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**DEVELOPMENT OF SCIENTIFIC AND INDUSTRIAL POLICIES IN  
POST INDEPENDENT INDIA: AN ANALYSIS FROM 1947-1980.**

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**ABSTRACT**

During the colonial period in India, the government policies were concerned to put emphasis on protecting and promoting British interests than considering the welfare of the Indian population. It is widely believed that government policies far from encouraging development were merely responsible for the decline and stagnation of technological sector in India. In 1947, with the emergence of a new politically independent nation; India started using modern science and technology for national development. The main objectives were the attainment of technical competence and self-reliance, with the view to strengthening economy and industrial development. Government has introduced many structural reforms through adoption of a new industrial policy. Science and technology has become mainstay enterprise and now India has built a strong and reliable infrastructure for research, planning and development in field of science and technology. In present study, we have analysed a broad picture of the technological advancements and the infra-structural development post-independence from 1947-1980.

**Keywords:** Scientific and Industrial Development, Establishment of Medical and Engineering Institute, Development in Nuclear and Space Technology.

**Abbreviations:**

IIT = Indian Institute of Technology

AICTE = All India Council for Technical Education.

IARI = Indian Agriculture Research Institute

CSIR = Council of Scientific and Industrial Research.

AIIMS = All India Institute of Medical Science.

ISRO = Indian Space Research Organisation

**Introduction:**

Jawaharlal Nehru, The first Prime minister (PM) of India initiated reforms to promote science and technology in India. India made a tremendous contribution in the field of science and technology since independence. India now has 8923 Universities, Including 23 IIT's (Indian Institute of Technology), Over 10,300 engineering colleges and 235 Medical Colleges, few Hundred Scientific Research Laboratories under the central and state governments. Research is being done in almost all areas of modern science. The great success of Indian scientists in Atomic energy, space research and agriculture is well known. India's population has reached 1.35 billion people, which comprises a total of 17.74% of world population. This percentage matters in different spheres of technological and economic advancements so far as global scenario is concerned. Scientific and technological development is perhaps one of the major factors which impact the world economy. It becomes imperative for country like India to think differently. Although, India was a pioneer in the field of science and technology in 1500 years back, but foreign invasion and repeated loots left the least for the country. It got independence in 1947 to become a republic nation, after which there was an appreciable increase in growth rate of scientific development. Here we will be discussing the progress made by India over the years in different fields of Science and Technology.

**Indian Council of Medical Research (ICMR):**

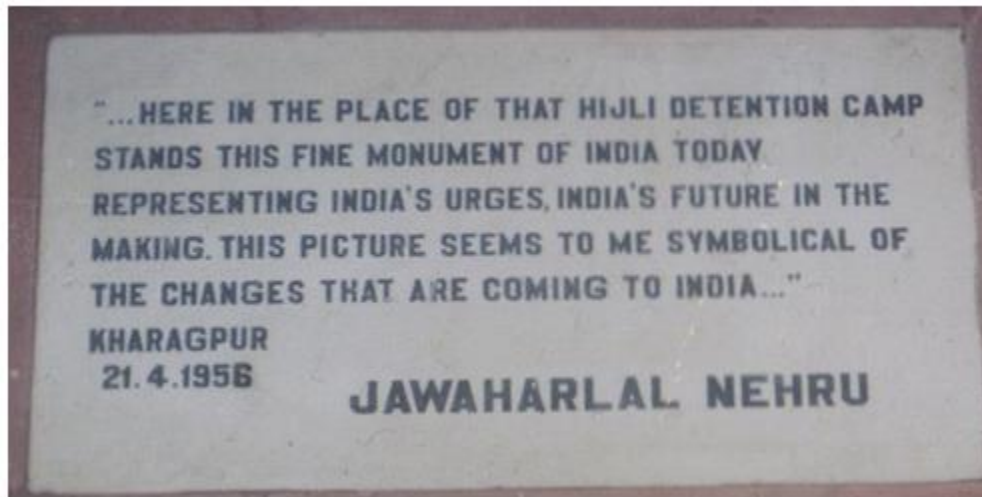
It is an autonomous body in India for the promotion of medical research. It was redesignated in 1949 by government of India earlier it was Indian Research Fund Association (IRFA). It was established with the view to control and manage communicable disease, fertility control, maternal and child health care. Research on major non-communicable diseases like cancer, blindness etc. All these efforts were taken with the view to reduce the total burden of disease and to promote health and wellbeing of the population.

**Establishment of first IIT:**

The first Indian Institute of Technology in order to promote technical education was inaugurated on 18th of August 1951 at Kharagpur in West Bengal by then Minister of education Maulana Abdul Kalam Azad. It was established at the site of Hijli Detention camp in kharagpur that was a detention camp in World War II.

