Post Independence Development of India

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The foundation of independence laid before 150 years in 1857, which is described As First war of Independence got success after 100 long years of struggle & On 15th August 1947 when a new Democratic country which has taken over the attention of the world with its principles of Non-violence & peace & above all had many challenges before it to stand in the world scenario. Today we have achieved a milestone by completing 60 years of independence. It's now the time for everyone or every Indian to undergo self-introspection of the achievements we already made & also those that are to be still achieved. While talking of achievements we should have a look at the challenges that India had at its birth. We had problems of Social, economical, political etc. Partition of the country had serious consequences in the entire country. Country was experiencing violence, communal riots & a chaotic situation all over. First of all it needed a major attention to restore peace in the country to do anything else. On the economic front Britishers had exploited maximum resources of our country which is well explained by Dada BhaiNaoroji in his book titled " drain of wealth". Politically also we had to face many hurdles as we had no constitution,

law of our own. The other most important thing was to establish a Democratic set up of Government in the country which at that time was felt almost impossible with diversified nature of India. So the country's position was no less than a baby learning walking, applying all trial & error methods. We will now examine how Country able to solve the above problems.

First, the credit of restoring peace in the country goes to our first Prime MinisterPandit Jawaharlal Nehru, who efficiently tackled this problem by using media to spread messages of peace & also deployed Army where the situations were serious. Second, getting India consolidated was not a simple task as many Princely states wanted to be independent but SardarVallabhai Patel with his great abilities able to convince all the States to join Indian federation which even involved at times to take up military help. But Patel emerged triumphant in this task. Third, framing of constitution, that took long time to get framed taking into consideration all aspects that suits India needs , incorporating the aspects needed for a holistic development of country in all fields of Social,

economic & political. Thus country emerged as a republican country with its own constitutionruling. Fourthly, at the time of independence there was a cold war between the super powers of World & it became a puzzle before the country as to which side it has to take, but again Nehru, in view not to take any side came up with a plan of Non-alignment which set another example of our peace loving & having friendly relations with all the countries. Last but not the least was the domestic social problems of unemployment, illiteracy, Self-sufficiency, poverty, poor health, communal disharmony etc. which were all to be dealt with the same urgency. Achievements:

With all the above mentioned problems India struggled to make it's own place in the world. Now we will have a brief glance at the glimpses of India's achievements in various sectors:

SERVICE SECTOR GROWTH

India has the second fastest growing services sector with its compound annual growth rate at nine per cent, just below China's 10.9 per cent, during the last 11-year period from 2001 to 2012, the Economic Survey for 2013-14 said. Russia at 5.4 per cent is a distant third. Among the world's top 15 countries in terms of GDP, India ranked 10th in terms of overall GDP and 12th in terms of services GDP in 2012, it said, adding that services share in world GDP was 65.9 per cent but its share in employment was only 44 per cent in 2012.As per the survey, in India, the growth of services-sector GDP has been higher than that of overall GDP between the period FY2001- FY2014. Services constitute a major portion of India's GDP with a 57 per cent share in GDP at factor cost (at current prices) in 2013-14, an increase of 6 percentage points over 2000-01. "Despite deceleration, services GDP growth at 6.8 per cent was above the 4.7 per cent overall GDP growth in 2013-14," it said. In fact the growth rate of 6.8 per cent for the sector is marginally lower than in 2012-13. "This is due to deceleration in the growth rate of the combined category of trade, hotels, and restaurants and transport, storage, and communications to 3 per cent from 5.1 per cent in 2012-13," the survey said.

On the other hand, robust growth was seen in financing, insurance, real estate, and business services at 12.9 per cent.FDI inflows to the services sector (top five

sectors including construction) declined sharply by 37.6 per cent to USD 6.4 billion compared to an overall growth in FDI inflows at 6.1 per cent. India's share in world services exports, which increased from 0.6 per cent in 1990 to 1.1 per cent in 2000 and further to 3.3 per cent in 2013, has been increasing faster than its share in world merchandise exports, according to the survey. While exports of software services, accounting for 46 per cent of India's total services exports, decelerated to 5.4 per cent in 2013-14 from 5.9 per cent in 2012-13, travel, accounting for a nearly 12 per cent share, witnessed negative growth of 0.4 per cent. However, moving in tandem with global exports of financial services, India's exports of financial services registered a high growth of 34.4 per cent in 2013-14.

