

6. PLANNING FOR ECONOMIC PROGRESS

I think the Five-Year plans are still very useful because they do not go into very great detail and set only the broad contours of development.

- K.N.Raj

6.1 Roots of Planning

The roots of planning in India may be traced to Karachi Congress Resolution (1931), Visvesvaraya Plan (1934),¹ All-India National Planning Committee, headed by J.Nehru (1938),² the Bombay Plan (1943), People Plan, Gandhian Plan,³ Advisory Planning Board, chaired by K.C.Neogy, and Economic Programme Committee, appointed by AICC (1947).

6.2 The Planning Commission, 1950

Early experiments in planning culminated in the creation of the Planning Commission. (The Planning Commission was established by a Resolution of the Government of India on 15 March 1950. It was not the creation of the Constitution. It was an extra-constitutional institution. The Prime Minister was the ex-officio Chairman of the Commission and he was the only link between the Commission and the Government. The members of the commission were appointed through executive action. The Secretary to the Cabinet from the beginning was the Secretary to the Commission.⁴ The Planning Commission was an advisory body.

6.3 National Development Council, 1952

The National Development Council (NDC) was constituted in August 1952. Like the Planning Commission, it is not a statutory body. It is composed of the Prime Minister (Chairman), all Union Cabinet Ministers, Chief Ministers, Heads of Union Territories, and members of the Planning Commission. The *objectives* of the National Development Council are to (1) secure compliance of states in the implementation of the plan; 2) mobilize resources; 3) promote national economic policies; and 4) ensure balanced economic development. In practice, the council prescribes guidelines for preparation of the Five Year Plan; critically considers the Draft Plan; assess resources and suggests measures to

augment them; considers important socio-economic policy matters; reviews the working of the plan; and recommends measures for realizing the objectives of the plans.

The National Development Council is an organic link between the Centre and the States. It helps to bring about co-ordination of policies and programmes of the plans. It also serves as a forum for centre-state deliberation on issues of national importance. Thus, the council strengthens the federal character of the constitution. However, the National Development Council is criticized as "a super cabinet of the entire Indian federation"⁵ and a mere 'research arm' of the Planning Commission.⁶ True, the National Development Committee is an advisory body and its recommendations are not mandatory. However, its suggestions are valued as policy directives. It occupies a pivotal position in the process of economic planning.

6.4 Objectives of Planning

The following were the objectives of planning.

1) To prepare a plan for the most effective and balanced utilization of the nation's resources; 2) To initiate a process of development in which will raise living standards and open out to the people new opportunities for a richer and more varied life; 3) To field up an institutional frame work adequate to the needs and aspirations of the people; 4) To double the national and per capita incomes from the levels obtaining at the beginning of the first year plan; 5) To raise the consumption standards; and 6) To ensure that the economy can reduce substantially dependence on assistance from abroad.

6.5 Five Year Plans

6.5.1 First Five Year Plan – 1951-1956

In the absence of reliable data, the first plan was formulated on a rational hypothesis. It was at best a patch work of several projects which had been worked out earlier and the developmental activities of various government departments. The triple objectives of the first plan were:

1) To correct the imbalances in the economy; 2) To initiate simultaneously a process of all-round balanced development; and 3) To provide an infrastructure for rapid industrial expansion in the future. The planning effort, besides being an existing, pioneering venture, was a new deal approach to the shattered and shaky Indian economy. "Even drawing up this plan was indispensable work, the best work, done by the "central government during the four years of its free existence".

In spite of serious limitations the plan had some revolutionary features:

1) The reform of an antiquated land system which was inhibiting agriculture production. 2) The setting up of a nation wide agriculture extension service as part of a comprehensive community development programme and 3) Revitalisation of the cooperative movement, and extension of irrigation and power facilities. Though modest, the first five year plan achieved food targets, did not impose strain on the people, led to self-confidence and was an invaluable experience of planning itself.

Community Development Programme, 1952

Community Projects

On 2 October 1952, the Government of India launched the Community Development Programme, with great fanfare and publicity, to synchronize with the birth anniversary of Mahatma Gandhi and to coincide with the First Five Year Plan. The objective was to change the whole face of rural India and to raise the level of the vast majority of our population. A small beginning was made on that day when 55 *Community Projects* were inaugurated, covering about 17,000 villages.

