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PANDIT JAWAHARLAL NEHRU'S SCIENTIFIC CONSCIOUSNESS : A RE-EVOLUTION FROM HISTORICAL POINT OF VIEW

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Abstract

Pandit Jawaharlal Nehru's Prime Ministership always deserves a special mention in the history of post-independence India, especially in the current era where due to various reasons there is an attempt to change the concept of real development model, where development is not a change with far-reaching results, but a quick and visible action as a model of development. There is a tendency to point out that a re-evaluation of Pandit Nehru's work is definitely necessary. Educated abroad, accustomed to Western customs but with deep respect for India's diverse society, pluralistic culture, religion, and philosophy, Nehru's scientific spirit, and his ideas about art, education, and technology played a special catalyst in the steps he took in the socio-economic reconstruction of the country.

It was first decided to form a Russian-style Planning Commission for economic and social reconstruction under the direct initiative of the state. In the First Plan, the emphasis was placed on agriculture to ensure food supply for all Indians. At that time, Indian agriculture was often subject to floods and droughts, so in the First Plan, the government has taken steps to create a multi-purpose river plan at various locations. Technical education and health education infrastructure was almost non-existent in India at that time. To fill this gap, the government decided to create IITs and AIIMS. The Second Plan especially emphasized the development of heavy industries, so that the economic growth of the country as well as the unemployment problem could be solved quickly. It was during Pandit Nehru's regime that India entered the world of nuclear energy and the research on nuclear energy started in India, as a result of these initial efforts, India was able to emerge as one of the nuclear power nations in the world today.

The reforms during Pandit Nehru's tenure also had many limitations, most of his projects depended on foreign aid, and he could not undermine the influence of capitalists and bureaucrats in the governance structure of the country, these reforms are in many ways comparable to Antonio Gramsci's "passive revolution". But these limitations never belie Pandit Nehru's good intentions in nation-building. When he took the lead of the country in a very difficult time, India was plagued with various problems at home and abroad, in spite of that situation, the steps taken by him during his 17 years of continuous rule, with his scientific consciousness and technological thinking, were undoubtedly decisive in the formation of modern India.

Keywords: *Development, Pandit Nehru, India, Prime Minister, Five Year Plan, Agriculture, Industry, Technology, Independence, Congress.*

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Pandit Jawaharlal Nehru's long 17-year prime ministership always deserves a special discussion as a distinct era in the history of post-independence India, especially when the idea of a pluralistic India is under threat due to various reasons, his various ideas about the country and the country's development have become very relevant. In this situation, how he took a leading role in laying the foundations of modern India with his modern scientific consciousness after independence is undoubtedly particularly noteworthy. It is also noteworthy because there may be attempts in present days to change the concept of real development model. Now development does not define a change with far-reaching consequences, rather there is a tendency to present a quick and eye-catching activities as models of development, so that the fumes of that 'development' can be easily gained at the ballot box in the upcoming elections; thereby the common people are being deprived from the fruits of real development. Standing in this situation, after independence, through the overall improvement in almost all levels from education, health to agriculture and industry, the way in which the development of the common people of the country was tried to be achieved during Neheru's era despite overall adversities at that time, these were undoubtedly ground-breaking steps, and the scientific spirit of Pandit Nehru were behind the adoption of these steps as a special catalyst.

Pandit Nehru's student life played a major role in developing this scientific thinking.¹ When he completed his school life at Haro School, London and joined Trinity College for higher education, he took natural science as his honors subject rather than the more popular subjects like political science, history or philosophy, although during his college life he studied Indian and Western political philosophy. He acquired equal knowledge of history, geography and civilization. After graduation, he obtained a law degree from Inner Temple Inn college at the will of his father Motilal Nehru, but he never set his mind for advocacy; Advocacy appeared to him as a dull profession with no room for intellectual development. So on his return he left the bar after practicing for a few days in the Allahabad High Court, after which he donned the black coat of a lawyer only once in his life – in 1946 when he pleaded for the Azad Hind Fauz soldiers on their trial at the Red Fort.