AGRICULTURE AND RURAL DEVELOPMENT

On the eve of Independence in 1947, Indian agriculture was characterized by feudal land relations and primitive technology, and the resultant low productivity per hectare. As a consequence, rural India presented a picture of mass poverty and widespread unemployment and under-employment.

Therefore, the first task of the Government in the immediate post-Independence period was to initiate growth process in agriculture on modern lines. Modernization of agriculture was required both in terms of technological and institutional changes. The Mid-term Appraisal of the Tenth Five Year Plan (2002-07) drew attention to the loss of dynamism in agriculture and allied sectors after the mid-1990s. Hence, various policy initiatives have been taken in recent years to promote the agricultural sector. These have included the following: (a) National Agriculture Policy, 2000, (b) VisheshKrishiUpajYojana, 2004, (c) National Horticulture Mission, 2005, (d) National Policy for Farmers, 2007, (e) Comprehensive District Agriculture Plan, 2007, (f) RashtriyaKrishiVikasYojana, 2007 and (g) National Food Security Mission, 2007. The impulses of economic reforms have been relatively less in scope and depth in the agricultural sector. Reforms in this sector were introduced only towards the end of the 1990s. These have included, inter alia, the following: (a) partial decontrol of fertilizer prices, (b) removal of bottlenecks in agricultural marketing, (c) relaxation of

restrictions under the Essential Commodities Act, 1955 and (d) introduction of forward trading in important commercial crops. Similarly, various schemes/programmes have been launched for rural development including the following: (a) Indira AwaasYojana, 1986, (b) Rural Infrastructure Development Fund, 1996, (c) Swarnjayanti Gram SwarozgarYojana, 1999, (d) Total Sanitation Campaign, 1999, (e) PradhanMantri Gram SadakYojana, 2000, (f) National Nutrition Mission, 2001, (g) National Rural Employment Guarantee Act, 2005, (h) National Rural Health Mission, 2005, (i) Rajiv Gandhi GrameenVidyutikaranYojana, 2005, (j) Bharat Nirman, 2005 and (k) Prime Minister Employment Generation Programme, 2008.

The present work traces developments in Indian agriculture and transformation of rural India during the post-Independence period. It explains the key reform measures undertaken for the modernization of agriculture and raising the standard of living of the rural population. Part I of the book, containing 15 chapters, provides a detailed description of the various aspects of agricultural development in India since Independence in 1947. Part II contains 11 chapters which deal with various programmes/schemes to improve the quality of life of the rural masses. Part III provides year-wise review of agricultural developments in India, covering the period 1947-48 to 2008-09. Part IV consists of appendices which provide relevant material on different aspects of Indian agriculture and rural development. Part V contains glossary of agricultural terms. Part VI contains time-series data (1950-51 to 2007-08) on Indian agriculture.

INDUSTRIAL AND INFRASTRUCTURE DEVELOPMENT

For the last few years India has enormous growth in industrial and infrastructure sectors, both Government and private have invest heavily after 1991 economic policy has introduced mostly the private sectors have brought in world standard techniques and technology in this industries.

After 1991 policy FDI (Foreign Direct Investors) enter directly and indirectly into the industries, with the help of them India got money and equipment to build and to become one of the highest spenders in industrial and infrastructure. The new

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guidelines also allow foreign companies to set up 100 per cent companies on the basis of the following criteria: (a) where only holding operation is involved and all downstream investments to be carried out need prior approval; (b) where proprietary technology is sought to be protected or sophisticated technology is proposed to be brought in; (c) where at least 50 per cent of production is exported; (d) consultancy proposals; and (e) projects in power, roads, ports and industrial towns and estates. The FIPB will also allow proposals for 100 per cent trading firms for exports, bulk imports, cash-and-carry wholesale trading and other import of goods and services provided at least 75 per cent is for procurement and sale of goods and services among group firms.

