Ministry of Scientific Research

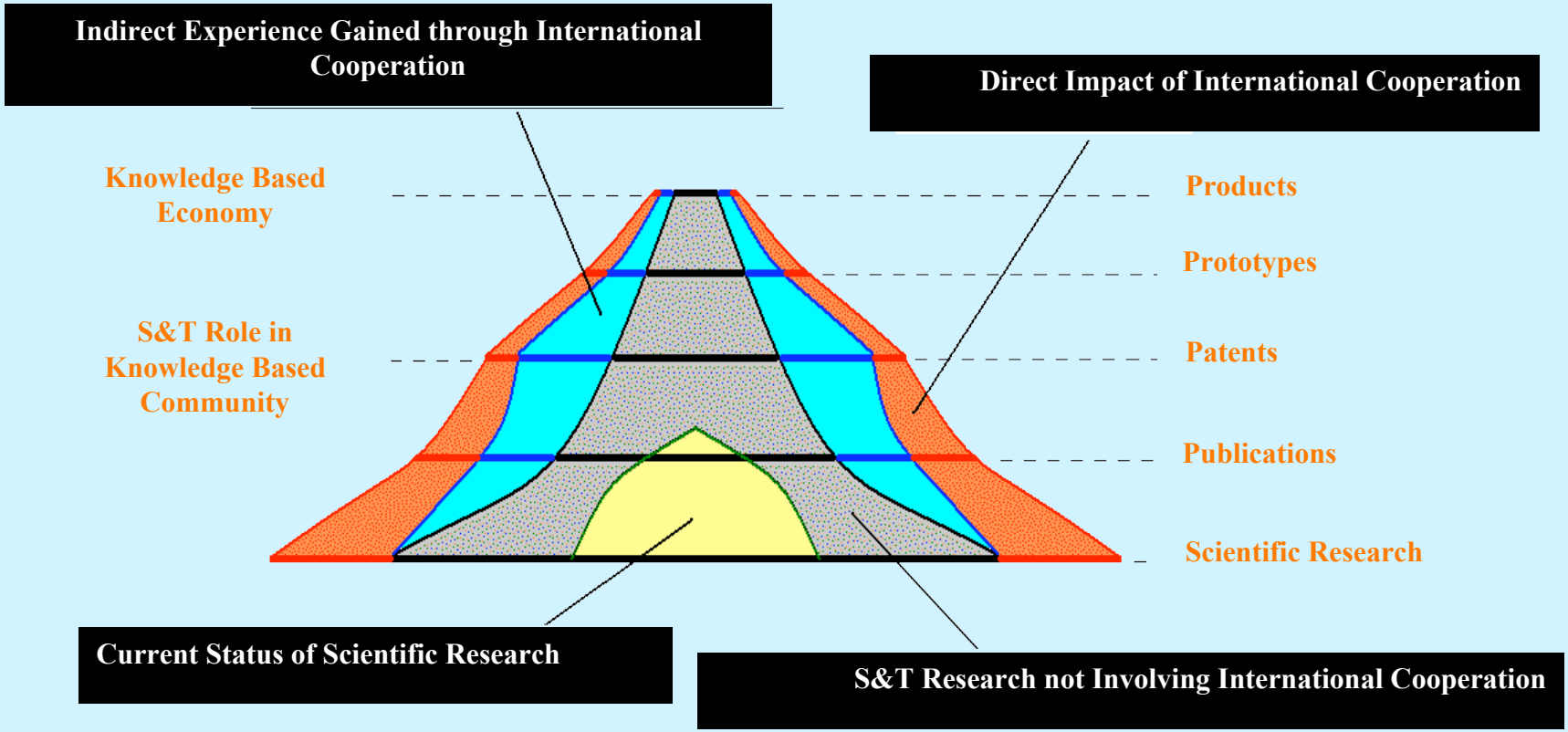
Sustainable Development

Education, Research and Innovation

Vision for Knowledge Economy

- S&T-driven economy.
- Knowledge Triangle (Education, Research and Innovation).
- The Challenges facing Egypt and developing countries.
- The Egyptian experience and plans.
- What can we do together?