Due to his long stay in abroad, he could understand how the various countries of Europe were progressing through Western education, science and technology, so he considered knowledge and science as the only tools for the overall upliftment of the poors of India, which was full of superstitions and mired in poverty at that time.² Pandit Nehru was the first Indian to become the President of the Indian Science Congress (Allahabad, 1938) without being a scientist. The role of science in eradicating poverty and hunger in India is evident from his Presidential Address: "It is science alone that can solve the problems of hunger and poverty, of insanity and illiteracy, of superstition and deadening custom and tradition, of vast resources running to waste, of a rich country inhabited by starring people."³ The importance of religion was immense in Indian society, where religion sought to solve worldly questions through the spiritual world, science wanted to answer those questions through material theories, but Pandit Nehru wanted a combination of religion and science to inculcate scientific consciousness in Indian society "It must essentially have spiritual values and certain standards of behavior and when we consider these, immediately we enter into the realm of what has been called religion."⁴

But the India which he took over after independence was financially crippled, a land of poverty, famine and starvation, where more than two-thirds of the population was forced to fast at one time. Colonial rule and oppression destructed Indian industry and agriculture. In parallel, the Nehru government also had to deal with the problem of resettlement of refugees from Pakistan in Bengal and Punjab. In this situation, Pandit Nehru decided to form a Soviet Union-style Planning Commission for the overall reconstruction of India. In the 1920s, Joseph Stalin established the Five Year Planning Commission in the then Soviet Union. Even before independence, the socialist leaders of the Congress were demanding the formation of a Russian-style Planning Commission in India. In 1938, then Congress President Subhash Chandra Bose formed the National Planning Committee, which was chaired by Jawaharlal Nehru. Scientist Meghnad Saha also took an active role in the formation of this Congress National Planning Committee. Even after independence, the Planning Commission was formed for the socio-economic development of Indians. Although this type of organization was the product of a fully state-controlled socialist thinking, Nehru

favoured a mixed economy combining state enterprises and private ownership rather than a strictly state-controlled economy. His argument was that as a result of the long colonial rule, private capital did not develop much in India and financial disparity increased, so there is a need for the government to take direct initiative in the socio-economic restructuring of post-independence India, infrastructural development and advancement of science and technology, so that the government directly can participate in the development of the poor and disadvantaged masses. But the Nehru government faced opposition to this decision from both inside and outside the party. Once his close associate Chakraborty Rajagopalachari, whom he wanted to replace Babu Rajendra Prasad as the country's first President, and for whom he had been displeased many within the party by courting Rajaji, Rajaji left the Congress in opposition to Nehru's mixed economy and formed a new party called the Swatantra Party. But despite all opposition, Nehru did not deviate from the path of mixed economy, although he also respected private initiative in the infrastructure development of the country- "We have felt that there is still an honorable place for private enterprise. But if we have any national plan, as we must, then the private sector must accept the objectives of that plan and fit into it. Indeed, both the public and the private sector must function, more or less as a single whole, in the interests of that plan and serve the same social ends."⁵ Graphically, the Planning Commission's recommendations not only made India self-sufficient in food grains but also developed heavy industries in vast underdeveloped areas of the country and helped the Indian economy stand on its own feet.