National Extension Service, 1953

In 1953, as a corollary, National Extension Service (NES) was formulated. The purpose of NES was to provide trained workers for the community projects all over the country. Nehru saw in these twin programmes the possibilities of a great revolutionary change carried out peacefully and without conflict or coercion.

Initially, the community projects were started in 55 Development Blocks, each Block consisting of about 100 villages with population of 60,000 to 70,000. The National Extension Service was organized to provide trained manpower to CD projects and to spread the ideology of the Community Development in villages. So the first plan sought to initiate a process of transformation of the social and economic life of the villages.

Since the Community Projects were comprehensive in coverage and character embracing agriculture, animal husbandry, social education, communication, village industries and other aspects of village life, they achieved considerable results. By the mid-sixties, most of the country was covered by a net work of community blocks employing more than 6,000 Block Development Officers (BDOs) and over 600,000 Village Level Workers (VLWs) or Gram Sevaks,

to help implement the community development programme. The VLWs acted on behalf of all the development departments in the implementation of the schemes at the village, thereby simplifying the relationship between the villagers and the government.

The Community Development Programme produced results in providing better seeds, fertilizers resulting in agricultural development in general and greater food production in particular, construction of roads, tanks, wells, schools, primary health centers, extension of education and health facilities. There was a great deal of enthusiasm. It enormously increased the expectation of the people.

Estimate

Both the Community Development Programme and the National Extension Service were the major policy initiatives so boldly taken by the Nehru Government. These target group programmes were undertaken with the expectation that the benefits of increased production and employment opportunities would trickle down to all strata of society. But "the benefits of development were cornered by the dominant strata of society and deprived groups were left high and dry". While retaining the old structure of district administration, the CD Programme introduced a new type of administration and as a result the programme was caught in the cobweb of bureaucracy. Planning was from the top down, with targets set down the hierarchy from the Planning Commission to the state governments to be implemented at the local level. As a result, the CD Programme, though succeeded in achieving physical targets, failed in its basic objective of involving villagers as full participants in developmental activity. This lacuna was sought to be corrected by the introduction of the Panchayat Raj.

6.5.2 Second Five Year Plan, 1956-1961

Avadi Congress, 1955

The 60th general session of the Indian National Congress was held from 21st to 23rd January 1955, at Satyamurthi Nagar, Avadi, Madras. The then Chief Minister of Madras State, K.Kamaraj, was in over all charge of arrangements. The Congress session was attended by a record number of Congress leaders including Nehru and delegates. U.N.Dhebar presided over the session. Marshall Tito, President of the Republic of Yugoslavia, graced the session as a special invitee.

Socialistic Pattern of Society

At the Avadi Congress session, the historic resolution for the establishment of a 'Socialistic Pattern of Society' was passed. The Resolution was moved by Nehru and Seconded by K.Kamaraj. The Resolution envisaged the Socialistic Pattern as the ultimate goal of economic planning to further the objectives stated in the Preamble and Directive Principles of State Policy of the constitution of India. It was envisaged that, 1) the principal means of production would be under social ownership; 2) production of goods and services would be progressively speeded up and 3) that there would be equitable distribution of the national wealth. It was a far-reaching proposal for social-economic transformation. It represented a paradigm shift in the economic approach to national development.

Mahalanobis Model

Prof.Prasana Chandra Mahalanobis⁷ gave content to the concept of Socialistic Pattern of Society. His pragmatic model presented an alternative to the Gandhian village swaraj scheme and the Soviet socialistic design. The Mahalanobis Model consisted of 3 distinct elements: 1) approach of self-reliance; 2) emphasis on basic and heavy machine-building industries; and 3) the dominant role of the public sector in basic and heavy industries. In short, it was a blue print for the rapid industrialization of India. "Thanks to his National Sample Surveys and Central Statistical Organisation, India boasts of a unique data base for tracking socio-economic changes and a sound statistical system".⁸

Mixed Economy

Mixed economy was the outcome of the Mahalanobis model. The architecture of India's development was largely influenced by it. The ultimate framework of mixed economy was based essentially on the blue print prepared by Mahalanobis. The policy of mixed economy attempted to clearly demarcate the definite spheres of economic activities for public and private sectors. Top priority was given for the achievement of self-sufficiency in the production of capital goods.

