absorption.
Conclusions

- In the past, many of the technological achievements in developing Asia were made through adoption and adaptation of the existing technologies, activities that required little investments in R & D.

- As developing Asia progresses through the economic ladder, it will need to nurture further domestic innovative capacity and generate technological innovations at the frontiers.

- If and when that happens, it will need to make greater investments in R&D as well as in human resource development to foster state-of-the-art innovations.