

CHAPTER I

THE PROBLEM

1.1. GLOBAL SITUATION FOLLOWING WORLD WAR II

Before the Second World War (1939-1945), major areas of the globe were colonies of Britain, France, Spain, Denmark, Portugal and China. The colonial rulers had participated in the first Industrial Revolution brought about by the invention of the steam engine, electricity, telephone and further developments in science and technology. These rulers used to market the industrial products of their countries to their colonies and cart away the raw materials from these colonies. Thus they ensured protection of their industries and trade. To protect the colonial rulers' interest, the colonies were denied access to the prevailing scientific knowledge and technology available with them.

The entrepreneurship in the colonies for setting up industries and creating an infrastructure, by the local communities, was not encouraged. Various colonies under the same colonial rulers lived in isolation, without much

contact, either with each other or with their rulers. The industry, education and agriculture were of primitive nature.

END OF ISOLATION

The end of World War II marks the beginning of a new era in the global situation. The war which was the mightiest struggle ever seen was both a boon and a bane to humanity. Around and during World War II, there was rapid development of science and technology in the industrialised countries, to improve the war machinery. This in turn revolutionized the knowledge and communication system and brought the world closer. People of all nations craved to have a better quality of life, which led to the emergence of bilateral and multilateral co-operation among nations.

Scientific inventions and discoveries in the fields of defence and medicine also emerged during this period. The advent of rockets, rocket launchers, submarine detectors, propeller aircrafts and nuclear bombs helped to shorten the war. The discovery of penicillin, antibiotics and other medical advances in the use of blood plasma and pesticides like DDT were a great boon to the welfare of mankind and played a key role in increasing the longevity of men.

On the other hand, the war brought about six years of death, destruction and human suffering. Nuclear bombing caused mass destruction in the cities of Hiroshima and Nagasaki. Many cities and towns in Asia and Europe were ruined, the laboratories and libraries were razed to ground. Victorious nations realised that they owed a collective responsibility to safeguard the future species of the earth and co-operation of all nations is vital. This realisation resulted in the establishment of the United Nations as a world body to ensure universal peace and security. People of all nations have come to realise that, for world peace and progress, co-operation in various fields is essential.

EMERGENCE OF NEWLY INDEPENDENT COUNTRIES

Immediately after the war, considering the demand for self-rule in colonies, the rulers realised that it would not be politically and administratively prudent and also not economical to continue the colonial rule. They realised that by relaxing the colonial rule gradually, they would gain the respect and sympathy of the people of the ruled states and also safeguard the existing trade and commerce which was vital for their own welfare.

The war also brought about a major change in the power structure of the world : the liquidation of the former empires of England and France and the emergence of new super powers, the USA, with its commitment to

freedom, democracy and private enterprise, and the USSR, with its commitment to communism. Efforts to enlarge spheres of their influence and assume world leadership resulted in cold war between the USA and the USSR.

Most of the western nations, Japan and the emerging nations of the Middle East rallied around the USA, whereas Poland, Hungary, Czechoslovakia, East Germany, Cuba and Algeria aligned with the USSR. Most of the remaining countries of the world such as India, China, Yugoslavia, Egypt, Indonesia, Pakistan, Malaysia, South America and African countries stayed unaligned.

INCREASED ATTENTION TO THE NEED FOR DEVELOPMENT

The revolution in the transportation and communication systems during the war time, such as expansion of air transport, extensive radio and microwave communication and emergence of electronics as a powerful tool gave access to people living in various remote parts of the world, to come into closer contacts. Thus the poverty and backwardness of the several developing nations came to the focus of world attention. The developing nations could also see the development and quality of life enjoyed by the industrial world, which was much in contrast to their utter poverty and backwardness. The countries which became independent, and which were poor could no more

reconcile to their lot. Desire of developing nations to improve their quality of life and to enjoy a better life was kindled.

