

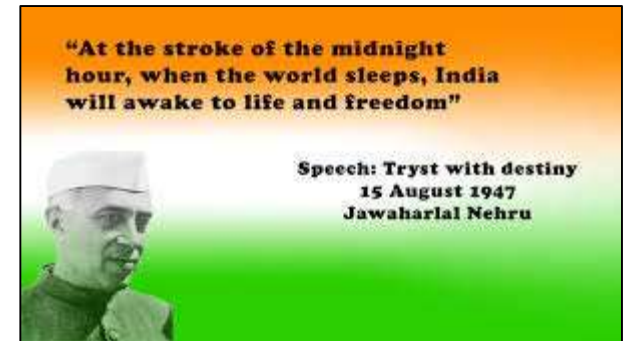
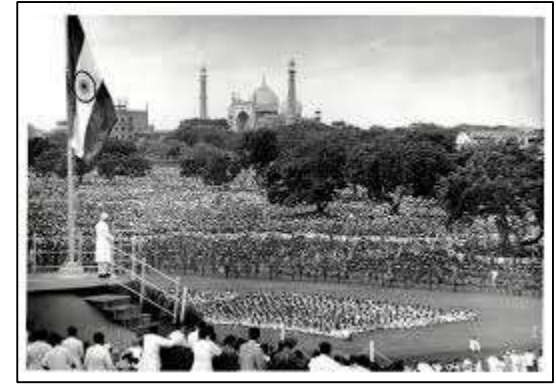
75 Years of Independence:
Self-Reliance, Scientific Temper & Idea of India

All India Peoples Science Network

75 Years of Independence Campaign 2022

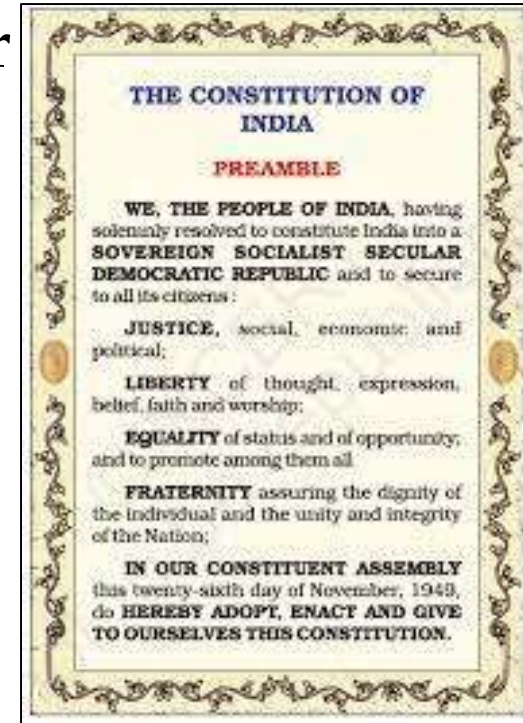
Introduction

- modern India free from colonial rule was born on 15 Aug 1947, embarked on a path rarely seen in newly-independent nations of that time
- despite massive poverty, hunger, deprivation, illiteracy
- most diverse country on earth
- yet democratic, secular, universal suffrage, equality of all before the law
- past 75 years have been remarkable by any standards...
- yet with many disappointments...
- ... and currently facing the most grave challenges to its nationhood and future



Amazing path of Independent India

- the Idea of India, i.e. the conception of the modern Indian state, forged collectively by all the people during freedom struggle
- enshrined in the Constitution (1949 + later Amendments)
- secularism; equality of all citizens and non-discrimination; freedom of thought/ expression/belief; social justice
- vs. two-nation theory/ theocratic state/ Hindu Rashtra/Hindi-Hindu-Hindustan
- federal structure, accountable govt, independent judiciary, autonomous institutions
- the world looked at India in awe as it progressed on this path, a source of much of India's soft power and international reputation



Self-Reliant development: early decades

- strong (heavy) industrial base with PSUs in “core sectors:” main base even today!
- autonomous S&T capability emphasized
- ...incl nuclear energy, space, defence!
- premier insttns for S&T Higher Ed, Research: IITs, IISc, TIFR, CSIR (40 Labs)
- Industrial Policy Res (1956), Sc Pol Res (58)
- enabled “Strategic Autonomy” for India: in some danger today
- not Nehruvian “Socialism” but agreed by Pvt Sector in “Bombay Plan” (1944-5)
- latter didn’t have Capital or Capability: so focus on consumer products, light engg
- in the 1970s, India among the leading developing countries



'Apsara' nuc reactor



ISRO PSLV



BHEL Power Gen.

