

Session 3 (Parallel)

New Challenges in the Indian Economy and Society Via Human Resources

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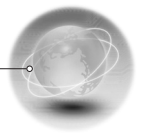
Many of the revolutionary effects of Science in Technology... are obvious enough. Yet we are reluctant to face all its implications, which are only just beginning to be felt. Science offers the possibility for greater well being for the human race, than has ever been known before. But it offers this on certain conditions: the abolition of war, the dispersion of power, a general diffusion of prosperity, the low birth-rate every where, provision for individual initiative both in work and play. Though we are in the middle of a race between human skill as to means and human folly as to ends, men must and will choose the path of reason... Knowledge is Power but it is Power for evil just as much as for good. Unless men increase in wisdom as in knowledge, increase of knowledge alone will be increase of sorrow.

(Bertrand Russell 'The Impact of Science on Society', 1952)

One of the hallmarks of the Indian Civilisation from the very Ancient times was to develop harmony with life and nature and to establish the infinite potential of development demonstrating the harmony between Science and Spirituality. The future of global economy depends a great deal on the course of Asia's economic performance.

In the pre-colonial periods, a virtual Asian economic community existed through vibrant intra-regional exchanges of goods, cultures and values. A recent study by Goldman Sachs shows that Asia is on its way to regaining its lost share in the world economy by 2050, by which time... the combined share of China, India and Japan in the world economy would be above 57 percent. However the relationship between economists, economic policy and developing performance remains still quite elusive.

Nicolas Ardito-Barletta of the International Centre for Economic Growth had written in 1991: "In recent decades, economists have learned a great deal about how to stimulate growth and alleviate poverty in developing countries. Yet much of their advice to developing country policy-makers is deemed politically unfeasible and goes unheeded. If the world-wide development effort is to succeed, one of the most crucial tasks is to learn how political factors affect economic policy... a fuller understanding of the interaction between politics and economics is essential if politics is to be a tool for sound development policy making rather than a hindrance for successful economic reforms."



Education has been a corner stone for Asian successes and remains a key challenge for all Asian countries. The adoption of the Ubuntu Declaration by scientific organizations at the World Summit for Sustainable Development (WSSD 2002) highlighted the need to pay more attention to education and the role of the scientific community.

India is a strange amalgam of the modern and the traditional. India's belief in Lord Shiva from when she was known as the land of snake-charmers and it still believes in Shiva, when India is considered an IT nation. Managing change has been a continuous challenge for India. Lord Shiva represents that change- of destruction and creation.

There is a definite silent, bloodless revolution on in terms of human resource development in the two well-defined categories of the modern and the traditional, where several initiatives for change are occurring which are innovative and creative in nature. Currently there is also an on-going debate and controversy on the issue of increase in the **reservation** of seats for certain minority section of society in institutes falling within the private and public domain. The issue remains under discussion for the aided, semi-aided and un-aided institutions under both the domains.

The secular and democratic Indian States, officially celebrate five Hindu holidays but also four Muslim, two Christian, one Buddhist, one Jain and one Sikh in recognition of India's diverse population. These are mandatory holidays in the National Calendar. **Language** is often the most contested issue in multi-cultural states. India is a multi-lingual democracy and has practised the three-language formula for decades. Children in school are taught in the Official language of their State and are also taught the two Official languages of the country-Hindi and English.

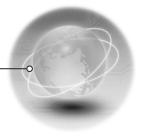
Today **Government control** is at its minimal, having shifted its control focus onto the economic domain mainly fiscal. The economy enjoys a comparative 'laissez faire' as opposed to the previous decades. Wealth tax and Estate duty were abolished in the 1990's. Historically, culturally and sociologically, India has come a long way from the 'home-spun' entrepreneurial class via family apprenticeships. There are new challenges for the formation and accumulation of human capital. Entrepreneurship is becoming the engine of India's economic growth.

Age and gender display no bar where creativity and initiative in innovation is concerned. In 1950 the Constitution of India included Universal Adult franchise without any conditionality of education, income or property including the fundamental rights of equality, equity and non-discrimination. It was therefore, expected that all citizens without difference of caste, class, religion or gender would become equal participants. The Constitution also included possibility of affirmative action in favour of women. But women's participation in formal structures of governance, whether in political institutions or other institutions of policy making and implementation has somehow remained inadequate. However in the private sector, the ICICI bank has taken a lead over parliament. The fairer sex has captured more than 33 percent of the jobs and it is the only company to achieve this distinction. A high level delegation from IBM and Coke visited the bank's headquarters, to understand its human resource practices. The response they got was that the bank ran mainly on merit and was never gender biased.

