

**Title of the Project:** Assessment of Brain Drain among JNTU College of Engineering Graduates : Methodologies & Monitoring  
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**Implementing Agency :** JNTU College of Engineering, Kukatpally, Hyderabad  
**Year of Completion :** 1999

**Objectives :**

1. To collect data related to the phenomenon of brain drain among graduates of JNTU colleges of engineering, Hyderabad, Kakinada and Anantapur during 1985-95.  
To study the effect of social and economic background of
2. the graduates and the brain drain problem. the graduates and the brain drain problem.  
To estimate the quantum of brain drain and the causes
3. thereof and suggest measures to mitigate the present situation.
4. Monitoring of the system of updating information.

**Executive Summary :**

**Methodology:**

The methodology adopted was a combination of collecting information through mail and by sending investigators to contact the respondents in person after collecting their addresses.

**Coverage :**

The population covered included all engineering graduates from JNTU during the period 1985-1995.

**Classification :**

The alumni has been classified into three groups – B.C & D. B means those graduates who stayed back in India: C includes those who are currently abroad and D covers those who have gone abroad and returned.

In all, 732 alumni comprising of 577 from B Category, 148 from C category and 7 from D category have responded. Out of the 732 respondents, 42 or 6 % are females

The rural-urban break up of the respondents is 43:57. In respect of females, the corresponding ratio is 29:71.

Among the respondents, 58 percent are educated in Government schools, 18 percent in aided school and 24 percent in private schools.

As for the income of the parents, 29 percent do not have adequate means, 39 percent barely sufficient and 32 are well placed.

**Those who stayed back in India :**

The main reasons for not going abroad for employment are : About 207 or 36% due to good job opportunities in India, 131 or 22% due to marriage and family responsibilities, 73 or 13% due to cultural and social influences, 32 or 6% due to inadequate financial assistance. Some of the other reasons were : good facilities available in India, visa problems and inability to qualify only 15% ever thought of going abroad: Out of whom only 28 % got admission and scholarships 70% of them felt their economic benefits in India are adequate.

An open-ended response from the alumni revealed that some of them in govt. sector felt political interference and limited opportunities to utilize skills resulted in poor job satisfaction. In view of the poor job opportunities available, for civil engineers, intake in civil engineering branch may be slowly reduced. Bright chances are available for mechanical engineers only after acquiring some experience. Other opinions expressed are software engineers are well paid; an administrator in India is given a better status compared to a technocrat. Curriculum is not job-oriented and needs certain changes.

### **As for arresting brain drain, their suggestions include :**

- ▶ Better working conditions.
- ▶ Inculcation of national spirit.
- ▶ Reduction in Pay disparities between MNC's and public sector.

#### **The major pull factors are :**

- ▶ Better professional and academic opportunities
- ▶ Opportunities to earn more.

### **Responses from overseas :**

- ▶ In contrast to 18 percent of the respondents who stayed back in India, 52 percent of those staying abroad are educated in private schools.  
It is seen that a maximum of 36 percent of the respondents abroad are from electronics and communication engineering, 18 percent each from computer science and engineering and mechanical engineering.
- ▶ Of the 148 responses from overseas, 57 percent were for further studies, 33 percent for jobs and 10 percent for training.  
Major influencing factors to go overseas revealed that 48 percent went for better professional or academic opportunities and 22 percent to earn more, 16 percent were influenced by family, relatives and friends and the rest due to other reasons.
- ▶ 70 percent of them were abroad for less than five years. Those who stayed for more than 5 years prefer to stay back for a long living abroad.  
Another interesting finding is that as many as 63 percent of them did not make an attempt to get a job in India while staying abroad. Even among those who made an attempt, 30 percent did not visit India for the purpose.
- ▶ Most of them who sought a job in India preferred private sector or in research or in educational institutions. Only 15 percent of these wanted to join govt. sector.
- ▶ It is an indication of their confidence that 80 percent of them felt India would benefit by their return.

### **Most of the pull factors that prompted students going abroad are :-**

Inadequate pay

Poor opportunity for career planning.

Bureaucracy and red tape.

Poor employment potential and local working conditions.

Other views expressed by respondents about staying abroad are opportunities for quick rise academically, monetary advantage, work recognition and job satisfaction, opportunities for R&D, fair treatment at work. Barring social recognition and family life, the respondents from abroad appear to be happy with all the other aspects of life abroad. Some of the push factors that act as disincentive for them to return are :

- ▶ Redtapism and political interference
- ▶ Poor living conditions.
- ▶ Poor remuneration and poor job satisfaction
- ▶ They have some suggestion to make :

Provision of better living conditions like transport, drinking water, housing, education etc., Payment of attractive remuneration Simplified and easy to work with procedures and policies Less bureaucracy and red tape.

A feeling was expressed that they need not come back to India for contribution to the profession, they can work in close cooperation with people working in India. Professors should get actively involved in research in addition to teaching, curriculum should be remodelled to inculcate strong cultural heritage. These, they say, will arrest brain drain to a large extent. They further say that in USA, educational institutions are autonomous to effect necessary changes in curriculum; the institutions there and the instructors are at liberty in structuring the course content.

### **They went and came back :**

Of those who went abroad for some time and subsequently came back to India, only seven responded. Presuming that they represent the views of those belonging to this category, five of them thought of going abroad only after graduation for jobs. The main reason for returning to India is reported to be family ties as stated by three of them. Sadly, however, five out of seven regretted their return and are thinking of going back abroad.

### **Brain-Drain :**

As already stated, 732 out of 1137 who were addressed, have responded, of whom 148 are abroad. During the first half of the period under survey, there was 16 percent brain drain on average, while during the second half, it went upto 23 percent; the average for the total period between 1985-1995 came to 20 percent. While during the first five year period from 1985 to 1990, a clear trend is not noticed; during the second half of 1990-95, a steady trend is visible. During the first period, the brain drain was as low as four per cent in 1987 and jumped to 32 percent in 1988. During the second half, however the brain drain during the 1991 was 25 percent and it steadily increased to 38 percent in 1995. According to projections for the later period, the brain drain is expected to be 26 percent during 1996 and 25 percent in each of the two subsequent years. The same pull factors of opportunities to improve professionally and to make more money, have been observed here as well; so fare the push factors.

### **View points :**

Faculty members viewed that migration is a brain drain in terms of loss of investments made on their education if not in terms of utilising their talent. In their view 75 percent are going abroad mainly for employment and to earn more while the other 25 percent are going for higher education. They suggested that residential institutions should be encouraged for improving the quality of education.

According to students perception, going abroad is not a brain drain because they are not only getting jobs that are not available here, but are also remitting back considerable amount of foreign exchange.

Hi-tech professionals are of the opinion that industry benefitted on account of migration and it not a loss to the country.

Industrialists are of the opinion that highly creative and innovative talent is available in IITs and a few other institutions. It is this migration of talent that is really a brain drain and not the migration of other engineers. They want students to get the necessary training before they leave the university. They desire that training in academic institutions should include training in management, confidence building and character building. They want the curriculum should be reviewed and updated periodically. They suggested a chair for the industry which could benefit both the academics and industry. Industry should spend on R and D, at present they are either importing technology or they are financially incapable of spending huge amounts on R&D.