The unique model of mixed economy was adopted because: 1) Economic consolidation and resurgence could be accomplished by the initiatives and efforts of the public sector alone; 2) State alone could shoulder the immense responsibility to deal with the problems of poverty, unemployment, population, illiteracy, regional imbalances and so on; 3) The then existing physical infrastructure like power, roads, railways, ports, telecommunications etc was

pathetically inadequate, for building a modern economy and such a massive infrastructure development could not have been undertaken by the private sector; 4) A raging sense of uncertainty about the efficacy of the free enterprise system in delivering goods; 5) the non-aligned middle path approach with a strong bias towards the public sector offered a way out of the U.S. dominated capitalistic economy and the social type of communistic alternative and 6) It was superior to both Capitalism and Communism since it preserved democratic frame work.

Primacy of Public Sector

When India became Independent, she had basically an agrarian economy. Industrial base was lamentably low. The level of saving and investment was pathetically poor. The infra-structure was almost unenviable. Employment opportunities were few and far between. The private sector had neither resources nor the will to court risks involved in large and long-term investment. Under such compelling circumstance, the public sector was found to be inevitable instrument of economic progress of India. Hence, Public Sector Enterprises (PSEs) were given prime of place in the economic planning of the country. Public sector became the fulcrum of planned economy. It came to assume 'commanding heights'. In fine, Mahalanobis Model influenced India's path of economic development to the next thirty five years and "survived the vicissitudes of both internal socio-economic events and external shocks".⁹

Industrial Policy

Industrial Policy Resolution, 1948

Within less than a year after Independence, the Government of India, on 6 April 1948, announced its industrial policy by promulgation of the Industrial Policy Resolution. The Resolution defined and demarcated the respective roles of public and private sectors; classified industries with emphasis on village and small scale industries; underlined the importance of industrial relations; indicated the inflow of foreign capital; provided a pointer to governments' approach to nationalization. In short, the 1948 Resolution defined the broad contours of Independent India's Industrial Policy.

Industries (Development and Regulation) Act, 1951

The Industries (Development and Regulation) Act 1951 came into effect on 8 May 1952. The Act was intended to achieve the objective of the industrial policy of the Government. The Act armed the Government to impose conditions in respect of the size of enterprises, to cause investigation into the functioning

of industries; and to issue corrective directives and if necessary take over the management of industries. (Industries were required to be licenced by the Government. This enabled the Government to regulate the growth of private industries in tune with the industrial policy.)

Industrial Policy Resolution, 1956

On 30 April 1956, the Government adopted the Industrial Policy Resolution which replaced with earlier Resolution of 1948. The *objectives* of the new Resolution were:

- 1) accelerate the rate of economic grow and speed up industrialization;
- 2) develop heavy and machine building industries;
- 3) expand the public sector;
- 4) develop a large and cooperative sector;
- 5) reduce disparities in income and wealth and
- 6) prevent concentration of power in the hands of few individuals.

The salient features of the industrial policy resolution 1956 were:

- 1) industries were classified into state owned or public sector and promote section units;
- 2) inter dependence between these two sectors;
- 3) the role of cottage and small scale industries was specified;
- 4) intensive development in backward and neglected areas and removal of regional disparities;
- 5) emphasis on technical and managerial personnel, and
- 6) the role of labour in industrial development programmes, with added emphasis on improvement on their working and service conditions.

For the first time, the Industrial Policy Resolution 1956 framed a comprehensive industrial policy, which guided the role of the public sector. The public sector was expected to augment the revenues of the state and provide resources for further development in new fields. This policy also attempted to give a fair and non-discriminatory treatment to the private sector. For the first time the principle of state trading was introduced. The Imperial Bank and Life Insurance were nationalized. Export and import trade had been passing into the hands of the state. This Resolutions "empowered the public sector to play a strategic and exclusive role in the development of seventeen industries for well over three decades".¹¹

Second Plan 1956-1961

The Plan

The Second Five Year Plan was based on the Government policy of socialistic pattern of society and Mahalanobhis Model of Mixed Economy. The *main objectives* of the plan were,

- 1) The increase of 25% in the national income;
- 2) rapid industrialization with emphasis on the development of basic and heavy industries.
- 3) Large expansion of employment opportunities and
- 4) Reduction of inequalities in income and wealth and more even distribution of economic power.

The second plan represented a serious effort at planning and corresponded with China's first plan. It was the first effort at total planning. The substance of the plan was the provision for three steel plants at Bhilai, Rourkela and Durgapur, started with Soviet, German and British collaboration respectively. The public sector further expanded its dominant position through nationalisation of institutions offering various financial services.

