

# Intellectual Property Rights in Global Context

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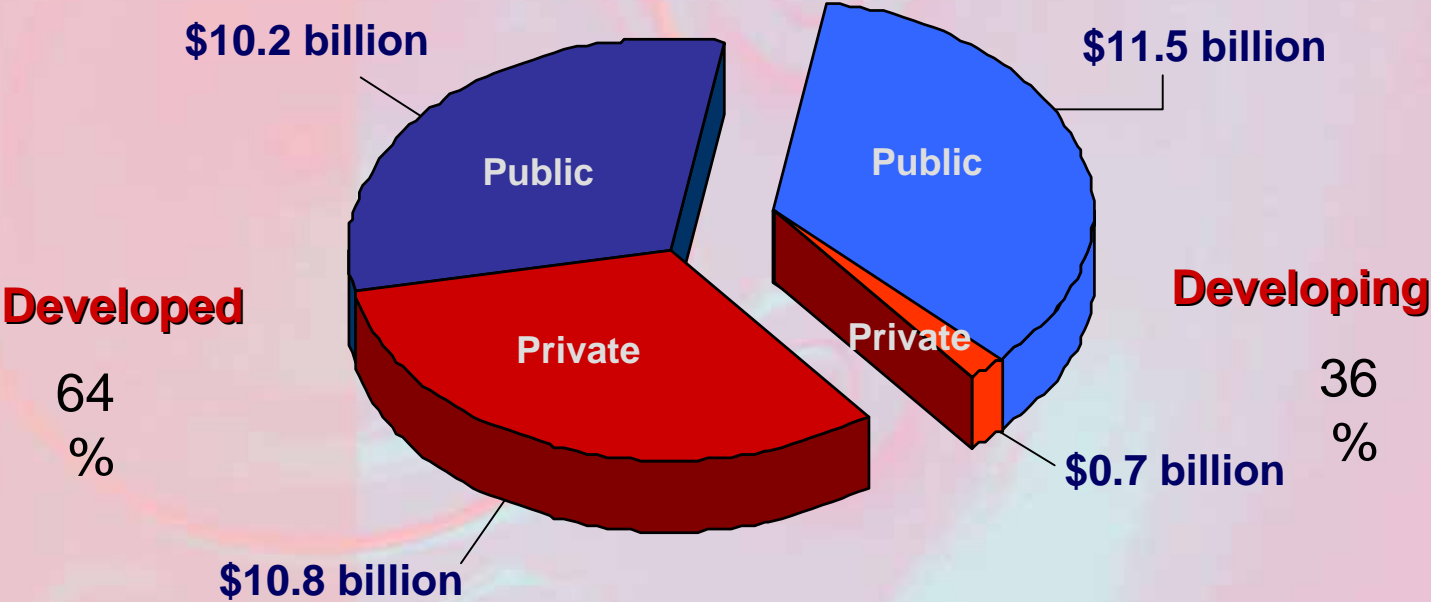
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# The Changing Face of Biotechnology

