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A Social Approach to Nanotechnology Development

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Three non-contradictory conceptions —and in some cases complementary— that shape nanotechnology policy

1. NT to increase competitiveness
2. NT in specific sectors (e.g. water, energy, medicine)
3. NT (1+2) + policies (financial and regulation) to guarantee equitable distribution of benefits

I will suggest that the three of them:

- represent technical approaches
- do not take in account the necessary link R&D → Production → Consumption
- do not take in account the social forces that can foster a pro-equity approach

So, a social approach is needed

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1. NT to increase competitiveness



- Explicit in most National Initiatives (e.g. U.S., EU, Brazil)
- It suggests a mechanical path:

Increase competitiveness → development → equity

But ... countries can increase competitiveness and inequity at the same time (e.g. México 1985-1995 Delgado Wise & Invernizzi, 2002).



2. NT in specific sectors (e.g. water, energy, medicine)

- Recognizes that competitiveness by itself is not enough
- Focusing on key sectors (water, medicine, energy) = people's access and equity (e.g. U.N. Millennium Project. Task Force on S&T and Innovation, 2005).

But ... in a capitalist society:

- ✓ **Products must become commodities to satisfy needs.**
- ✓ **Buyers must have purchasing power (money) to acquire commodities**

Every year million tons of different food products are thrown out, in spite of millions of people starving



3. NT (1+2) + policies (financial and regulation) to guarantee equitable distribution of benefits

- Recognizes that competitiveness and NT R&D in key sectors are necessary, but not enough.
- Proposes an agenda focused on R&D collaboration agreements, global funds, etc. (e.g. Salamanca-Buentello, et al, 2005).

But ... this neither relies on the social forces that can push forward a pro-poor agenda, nor considers the trends that reproduce inequity



These three conceptions represent technical approaches. Why? Because they ...

- Conceptualize development as a matter of obtaining more, better, or better distributed "stuff". (Relation between people and things, not inter-relations between people).
- Do not alter the forces that bounds inequity with market relations.
- Do not work on the links between
R&D → Production → Consumption



What has the development of NT shown? 1

- **Not all NT paths are the same** (e.g. Latin America):
 - R&D Mostly with public funds. But,
 - who decides what to Research? (market, external partners, etc.).
 - short term funds
 - Private firms expected to "Produce". This does not work with new products/markets. (Brazil has cases of public firms).
 - No role of State sector as consumer of NT products.
 - No role of State to create environmental conditions (laws, etc.)



What has the development of NT shown? 2

- **The awareness of potential risks of NT for workers and consumers, and of the economic implications for developing countries did not come from business, government or academic organizations, but from NGOs.**
- **The increase in the governmental agenda of regulation issues came after key NGOs documents (ETC group, 2003; FoE-Australia, 2006) and Trade Unions declarations (ACTU, 2005; IUF-UITA, 2006-7; ETUC, 2008) and large social coalitions (ICTA, 2007) reached the media.**



What a social approach to NT development should consider?

- **Vertical integration of R&D with Production with Consumption. Only States can do it.**
- **Empowering social organizations** to increase the chances of driving NT towards social ends. Social organizations are keen in identifying socio-economic barriers, and they are also the force that can change pre-existing inequality trends.
- **Defining R&D priorities by social needs** instead/besides market competitiveness

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Thank you!

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