The Competition Act, 2002 passed by the Parliament seeks to establish a pro-competitive legal framework, contain anti-competitive practices and abuses of dominance and yield better regulation of markets. Micro, Small and Medium Enterprises Development Act, enacted on June 16, 2006, provides the first-ever legal framework recognizing the concept of enterprise (comprising both manufacturing and service entities) and gives an investment-based definition to the three terms. Similarly, various initiatives have been taken for the development of infrastructure. India Infrastructure Finance Company Limited (IIFCL) was incorporated on January 5, 2006 to lend funds of longer term maturity, directly to the eligible projects to supplement other loans from banks and financial institutions. Electricity Act, 2003 recognizes trading of power as a distinct activity and permits State Electricity Regulatory Commissions (SERCs) to allow open access in distribution of electricity in phases that would ultimately encourage efficiency and competition.

Rajiv Gandhi GrameenVidyutikaranYojana ((RGGVY) was launched by the Prime Minister on April 4, 2005. This scheme is for rural electricity infrastructure and household electrification. On August 15, 2002, the Prime Minister approved an important initiative called National Rail VikasYojana to put Indian Railways on the path of fast track growth. The National Highways Development Project (NHDP) ¾ the largest highway project ever undertaken by the country ¾ is being implemented by the National Highways Authority of India (NHAI). New Telecom Policy (NTP), 1999 provides the basic framework for the future development and growth of the telecom sector in the country. Special Economic Zones Act, 2005 seeks to promote value addition component in exports, generate employment and mobilize foreign exchange

Steps taken for infrastructural development IIFC India Infrastructure Finance Corporation. Setup to fund infrastructure funds in India & is owned by government. Will lend money at low rates to public and private infrastructure projects. Would be able to borrow at low rates as they are guaranteed by GoI. Government has started the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) to improve Urban infrastructure. Infrastructure inadequacies in both rural and urban areas are a major factor constraining India growth. India needs a lot more infrastructure to meet its needs. The government is focusing on this and has created a set of programs and reforms aimed at addressing this issue.

PROGRESS IN EDUCATION SECTOR

After the implementation of plans, efforts were made to spread education. Government decided to provide free and compulsory education to all children up to the age of 14. But this aim could not be achieved yet. In First Five Year Plan 7.9% of total plan outlay was allocated for education. In Second and Third Plan, the allocations were 5.8% and 6.9% of the total plan outlay. In Ninth Plan only 3.5% of the total outlay was allocated for education. To streamline the education, the Govt. implemented the recommendations of Kothari Commission under 'National Policy on Education' in 1968. The main recommendations were universal primary education. Introduction of new pattern of education, three language formula, introduction of regional language in higher education, development of agricultural and industrial education and adult education.

To combat the changing socio-economic needs of the country, Govt. of India announced a new National Policy on Education in 1986. Universalization of primary education, vocationalisation of secondary education and specialization of higher education were the main features of this policy.

National Council of Educational Research and Training (NCERT) at National level and State Council of Educational Research and Training (SCERT) at State level were established to maintain the standard of education. University Grants Commission (UGC) was instituted to determine the standard of higher education.

The following points explain the development of education in India after independence:

EXPANSION OF GENERAL EDUCATION

During the period of planning there has been expansion of general education. In 1951, the percentage of literacy was 19.3. In 2011 the literacy percentage increased to 65.4%. The enrolment ratio of children in the age group of 6-11 was 43% in 1951 and in it became 100% in 2001.Primary education beenfree and compulsory. Midday meal has been started in schools since 1995 to check drop-out rate. The number of primary schools has risen by three times from 2.10 lakh (1950-51) to 6.40 lakhs (2001-02). There were only 27 universities in 1950-51 which increased to 254 in 2000-01.

Development of Technical Education

Besides general education, technical education plays important role in human capital formation. The Govt. has established several Industrial Training Institutes, Polytechnics, Engineering colleges and Medical and Dental colleges, Management institutes etc.

These are given below

- **Indian Institute of Technology:-** For education and research in engineering and technology of international standard, seven institutes have been established at Mumbai, Delhi, Kanpur, Chennai, Khargpur, Roorkee and Gauhati, Technical education is imparted here both for graduation and post-graduation and doctorate level.