On 15th of September 1956, the parliament of India passed the Indian Institute of Technology (Kharagpur) Act, declaring it as an institute of national importance. Jawaharlal Nehru first Prime Minister of India in the first convocation addressed IIT Kharagpur in 1956 and said:

*“Here in the place of that Hijli detention camp stands the fine Monument of India representing India’s future in making”.*



(Fig. Source- [www.iitkgp.ac.in/](http://www.iitkgp.ac.in/))

### **Council of Scientific and Industrial Research (CSIR):**

Basically it was established by government of India in September of 1942 as research and development organisation. However it is mainly funded by ministry of science and technology, now it operates as an autonomous body through the “Societies Registration Act 1860.” It was established with the view to provide the base in the arena of science and technology for better development in scientific and industrial field.

### **Major Achievements of CSIR:**

- Developed India’s first synthetic drug, Methaqualone in 1950 by Indra Kishore Kacker and Syed Hussain Zaheer.
- Developed 1st Indian tractor Swaraj in 1967 completely based on indigenous knowhow.
- It is the 1st body to analyse genetic diversity of the indigenous Andamanese Tribes and to establish their origin out of Africa 60,000 years ago.

### **All India Institute of Medical Science (AIIMS):**

It was established in 1955 at Delhi. The institute has comprehensive facilities for teaching, research and patient care. AIIMS conducts teaching programmes in medical and para medical courses both at undergraduate (UG) and postgraduate (PG) level and awards its own degrees. In

short it was established with the view to raise the health standard of ordinary man in India. AIIMS was declared by an act of parliament as “Institute of National Importance”.

**Objectives of AIIMS:**

- To produce high standard medical teachers for the country.
- To attain self-sufficiency in postgraduates in medical education.
- Community based teaching and research.

**Indian Space Research Organisation (ISRO):**

It is the space agency of government of India formed in 1969 by the efforts of independent India’s Prime Minister Jawaharlal Nehru and his close aid scientist Vikram Savabhai with its establishment it institutionalised space activities in India.

ISRO built first satellite Aryabhata that was launched on 19th of April 1975 by Soviet Union. While in 1980 Rohini became the first satellite to be placed in orbit by an Indian made launch vehicle SLV-3.

ISRO subsequently developed two other rockets the Polar Satellite Launch Vehicle (PSLV) for launching satellite into Polar Orbits and Geosynchronous Satellite Launch Vehicle (GSLV) for launching satellite into Geostationary Orbits.

**Indian Agriculture Research Institute (IARI):**

It’s commonly known as Pusa Institute because of its location in Pusa Bihar. Lot of developments were incorporated in field of Agricultural Technology in post-independence period. It created better conditions for the better yield.

IARI was recognized as a “Deemed University” under the UGC Act of 1956 of Parliament and since then it has awarded MSc and PhD Degrees. The Institute is continuously improving its policies, plan and programme to respond the needs and opportunities of the nation. Norman E. Borlaug an outstanding scientist; with his efforts India produced new wheat varieties and improved crop management. Due to his contribution IARI was responsible for the research leading to the “GREEN REVOLUTION” in India of 1970s.

**Development of Nuclear Technology:**

Homi Jehangir Bhaba founded the Tata Institute of Fundamental Research, in order to accelerate the growth of nuclear weapons technology.

After Independence, Indian Prime Minister Jawaharlal Nehru authorized the development of a nuclear programme headed by Homi Bhaba, Jawaharlal Nehru argued:

“We must develop this atomic energy quite apart from war. We must develop it for the purpose of using it for peaceful purposes”.

After Indo-Pakistan war of 1971, Indra Gandhi(PM) authorized the Bhaba Atomic Research Centre (BARC) to manufacture a nuclear device and prepare that for test. The preparations were carried out under the watchful eyes of Indian political leaders with the assistance of civilian scientists. The device was formally called the “Peaceful Nuclear Explosive”, but it was referred as the “Smiling Buddha”. Hence India conducts its first successful nuclear test explosion on 18th of May 1974 at Pokram.



*(Fig. Source-<http://m.timesofindia.com>)*

### **Conclusion:**

The trend in growth in terms of science and technology post-independence in India seems outstanding in records. Being a vast country in terms of population, it is a difficult task to cater the needs of the people within short span of time. However the way India is moving forward in Science and Technology is appreciable. The above mentioned institutes have played an immense role over the decades and have placed India where it is today. Being an ex-colonial country India made significant contribution in the field of scientific technology. India’s commitment to use the science and technology for the development of scientific and industrial technology has been clearly articulated in various policy documents right from the early years of independence. The progress India has made in the field of space technology is incredible in all sense and can be described in the words of Ex-Chairman G Madharam Nair,

*“Today India is one of the leading nations in the field of space technology, from launching vehicle technologies to satellite design, communication, etc. Indian scientist have successfully developed and demonstrated it all”.*

In the light of a new industrial and economic policies adopted by the government, the ministry of Medical, Space, Agriculture, etc. have initiated a series of technology missions to meet the needs of countries. As a result of all these efforts discussed above now India is one of the leading countries of the world in advancement of science and technology.

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