



Deutscher Tropentag, October 8-10, 2003, Göttingen

“Technological and Institutional Innovations
for Sustainable Rural Development”

Agricultural Biotechnology — A Menace or Pathway to Sustainable Livelihoods in Developing Countries?

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Abstract

Despite increasing availability of food globally, some 800 million people out of the global total of 6 billion are food insecure. The majority of these live in Asia (which accounts for 48%), Africa (35%) and Latin America and the Caribbean (17%). Because access to food depends on income, the cause of food insecurity in the developing world is poverty. Agriculture constitutes, for the majority of the poor in developing countries, the primary means of survival and livelihood sustenance. Agricultural biotechnology offers enormous potential to achieve, in short time frames, increases in product quantity and quality that used to take years of laborious plant and animal breeding. However, biotechnology has, to date, remained a technology of the North. Properly harnessed, biotechnology represents perhaps one of the most powerful tools ever available to address the hitherto intractable food production constraints of the South. The major limiting factor to the application of biotechnology in the South is poverty. It is principally in the hands of the private sector in the North, the operations of which are driven by profit objectives. The private sector places a higher value on biotechnology products than on the biological resources, principally derived from the South, that are used to create the products. Current debate on biotechnology is focused on its potential negative impacts on human and environmental health.

The potential positive impacts of biotechnology on the lives of poor people, its appropriation in the North with little flow to the South and the lack of mechanisms for sharing the benefits derived from the exploitation of biological resources harvested from the South are receiving much less attention than they deserve. Like any new technology, the risks and benefits of biotechnology should be assessed in a Cost-Benefit Analysis framework. This presentation tries to answer the question: Is biotechnology a menace or an opportunity to address the pressing needs for sustainable livelihoods of poor people in developing countries? It examines the potential role of development assistance programmes, the responsibility of the research community to educate the public and of governments in the South to allocate resources and create enabling environments for the development of biotechnology, including human capacity, requisite policy and innovative partnership arrangements — especially public-private partnerships — that will facilitate North-South transfer of relevant biotechnology.

Keywords: Biotechnology potential, impact, food production, North-South transfer