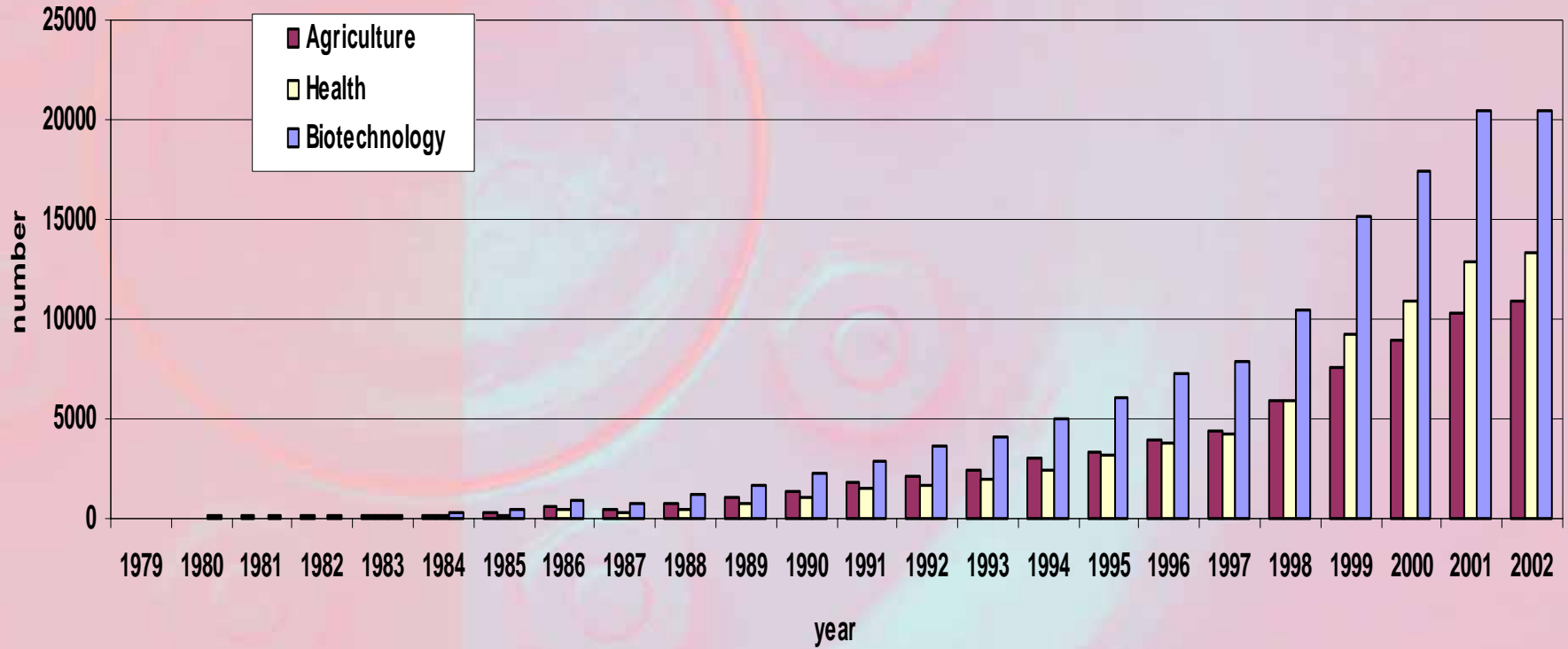
- Sophistication of biotechnology methods, infrastructure
- International treaties: TRIPs, CBD
- Increasing protection of intellectual property
- Shifting patterns of R&D spending
- Focus on specific traits in crops and particular diseases

# Total Agricultural R&D Worldwide



**1995 total - \$33.2 billion**

# Biotechnology Patent Applications



# Are patents help or hindrance to technology transfer ?

- Benefits:
  - Stimulates innovation
  - Enhances investment in countries
  - Increases dissemination of knowledge
- Criticisms:
  - “Anti-commons” – web of patents constrains development
  - Gives big corporations control of technology
  - Inhibits those who want to develop products for LDCs
  - For crops, denies farmers right to save and re-use seed