"4P's" Concept


Indirect Experience Gained through International Cooperation
Direct Impact of International Cooperation
Knowledge Based Economy
S&T Role in Knowledge Based Community
Products
Prototypes
Patents
Publications
Scientific Research
Current Status of Scientific Research
S&T Research not Involving International Cooperation

Ministry of Scientific Research

Scientific Publication

Indicators for Successful S&T Policy

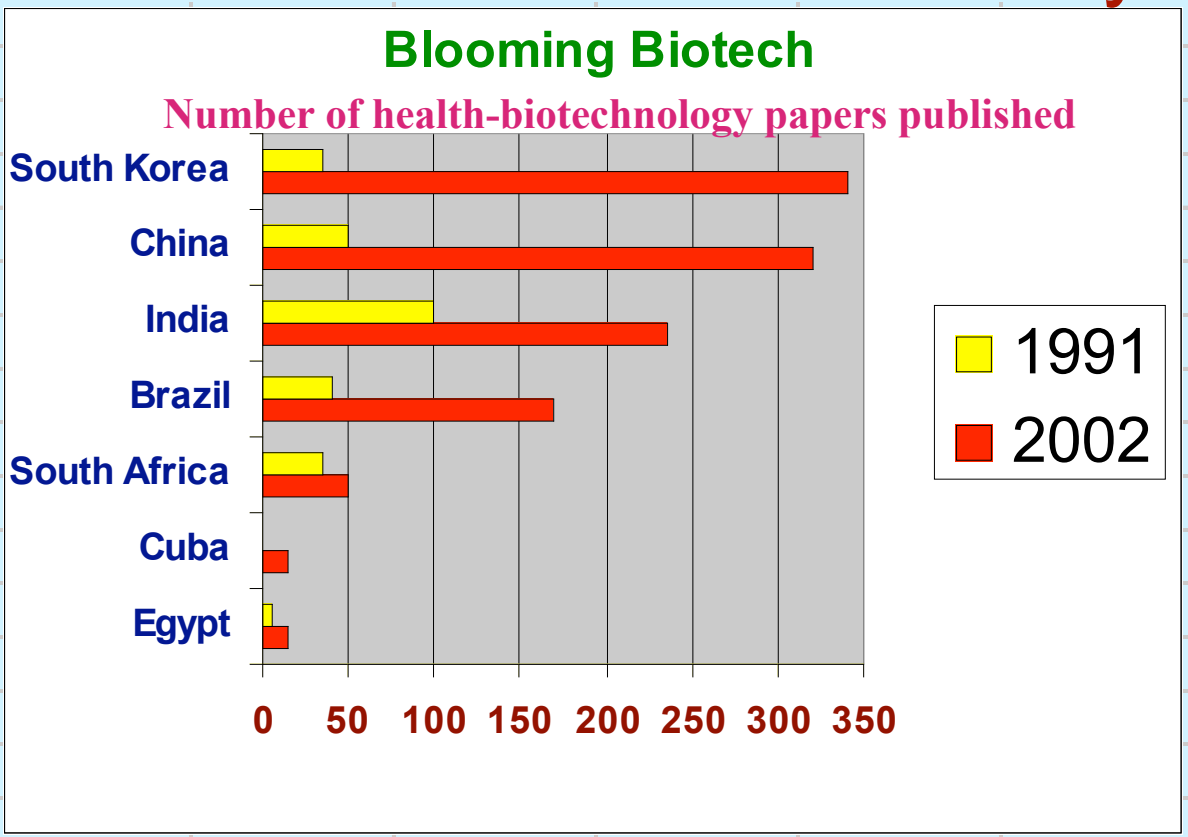


Chart of Papers in Biotechnology in Developing Countries

Patents

Indicators for how to use S&T Effectively

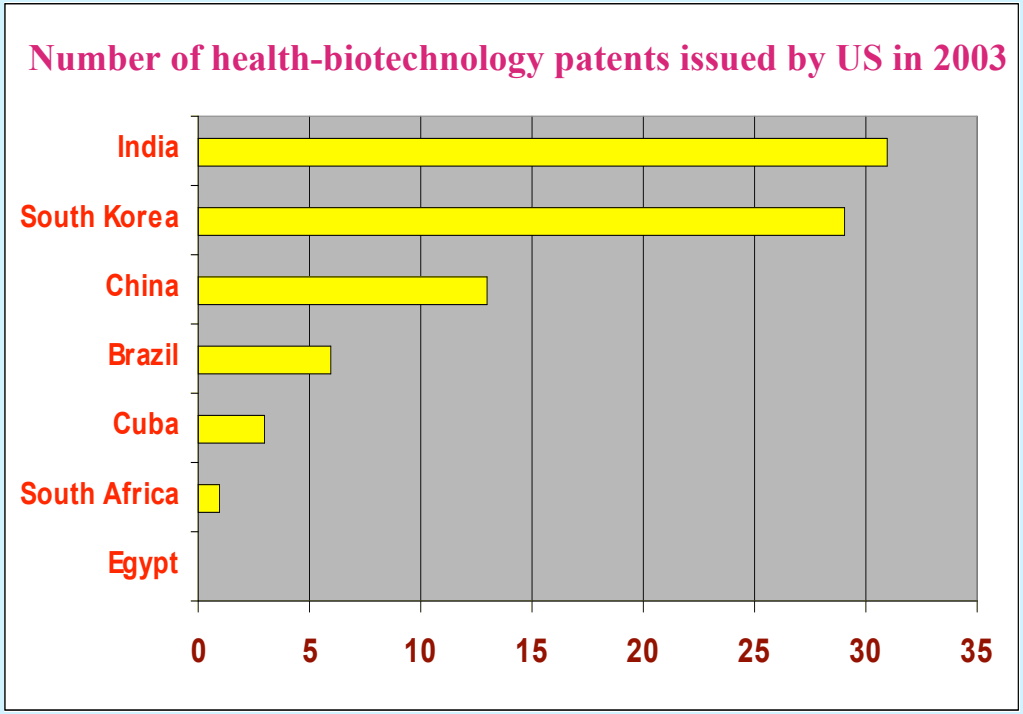


Chart of Patents in Biotechnology in Developing Countries

Both Indicators are most effective when acting together (progress together)

CHALENGES

- Competitiveness.
- Human Resources (Population increase and brain drain).
- Funding to meet challenges and support S&T and education for creating competing human resources (closed circuit).
- Resistance of Culture Reform.
- Governance and evaluation.

Egypt S&T Plan

وزارة البحث العلمي

- Egypt is progressing towards the knowledge economy
- Egypt is targeting an annual economic growth of at least 8-9% to sustain its development
- Egypt considers Science & Technology as a vehicle to transform economy
- Need to apply complete cycle of Innovation to impact economy

S&T Plan

وزارة البحث العلمي

- Objective: Knowledge-based Economy
- Major Restructuring for S&T Governance
- Political Support for S&T
- Funding Plan:
  - L.E. 7.45 Billion – Capital Investment
- Concentrate on Innovation

