

Status of research and innovation in India

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Outline of the presentation

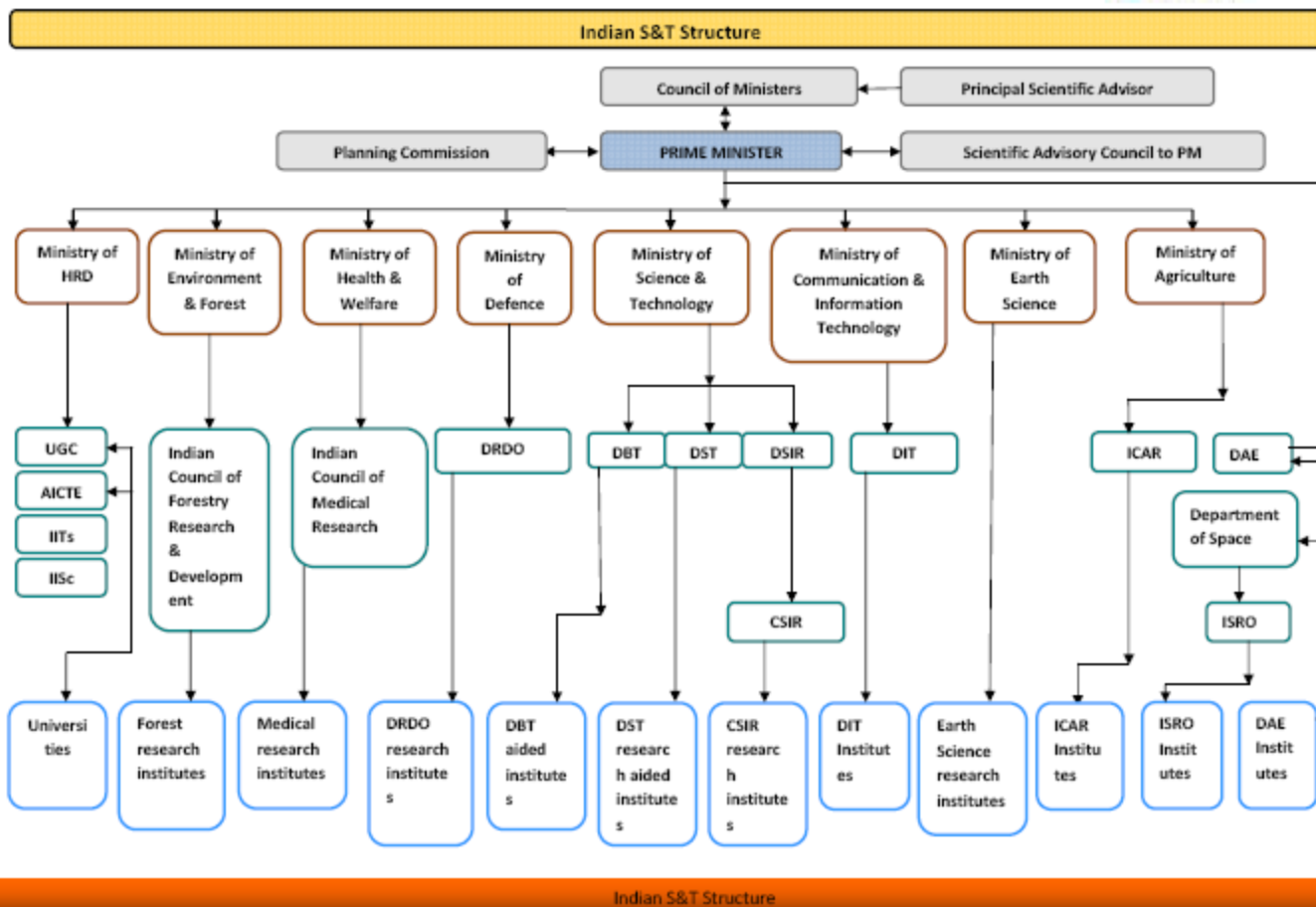
- National policy statements on science & technology – historical perspective
- Research and development – structure
- Centres of excellence
- Policy developments – current status
- Other relevant innovation initiatives

Policy resolutions - perspective

- Scientific policy resolutions, 1958
 - Foster, promote and sustain cultivation of scientific research
- Technology policy resolution, 1983
 - Attainment of technological competence and self reliance
- Science and technology policy, 2003
 - Science + technology to solve national problems, investment in research and development
- Science, technology and innovation policy, 2013
 - Science + technology + innovation: build synergy

Research and development - structure

- Ministries set up by the Government of India – fund, coordinate, promote and oversee the scientific and research activities in the country through the implementing departments such as:
 - Department of Scientific and Industrial Research (DSIR)
 - Department of Science and Technology (DST)
 - Department of Biotechnology (DBT)
 - Indian Council for Forestry Research and Education (ICFR)
 - Indian Council of Medical Research (ICMR)
 - Department of Space (DoS)
 - Indian Space and Research Organisation (ISRO)
 - Department of Atomic Energy (DAE)
 - Defence Research and Development Organisation (DRDO)



Centres of excellence

- Indian Institute of Science (IISc), Bangalore
- Indian Institute of Technology (IIT), Bombay, Delhi, Kanpur, Kharagpur, Roorkee, Madras
- All India Institute of Medical Sciences (AIIMS), Delhi
- Tata Institute of Fundamental Research (TIFR), Bombay
- Bhabha Atomic Research Centre (BARC), Bombay
- Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore
- National Chemical Laboratory
- Universities – Anna, BHU, Delhi, Hyderabad, Punjab,

Policy developments – current status

- The science, technology and innovation policy, 2013
- The 12th five year plan (2012-2017)

The science, technology and innovation policy, 2013

- Aims at building synergies between science, technology and innovation
- Salient features
 - Promoting proliferation of scientific temper
 - Making careers in science, research and innovation attractive to the brightest
 - Establishing world class R & D infrastructure
 - Translating R & D outputs into commercial applications
 - Facilitating S & T based high-risk innovations through new mechanisms
 - Positioning India among top five global scientific powers by 2020.

The 12th five year plan

- Expected outcomes
 - Encouraging research community to address major developmental needs – food security, water, energy, healthcare etc.
 - Gaining global competitiveness by creating appropriate innovation ecosystems

The 12th five year plan (contd.)

- National targets

- Publications (Global share): > 5%
- Global ranking in SCI publications: better than sixth
- Full-time equit. in R & D personnel: 250000
- No. of PhDs: 12500 per year
- Public-private sharing of invest: 50:50
- Global rank in patent portfolio: better than 9th
- Commercialisation of patents: better than 5%
- Share of high-tech contents in exports: better than 20%
- Global ranking in innovation index: better tha 25th

Other relevant innovation initiatives

- National innovation council
 - Decade of innovation (2010-2020), to stimulate innovations and produce solutions for societal needs such as water, energy, food, healthcare, infrastructure
- Innovation Universities
 - Would be set up public private partnerships to develop new hubs of education, research and innovation
- National knowledge network
 - State-of-the art multi-gigabit pan-India network that will link 5000 nodes in India and will be the sole vehicle for international connectivity in future

Thank you