

Directing Globalization as a Key Issue – the Role of Innovation and Technology

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The global problems are enormous and turn out to be more pressing every day. Humankind is confronted with enormous problems of balance within itself and concerning the interaction with nature and the resource base. Given the explosion of human population, the increasing expectations concerning the quality of life, the limitations of technology available today, the ecological footprint of humankind, which is already far beyond any acceptable level, humankind is on a dangerous track. We are operating far beyond the carrying capacity of earth. Assuming considerable increases in the standard of living for all people around the globe is therefore as much a need from a social-cultural point of view as it is a horror scenario under the present conditions.

Is there a chance for a peaceful future, a chance for avoiding an ecological collapse or the brasiliansation of the world population? And how is that related with technology? The key for a better future lies in the right combination of innovations in technology on the one side and innovations in governance on the other. Innovations in technology historically always opened up opportunities for a better world, in particular they reduced the specific use of resources to create values. This effect was usually counteracted, however, by the so-called “rebound” or “boomerang” effect. We create more and more environmental burdens with always more efficient technology because we increase the number of units of value created always faster than we reduce environmental burden per unit. This is, in particular, also true for the important fields of information and communication technology and electronics, which are quite resource intensive and which need e.g. considerable amounts of electrical power for their operation.

To cope with this, innovation in governance is urgently needed, and this is probably the hardest issue to deal with given the diverging interests in power of actors in a world composed of sovereign nation states. At the very least, global governance must limit resource use and environmental burdens to an acceptable level and must address, in particular, climate change on the one side and overcoming poverty on the other. Particularly, the climate issue is of highest importance. It is closely related with the energy sector but, in contrast to this, characterized by the fact that concerning emissions of greenhouse gases, there are, as of today, no property rights associated with such emissions, i.e. the atmosphere is up to now a global commons. What makes things difficult, is the lack of an easily available low-cost technological substitute for fossile energy and that up to now greenhouse gases are closely related to the creation of wealth.

“Climate justice” could be the formula for a global solution in governance for this area which urgently requires international regulation. A Global Marshall Plan is another important step in this direction. Al Gore and Muhammad Yunus are Nobel Prize winners that argue in this direction. IT technology is an important player in this game. IT can contribute a lot to connect people, help to make education for all around the world easier, help in overcoming poverty and in contributing to a better environment – if the governance conditions are right. With this in mind, IT has to go more green and, via the right kind of governance, has to counter-balance rebound effects more than it does today. IT is a major field to shape our future and, given its many potentials, action for a better world is particularly needed also in this sector of physical goods.