Panchayat Raj, 1959

Balwantrai Mehta Study Team

By 1957, the entire Rural India was covered by Community Development Blocks. The five years experience with the execution of this programme revealed lack of enthusiasm among rural folk. In 1956, Committee of Plan Projects appointed a Study Team under the chairmanship of **Balwantrai Mehta**. In its Report published in 1957, the Study Team disclosed that,

1) The CD Programme had failed to evoke popular initiative; 2) Local bodies at a level higher than Village Panchayat had evinced little enthusiasm in it and 3) even the panchayats had not come into the fold of Community Development in any significant way.

The **Balantari Mehta Study Team** recommended decentralisation of authority and functions to levels below the state. It strongly suggested that "devaluation of power to a body which when created will have the entire charge of all development work within its jurisdiction, the government reserving to itself the functions of guidance, supervision and higher planning and where necessary provide extra finance". The study team recommended a three-tier system of rural local government. **Panchayat** at the village level, **panchayat samiti** at the block level and **Zila Parishad** at the district level. Of these the most important and effective body was to be at the level of the block.

Rajasthan and Andhra Pradesh were the first to have adopted the Panchayat Raj scheme in 1959. Other states joined them in course of time. The

experience of democratic decentralization had been a mixed success. Responsibility for development and local administration was transferred to the people. Villages were empowered to use the local bodies as instruments of socio-economic development and welfare. The bureaucracy was made more responsive and responsible to people's needs and aspirations. It also provided a permanent infrastructure wholly answerable for rural development. Simultaneously, the countryside was covered by thousands of cooperative institutions.

Panchayat Raj system suffered from some serious defects and deficiencies. Local government being a state subject, each state adopted and adapted the system to suit its requirements. This had resulted in considerable distortion and dilution of the scheme, as adumbrated by the Study Team. No State Government was prepared to devolve real power and resources to the Panchayat Raj bodies. The middle tier panchayat committees were deprived of powers and funds. These local government bodies were bureaucratized and politicized.

The growth of democratic decentralization was stunted in its development and could not perform the role assigned to it. "As a form of local government it had fallen out of favour every where, even in Maharashtra and Gujarat where it had been relatively successful". But who can deny that the Panchayat Raj was an earnest and honest attempt at Grass Root Revolution providing for popular participation in the decision making and the implementation of the development process with the officials working under the guidance of the three-level Samitis.

6.5.3 Third Five Year Plan 1961-1966

The First Five Year Plan, formulated the need for planning and the State's role in it. The Second Plan defined a coherent overall strategies and attempted to redress inequalities and re-emphasised rapid growth and diversification of economic activity through industrialization. The Third Plan carried forward the strategy of development. Public sector had been assigned commanding role to play. Major thrust was given to the development of basic industries such as steel, power, fuel, machine building and chemical industries. An earnest attempt was made in implementing the long-term growth maximizing Mahalanobhis strategy. Thus, "the first phase planning roughly over the first three Five Year Plan periods was characterized by fairly sustained growth in per capita income, distinct acceleration in public sector investment and in the growth of industrial output".¹²

6.6 Achievements

6.6.1 Industrial Growth

On the eve of Planning (1950) industrial development in India was lopsided and stagnant. State intervention in favour of rapid industrialization was considered to be the crying need of the hour. (A handful of industries such as arms and ammunition, atomic energy, railways, steel, ship-building "in which private enterprise is unable or unwilling to put in resources required or to run the risks involved" were reserved for production by the public sector. The rest was left to private sector. Gradually more industries were brought under the net of public sector and raised to the commanding heights of the economy. Instruments of control were used to steer clear industrial development in a desired direction. The intention was to use the licence-control mechanism selectively for the promotion of industries in the private sector. As a result, the overall economic performance was impressive; the saving and investment rates were high; industries grew rapidly; public sector industries reached new heights; industrial infrastructure increased; and foreign and private investment was deliberately kept low.)

6.6.2 Labour Policy and Labour Legislation

Labour policy was evolved with the twin objectives of 1) maintaining industrial peace; and 2) promoting the welfare of labour. The *Minimum Wages Act* (1948) provided for fixation or revision or review of minimum wages, particularly in the unorganized sector. Similarly, the *Factories Act* (1948) regulated various aspects relating to safety, health and welfare of workers employed in factories and protected them from industrial hazards. The *Mines Act* (1952) safeguarded the interests of workers employed in mines. The *Newspaper Employees (Conditions of Service) and Miscellaneous Provisions Act* (1955) regulated conditions of service of working journalists and others employed in newspaper establishments. *Wage Boards* for fixation and revision of wages for them were set up in 1956 and 1963. *The Apprenticeship Act* (1961) obliged employers to engage apprentices for undergoing training. *The Maternity Benefit Act* (1961) regulated employment of women in industrial establishments before and after child birth and provided for maternity and other benefits.