- **National Institute of Technology (NIT):-** These institutes impart education in engineering and technology. These were called Regional College of Engineering (REC). These are 17 in number throughout the country. There are other institutes in the country to teach engineering and technical education.

- **Indian Institute of Management:-** These institutes impart education in business management and administration. These institutes are located at Ahmedabad, Bangalore, Kolkata, Lucknow, Indore and Kozhikode.

- **Medical education:-** There were only 28 medical colleges in the country in 1950-51. There were 165 medical and 40 dental colleges in the country in 1998-99.

- **Agricultural education:-** Agricultural Universities have been started in almost all States to improve production and productivity of agriculture. These universities impart education and research in agriculture, horticulture, animal husbandry and veterinary sciences etc.

- ***Women education:-*** In India, literary among women was quite low. It was 52% according to 2001 census. While the literacy among men was 75.8%. Women education was given top priority in National Policy on Education. Many State Governments have exempted the tuition fee of girl's up to university level. Separate schools and colleges have been established to raise level of literacy among women.

- **Vocational education:-** National Policy of Education, 1986, aims at vocationalisation of secondary education. Central Govt. has been giving grants to State Governments to implement the programme since 1988. Agriculture, Pisciculture, diary, poultry, typing, electronics, mechanical and carpentry etc. had been included in higher secondary curriculum.

- **Growth of higher education:-**In 1951, there were 27 universities. Their number increased to 254 in 2001. In Orissa state, there was only one university in 1951. Now there are 9 universities.

- **Non-formal education:-**This scheme was launched on an experimental basis from the Sixth plan and on regular basis from Seventh plan. The aim was to achieve universal elementary education to all children in the age group of 6-14 years. The scheme was meant for those children who cannot attend schools regularly and for full time due to poverty and pre-occupation with other works. The Central Govt. is providing assistance to State Govt. and voluntary organization to implement the scheme. Non-formal education centres have been set up in remote rural areas, hilly and tribal areas and in slums. These impart education to children of 6-14 age group.

- **Encouragement to Indian Language and Culture:-**After the adoption of National Policy of Education 1968, regional language became the medium of instruction in higher education. Syllabus on science and technology, dictionaries, books, and Question Papers are translated into regional languages. Indian history and culture have been included in school and college curriculum.

- **Adult education:-**Simply speaking adult education refers to the education for the illiterate people belonging to the age group of 15-35 years. The National Board of Adult Education was established in the First Five Year Plan. The village level workers were assigned the job of providing adult education. The progress remained not too good. The National Adult Education Programme was started in 1978. The programme is considered as a part of primary education. National Literary Mission was also started in 1988 to eradicate adult illiteracy particularly in rural areas. The Centre gives assistance to states, voluntary organizations and some selected universities to implement this programme. There were 2.7 lakh adult education centres working in the country in 1990-91. This programme helped to raise the literacy rate to 65.38% in 2001.

- **Improvement of Science education:-**Central Govt. started a scheme for the improvement of science education in schools in 1988. Financial assistance is given to provide science kits, up gradation of science laboratories, development of teaching material, and training of science and mathematics teachers. A Central

Institute of Educational Technology (CIET) was set up in NCERT to purchase equipment for State Institutes of Educational Technology.

➢ **Education for all:-**According to 93rd Amendment, education for all has been made compulsory. The elementary education is a fundamental right of all children in the age group of 6-14 years. It is also free. To fulfill this obligation SarvaShikshaAbhiyan (SSA) has been launched.

The above discussion makes it clear that a lot of development in education has been made in India after Independence. There is wide growth in general education and higher education. Efforts have been made to spread education among all sections and all regions of the country. Still our education system is ridden with problems.

SCIENCE & TECHNOLOGY

60 years, yes it's been 60 years since "that" midnight seasoned with aspirations of a million people. India and Indians have come a long way; gone are the days when India was totally depended on the western world for all that's "cutting-edge". Today, India is a proud member of the science & technology high table. India's commitment to the use of science & technology

as a key instrument in national development has been clearly articulated time and again in various policy documents right from the early years of independence. And indeed, the progress made by our country since then in attainment of the stated goals in policy and plan documents has been substantial. In the past five decades 200 universities affiliating around 3000 colleges have been established to serve as an incubation ground for producing lakhs of technically qualified professionals. India today is acknowledged as the third largest storehouse in the world for technically qualified workforce. The pioneering Indian spirit has manifested itself in many fields; many frontiers have been won over.

