

on Research and Development (GERD) and lesser number of scientific and technical manpower devoted to S&T activities as compared to other countries such as China, UK and USA. As per UNESCO data on S&T accessed on 23.11.16 for the number of full time researchers in US and China is around 12 lakhs or more, whereas in India and UK it is around 2 lakhs. In terms of R&D Expenditure (GERD in PPP\$) China and US Expenditure is in 12 digit whereas in India and UK it is in 11 digit. Patent filing data by residents of China and US are within the range of 2 to 3 lakhs patents per year whereas UK and India are within the range of 12 to 15 thousands only. This correlates well with number of R&D manpower and investment in the R&D.

(b) and (c) The following steps have been taken by the Government to improve the patent filing and monitoring the performance with regards to safeguarding the Intellectual Property Rights (IPR's) in the country:

- Department of Industrial Policy and Promotion (DIPP) has come up with National IPR Policy for enhancing Intellectual Property (IP) output with several action points.
- Massive IPR awareness has been planned by the Government at all levels; School, College, University and Industry.
- Government has announced 10% tax regime for patent royalties to enhance patent output.
- Government has created support system for Start-ups for filing of patents where benefit of 80% reduction in official fee is provided as well as reimbursement of patent agent/attorney expenditure up-to ₹ 25,000/- paid to start-ups through Patent Office by DIPP.
- Reducing the patent filing fee for small entities to 50%.
- Strengthening the of patent facilitation mechanism in different departments.

Experiment on cloud seeding technology

1855. SHRI DILIP KUMAR TIRKEY: Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether it is a fact that cloud seeding technology in some parts of the world has been effectively used by the scientists to curb the menace of air pollution; and

(b) if so, whether the same has been experimented upon by Indian Scientists, if so, the details thereof and if not, the reasons therefor?

THE MINISTER OF STATE IN THE MINISTRY OF EARTH SCIENCES (SHRI Y. S. CHOWDARY): (a) and (b) Sir, there is no authentic information on

use of cloud seeding technology to curb menace of air pollution in any parts of the world. Ministry of Earth Sciences does not have any plans to experiment this technology at present.

Quality of scientific publications

1856. SHRI T. RATHINAVEL: Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether it is a fact that India's output of scientific publications has increased but their quality is skewed;

(b) whether it is also a fact that there seems to be no visible output at the highest level regarding the attention it needed to give to various social and economic challenges; and

(c) whether it is also a fact that India's scholarly output rose to 1,06,065 papers in 2013 from 62,955 papers in 2009?

THE MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI Y. S. CHOWDARY): (a) No, Sir. As per Elsevier Report 2016 based on SCOPUS database, India's output of scientific publications increased significantly during 2009-13 and so is the share of world's citation (quality) and of top cited papers.

(b) No Sir. India bears similarity with the world and other select countries in research publication distribution pattern by subject areas with Medicine and Engineering being the most prolific areas to address various social and economic challenges. However, the effective outcome of research varies with national context and prevalent innovation eco-system.

(c) Yes Sir.

Integration of skill development with education and employability

1857. SHRIMATI RAJANI PATIL:

SHRI P. BHATTACHARYA:

KUMARI SELJA:

SHRI DARSHAN SINGH YADAV:

Will the Minister of SKILL DEVELOPMENT AND ENTREPRENEURSHIP be pleased to state:

(a) whether the Government has recently decided to provide financial assistance to every State/Union Territory to integrate skill development with education and employability of youths;