

Executive Summary

Global landscape of Science, Technology and Innovation is changing. Indian Science Sector is also undergoing significant changes. Some efforts have been made to map changes in the landscape of Indian Science, Technology and Innovation. The Department of Science and Technology had commissioned third party study to gather evidence for changes, if any, in the scientific publication outputs emanating from India. Thomson Reuters have submitted an “Evidence” report. This has now been analyzed by the Department of Science and Technology.

The analysis of changing trends in outputs of scientific publications as assessed through 5-year moving averages indicate a growth rate of about 66% between 2006-10 relative to 2001-05 period. This amounts to average growth rate of about 13% per year. The study also reveals that Chemistry, Physics, Materials Science, Engineering and Clinical medicine are the active areas of research outputs from India during the study period.

The study also reveals that though the percentage papers remaining un-cited or non-cited is on the decline, there is a need to decrease the proportion from current levels of about 48% to less than 30% through various interventions.

Citation impact of papers emanating from India has increased from 0.35 in 1981-85 to about 0.68 in 2006-10. The relative global impact of Indian research publications require significant improvements during the next five years and target a value of 1 during 12th Plan.

Engineering research is making significant progress. There is a near quadrupling of number of Indian scientific publications on the top1% journals in the world. Citation impact of Indian scientific publications in the areas of Engineering, Physics and Materials Sciences are higher than 0.8 and Psychiatry /psychology is close to 0.99 of global ratios.

There is an 81% increase in the number of publications in top 1% impact making journals during 2006-10 relative to 2001-05 periods. The impact factor profile of scientific publications reveals a bimodal distribution. There is a call for the Indian Science Community for examining the best possible means for enhancing the quality parameters of scientific publications from India.

This report has presented changing trends in scientific publications activity and proposed some possible actions for improving Indian Science and Technology output indicators.

National Science and Engineering Research Board might want to plan some actions based on this evidence provided here.