6.6.3 Agrarian Reforms

Agricultural reforms and growth consisted of 1) abolition of zamindari system; 2) tenancy reforms; 3) land ceiling; 4) co-operitisation; 5) community development programmes; and 6) milk cooperatives. During the first decade of

Planning for Economic Progress
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6.7 Assessment

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planning (1951-1961) the thrust was on institutional and agrarian reforms. The basic objectives of land reforms were to reduce exploitation of landless and small cultivators through land redistribution. The zamindari system was abolished within a few years after independence. 40% of actual tillers became owners. The effects of tenancy and ceiling legislation were felt on the structure of ownership holdings among the residents. "The Congress, perhaps for the first time, officially introduced the notion of land ceiling soon after independence".¹³ Sound foundation was laid for the development of cooperative farming so that over a period of 10 years a substantial proportion of agricultural lands were brought under cooperative farming. The Community Development Programme (1952), the National Extension Service (1953), and the Panchayat Raj (1959) were introduced to restructure and revolutionize rural India. The milk movement, started in Kaira, Anand, Gujarat, translated into Milk Union and grew into epic proportion under the leadership of D.V. Verghese Kurien. The Anand experiment in operation flood was the "most successful experiment in cooperation in India".¹⁴

6.7 Assessment

Fifteen years of planned development resulted in an all round progress of the economy. Nehru and Mahalanobis, the crusading champions of planning for progress, provided a socialistic model of development. Since Independence, the share of industry and agriculture in Gross Domestic Produce (GDP) increased significantly. Giant irrigation dams, steel and power plants, described as '*temples of Modern India*' came into being. High powered national laboratories and research institutions were set up. As a result, the exuberant public sector entered new areas of industrial and technical competence. In short, planned economy represented a radical departure from the colonial past.

The flip-side of planned development manifested itself even during Nehru years. The industrial performance was hampered by physical and financial infrastructure bottle-necks. There was a mismatch between the planning intensions expressed and the licensing-control instruments available for realizing the objectives. Agriculture production declined forcing the country to import food products. But it can not be denied that "It is the Nehruvian era that created the basic physical and human infrastructure, which was a precondition for independent modern development".¹⁵ If we take the 20th century into consideration, 1951-52 was "the turning point in economic performance".¹⁶

education were based on the Report of Dr.S.Radhakrishnan University Education Commission. In the *Second Plan* (1956-61), emphasis was on basic education, expansion of elementary education; improvement in the curriculum, science education and quality of higher education. The recommendations of the Dr.A.L.Mudaliar Secondary Education Commission were implemented. The *Third Plan* (1961-66) concentrated on science education for laboratories and equipments and special courses on astronomy, astro-physics, applied geology, animal genetics and other applied sciences.

9.10 Science and Technology

9.10.1 Science Policy

Nehru was a student of science and votary of technology. He wanted the people to be imbued with 'scientific temper'. He considered science and technology as a sure cure to poverty, illiteracy and superstition with a view to transform the traditional society into modern one. Nehru initiated a number of policy measures in the fields of science and technology. *India's science policy* is contained in the *Science Policy Resolution* passed by the Parliament in 1958. The Science Policy is based on 4 cardinal principles: 1) to develop scientific outlook among the people; 2) to keep abreast of latest development in scientific thought and practice; 3) to acquaint the country with the developed and developing science and technology; and 4) to apply technology consistent with the highest ideals of the age. In short, the essence of the Science Policy was to foster and sustain the cultivation of science and technology in all its aspects – basic, applied and educational-besides encouraging individual initiatives.