“Lost Decades:” self-reliance neglected

- during later 1970s-80s, PSUs did not upgrade/modernize sufficiently, although other progressive measures eg Bank Nationalization were taken (today being reversed)
- Pvt sector was content with protected market and uncompetitive products: no R&D or product upgradation (trend persists today)
- in contrast, “Asian Tiger” countries S.Korea, Taiwan etc followed Japanese model and leaped forward industrially in Electronics, Opticals, White Goods, Automobiles, Machinery, Mass manufacture, later Micro-processors... but not thru FDI/MNCs
- Self-reliant model: State support, R&D incl basic research, domestic Co’s, products, brands
- 4%-6% GDP on R&D, Education & Health
- India missed this “3rd Industrial Revolution” with high cost for the future



Self-reliance abandoned, future threatened

- 1990s onwards wrong ideology: why re-invent the wheel? technology can be bought
- present Govt pushing model further: FDI to bring advanced tech, even in Defence!
- Pvt sector happy with foreign collab's as junior partners: techs and brands with MNCs, not absorbed (cars, white goods)
- Self-Reliance means Indian firms able to develop, make next gen products: NOT YET
- R&D <1% GDP, Pvt Sector R&D almost nil
- India in danger of missing "4th Industrial Revolution" of AI, 5G, electric/H2/self-driving vehicles, robotics, nano etc which will dominate globally in future decades
- PSUs with size and capability for R&D and next-gen techs are being privatized!
- CEL, profitable and pioneer in strategic Chip Foundry tech in '80s, sold at loss to a furniture company!



Education, Health

- public investment in health and education neglected
 - ◆ Education \approx 3% GDP, Health \approx 1% GDP
- Public Ed'n stagnant after early expansion: elementary enrolment above 90%, secondary stage only 50%
 - ◆ poor teacher-student ratios, quality of ed'n except some States
 - ◆ RtE Act (2009) for free, compulsory ed'n 6-14 age as legal right now virtually buried by NEP 2020
 - ◆ NEP emphasis on-line ed'n may render enrolment irrelevant!
- enrolment in HEI sounds high at \approx 40m, but only 200,000 PhD s: industry rates graduates "unemployable"
- poor public ed'n and neo-liberal withdrawal of State have led to huge expansion in private education
- inequity in access increased: income, caste, gender, urban/rural
- unregulated private Univs/Colleges esp. professional: poor quality, high fees, reduced access, brain drain, debt-trap
- NEP does not address above problems: commercialization, high fees, new course structures with unknown relation to jobs, further reduce access due closures of schools/colleges
- poor preparation in HEI and Vocational to meet challenges of the future knowledge-era

Health

- public health system for preventive and primary care at grassroots was another neglected area from the outset
- India lags behind many S.Asian neighbours and low-income countries in basic health and nutrition indicators
- the positive impact of an effective public health and public education system is shown by the high HDI numbers in Kerala and TN, close to developed countries; national averages are close to LDCs
- in 2016, India ranked 145 out of 195 countries in a Health Care Quality Index (Lancet, 2019)
- all the weaknesses of the poor public health system were starkly exposed during the Covid-19 pandemic except in Kerala
- private health sector, focusing on tertiary (hospital) care, has expanded greatly (75%), like in ed'n, esp since Liberalization
- Indian people incur 60% out-of-pocket expenses on Health
- even Govt and PSUs further strengthen Pvt Sector by paying for employees' treatment, and through Health Insurance Schemes
- Health Education suffers from same ills as Engg etc
- India suffers from a serious shortage of doctors and paramedics