AGRICULTURAL RESEARCH AND DEVELOPMENT

There was a time when Indian policy makers were worried about ways to feed the ever growing population. Limited forex reserves meant importing food was never a feasible idea, the other option was to bring more area under cultivation and that would have meant cutting the forests.

The solution was "Green Revolution" aimed at increasing the yield per hectare of land by using hybrid, high-yielding varieties of seeds.

Green revolution;-Under a man; a visionary whose dream was to rid the world of hunger and poverty, the great Dr M S Swaminathan, better known as the "Father of the Green Revolution"; India developed into a country that fed itself. Under the aegis of Indian Council of Agricultural Research, more than 2300 high yielding, hybrid varieties of food grains and cash crops have been developed. The achievements have been substantial by all means:

The Indian National Gene Bank established by the ICAR as a part of the National Bureau of Plant Genetic Resources, has preserved more than 1, 50,000 accessions and samples. The capacity of this gene bank has been increased to about 1 million making it the largest gene bank of the world. It has more than 7100 accessions of underutilized crops. World's first hybrid cotton, pearl millet, the first hybrid sorghum, the first hybrid castor, the first hybrid mango are some of the amazing achievements of Indian agricultural research. After China, India is only the second country in the world to develop its very own hybrid rice.

The first amber coloured commercial Triticale dwarf and very high-yielding wheat varieties were developed by ICAR, thereby providing sustenance to millions of hungry Indians without actually cutting into the forest cover or being depended on imports. Besides the green revolution, the yellow revolution in oil seeds, white revolution in milk production, blue revolution in fish production and golden revolution in horticulture bear ample testimony to the contribution of our agricultural scientists in making our country self-sustained in terms of food production.

Bhakra Dam

The BhakraNangal dam in itself stands as a proud testimony to the technical prowess of Indian engineers. For all those NRIs who love to gawk at America's Hoover dam, it would come as a surprise that the Bhakra at 741 feet is one of the highest gravity dams (compare Hoover Dam at 732 ft.). The dam provides irrigation to 10 million acres, thus playing a pivotal role in making the green revolution a true success.

DEFENCE RESEARCH AND DEVELOPMENT

By far the most remarkable achievement of India in the S&T sphere is the triumph over innumerable international sanctions to develop indigenous defence infrastructure. The bigger

the challenge, the more determined Indian scientist became.

Kaveri Engine

The GTX-35VS Kaveri is a low-bypass-ratio afterburning turbofan developed by the Indian Council of Agricultural Research), a lab under DRDO. Kaveri engine is an indigenous Indian design intended to power production models of the HAL's Tejas fighter, also known as "Light Combat Aircraft" (LCA) as well as the proposed twin-engine Medium Combat Aircraft (MCA). Further evolution of the Kaveri design is envisioned for armored fighting vehicles and for ship propulsion.

The Kaveri engine has been specifically designed for the demanding Indian operating environment, which ranges from hot desert to the highest mountain range in the world. With its development India no longer has to go around the world begging for engines to power its indigenous fighter planes and launch vehicles.

Tejas

Tejas Light Combat Aircraft (LCA) is India's answer to the F-16s, understanding the pressing need to be self-reliant in defence it was developed indigenously by Hindustan Aeronautics Limited. HAL's Tejas is an advanced, lightweight, supersonic multi-role fighter aircraft. Its tailless compound delta wing design powered by a single engine makes it ones of the best multi role aircraft around.

Sonars

DRDO, Bharat Electronics Limited (BEL) and the Indian Navy have developed a range of Sonars for the Navy`s frontline combat ships. These include the APSOH (Advanced Panoramic Sonar Hull mounted), HUMVAD (Hull Mounted Variable Depth sonar) and the HUMSA (Hull Mounted Sonar Array), Panchendriya Submarine sonar and fire control system, sonobuoy Tadpole, Simhika. Sonars may be considered one of DRDO`s most successful achievements, years of toil has now assured that today, the Indian Navy`s most powerful ships rely on Indian made sonars.

