

# NUCLEAR INDIA

A REVIEW ARTICLE

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THE nuclear explosion carried out by India at Pokhran on 18th May 1974 marks a new era in the history of Indian Science and technology. The very fact that the entire planning and operation of the whole experiment was conducted by our own scientists without much dependence on any other country is a pointer towards our march on the path of self-reliance. After this peaceful operation, India has not only found a place for itself in the nuclear club, but also her leadership in South and Southeast Asia has been firmly established. It has generated in us a tremendous amount of self confidence to march forward. Another significant thing to note here is that it was one of the most successful underground explosion without much of radio-active impact on the surrounding region.

It is but natural that after this nuclear experiment, a national debate has taken place on a large scale in this country and scholars have reviewed the progress made by India in its program of atom for peace. Some have looked at it purely from a technical angle. Some have seen the pros and cons of the economic impact of such experiments. Yet some others have analysed it mainly from security points. Besides, most of them have emphasized it's impact on the internal and external policy making process in India. J.P. Jain\*, with the background of a political scientist makes a searching analysis of our nuclear history. In this first volume he analyses our atomic energy programme since the dawn of independence until the Pokhran experiment. His second volume is a repository of all important documents on the atomic history.

In this introduction he focuses the attention of the readers on our nuclear capability and elucidates various ways how atomic energy can be successfully utilized for our economic development. He rightly feels that utilization of nuclear science and technology cannot always be the monopoly of the industrially advanced nations because that will further increase "the gap between developed and developing countries". On July 1970 the late Vikram V.A. Sarabhai rightly said that India's problems of poverty and regional imbalances cannot be effectively tackled without the development of nuclear power. The future as envisaged by the report of the Atomic Energy Department during 1957-58 was that 'India would be able to produce all the basic materials required for the production of atomic energy, promote it's

\*Nuclear India, 2 Vols by J. P. Jain, New Delhi Radiant Publishers, 1974, Vol. I, pp. 200, Price Rs. 40/- Vol. II, pp. 440, Price Rs. 75/-

use in agriculture, biology, industry and medicine, prepare a long range plan for the generation of electric power and set up atomic power stations". (Vol. I, p. 7). The rough estimate was that by 2000 A.D. atomic power stations alone will meet 30% of our power needed. It is in the fitness of things to remember here the statement of the late H.L. Bhabha in his Presidential Address at the First International Conference on the Peaceful Uses of Atomic Energy during August 1955 when he said, "For the full industrialization of the under-developed areas, for the continuation of our civilization and its further development, atomic energy is not merely an aid, it is an absolute necessity. The acquisition by man of knowledge of how to release and use atomic energy must be recognised as the third great epoch in human history". (Vol. II, p. 14). With such a vision he and his successors have shaped our atomic energy programmes in this country.

In three subsequent chapters, Jain analyses the organization and working of the International Atomic Energy Agency (I.A.E.A.) with a special emphasis on its promotional activities. The major purpose for the creation of I.A.E.A. was to render technical and economic help to the non-nuclear powers in harnessing atomic energy for peaceful purposes. Bhabha made it very clear at the IAEA Statute Conference on 15th October, 1956 (Vol II, p. 53) that the agency's primary function was "not to be a police body, but to be a positive creative force for good". If in the interest of mutual security, it was considered necessary to deposit all the stock-piles of fissionable material, he observed, then it must be done on a universal basis by mutual agreement and not imposed only on a particular group of states, viz., those receiving aid from the agency. Indian position of the safeguards system of the IAEA was that fissionable material produced in agency-aided projects in a country should remain at the disposal of that country, which should have the right to decide whether it wished to go ahead with a particular use of that fissionable material or not. (p. 37). With the initiative of the I.A.E.A., offers of assistance in form of materials, equipment, fellowships, training facilities, etc., were made by certain countries.

