

## EXECUTIVE SUMMARY

R&D endeavours in the area of S&T constitute the national lifeline of the development of science & Technology - be they in the institutions of higher learning, public sector research organizations, or the industry – private or public sector. The institutions of higher learning are also the major performers of research. Teaching being the primary concern of universities, institutes and colleges, the teachers involved in research activities are to be evaluated by a set of unique science indicators side by side with the conventional measures, used to assess the outcome of research inputs poured in by the funding agencies as well as the industry.

The reluctance to supply data-base by teaching community was overcome, partly by persuasion, and partly by using annual reports and budget estimates to provide database from 99 out of 117 S&T universities/institutes from 8 states and 2 union territories.

The data has been presented in 37 tables in the form of appendices, covering the universities /institutes and 31 figures with 4 summary tables in the text.

The total reported income of 99 universities/institutes of South Zone is around Rs. 4507 crores. In that, 76 states funded universities are occupying Rs.3281 (72.80 %) crores, whereas 15 Central funded universities consume Rs 928 (20.59 %) crores and 8 self-financing universities Rs. 298 (6.61 %) crores

In the total income of 99 southern universities, by source of funding was viz. State Govt. 37.19 %, Central Govt. 22.21 %, Own source 26.98 %, Foreign source 1.24 %, Donations 0.89 %, Industries 1.49 % and others 10.01 %.

In South Zone, the S&T expenditure of higher education sector is amounted to Rs.2886 crores. In that, the expenditure spent for equipment 325 (11.21 %) crores, laboratory 228 (7.86 %) crores, maintenance 236 (8.14 %) crores, visiting faculty 58 (2.00 %) crores, conferences 67 (2.31 %) crores, contingency 709 (24.45 %) crores, salary 1138 (39.21 %) crores and other sources 140 (4.83 %) crores.

The total R&D expenditure in higher education sector, south zone is estimated as Rs. 915 crores out of the total income of Rs.4507 (20.30 % for R&D) crores and S&T expenditure of Rs.2900 (31.55 % for R&D) crores.

In the Total R&D expenditure of Rs. 915 crores, Natural sciences universities occupy the first place with Rs. 246 (26.89 %) crores, while the universities of Engineering sciences follow in expenditure in R&D with spend Rs. 284 (31.04 %) crores, Medical sciences universities with 111 (12.13 %) crores and Agricultural sciences universities with Rs. 274 (29.95 %) crores.

In the total R&D expenditure of Rs. 915 crores, Recurring R&D expenditure takes a share of Rs. 780 (85.25 %) crores whereas the Non-recurring R&D expenditure is of Rs. 135 (14.75 %) crores.

In the Total R&D expenditure of Rs. 915 crores, 759 (82.95%) crores accounts for Intramural R&D expenditure while that of Extramural R&D expenditure stands with Rs.156 (17.05 %) crores.

In the Total R&D expenditure of Rs. 915 crores, the Karnataka state takes the lead with R&D expenditure of 271(29.62%) crores while Tamilnadu remain to be of Rs.189 (20.66%) crores, Maharashtra of Rs.160 (17.49%), Andhra Pradesh of Rs. 104(11.37%) crores, Kerala of Rs. 91 crores (9.94%), Gujarat of Rs. 66(7.21%) crores, Orissa of Rs. 27(2.95%) crores, Chattisgarh of Rs. 1 (0.11%) crores, Pondicherry and Goa the union territories of 3 crores (0.33%).

The average research time spent in the decreasing order goes by agricultural institutes (49.74 %). Natural sciences 33.41 %, Engineering Sciences 40.63% and Medical Sciences 34.64 %.

In the 99 southern universities, the total S&T faculties strength is 16,463 persons. Among them 9,238 are R&D faculties according to their research time. Full Time Equivalent (FTE) faculties strength is worked out to be of 3,486. Total research staff (RA,SRF,JRF,etc) accounted 4,021. Hence, total FTE's available in the southern sector is 7,507. Total Technical Staff strength is 11,113 and non-technical staff strength is 10,648.

In the total FTE of 7507, the male FTE accounts to be of 5932 whereas Female FTE stands to be of 1575. In the total faculties of 16,463, doctorate holders are of 11,845.

In the total research publications of 2001-02 are 11,717. Among them the national publication share is 72.31% while the international one is of 27.69%.

During 2001-02, 3663 Ph.D's, 1699 M.Phil's and 19,619 Post Graduates are graduated in 99 universities under the study. In the 3663 Ph.D.'s, Natural Sciences share is 61.92% while that of Engineering sciences is of 27.08%, Medical Sciences of 0.63% and Agriculture sciences of 10.07 %.

During 2001-02, southern universities have organized 2098 seminars/symposia while the strength of the participated faculties in the other universities is reaching to 5383. Total research projects undertaken are of 3644 and the consultancy projects are of 831 numbers. Within the total research projects, 31.34 % is from Natural sciences while 25.19 % from Engineering sciences, 9.77 % from Medical Sciences and 33.70 % from Agriculture sciences.

During 2001-02, books and monographs published by the different faculty members account to 1338. Total awards received are 814. In that 594 are of national awards and 220 are of international awards. Total technologies developed are of 313.