9.10.2 National Physical Laboratories

On 4 January 1947, Nehru laid the foundation stone to the first ever Indian National Physical Laboratory. This was followed by 17 other national research laboratories in different fields of scientific endeavour. Nehru himself was the Chairman of the *Council of Scientific and Industrial Research*, which guided and financed the national laboratories and other institutions of science. In the midst of communal turmoil, Nehru made it a point to attend the meeting of the council and established the tradition of the Prime Minister presiding over the council and attending the annual sessions of the Indian Science Congress.¹⁶ In the words of Nehru "one of the biggest things that we have done since independence is the development of our magnificent national laboratories all over India".¹⁷

Education, Science and Technology

9.11 Atomic Research and Development

9.11.1 The Atomic Energy Commission, 1956

Nehru laid the foundation for *Indian Nuclear Energy Programme* with the invaluable support of *Homi Jehangir Bhabha*, an eminent nuclear scientist. The *Atomic Energy Act* was passed in April 1948. Realising the incalculable importance of nuclear energy for peaceful and developmental purposes, Nehru established the *Atomic Energy Commission* on 10 August 1948, with *Homi J. Bhabha* as its Chairman. The basic objectives of the Commission were to 1) develop atomic energy as a source of electricity, and 2) develop its uses for agriculture, biology, industry and medicine. In other words the commission was intended to develop nuclear energy for peaceful purposes and to launch a full-fledged atomic energy programme in the country.

9.11.2 The Atomic Energy Establishment

Dr.H.J.Bhabha was the *Chairman of the Atomic Energy Commission* till his death in 1966. The *Atomic Energy Establishment* was set up in 1954 at *Trombay, near Bombay*.¹⁸ India's first nuclear reactor, also the first in Asia, became critical in August, 1956. In 1957, the Atomic Energy Establishment was renamed *Bhabha Atomic Research Centre (BARC)*.¹⁹ The Atomic Energy Commission had set up 5 Atomic reactors named *Apsara, Zerlina, Circus, Purmima* and *Dhruvah*. "By the time China exploded a nuclear device on 16, October 1964, India possessed advanced nuclear research and power programs and had even exporting radioactive material".²⁰

9.11.3 Nehru's Nuclear Policy

Atoms for Peace

India became Independent just a couple of years after the dropping of atom bombs on Hiroshima and Nagasaki, Japan (6 and 9, Aug. 1945). The unbelievable devastation and unprecedented destruction and loss of life caused by the atomic attack left their 'indelible impact on India's leadership, which decided to keep India free from atom bombs. Nehru was passionately anti-bomb and the chief opponent of the nuclear weapons programme. He considered atom bombs as 'frightful engines of destruction'. Moreover, the post-Independence India desperately needed socio-economic development. Nehru, therefore, decided to use nuclear technology for peaceful purposes. '*Atoms for Peace*' was the essence of his nuclear policy.

Nehru, by conviction, opposed the nuclear energy being used for the manufacturing of atom bombs. He concurred with Dr.Homi Bhabha, India's

pre-eminent nuclear scientist, when he suggested that nuclear energy could be profitably used to meet the developmental needs of the country. Nehru called for the suspension of nuclear testing, the ending of the nuclear arms race, and the abolition of nuclear weapons. He had a distaste for these destructive devilish devices. In fact, the first clarion call for a total ban on nuclear tests came from Nehru in 1954. "Even after his death in 1964, Nehru's practical and moral arguments against nuclear weapons remained powerful".²¹

9.12 Space Research and Development

A modest but firm beginning in space research and development was made in the 1960s. In 1962, the *Indian National Committee for Space Research* was constituted and the *Launch Vehicle Development Programme* was started. A Rocket launching Facility was established at Thumba.²² On 21 November 1963, the *Nicke Apache Rocket* was launched with sodium vapour payload. Since its inception, space research and development has been guided with great fore-sight to apply space technology for finding solutions to the problems of space and its utility. Self-sufficiency in space science and technology has been the core content of space research. The space research and development has gone a long way since then.²³

9.13 Defence System

9.13.1 Inherited

On the eve of Independence, India inherited a well-organised, highly disciplined and professional military from the British. Soon after the acceptance of the Partition Plan on 3 June 1947, fixing 15 August for the Transfer of Power, steps were taken to devise the defence system to suit the requirements of the Sovereign State of India. An *Armed Forces Reconstruction Committee* was constituted to divide the Army, Navy and Air Force and to establish in India and Pakistan, a separate operational command; the administrative control over the forces was to rest, for some time after 15 August, with field-Marshal Auchinleck; and he was to be answerable to a *Joint Defence Council*. The Armed Force played a conspicuous and crucial role during the Indo-Pak conflict in 1947-48.