The developed nations were awakened to their obligation of helping their less fortunate brothers of the newly independent countries and to improve their lot. For the first time, President Truman of the USA urged the developed nations to embark on a bold new programme for making the benefits of their scientific and industrial progress available for the improvement and growth of developing nations. Thus the world sympathy was stirred and a stage was set up to help the emerging independent countries with technical and financial help.

Apart from the sympathy towards the developing nations, the developed nations had an underlying self-interest. In order to sustain industrial and scientific development in their countries and to achieve better economic benefits, they wanted to increase world productivity and purchasing power and to create more stable conditions in the world for expanding their trade.

The two super powers the USA and the USSR who were vying with each other to establish their influence and political philosophy, realised that their effort would not be effective unless they assisted the developing nations in their own interest. They also realised that they could not expand trade and

commerce unless they created a need for their products in the developing countries. This could be done only if the intelligentsia, elite and entrepreneurs in the developing countries were encouraged by giving them access to modern education and technology. Developing countries were encouraged to draw national development plans, with the assistance of experts from the developed countries .

Under the aegis of multinational organisations like the United Nations Educational Scientific and Cultural Organisations (UNESCO), the International Monetary Fund (IMF), the Asian Development Bank (ADB), the World Health Organisations (WHO) and the International Labour Organisations (ILO), many experts from developed countries participated with intellectuals, bureaucrats, industrialists and sociologists to frame developmental plans in the developing countries. The corner stones of these plans were higher education, transfer of technology and advanced management techniques since, only with the help of these, could the targets of their ambitious plans be achieved.

CONCERN FOR POPULATION EXPLOSION

The advancement of both preventive and curative medicine helped in the rapid growth of population in the world as a whole. The developed countries with their affluence and planned parenthood could sustain their

population growth. For the newly emerged developing nations, the rapid growth of the population became a stumbling block in their planned developmental programmes. The rapid and unbalanced growth of population in the world resulted in widening the existing grievous inequalities between haves and have nots. Terrorism, violence and crime were the outcomes which are now threatening the whole world. These have to be tackled globally for universal benefit.

The growth of industries all over the world led to increased employment opportunities which attracted more and more people towards the industrial centres. Concentration of industrial centres caused the expansion of urban centres on a phenomenal scale. As a consequence, people started exploiting the natural environment to satisfy their needs. Urbanization led to the exploitation of raw materials, energy feed stocks and water. Indiscriminate growth of industrialisation led to chopping of the forests and dumping of industrial and human wastes into rivers and seas, thus polluting the water. This has now led to ecological imbalance and environmental degradation.

Atmospheric pollution is due to vehicular emissions and industrial fumes. These fumes travel many miles in the air as per the wind flow patterns and after undergoing some chemical changes return to earth as acid rain, causing serious damage to crops, fresh water life and forests. Hence

international cooperation is a necessity for the development of environmental friendly industries and agricultural practices in the entire world.

Apart from these, ecology, oceanography, medicine and science are not confined to any one nation. They are universal. Collective efforts of all nations are needed for the protection and conservation of ecology and oceanography and for further progress in science and medicine.

ADVANCES IN SCIENCE AND TECHNOLOGY

Pesticides and insecticides of modern science which helped to boost crop production to unprecedented levels are now being discouraged since the discovery of their disastrous toxic effects. While industries have raised standard of living, they have increased the level of pollution of water and soil, which is taking the toll of health of mankind.

The invention of T.V., computers and other high technology products is an electronic marvel of the present day. It has elevated quality of life in many ways. The T.V. has transformed our way of entertainment, has brought the whole world into our rooms. It is the best and the most effective mass media of information and communication and has the potential of

propagating very effectively not only good but bad as well, thus causing social tensions.