Torpedoes

DRDO is currently developing multiple Torpedoes. These include a lightweight torpedo (Advanced Experimental Torpedo). Apart from it DRDO is also developing heavy weight wire-

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guided torpedo Varunastra and Thakshak thermal torpedo suitable for use against both ships and submarines.

Prithvi

Prithvi Short Range Ballistic Missile: Three variants exist- the Prithvi I, II and III. Another submarine launched variant known as the K-15 is under development. The Prithvi is an exceptionally precise liquid fuelled missile with a range of up to 350 km. While relatively inexpensive and accurate, with a good payload, its logistics footprint is high, on account of it being liquid fuelled. It is indeed one of the best ballistic missile in the world in its class.

Agni

Agni Missile series: The Agni-II is an Intermediate range ballistic missile with a range of up to 2500 km. The Agni-I is a shorter ranged unit with a range of up to 800 km. The Agni-III is meant for a longer ranged deterrence capability with a range of up to 6000 km.

Akash

The Akash, a medium range SAM (surface to air missile) system comprising the command guided Akash missile and its specific launchers. India's defence research programme is very

symbolic in nature; it has showed to the world that even after being a late starter in the sphere of defence technology, India has developed on its own developed a credible defence arsenal. As a result, India no longer has to go around the world begging for high-tech defence equipment to safe guard its frontiers.

Space Research

Since its advent, a significant feature of the Indian space programme has been the underlying emphasis on reaping its benefits in the shortest possible time. To achieve this objective simultaneous R&D was initiated in all the three spheres of space technology namely rocket, satellite and space infrastructure development. Indian Satellite Systems Indian Remote Sensing:- The IRS system is by far the world's biggest constellation of remote sensing satellites. These satellites provide data for applications in agriculture, forestry, water harnessing, land use and land cover mapping, fold mapping and ocean resources survey.

The Indian National Satellite (INSAT) system is a shining example of what all has been achieved by India's space technology. The INSAT series is the largest domestic communication system in the Asia-Pacific Region. Active satellites of this series include INSAT-2E, INSAT-3A, INSAT-

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3B, INSAT-3C, INSAT-3E, KALPANA-1 (METSAT), GSAT-2, EDUSAT (GSAT-3) and INSAT-4A. INSAT satellites provide transponders (about 150) in various bands (C, S, Extended C and Ku) to serve the television and communication needs of India. The development of the INSAT system was a milestone by all means; it gave India the prowess to stand on its own for all critical functions.

INSAT & development of India's intellectual capital:- A land mark achievement of the INSAT series has been its role in helping unleash the power of distance learning. Never before had it happened that professors from India's premier educational institutes were accessible to students even in the remotest part of India. ISRO in association with UGC and Doordarshan through interactive shows like GyanVani brought about a silent revolution in the field of education. Innumerable students from all parts of the country benefited from ISRO's novel methods, thereby immensely adding to India's intellectual capital. Launch Vehicles: The Indian Satellite Launch Vehicle (SLV) was a project started in the early 1970s by ISRO to develop the technology needed to launch satellites. The project leader was Dr APJ Abdul Kalam. The first launch of the SLV took place in Sriharikota on 10 August 1979. With its

launch India joined the elite club of countries with such capabilities. Over the years the technological capabilities of India in this sphere have increased many folds; the SLV was followed by the ASLV (Augmented Satellite Launch Vehicle), the PSLV (Polar Satellite Launch Vehicle) and the latest of them all, the state-of-the-art GSLV (Geosynchronous Satellite Launch Vehicle). The progress India has made in the field of space technology is incredible in all sense and can be best described in the words of present ISRO Chairman G Madhavan Nair. The year was 1963; Madhavan Nair was in his final year at Thiruvanathapuram Engineering College, on the last day of his final year papers Madhavan Nair woke up early to make final preparations, to study alone he went to the hostel terrace. Standing there he was witness to a very peculiar site, he saw a man cycling down the road towards Thumba with "something" resembling like a rocket on his cycle carrier. Closely following him, in fact, running behind the cycle was another young man. He was certainly intrigued but didn't knew he was about to witness history. The man cycling with the "rocket" was none other than the father of Indian space research DrVikram Sarabhai and the man following him on foot was Dr A P J Abdul Kalam. They were on their way to Thumba to fire India's first sounding rocket