9.13.2 Defence Policy and Organisation

Since Independence, India's defence policy has *two clear-cut objectives*; 1) to promote and sustain durable peace in the sub-continent; and 2) to safeguard the country from aggression. The President of India is vested with the authority of the Supreme Commander of the Armed Forces. The Union

The Armed Forces Cabinet exercises the responsibility for national defence. The Armed Forces consist of the three main services: 1) the Army; 2) the Navy; and 3) the Air Force.

The Army Headquarters is located in New Delhi. It is headed by the Chief of the Army Staff. The main auxiliaries of the Armed Forces are the Territorial Army, Coast Guards, Auxiliary Air Force and National Cadet Corps. The Navy with its Headquarters in New Delhi functions under the Chief of Naval Staff, assisted by Principal Staff Officers. (It has three Naval Commands - Western at Bombay; Eastern at Vishakapatnam; and Southern at Cochin. There are two navel fleets the Western and the Eastern. It shoulders the responsibility of defending the nation's maritime interests. The Air Force has its Headquarters in New Delhi. It is headed by the Chief of the Air Staff. The IAF maintains the highest level of vigilance and combat worthiness; provides air defence, air interdiction, reconnaissance and offensive air support; and assists civil authorities during national calamities.

9.13.3 Defence Training

Defence training is imparted to defence recruits and personnel, by defence schools, academics and colleges. Sainik Schools, started in 1961, are joint venture of the central and state Governments. They are fully residential, select meritorious students and educate and train them to become eligible for recruitment to the officers cadre in the Defence Forces. Other important training centres are the Officers Training Academy, Chennai; National Defence Academy, Khadakwasla; Indian Military Academy, Dehradun; and Rashtriya Indian Military College, Dehradun.

9.13.4 Production and Supplies

The primary purposes of the Department of Defence Production and Supplies are to equip the armed forces with the latest equipment and weaponry systems; and to contribute towards modernization of armed forces. The Ordnance Factories play a crucial role in equipping the armed forces with weapons, arms, ammunitions, tanks etc. The Supplies Wing functions under the Ministry of Defence. It is the nodal agency for evolving purchase policies for the Ministry of Defence.

9.13.5 Defence Research and Development

In 1958, the Defence Research and Development Organisation (DRDO) was set up, amalgamating the Defence Service Organisation and some of the

technical development establishments. The DRDO has developed a number of defence systems, equipment and other products as per requirements of the Armed Forces.

9.13.6 Role of Defence

Indian Armed Forces are highly disciplined, professional and apolitical in nature. They function under civilian control with operational authority. After the India-China War of 1962, the Armed Forces were modernized, secularized and further strengthened. Their apolitical role has strengthened the stability of India's democratic institutions, national unity and integrity. Above all, their all-India character and ethos safeguard the country from military intervention in political affairs.

9.14 Assessment

The minds of Nehru and the Founding Fathers of the Constitution of India were on the same wave-length regarding the need for using education as an instrument of social, economical, scientific and technological progress. The foundation was laid for the revision, re-structurisation and modernization of primary, secondary and tertiary education during the Nehru Era. Since education was the state subject, the expansion and excellence of education at all levels was neither uniform nor desirable. However, progress in professional education in engineering, management, agriculture, medical, legal and physical-was praiseworthy. Nehru knew the inadequacies of the education system and would be unfair and unrealistic to expect him to remedy them during his lifetime. It must, however, be recognized that India's educational success was no small measure due to the innovative initiatives introduced by the Nehru Government.

Independent India witnessed unprecedented surge and success in the fields of science, technology, nuclear power and space research. Nehru created one of the best science and technology infra-structure, education, training and research systems in the non-western world. Nehru's intense interest in Science and Technology bore ample fruits later. "A major achievement of the Nehru era was in the field of scientific research and technological education".²⁴

Nehru's nuclear policy and determined efforts towards application of nuclear energy to peaceful and developmental purpose enabled India "to go from dung power to nuclear power in a single step".²⁵ During the Nehru years India embarked upon an extensive program of civilian nuclear Research and

Development (R&D). The *Indian Atomic Energy Commission (AEC)* stipulated stringent controls on the release of nuclear information. These were further streamlined and strengthened in a 1962 revision of the *Atomic Energy Act*. India's nuclear policy and programme had been influenced by the twin ideological factors of Gandhian non-violence and Nehruvian internationalism. India's *space programme* was a shot in the arm of Space Research and Development. Apart from these, significant strides were made in defence research and development. In fine, Nehru had left an indelible impression in the realms of education, science, technology and nuclear energy.