

Development through S & T :

Indian **Initiatives** and **concerns**

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- In India, a policy document always remains fluid, permitting negotiations, improvements, improvisation and retreat
- One should therefore not read Indian policy documents with a legal eye. Rather one should look for patterns that emerge from the actual practices.



In the pre-globalization, mixed economy years (1947 – 1990), the S & T priorities were clear

- Nation building thro' science (including Tech . and Engg.)
- Strategic science (Nuclear, space, missile)
- Food production
- Reverse engineering and import substitution
- Education
- Foreign companies in India must build Indian capabilities



Success stories :

- Pharma thro' reverse engineering.
- India can made standard drugs at very low cost.
Efforts are on for value-addition
- Post-Suzuki modernization of auto part industry



Innovation to meet local needs:

An example

- Tata Motors (then Telco) started making trucks in the 1950s in collaboration with Mercedes Benz. German company focused on sophistication, India on sturdiness.
- India captured African market till it was out -priced by the Chinese
- The Tatas have now designed and built a car , Indica



Software sector

It has been said that Indian software sector arose without the government knowing about it.

Not strictly true.

- Earlier collaboration on hardware between Indian and American companies led to software outsourcing to India.
- India already had the necessary trained man power.



Negative side of Software sector

- Very low value addition
- Software acts as brain sink. Highly qualified persons are working beneath their intellect and training for \$800 p.m.
- No plans for attracting Indian computer experts to come back and become entrepreneurs.
- Services sector will grow. BUT India's destiny lies in high-end manufacture



Globalization

- In the mixed economy era, growth rates were stunted for the sake of social justice.
- Now positive economic indicators have become an end in themselves.

Contd



- Govt. retreat from education and health care
- Very large ,self-absorbed , west-oriented consumptionist middle class.
- Not interested in welfare of weaker section.
- Services sector employment is for middle class only.
- Not much chance for first generation learners.

contd



➤ Stagnation in agriculture.

➤ Increase in rural unemployment



Initiatives to achieve global competitiveness and broad based development

- Government very keen to help pharma, auto-parts and textile. My assessment: these initiatives will succeed because these sectors are already very dynamic and vibrant.
- It is easy for government to accelerate where there is already motion. Difficult to initiate.



- Encourage Indians to take risk and innovate .
- Protect traditional knowledge in health care.
- Encourage basic scientific research
- Create rural employment (through e.g. localized food-processing industry). Use ICT to monitor progress and prevent “leakage” of funds.



Initiatives contd

- Encourage biotechnology
- Concern about over- use of ground water and agro - chemicals
- But, no consensus on GM crops. Widely differing views, preventing decision making
- Push up sales of 'alternative' medicine (China is more aware of possible western backlash)



➤ 38% of Chinese work force is in loss making public sector. FDI supported, export –oriented units employ only 2% of the work force.

➤ Human being is a very inefficient machine.



Problems

- How to balance interests of forest people vis-a-vis the wildlife.
- Economy Vs ecology
- Food security Vs health of soil and water
- Economic growth through high tech Vs employment
- Upstream initiatives like dams Vs downstream needs like recharge of ground water
- Heightened expectations of the middle class Vs the basic needs of the poor.



My assessment is that under globalization some Indian sectors will upgrade, while others will collapse.

The same thing would happen in the case of firms within a sector.



- Socially sustainable development
- Ecologically sustainable development
- Fast economic growth

Can the three co-exist?



Thank you