India was prepared initially to support the limited safeguards system provided it didn't retard the development of atomic energy programmes of the less-developed states and did not increase the gap between the developed and the developing countries. As atomic weapons can be made from two types of special fissionable materials, viz., enriched uranium and plutonium, India, in the author's views, was quite willing to concede that the supply of such materials should attract safeguards, notwithstanding the discrimination that it would have involved against countries which could not produce them and the futility of such safeguards in the context of the freedom of the countries able to produce such materials to continue to do so for military purpose. (Vol. I, p. 43). During the 15th session of IAEA, Indian representative Rajan rightly pointed out that the maximum objective of the safeguard system was segregation, rather than prevention (Vol. II, p. 50).

Dr. R. Sagane, Executive Vice-President, Japan Atomic Power Co. Ltd. Tokyo identifies four major areas about the promotional activities of the IAEA. These are : 1. Access to information, 2. Providing means and tools, 3. Providing opportunities for training and education, 4. Building research reactors or nuclear power plants or providing long-term financial assistance (Vol. I, p. 53). The main themes of the programme, endorsed by the 1968 IAEA General Conference were continuing technical assistance and training; promotion of research and development; fostering of world wide co-operation; speeding the flow of information; and safeguarding of nuclear materials. However, the author is critical of the fact that IAEA's policing function has overwhelmed its promotional role. An important lacuna of the present safeguard system as pointed out by him is that it concerns it-self only with the possibilities of governmentally authorised diversion of strategic materials from a nuclear power industry to a clandestine nuclear weapons programme. (Vol. I, p. 102). He rightly feels that safeguards system can be effective only if promoted by "an international consensus", rather than being imposed on world in the interests of a powerful few.

Jain in his two subsequent chapters points out the significance of peaceful atomic explosions as conducted by India and emphasizes on the new prestige that the country has acquired. His views are substantiated by a large number of documents collected in his second volume. Peaceful nuclear explosions, as emphasized by him are "the cheapest and quickest ways" of carrying out projects involving the moving of large amounts of earth, such as construction of canals, dams, ports, artificial lakes, mountain tunnels and navigable passes through mountainous terrain. (Vol. I p. 106) H.N. Sethna, Chairman, Atomic Energy Commission in his extensive interview over All India Radio on 18th May 1974, more or less elucidated on these points (see Vol. II, pp. 332-35).

The author makes certain interesting observations about the implications of India's explosion. He strongly feels that there is only a narrow passage between the military and peaceful use of nuclear power. The self-imposed abstinence from nuclear weapons, as followed by India may be observed or violated depending upon "the relevant political, economic, and strategic factors". He also delineates certain new advantages that India has gained after Pokhran explosion. According to him it raises India's stature in the world and enhances her prestige. It also raises the fighting morale of the armed forces and instils a spirit of self-confidence among the people at large. It provides a powerful incentive to apply the team spirit, the attitude of dispensing with red-tapism and administrative deadlocks and the self-reliant approach, adopted in the field of nuclear technology to our economic, social and political problems (Vol. I, p. 137). He rightly points out that India was the first country to conduct an underground atomic test which requires much sophistication. In the technical field, such experiments can be successfully used in the field of mining and earth operations. The military

implication as pointed out by him, is that it demonstrates India's capabilities in the nuclear field and is a step in the direction of establishing India as "a centre of independent decision-making". (Vol. I, p. 140). Moreover India's nuclear capabilities as he feels, is likely to reduce New Delhi's dependence on Moscow. (Vol. I, p. 144). In his second volume his documentation on the hue and cry raised by Pakistan provides an interesting study by itself.

In his concluding observations, Jain is highly critical of the discriminatory attitude shown by the nuclear weapon states on the rest of the world. He attempts to justify India's objection in signing the N.P.T. He is quite right in his defence and strongly feels that India cannot afford to ignore her security needs. She cannot become a party to any discriminatory arrangement like the N.P.T. and take to herself a second rate status. On the whole it is a valuable documentary study on the nuclear history of India. It is not only useful for students of diplomacy and military science, but also provides an interesting reading to the layman. It will be more useful if the author takes care to include in any future edition, the reaction of the general public in India, especially the social, political and economic elites, after the Pokhran experiment was carried out.

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