The primary challenge for the first Nehru government was to provide food for the vast Indian population. At the time of independence, nearly three-fourths of India's population was directly or indirectly dependent on agriculture, but India was not self-sufficient in food grains, and the Indian government had to import food grains from abroad to feed the country's large population. As India is primarily a monsoon-affected country, the vagaries of the monsoons have resulted in frequent droughts and floods in the country's agricultural sector. The colonial rulers did not take any special initiative to solve this problem, but Nehru's government was determined to solve this problem - the First Five Year Plan (1951-56) therefore gave more importance to the development of the agricultural sector. Nehru took the help of technology to deal with droughts and floods and tried to change the geography of the country by building big dams. In the year after independence, the Central Government in joint venture with the newly formed West Bengal and then Bihar governments developed India's first multi-purpose river dam project centered on the Damodar River valley. Earlier in 1943, after the terrible flood of Damodar river, the then provincial government of Bengal constituted an inquiry commission, this commission recommended the development of a multi-purpose river plan, modeled on the US Tennessee River Plan, for Damodar river flood control. In 1948, the Nehru government gave its seal of approval to this decision, which made it possible not only to control floods in the so-called 'River of Sorrow' Damodar, but also to retain the surplus water in the dams during the monsoons for later irrigation purposes in the dry season and to supply water to various industrial areas. How ground-breaking this decision was can be seen from the vast areas of today's Burdwan, Bankura, Birbhum districts of West Bengal. As in Bengal, the plan to build a dam across the Sutlej river was adopted in Punjab, the master plan of this project was entrusted to the eminent Bengali civil engineer Rai Bahadur Kumar Sengupta. The project is named Bhakra Nangal Project after the two main dams Bhakra and Nangal of this multi-purpose river dam project. The Bhakra Dam was constructed at the confluence of the Sutlej and Beas rivers near the town of Harike in Punjab, from which a network of canals was spread. The longest canal of these is the Rajasthan Canal (now 'Indira Gandhi Nahar') which was about 400 miles long. The Bhakra Dam has not only fertilized Punjab but also saved this vast region from floods, even as the canals emanating from this dam have conveyed floodwaters to remote areas within the Thar Desert. As a result, the local farmers have benefited from cultivation even in desert areas. So Pandit Nehru did not see the construction of these multipurpose river dams as a means of earning money only, he saw it linking with the development of the country with the development of the common people. And that is probably why he addressed these versatile river dams as the 'New temples of Modern India' in his Bhakra Dam inauguration speech (October 22, 1963): "This dam has been built with the unrelenting toil of man for the benefit of mankind and therefore is worthy

worship. May you call it a Temple or a Gurudwara or a Mosque, it inspires our admiration and reverence.”⁶

But Pandit Nehru did not want to stop at just building dams, he wholeheartedly believed that Indians have to create their own future and he believed that Indians can be the masters of their own destiny with the help of their own talent, so long before independence (1942) he spoke about the immediate future of India. In ‘Fortune’, he wrote: “India is a mother country, which has influenced in the past, vast sections of human race in Asia. She still retains that storehouse of cultural vitality that has given her strength in the past and at the same time has the natural resources, the scientific, technical, industrial and financial capacity to make her great nation in the modern sense of the world.”⁷ But for the full development of that talent, various higher education institutions were necessary. He decided to set up an educational institution for the study and teaching of engineering and technology in India on the model of the Massachusetts Institute of Technology in England. Earlier, a committee chaired by former Bengal Finance Minister Nalini Ranjan Sarkar had recommended on establishment of Indian Institute of Technology at four locations in the country. A year after independence the Ministry of Science and Technology under the Prime Minister gave green signal to build IIT. The country's first IIT was set up at Hijli Jail, near the railway town of Kharagpur in West Bengal. Four more IITs were subsequently created at Bombay (1958), Madras (1959), Kanpur (1959) and Delhi (1961), bringing the total to 23 at present. Research at IITs today has made them one of the world's premier technical education hubs. Dr. Vijay Bhatkar, former director of IIT-Delhi and an alumnus of that university, who developed India's first supercomputer PARAM 8000, says that on an average, about 1.8 lakh students graduate in engineering exams every year in India which makes India the world's largest engineer human resources. The primary teachers of the institutes from which these engineers are passing out were almost all students of IITs.⁸ Pandit Nehru understood the necessity of this technical knowledge in building modern India and so he laid the foundations of institutions like IITs and NITs, resulting in today's technical and in the world of technology, India has achieved one of the most respected places in the world.