The computer has revolutionized processing of information and is an asset to man in many of his activities. It has saved man time and labour in his routine physical and mental chores. It stores any amount of information which is accessible to him whenever he wants. Computers have made long held jobs redundant but at the same time have lead to the creation of new jobs and thrown open more opportunities. On the other hand, they have raised a potential danger. Piracy of information can prove a threat to national security and personal freedom. Though the computer stimulates the brain, it can also lead to a blind dependence on it, leading to stunted mental growth if indiscriminately utilised. Thus a judicious usage of computers is called for.

Today more and more countries possess the knowledge of nuclear science which has both constructive and destructive uses. The misuse of this knowledge by any one country can annihilate large parts of the world. Unless there is a genuine understanding and co-operation among nations and a commitment to prevent misuse, the nuclear sword hangs on the heads of humanity. Thus the advance in science and technology is a double edged weapon. Knowledge without wisdom may prove fatal to the whole

mankind. So there is a need for sharing of knowledge and its proper use for the mutual benefit. This can be brought about only by international co-operation.

1.2 BEGINNING OF PLANNED DEVELOPMENT IN INDIA AND INTERNATIONAL CO- OPERATION

INDIA'S COMMITMENT TO NATIONAL DEVELOPMENT

At the threshold of independence, India's problems were numerous and varied. These included poverty, unemployment, under-employment, illiteracy, antiquated feudal land system, stagnated industry, mounting population, great economic inequalities, war affected economy, tragedy of partition and shortages of essential commodities. To come out of these staggering problems and to raise the people to their expectations was an uphill task for the national government. But India had its own assets too, and realised that by using and developing indigenous resources through planning, they could surmount these problems and march towards advancements.

India set up its Planning Commission in January, 1950, soon after it adopted its Constitution as an Independent Democratic Republic. India committed itself to national development through a series of comprehensive

five-year plans in agriculture, industry, rural development and social and defence sectors.

RECOGNITION OF THE IMPORTANCE OF EDUCATION.

In order to raise the living standard of its people, to increase the country's production, employment opportunities, national income, to cut through the poverty of the people and lift the stagnant economy, the Planning Commissions immediate task was to improve the economy. It was recognised that education was of basic importance in achieving economic development and social justice.

Education and economic growth are inter-related. Education is an investment in human capital. It has both qualitative and quantitative effect on economic growth. Knowledge and skill make people more productive, as they increase human capability. Knowledge has a multiplier effect and is not diminished by use. Education helps man in his economic growth, and the cumulative effect of such economic growth constitutes the wealth of a nation.

Today developed nations have a hundred percent literacy rate whereas illiteracy of various degrees is a common feature of the developing nations.

This bears a testimony to the fact that economic growth and education are inter dependent.

In Russia in 1970, it was found that the people who had received primary education were one and half times more productive than illiterate workers of the same age and doing the same work. People who had received secondary education were twice as productive while college graduates were four times as productive.

The caste system, though it served a positive social function in ancient and medieval India, became an instrument of exploitation of man by man. Religious fanaticism encouraged communalism. Due to the impact of traditional social structures, females were deprived of equality with men in respect of types of education and job opportunities. The low castes, untouchables, tribals, and rural poor suffered alienation, poverty, illiteracy, inferiority in status and disease.

These inequalities acted as negative forces in the economic development of the country. National teachers such as Gandhi and Nehru realised that if India were to march forward, social equality among people has to be created. Discrimination on the basis of sex, caste, religion and class had to

give way to equal opportunities. Education was seen as an instrument of national and social development.

India's constitution aimed to secure for all its citizens, justice, social equality, economic equality, liberty of thought, expression, belief, faith and worship, equality of status and of opportunity and to promote among them fraternity assuring the dignity of the individual and the unity of the nation.

DESIRE TO BENEFIT FROM THE KNOWLEDGE AND EXPERIENCE OF DEVELOPED COUNTRIES

Development was a matter of greatest urgency to India. It could not wait a century to achieve national objectives. The knowledge, experience and achievement of developed countries were available. The developed nations too were eager to help the developing countries with technical knowledge and financial aid. Thus, the inter-dependency among nations became a reality after World War II, which led nations to forge agreements, alliances and exchanges in the fields of trade, business industry, defence, economics, health and education.