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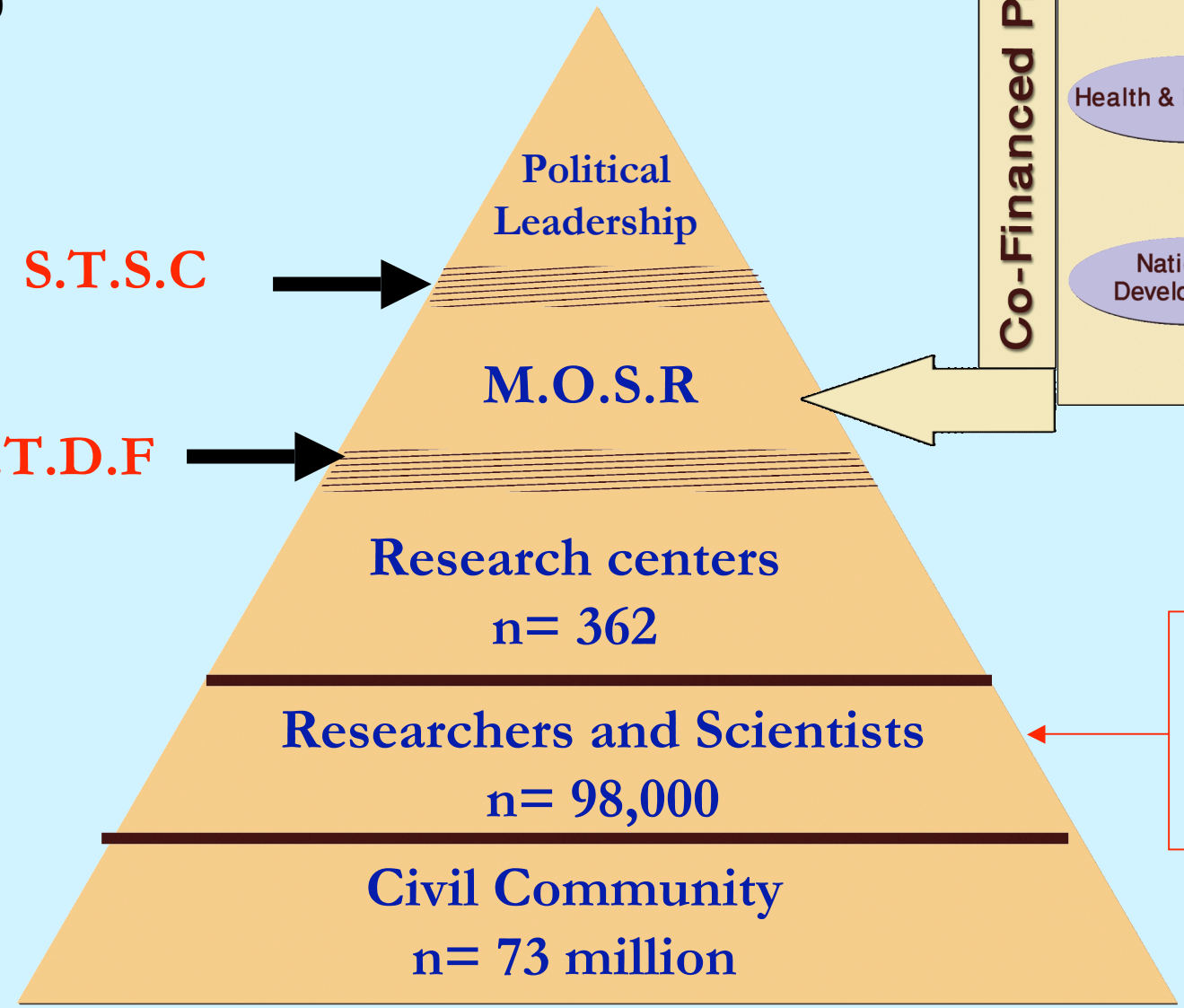
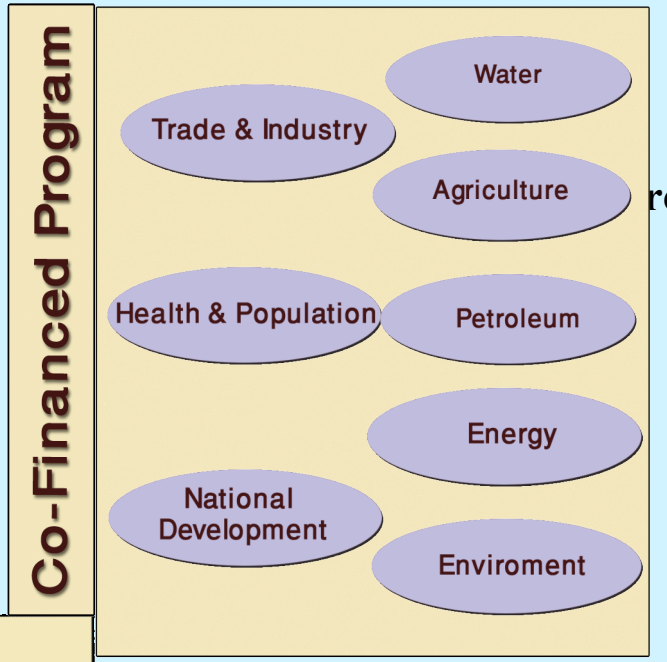




