

Role of Engineers in Developing Country and Brain Drain

Since independence a large number of institutions came into existence for imparting engineering and technological education in the undergraduate and post-graduate levels. Looking at the future need and employment potential in this field there was a tough competition in getting admission to one such institutions. Any survey will show that the top students coming out of high schools in the country opted for studying engineering and technology. With high hopes and ambitions they toiled hard for four or five years to graduate. In mind they are idealistic and they nurtured the hope of building our society to make it a better place for living,

Now, let us take a look at the picture of what they will be doing once they come out of these institutions. Broadly, we may divide the job opening in the field of (1) Maintenance ; (2) Design & Production ; (3) Consulting ; (4) Research & Development ; (5) Self-employment. Also the work may be in governmental or non-governmental concerns.

In governmental jobs mainly the work relates to maintenance and inspection. The salaries and amenities in such jobs are even lower that of an industrial workers' emoulements. The publicity media in our country is such that they are afraid to point out the failure of bureaucrats or secretaries and put all the blames to engineers and technologists

who have very little power to do anything in this country. Failure in the field of generation of electricity in West Bengal is a good example. No one has suggested yet to set up a Commission with foreign experts (technologically advanced) to go through the whole administrative machinery in this country. Public then be given a correct picture of the state of affairs and not just visit one or two plants to make a scapegoat blaming the engineers and technologists.

Secondly, there is no scope for recognition of merits in the governmental services and promotion avenues are strictly limited. This is one service where the majority of engineers and technologists are to suffer tremendous hardship as they are transferred frequently from one place to another and mostly work in rural and distant areas.

Next in non-governmental jobs, private firms and industries, there is very little to do except copying and doing paper work. In maintenance there is hardly any chance for the person to get promoted simply with the argument that dumbest of the engineers are put there and the clever ones are absorbed elsewhere. Even in maintenance, except in private companies, hardly there is any co-ordination between persons dealing with purchase of spares and auxiliaries and persons (engineers & technologists) who will be using them.

In the design and production level, thanks to our policy, we import all technical design through collaborative arrangement and only fabricate these in our shops just like "robot" as instructed to do. If a survey is taken today in all the companies in this country who are engaged in design and production work it will probably be found that 90% of our engineers and technologists are reading through the design supplied by the collaborators and working as a mere draftsman for which engineering degree level education is absolutely not needed.

In recent years many Consulting Firms came up and these are mainly in Civil Engineering field. Their fortune fluctuates depending on availability of jobs. However, the fortunate few, who gets contract abroad, are doing well and the rest are trudging along miserably.

Many industries have opened up R & D divisions or wings. This has been done probably to satisfy a government instruction and 2% of the total investment, which is supposed to be earmarked for such work, are tax-exempted. One is yet to see any tangible outcome from these R & D divisions. It has already been mentioned that all our industries are heavily dependent on collaboration efforts and there is very little interest in the activities of the research division. It has been kept as a show piece in most of the places.

There is a lot of cry now-a-days and lot of preaching for self-employment in the field of small scale industries. If one cares to look into the condition and plight of these small scale industries run by young entrepreneurs, he will be shocked and astounded to find how these people are squeezed out of the market by big industries. Apparently, these people

are supposed to be protected in the sense that certain items are earmarked for production by small scale industries. But if anyone visits Haldia, just one place to name, and see how they are going out of business because of monopoly hold by certain big business in the trade of supply of raw materials and scale of finished products.

Enough has been said about the items mentioned at the beginning of this topic. Recently I worked in the United States for about a year. I have talked to a score of my students and other engineers and technologist who have permanently settled in that country. One is to remember that these boys are doing very well in different fields ranging from installation of nuclear power plants, launching of satellites, extracting drinking water from sea water for middle eastern countries, manufacturing highly sophisticated electronics and Bioengineering instruments, etc.

To a question put to them concerning brain drain from our country their answer in unison was that services of their brain was never asked for in the home country on the contrary the requirement is more of brawn i.e. muscle power than that of brain. It would really have been criminal offence to keep these boys in the country on the pretext of brain drain where they would have probably spend their whole life in translating a foreign design than to be in-charge of a complete programme of sending a satellite in orbit starting from scratch.

So long we heavily depend on borrowed technology and allow a freehand to our business to make only profit from collaboration, the country will never be fully industrially developed and economically independent.