

# **Evaluation of Impact of DST-FIST Program**

## **Regional Report: East and North East states**

### **Executive Summary**

#### **Major Observations**

Seen in terms of each state's share in GDP and population the flow of the FIST grant indicate that push has been given to the institutions from less endowed states. At the same time, states having institutions of national repute received major support.

Private institutions and constituent colleges received only 1% of the FIST grant in ENE states. 86% went to government supported and autonomous institutions.

Most of the projects granted to the institutions in ENE states are in Level-1 category, both in number and volume of grants. When compared with the grant amount it has been observed that only 73% of the amount utilised. Remoteness of North-East states is one of the main reasons, in addition to administrative and maintenance cost issues.

There are institutions running higher education and research programmes for over hundred years. DST-FIST programme has been handholding about 20% institutions for introducing and running PG and Ph.D. programmes. In about 50% cases, the original PIs either superannuated or left the institute. However, in 80% of the cases very senior members of the faculty are handling the projects.

Central govt. institutions are better off in terms of the facilities available. IPR cell and incubation centres are rare. Most of the grantee departments have classrooms in the range of 1-5. The scenario does not differ much over the types of institutions. It appears that more expensive or sophisticated the equipment more is the chance of breakdown. Utilisation of the equipment is in the range of 76% to 100%; including considerable users from outside the institutes.

While the general perception is significant improvement in most of the aspects, there are comparatively stronger negative views about administrative support. Working space also remained a matter of concern for most of the institutions. There is improvement, post FIST, in international publications and collaboration. However, most of the respondents do not think there is any remarkable improvement in the overall working environment. Fund release

related issues and inadequate infrastructure have been suggested as impediments by some respondents.

It appears that post FIST; universities did not gain much in terms of manpower. Whereas the number of scientists has increased in research institutions. Both student intakes in higher education and research (M.Phil. and Ph.D.) and pass percentage in higher division/grade have shown significant increase post FIST.

There is a sort of unanimity that there has been considerable improvement in paper publication, impact factor and citation after FIST grant. So, has been receiving national and international awards. However, patent and commercialisation of technology have not accelerated.

The two stories above bring out the role of leadership in deriving extensive benefit and creating impact from a programme like DST-FIST.

## **Conclusion**

In one sentence, there is tremendous appreciation of the programme among the grantees of the ENE states. The departments visited would proudly take around the facilities that were created through FIST grants. There is a consensus, also revealed through hard data, that FIST has opened up opportunities for the recipient departments, both faculties and students. Outcome in terms of student's intake, performance of the students, quality publications, award, recognitions, collaboration have seen notable positive changes. More detailed takeaways are:

Report on ENE states cover 11 states including big states in the plains, namely, West Bengal, Odisha, and Jharkhand as eastern states, and seven states in North East. Among North East states Assam is different from other six smaller states. Assam has established institutions of national importance, and unlike other six states, has a place in higher education and research in science and technology.

The DST-FIST has played twin role of supporting advanced research and education in established and renowned institutions in one hand, and handheld other institutions to promote higher education and research.

Govt supported and autonomous institutions are the major recipients of the FIST support. Privately owned institutions are rare in the list.

Among the grantees Central Govt. Institutions are better equipped in terms of available infrastructure. It has been seen that in many cases fund disbursed under FIST could not be fully utilised. North-East states face specific problems related to transportation of equipment that delays installations after purchase of the equipment.

FIST funds have been used mainly for equipment. Some older generation equipment is still in working conditions while many comparatively new equipment face breakdown related problems. In general utilisation of equipment is in the range of 76 to 100 % range with considerable internal usages and users from other institutions.

Although there are not significant improvements in the faculty positions of the grantee departments, there are significant positive changes in student intakes in higher degree courses, and pass percentages with better divisions and grades. More numbers of students are qualifying for sought after competitive exams.

There are remarkable positive changes in national and international publications with higher citation in higher impact factor journals. National and international collaborations, award, and recognitions for the faculties have seen positive changes. Patent and commercialisation of technology are not in the domain of any major initiatives. Dissatisfaction with administrative process is quite common.

Off the questionnaire discussion with the respondents and other faculty members helped decipher many aspects that become decisive for deriving best benefits from the FIST grants. Among many stories two presented in the report succinctly bring out the role of leadership in making the FIST give best.

### **Recommendations**

Dearth of facilities and infrastructure, but indomitable dedication, commitment and passion to prove them is how one can describe the science departments in the institutions in North East states. The marginal utility of investment in research infrastructure in these institutes, therefore, is much higher than the institutes in other states. At the same time the faculty members in these institutions, due to some psychological barrier, generally hesitate to approach the funding agencies in Delhi; too distant for them.

The study would therefore like to recommend flow of more FIST funds to the institutions in these states. It is also felt that they need some kind of handholding for encouraging them to apply for the grants under FIST.

As it has been observed, the privately owned institutions of higher education, which has grown at a very fast pace over last decade, have negligible presence in the FIST grant list. They constitute a big chunk of the available pool of S&T education and research. Such institutions also should be encouraged to apply for the FIST grants.

In many cases, the FIST project suffered in the North East states due to not so easy communication network. Such issues may be taken into account while granting grants.

There are cases that bring out the need for associated infrastructure for implementation of the FIST projects. The host institute has to make such infrastructure available. The approval of grant has to make such availability as precondition.

Maintenance of the equipment is a nagging issue faced by most of the institutions. The grant should include maintenance cost of the equipment under separate head.

There are equipment that require dedicated trained operator. The application for the grant should seek clear information on such requirements. Cost related to trained operator of the equipment should be included in the total grant amount.

There is equipment that remains operational and extensively used even after the FIST grant period is over. However, maintenance of such equipment becomes a major problem. So when the equipment demands repair or replacement of some components. The matter may be taken up for optimum utilisation of the equipment.