73% in University
13% in Institutes
14% in Industry

PLAN OF ACTION

- Re-Structuring of Science and Technology Governance.
- National Initiative for Human Resources Development.
- Priority National Projects.
- Funding of Science and Technology.
- National Initiative for Informal Education.
- National Initiative for Innovation.

Human Resource Development

- **Expand Young Scientists Critical Mass.**
- **Encourage International Interactions “Science Decade”**
- **Mobility Grants.**
- **Brain Circulation.**
- **Chairs of Excellence.**
- **Capacity Development Packages.**

Priority National Projects

- New and Renewable Energy.
- Desalination and Water resources .
- Nano- and Bio-Technology.
- Food and Agriculture.
- Biomedical Sciences (Liver, Kidney and Cancer).
- Information and Communication Technology.

Funding of S&T

- **Establishment of Science and Technology Development Fund “STDF”.**
- **International Cooperation Agreements.**
- **Financial Programs and Venture Capital.**
- **SBRI funding mechanism.**

Initiative for Informal Education

- **Science Culture and Education.**
- **Science and Math educational programs.**
- **Science and History Museum.**
- **Marine and Oceanography Institutes.**
- **Multi-Media Educational Programs.**
- **Science Dissemination TV Programs.**

National Initiative for Innovation

- Centers of Excellence and Industry Links.
- Encourage Multi-disciplinary Research Effort.
- SME and Spin-off companies.
- Industrial and Technological Parks.
- Innovation Fund (EU).
- Support the “4 P’s” Cycle.

Egypt's Proposal For G8-Summit

وزارة البحث العلمي

Support an initiative of **G**lobal **A**lliance for **T**echnology and **E**ducation or

GATE

GATE is a funding mechanism to support the knowledge triangle of Education, Research and Innovation

What Can We Do Together?

- Human Resource Development.
  * Scheme of Scholarships.
  * Informal Science Education.
  * Training (short and long term).
  * Brain Circulation.
- Communication and information access.
  * Access to broad band connections.
  * Establish African S&T Network (ASTN).
  * Allow free access to scientific data.