Nicke Apache. After sometime Madhavan Nair witnessed a rocket rise on the western horizon. He had by chance become witness to ISRO's first space flight, an organization he was destined to head one day. Today India is one of the leading nations in the field of space technology. From launch vehicle technologies to satellite design, fabrication to its application in diverse areas like communication, broadcasting, meteorology, disaster management, telemedicine etc. Indian scientists have successfully developed and demonstrated it all.

Not amongst those who rest on their past laurels, Indian space scientists have charted out ambitious plans to take Indian space programme to the next level.

India's first ever lunar orbital mission "Chandrayan" is scheduled for mid-08 lift-off. ISRO Chairman aims to put an Indian in space by 2015 and send an unmanned mission to Mars in the near future. And, with the successful testing of indigenously built Cryogenic engine, ISRO is confident of meeting its policy targets and take India one notch up on the global space arena.

PARAM is the series of supercomputers developed by the Centre for Development of Advanced Computing (C-DAC). The development of the same was taken up as a challenge to break the hegemony of the western world when it came to super-fast computing. The western world was reluctant to part with any of their technology as they feared India would use it for its space programme. Indian scientists under Dr Bhatkar developed something that was thought to be impossible until now. He functioned as the architect of PARAM Supercomputers, GIST multilingual technology and Education-To-Home (ETH) mission. Technologies that had far reaching impact on India's emergence as a pioneer in super-fast computing. The latest machine in the series is the PARAM Padma, which reached No. 171 on the TOP500 in 2003. Others include PARAM 10000 and PARAM 9000/SS. The PARAM 10000 was India`s first TFLOPS computer. C-DAC has also developed a high performance System Area Network called the PARAMNet-II having transfer speeds of up to 2.5 Gbit/s. The major applications of PARAM 10000 are in weather forecasting, remote sensing, drug design and molecular modelling. PARAMs have also helped in India`s space programme.

FUTURE CHALLENGES

Despite achieving a lot in the last 50 years, what is of paramount importance in the present context of fast changing technological scenario

is to keep the momentum going and further the efforts in science and technological R&D. The main challenge is to keep pace with the technological changes so as to ensure that the S&T developments are used for socio-economic development and help India develop into a country that can stand tall even amongst the tallest of the all. After the implementation of economic planning a lot of progress has been made in health services in India after Independence.

PROGRESS IN HEALTH SERVICES

General services:-Basic infrastructure in the form of primary health care services, has been provided in urban and rural areas. Primary health care services include material and child health care services and family welfare services. Specialized health care services are provided through hospitals in urban areas. Hospital beds per ten thousand population has increased from 3.2 to 9.3. (1950-51 to 1999-2000). No. of hospitals and dispensaries has increased by more than 7 times. The number of Para medical workers has increased many times. In 1950-51, there were 725 Primary Health Centres and in 1999, these rose to 22,446.

With the above said growth in health infrastructure the death rate per thousand population has declined from 27.4 in 1951 to 8.7

in 2000. Similarly Infant Mortality Rate (IMR) has declined from 183 per thousand to 70 per thousand in 2000. The life expectancy of an average Indian was 33 years in 1951 which increased to 63.5 years in 2001. Similarly birth rate has declined from 39.9 per thousand in 1951 to 26.1 per thousand in 2000. Communicable diseases have been controlled to a considerable extent.

Control of Communicable Diseases:-To control communicable diseases like Malaria, Tuberculosis and AIDS etc. many national programmes have started.

Malaria:-Malaria was killing 10 lakh people every year at the time of independence. National Malaria Eradication Programme was started in 1958. It is a biggest health programme against a single disease. As a result of this the number of deaths due to Malaria declined. The disease is still existing in the country and effective efforts are still required to eradicate this disease.