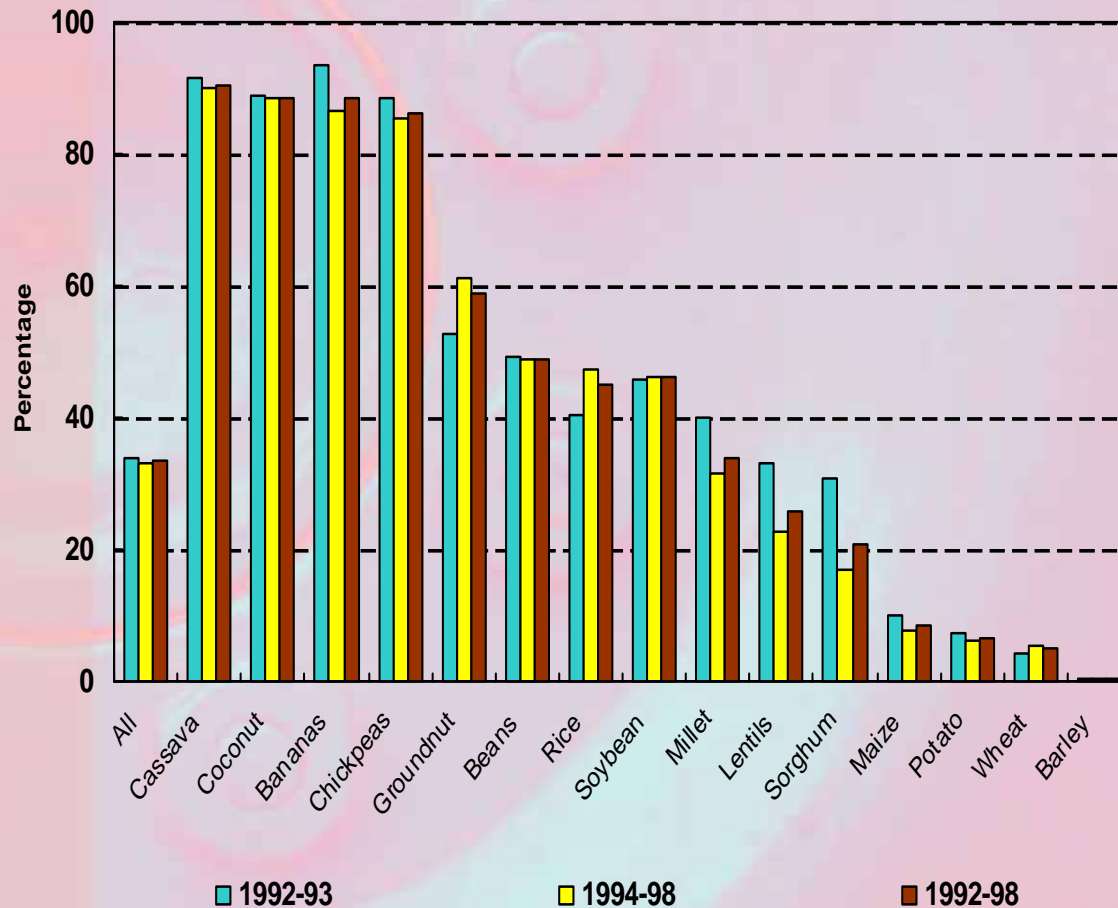
# Statutory constraints of patents limit hindrance

- *Geographical limit:* rights extend only as far as a country's borders
  - If invention is patented only in Australia, Chinese can use invention in China, but do need permission to export to Australia
- *Temporal limit:* rights begin with patent grant and last 20 years from filing date
- *Threshold requirements:* novelty, inventive step, industrial applicability, enablement, clarity

A microscopic view of cells in a petri dish, showing several circular cells with distinct nuclei and cytoplasm. The image is overlaid with a red and blue color scheme, and a large red circle highlights one of the cells. The background is a gradient of red and orange.

# **Do Patents Inhibit Biotechnology R&D in LDCs?**

# Share of Developed Country Imports Originating in Developing Countries



# Effect of Patents on Ag R&D in LDCs?

- Limitations on export markets not currently big issue because of low amount of trade
- Problems are most likely in soybeans, bananas, and rice
- TRIPs will increase freedom to operate (commercialize) and patent issues

# Technology is not equal to IP

- Intellectual property (e.g. patents, plant breeders rights) is legal protection of *qualifying* technology
- A way to protect and strengthen the ability to shape the way the technology is used
  - e.g. Terminator technology – banning patents on technology will not restrict or inhibit or prevent its development and use
- Other methods to control use of technologies are not as constrained by statutory limitations

# Other tools conferring rights

- material transfer agreements
- licenses
- technology and research agreements
- “shrink-wrap” contracts or licenses
- genetic restrictions (e.g. GURTs, hybrids)

# Major challenges and strategies

- Education about patents, contracts, licenses, FTO
  - Cambia IP Resource: [www.cambiaIP.org](http://www.cambiaIP.org)
- Understand your rights
  - Know when and why you need to obtain a license
- Enhance negotiation skills
  - Decide what you want and what you are willing to give up
- Get assistance
  - PIIPA: public interest IP professionals helping in IP matters of LDCs; [www.piipa.org](http://www.piipa.org)

# Summing up

## Restraints to biotechnology transfer

- Lack of investment in research and development
- Lack of local scientific skills
- Weak patent protection systems
- Material transfer agreements, licenses, lack of negotiating power and skills
- Biosafety and regulatory systems and legal liability issues