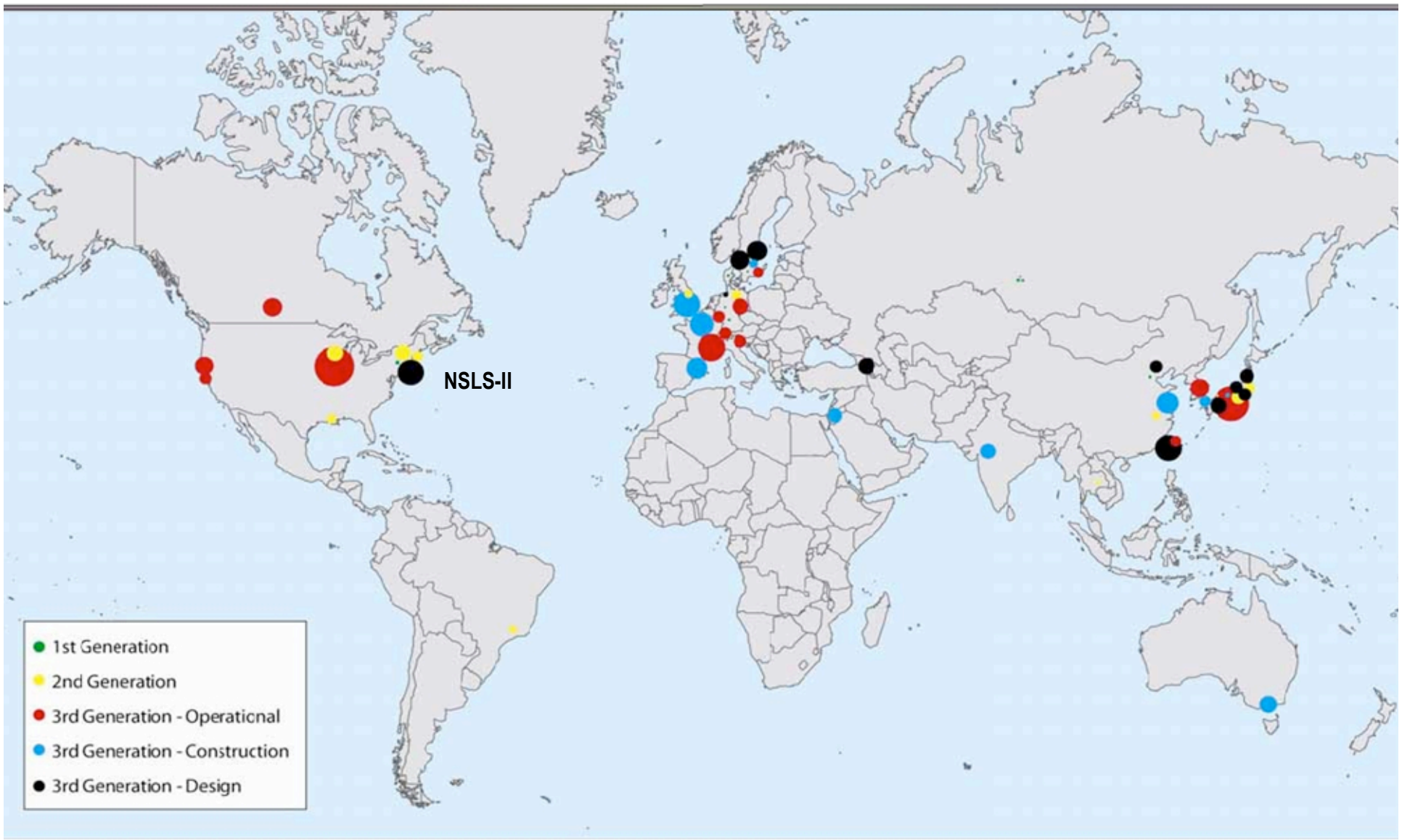
What Can We Do Together?

- Pilot Projects.
  * Science and Technological Parks.
  * Model Project in MuCSAT.
  * Chairs of excellence.
  * UNESCO-SESAME regional program.
- Vocational Education and Training.
  * Technical Education Clusters consisting of
    - Secondary School.
    - Technical College.
    - Training Center.

Since its inauguration at 2002, SESAME has become a reality with the meticulous team efforts of a countless scientists from all parts of the world


October 2006

International Benchmarking: Synchrotrons Worldwide



The dots show all 1st, 2nd, and 3rd generation light sources worldwide that are operational, under construction, and in design. The dot diameter is proportional to the total number of beamlines at each facility. The number of users that a facility can host scales with the number of beamlines. Red, blue, and black dots show 3rd generation machines. The numbers of beamlines for these machines are shown on the next chart.

Conclusion

Education, Research and Innovation are the vehicles to

Sustainable Development

To Achieve that, we have to invest in

Innovation

…. Innovation

…. Innovation


Thank You