Small Pox:-Small pox was a deadly disease. India had eradicated this disease from the country since April 1977. It was a big achievement of health care programme.

Tuberculosis:-It is commonly called TB. To control TB, National TB Control Programme was started in 1955. A number of TB hospitals have been opened across the country. Revised

National Tuberculosis Control Programme was launched from April 1977. District T.B. centres are functioning in 446 districts of the country.

Leprosy:-Leprosy is another communicable disease which is prevalent in the country. India has highest number of leprosy patients in the world. There were nearly 20 lakh leprosy patients in India in 1990-91. National leprosy control programme was started in 1955. In 1983, the programme was renamed as National Leprosy Eradication Programme. The programme aims at eliminating leprosy from the country.

AIDS:-Acquired Immune Deficiency Syndrome (AIDS) is one of the most dangerous disease. In India, it is spreading fast. In 1987, National AIDS Control Programme had been launched in 1987. Upto 1990-91, 29 Zonal Blood testing centres had been established. People are being made conscious about AIDS through mass mania.At National level, National AIDS Control Organization (NACO) has been established. In Orissa State Orissa AIDS Cell (OAC) has been established by State Govt. OAC has started many projects including making people conscious about the evils of AIDS, identification of AIDS patients and helping people to take preventive measures and lost to shun fears from the minds of people.

Non-Govt. Organizations :- (NGO's) are working to bring awareness among people living in slums, labour colonies and especially among truck drivers who are main victims of this disease. OAC is the first in the country to have HIV-AIDS Task Force. Three medical colleges in the State have opened free blood testing units.

Polio:-Pulse Polio Programme (Triple P) has been launched in India to eradicate polio. People gave tremendous response to this programme. To immunize the children from this deadly disease, the anti-polio drops are given to children below the age of 5 years.

Goitre Control Programme:-This disease is quite common in India. About 14.5 crore people are patients of this disease. To control this disease, iodized salt is provided to people and awareness among people is created through mass media to use iodized salt.

Maternal and Child Health Services

Maternal and child health services are provided to people in rural and urban area through existing health infrastructure. The services include prenatal and postnatal care, immunization and oral rehybration therapy to fight against diarrhoea. One of the important programme is Universal ImmunizationProgramme. Under this

programme vaccination is provided against diphtheria, tetanus, polio, tuberculosis and measles etc.

Traditional system of Medicine

The four traditional system of medicine like Ayurveda, Siddha and Unani and Homeopathy are made popular to serve humanity. Each system has a Central Council and an attached Research Council. Ayurvedic and Homeopathy colleges, hospitals and dispensaries have been established in all States. These medicines are cheap. A common man can purchase these.

Measures Taken

To provide transparency in Governmental activities Government has passed Right to Information Act on 12th October, 2006. This will empower the citizen to question on any issues of Government where they lack transparency. To abolish the evils like child labor government has come out with Protection acts By which the children not only get protected from exploitation but also been provided with education & health also. Making education free & compulsory for children aged below 14 years & including it in Fundamental rights is an appreciable measure in tackling illiteracy problem. Under Bharat Nirman scheme Government is covering all the areas of development from sanitation to drinking water, infrastructure, health, education etc. We have even partly achieved the set targets. Several ministries have now started operating online. For ex. Income tax returns can now be filed online thus ensuring transparency & reducing unnecessary costs. Annual reports of ministries are made public thus can act as a measure of their functioning. Several commissions have been set up to assess & review the conditions of weaker sections, Women, Children & status of nation as a whole etc.Ex Minority commission, National knowledge commission etc. & their recommendations are yet to be implemented. With the introduction of PIL functioning of Judiciary has been activated to major extent .this acts as a check on the erratic behaviour of Government &it's policies. To strengthen Administration & it's functioning Administrative reforms commission , Police reform commission been set up & yet to accept the recommendations. If the recommendations get implemented the efficiency of administration will definitely enhance which in turn would faster the development. Last but not the least is the area of Art, sports & entertainment where, by providing quotas, subsidies, good coaching for sportsmen etc. Government has been encouraging many youth

to take part in these activities & enhance their performance globally.

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