The government is moving towards taking similar steps in the health sector as well. The Bore committee formed in 1946 recommended the creation of a world-class hospital, health university and research institute in India. After independence the government started thinking about this, Pandit Nehru wanted this new institution to be built in Calcutta, but due to the objection of Dr. Bidhan Chandra Roy, the then Chief Minister of West Bengal, his wish was not implemented. The construction of this hospital and university started in Delhi instead of Calcutta. Pandit Nehru in this matter got most active support from his Health Minister Rajkumar Amrita Kaur. Most of the aid to build hospital and research center infrastructure came from New Zealand, but urgent aid was also received from West Germany, the Netherlands, the Ford Foundation and the Rockefeller Foundation. Finally, in May 1956, the Parliament passed a law and the government finalized the decision to establish the All India Institute of Medical Science (AIIMS) in Delhi⁹, the number of these AIIMS has now reached at 23.

The Second Five Year Plan (1956–61) gave more importance to the development of heavy industry than to the construction of agriculture, health and education infrastructure. Renowned statistician Dr. Prashant Chandra Mahalanvish played a key role in the development of this plan, arguing that heavy and labor-intensive large-scale industries could be developed in the plateau region of India, particularly the Chotanagpur Plateau region of eastern India, by using the vast mineral resources in the region. The industrial development in British India took place around the cities of Bombay, Calcutta and Madras. At the time of independence only 11% of India's gross domestic product (GDP) came from industry. Although he had lifelong respect for Mahatma Gandhi, unlike Gandhiji, Pandit Nehru believed that the development of heavy industry was absolutely necessary for India's financial progress. Since India was not financially powerful at that time, he considered it preferable to receive foreign aid for mass industrialization. "I should have personally thought, apart from the immediate problems that face us, that one of our urgent needs was to develop and encourage, to put into operation, these various beg schemes and projects in India which would give us greater power, electrical power, more land under irrigation and more power generally for Industry etc..... these schemes are investments and we must find money for

them. If necessary we must borrow money in India or abroad and we must get them through. For unless we do that we cannot increase the productive capacity of India very greatly.¹⁰ With the help of the then Soviet Union, the country's first official iron and steel factory was established in Bhilai (1955), then one by one with the help of West Germany in Rourkela (1959), Iron and steel factories were established at Durgapur (1959) with cooperation of Great Britain and again at Bokaro (1966 during the Third Five Year Plan) with Soviet cooperation.¹¹ Apart from this, the government also tried to set up various hydropower projects and heavy machinery dependent industries. Apart from the government sector, private enterprises are also encouraged in industry. The Birla clan ventured to build a car manufacturing industry in Uttarpara, Hooghly district of West Bengal in 1948. According to popular legend, the then West Bengal government donated around three hundred and fifty acres of land to the Birlas for the construction of a factory for only Rs 1 at the request of Pandit Nehru. Also in Maharashtra the Bajaj group and in Madras the Hinduja group of industrialists based set up various heavy engineering, automobile and electrical goods factories. As a result, the industry's share in India's domestic production rose to close to 20%.