The Youth feel effulgent. They have been accorded a premium in society as never before, having become targets and the focus of the Corporate class, who are vying to compete in wooing the Indian youth, which is displaying a definite sense of inner direction. An innovative access to technology is what they aspire to. The challenges before **Indian science** are manifold. There is an enormous unutilised potential of the people for transforming India into an economic power-house which could be achieved when all are em-powered, socially and economically, utilising the benefit of modern science and technology including information technology. Scientists in India want science to be perceived as a social movement, more application-based, striving for excellence in scientific research in the belief that scientific progress in the country and social progress can be achieved only through intensive research. As a consequence, the Council for Scientific and Industrial Research (CSIR) has 38 laboratories from Kashmir to Kanyakumari and has 22,000 people working for it. The Director General of the Council has stated : "Our attempt is to make India innovative- not just through scientists and technologists, but at a very young age when children are in the school - and create an awareness about the importance of intellectual property rights". This front rank Scientist expressed his views that a country which had sufficient human and physical capital still needed knowledge and technology to improve its economic strength. "Excellence has to be nourished and nurtured very carefully. Innovation is a confluence of technology, society and policy. If used carefully information technology can help in the eradication of illiteracy and spread universal education. The 3 D's - democracy, demography and diversity should help us", he said.

In recent years a great problem plaguing the scientific community in India is the increasing decline in enrollment in universities in the sciences. Most students prefer to secure a comfortable and successful future by taking up engineering, medicine or management studies as these courses assure substantial financial returns, rather than exploring newer avenues of scientific research. Core science is often considered unproductive, hence fewer students opt for higher education in pure science. Ten years ago, India held a pioneering position in scientific research with respect to global standards. It is now placed below countries like South Korea and Singapore. China which was once struggling to make its mark in the field of scientific and technological research is now much ahead of India in almost all discipline of science. In 2001 UNDP's Technology Achievement Index (TAI) brought out that India's much vaunted pool of trained scientists and technical personnel was shrinking. According to this report, the gross tertiary science enrollment ratio (i.e. percentage of school leavers entering the science stream) in India during the period 1995-1997 was a mere 1.7 percent as compared to 23 percent in South Korea, 27.4 percent in Finland, 13.9 percent in the U.S.A. and 5.9 percent in China. Consequently, scientists are encouraging students to realise the ample scope for a bright future in careers involving core study of science and technology and its industrial relevance.

To encourage future **Scientific Research**, recently a foundation stone-laying ceremony was held in Kolkata (Calcutta) to establish an institute offering scientific education, which will give a fillip to scientific research in the country. This Indian Institute of Science Education and Research (IISER) will have a diverse range of core and interdisciplinary courses pertaining to various scientific disciplines, from where students will have the freedom to pick and choose a subject, according to his/her inclination. The Dean of sciences of the University of Delhi said that the trend was shifting, as off-beat science courses like polymer science, forensic science, pest-management among other were emerging in the science courses. Universities are now supplementing courses with more practical experiences even in the humanities and the social sciences.



Another development that is engaging the attention of scientists and the Government is the flight of professionals to India from abroad. This **reverse brain-drain** can be attributed to the phenomenal growth which the Indian economy is witnessing. This unprecedented growth has led to a booming job market. As India continues to interact with the global economy, the demand for foreign professionals has also grown over a period of time. With high unemployment in Germany, the applications received from there continues to grow as India provides opportunities of work experience for these young professionals as well as the Non-Resident Indian youth also making a headway towards India to comprehend first hand the mother-country's spurt in economic growth.

To conclude, the author reflects on the celebration of India's 50th anniversary of independence in 1997. The Golden Jubilee function was heralded by the inauguration of the 12th Indian Engineering Trade Fair (IETF) when Japan was designated as the partner country at the Fair. The then former Prime Minister of Japan Mr. Ryutaro Hashimoto, who had earlier visited India in 1995 as Minister for International Trade and Industry, in his speech in 1997 as Prime Minister had said : "Japan-India bilateral relations can trace their roots to the 7th Century when Buddhism from India first reached the shores of Japan which in the subsequent centuries profoundly influenced Japan, enriching the thoughts, arts and cultural life of the Japanese people. The cultural ties thus established have continued to nurture friendly relationship and cultural affinity between the peoples even to this day. The post-war Japan and the newly independent India which emerged as the two largest democracies in Asia, opened a new chapter in the history of their relationship. Looking back over these eventful five decades we can note with satisfaction a steady development in Indo-Japanese relations in a period marked by dramatic changes in geopolitical and economic circumstances, affecting the world. More recently, the bold steps taken by India since 1991 to liberalise its economy have generated a considerable interest in Japan as opening new opportunity and providing immense potentials for expanding economic ties between the two countries. I believe that Japan's active participation in IETF will prove an effective catalyst in creating a **vibrant partnership** between our two countries in the sphere of economy... I sincerely hope that the large scale Japanese participation will contribute to bringing about an even closer and dynamic partnership across a wide ranging spectrum of activities between Japan and India".

The author hopes that a viable and strong partnership between the two democracies may indeed be made possible by both the governments.