Agriculture

- Neglected in early years but series of poor harvests, famine-years and humiliating food aid pushed India to Green Revolution in '60s
- GR focus on HYV and other high inputs in Wheat and Rice in Punjab, Haryana, West UP
- but neglected other foodgrains and regions esp rainfed areas (65% of farmers)
- GR saw undoubted gains in food prod'n but at high cost in depleted soil nutrition and ground-water, loss of indigenous varieties, skew to large farmers, decreasing returns
- famous extension system collapsed with time, strengthening MNC agri-business
- Indian agri research system became closely linked with large farmers and MNCs
- investment in Agri declined after GR
- despite GR, hunger widespread in India: rank 101 out of 160 in World hunger index 2021
- many problems remain for future incl rainfed agri, climate impacts, crop diversity, iniquity in food system



- environment regulation in India came to fore only in 1970s
- prompted either by:
 - ◆ International Conferences/Treaties or eg. Stockholm 1972, Rio Climate 1991: triggered Water Act, EP Act, Air Act
 - ◆ popular movements in India eg Chipko, Silent Valley, Bhopal (big PSM role) tribal/forest dwellers struggle: many Industrial pollution regs, FR Act
- but constant push-back by corporates and political-bureaucratic class
- current Govt on warpath against Env' ment Regulations: diluting, dismantling for "ease of doing business"
- pushing States in a "race to the bottom" to attract investments
- major damage being done esp to Forests, peoples rights and democratic governance
- on Climate Change, accepted emission reduction but only some areas: many challenges remain
- but need adaptation actions: agri, sea-level rise, urban flooding, forests incl rights
- Constant vigil and struggles required in future

Challenges to Constitutional Idea of India

- India of course went through the horror of the Emergency when democracy itself was suspended
- but many feel that today India is going through an “undeclared Emergency,” with major threats to freedom of expression, government accountability, over-centralization, domination of the executive, misuse of Agencies and intolerance of criticism
- the secular state is in danger toward ‘Hindu Rashtra’ and formal discrimination is on the rise eg CAA-NRC-NPR
- federal structure is under threat
- Unity in diversity is sought to be suppressed by conception of a monolithic Hindi-Hindu culture
- at the same time, popular movements and progressive forces have expanded participatory democracy through decentralized governance, peoples planning (Kerala), RTI, Forest Rights Act, Food Security Act, volunteer-campaign based Total Literacy movement, Vigyan Jatha
- need to build on above and build resistance, alternative

Scientific Temper...

- Scientific Temper is under severe attack under the present dispensation
- imaginary and a-historic ancient Vedic-Sanskritic knowledge system is sought to be imposed to show ancient 'Hindu' science was older and superior to all other knowledge including modern science
- Lord Ganesh's head on human body as example of cosmetic surgery, internet during Mahabharata, inter-planetary aviation 8000 years ago etc
- critics branded as westernized, anti-national

Scientific Temper...

- objective is not only to create a 'Hindu-superiority' idea and a blind acceptance of authority, but also to quash critical outlook and the very idea of a Scientific Temper
- also taken to extreme as in the murders of Narendra Dabholkar, Govind Pansare, M.M.Kalburgi, Gauri Lankesh by right-wing Hindutvavadi forces



...and Critical Thinking

- attacks on JNU, Univ of Hyderabad, IIT Madras and Bombay are not only to attack opposing ideas but to attack critical thinking itself which are championed here
- this is of vital interest to the scientific community since science cannot thrive or flourish without pluralism, diversity of opinion, critical thinking
- it is also very concerning that the present government shows blatant disregard for evidence-based policy- and decision-making, even not releasing official reports and data, and even manufacturing 'alternative data' to support pre-conceived ideas and policies
- can Indian youth or scientists be effective in the future knowledge-era with an antiquarian outlook?

To Conclude

- India needs to restore its post-independence identity as a forward looking country, building autonomous self-reliant knowledge, skills and industry
- India needs to re-establish Constitutional values of unity of diversity, pluralism, freedom of expression, multiculturalism, social justice, ecological sustainability
- India needs a robust public education system and an effective primary health care system
- India has a substantial youth population, over 600 million persons under the age of 25. This “demographic dividend” can be a tremendous asset requisite education and skills are imparted, else it could be a nightmare
- India obtained Independence by its people coming together and defeating the colonial “divide-and-rule” policy. A divided India cannot march confidently into the future.