1.3 INTERNATIONAL CO-OPERATION IN EDUCATION

The colonial system of education which India inherited at the dawn of independence from Britain needed vigorous revamping. Education in India

was lopsided, without any planned goals. It had no national character and was very outmoded.

If education had to be tuned to bring about qualitative changes, to make India a modern developing nation, it had to keep abreast of the scientific and professional knowledge of the developed nations and adapt them to Indian conditions.

To achieve these objectives, a variety of ideas, practices and programmes have been introduced in education during the last four decades. With the help of co-operative endeavours with other countries, assistance has come from many of them through governmental as well as non-governmental agencies in the form of know-how, technology exchange and funding.

The University Commission (1948-49), the Secondary Education Commission (1952-1953) and the National Education Commission (1964-1966) which introduced many changes for the improvement of education in India had foreign subject experts, educationists and scientists on its panels in different capacities, to use their insight, experience and expertise. Apart from enlisting the help of experts from other developed countries, an education team was sent abroad for comparative study of the educational system in the USA, France, the Federal Republic of Germany & the USSR.

Thus international cooperation was fully availed of by the educational commissions of India in framing the Indian educational policy.

UNESCO has influenced the educational policy of India to a large extent through the Indian National Commission for Cooperation with UNESCO. In addition, programmes like the Colombo Plan, the Commonwealth Co-operation Plan, the United States Fellowship programmes, and Fulbright programmes have promoted large scale exchange of educationists, teachers and students with developed nations . India has also offered scholarships under several programmes for the foreign nationals to come and study in India.

The international collaboration in the field of education has been and also is, with various international agencies, such as UNESCO, UNICEF, UNDP, UNFPA, World Bank, etc., besides bilateral co-operation with countries such as the USA, the UK, the USSR, Germany, Netherlands, etc. Several projects were initiated with their co-operation with a view to strengthen India's education system and to make an instrument of development.

Inspite of large-scale international co-operation in education, no systematic attempt has been made to co-ordinate, review, evaluate and document such co-operation. There is a cell in the Ministry of Human Resource

Development, which works as liaison for UNESCO. Their specific work is only channelising and monitoring the funding. No review is being made to evaluate the outcomes of co-operative projects. Information about the nature and extent of participation of international agencies is fragmented and inadequate. No systematic study of the impact of such collaboration could be found. This study was therefore, designed to address that need in the areas of ; (a) teacher education; (b) science education, and (c) population education.

1.4 PURPOSE OF THE STUDY AND RESEARCH

QUESTIONS

The purpose of this study was threefold ;

- 1) to trace the evolution of international co-operation in the areas of teacher education, science education and population education,
- 2) to examine the nature, scope and activities of the programmes and projects launched in the three selected areas with international co-operation,
- 3) to assess the impact of international co-operation in the three selected areas.

RESEARCH QUESTIONS

To provide a sharper focus to the investigation, the following research questions were formulated :

- 1) Which agencies and organisations in India and abroad have been involved in international co-operation in the areas of teacher education, science education and population education ?
- 2) What are the major innovations, projects or activities of these agencies that reflect international co-operation in the three selected areas ?
- 3) What are the objectives and salient features of innovations, projects or activities identified in the research question 2 ?
- 4) How effective has international co-operation been in terms of the objectives and predetermined criteria ?

1.5 LIMITATIONS AND DELIMITATIONS

Inherent in this study are certain limitations that need to be kept in view in interpreting the findings and their implications.