Along with industrial, technical and technological progress, the Nehru government was also active in the development of nuclear power. Pandit Nehru was optimistic about the future of nuclear energy and he believed that in the future world will only respect those countries who are strong in nuclear energy. In a letter sent to his own Home Minister Sardar Baldev Singh in 1948, he was found to have said: "The future belongs to those who produce atomic energy. That is going to be the chief national power of the future. Of course, defense is intimately concerned with this. Even the political consequences are worthwhile."¹² In the beginning, he was a staunch opponent of atomic bomb construction, when America dropped atomic bombs on Hiroshima and Nagasaki on August 7 and 9, 1945, it upset him. Later he came in contact with Dr. Homi Bhava and he gave his consent for the development of atomic bomb, but he was not in favor of its use. Prime Minister Indira Gandhi's principal secretary Parameshwar Narayan Haxar said in an interview that Nehru told him about the development of nuclear power: "Let's save future generations from the scourge of nuclear war, we should not fail."¹³ His comments in this regard were often contradictory. In fact, he did not want anyone to think that India was weak, he wanted to say from the ideology of non-alignment and panchsheel that even if India has the capability to make nuclear bomb, they will never use that bomb first for the need of world peace. Within eight months of independence, the government passed the Atomic Energy Act and set up the Indian Atomic Energy Commission. Pandit Nehru entrusted the development of atomic energy in India to eminent scientist Dr. Homi Jahangir Bhava, who had studied at Cambridge University and had already founded the Tata Institute of Fundamental Research in Bombay in 1945. In 1954, the Atomic Department was formed under the leadership of the Prime Minister, with Dr. Bhava appointed as its Secretary. In the same year, India's first nuclear reactor named Apsra was inaugurated and the foundation stone of India's first nuclear research center was laid. Although personally opposed for making bombs, he wanted to acquire all the techniques of making bombs. But it was the early initiatives taken during his time to develop nuclear power that led to two successful atomic bomb tests at Pokran, first by Indira Gandhi and then by Atal Bihari Vajpayee, and today India emerges as a nuclear power along with the United States, China, Britain and Russia.¹⁴ In addition, the use of nuclear energy is currently being prioritized to meet domestic electricity demand. With eight nuclear power plants in India currently supplying a little over 3% of India's total electricity demand, nuclear power is the world's most promising alternative to fossil fuel-based power generation in the future.

It is undoubtedly true that most of the steps and reforms undertaken by Pandit during his 17 years as Prime Minister were the product of his scientific thinking and technological thinking. But his reforms are in many ways comparable to Antonio Gramsci's "passive revolution", a passive revolution in a country when the ruling class fails to attack the old dominant class and undertakes reforms in order to save the country from class conflict revolution. Although the new Indian government was responsible for hunger, housing and education of the overpopulation, the central government had gradually increased the allocation of defense expenditure in the budget since Pandit Nehru's tenure. The large river planning program undertaken in the First Five Year Plan did increase foodgrain production, but this rate was much lower than population growth, forcing India to import wheat from the United States under the PL480

project in the event of a food shortage in the country within a few days. The Second Five Year Plan also failed to meet its immediate objectives. Pandit Nehru and Dr. Mahalanwish wanted to solve the country's unemployment problem through the development of heavy industry and the subsequent development of industries and cities centered around it, but the 1961 census report says that even in that year (1961) unemployment in urban and rural areas of India was 6.3 and 6.3 respectively which was 9 million in number. The Mahalanbish Committee Report of 1961 admitted that only the upper classes benefited little from the scheme and that economic power tended to be concentrated in the hands of a few. On the one hand the government was emphasizing the development of state-controlled industries, while on the other hand 70-90% of Jutebag production, 70% of coal mining and 73% of other minerals including gold and magnesium were under the control of foreign capital.¹⁵ Moreover, he wanted to develop industry in India by over-reliance on foreign capital. In addition, the introduction of the license raj within the country during this period strengthened bureaucratic control over the industry, since only those with good relations with the government and the Congress Party were granted exclusive licenses to build factories. But these limitations never belie Pandit Nehru's good intentions in nation building. When he took the reins of the country in a very difficult time, India was plagued with various problems at home and abroad, even in that situation, the steps taken by him during his 17 years of continuous rule combined with his scientific consciousness and technological thinking laid the basic foundations in various aspects such as education, health, science and technology and industry. So today, when fundamental issues like education, health, housing and employment are being neglected in the trap of 'eyeballing' development, a re-evaluation of Pandit Nehru's thinking in the post-independence era becomes definitely necessary.

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