The problem investigated in this study is a relatively unexplored one. Consequently research-based literature is limited. Second, most of the data had to be obtained from secondary sources. Primary sources for this

study are ; (a) Original reports, especially evaluative reports, of projects and programmes involving international co-operation, and ; (b) People who had direct involvement in such projects and could, therefore, shed light on their operation and effectiveness. Both of these are scarce. Even those agencies under whose auspices such projects were launched and operated are not able to provide first hand information and documentation. Most of the individuals who participated in such projects in the initial stages and therefore had a feel for their basic objectives and justification, are long retired or deceased. Only a few of such individuals were available for interviewing, they were contacted and did co-operate fully.

Although the delimitations are subsumed in the statement of the problem, they are explicitly stated as follows :

- 1) Three areas of Indian education were chosen for assessing the impact of international co-operation.
- 2) This study covers the period from 1950 to 1990. It was only after 1950 that international co-operation became a significant aspect of educational development in India.
- 3) The main focus of the study is on secondary education. References to primary or higher education are incidental and appear wherever a project or programme extends beyond a specific level of education.

Typically, secondary education covers standards V, VI, VII and VIII.

This varies however whenever there is overlapping of standards as shown below :

First Variant

I to IV Primary

V to VII Middle

VIII to X Secondary

Second Variant

I to V Primary

VI to VIII Junior Secondary

IX and X Senior Secondary

- 4) Only those projects and programmes were examined that were initiated at the national level. More often than not, international co-operation is solicited and negotiated at the national level. State-level projects are few, an occasional reference to one or two of those does appear in the report of this study.

1.6 RATIONALE

The rationale for undertaking this study consists of two parts. First, the rationale for the study as a whole and second, the rationale for selecting the three areas that were investigated.

The rationale for investigating the impact of international co-operation on Indian education is provided elaborately in the statement of the problem. In essence, it derives from the fact that international co-operation has become a fact of life for almost all countries and in a wide variety of fields. India and Indian education are no exception. During the four decades covered by

this study, India has sought and received assistance from a number of countries and international organisations in its efforts to improve and strengthen education. The assistance has come in the form of know-how, technology, training and development, and exchange of personnel. Despite the significant part it has played in the field of education, however, few systematic attempts, have been made to determine its impact. In the absence of such efforts, there are few generalisations, if any, that can be used to evolve a sound policy regarding such co-operation. That international co-operation involves substantial costs, in terms of both material and human resources, is obvious. In order to derive the maximum benefit from such co-operation, a country needs reliable guidelines for identifying, selecting, operating, and evaluating projects and programmes born of such co-operation. This study is a modest attempt in that direction.

The rationale for selecting the three areas of Indian education came from the following aspects of the researcher's professional life and academic pursuits :

- 1) Teaching of science and mathematics at the secondary school levels for four decades.

- 2) Professional preparation at the Regional College of Education, Mysore, a pioneering institution for the four-year integrated teacher education programme launched with international co-operation.
- 3) Teaching experience at the Demonstration Multi-purpose School attached to the Regional College of Education, Mysore. This was uniquely insightful in understanding the various dimensions of teacher education.
- 4) Participating in the Fulbright programme of international exchange of teachers and the opportunity to study and teach in the United States of America.
- 5) Participating in the summer institute programme of the National Science Foundation in the USA.
- 6) Participating in regional and international conferences of the World Council for Curriculum and Instruction (WCCI).

1.7 ORGANISATION OF THE THESIS

This chapter provided the background against which the investigation was conceived and developed. The purpose of the study, the research questions to be assessed, the limitations and the rationale were described. The next chapter contains a review of selected research and non-research literature that serve to provide both a context and a point of departure for this study.

In Chapter 3, the design of the study, the nature and sources of data and the procedures adopted are described. Chapter 4 provides an overview of the major international organisations involved in Indian education. Chapters 5, 6 and 7 contain, respectively, a description of innovations, projects and programmes initiated with international co-operation in teacher education, science education and population education and the major findings in each. The last chapter provides an overview of the study, highlights the major findings as well as conclusions and implications based on those findings, and offers recommendations for further research, policy initiatives, and professional practice.