GOVERNMENT OF INDIA

MINISTRY OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF SCIENCE AND TECHNOLOGY

RAJYA SABHA

UNSTARRED QUESTION No. 2846

ANSWERED ON 19/12/2024

COLLABORATION FOR RESEARCH COOPERATION

2846. SHRI RAJEEV SHUKLA:

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) the details of collaborations for research cooperation India is currently engaging in, with respect to other countries;

(b) the progress made in this respect, country-wise, field-wise;

(c) the benefits realised so far; and

(d) the proposed measures to be taken in this regard?

ANSWER

MINISTER OF STATE (INDEPENDENT CHARGE) FOR THE MINISTRY OF SCIENCE AND TECHNOLOGY & EARTH SCIENCES

(DR. JITENDRA SINGH)

(a) Ministry of Science and Technology is facilitating international cooperation in all major areas of Science, Technology and Innovation with 40 countries through instruments such as Memorandum of Understanding (MoU), Letter of Intent (LoI), Programme of Cooperation (PoC) or other Agreements. Every year, the Department of Science and Technology (DST) launches about 15-18 joint calls for Research and Development (R&D) proposals to enhance international bilateral collaboration as well as multilateral collaboration. India is also participating in the state-of-the-art research facilities like Facility for Antiproton and Ion Research (FAIR) in Germany, Thirty Meter Telescope (TMT) in USA, Square Kilometer Array (SKA) in Australia and South Africa wherein India works closely with many leading countries across the globe. India is also a part of European Organization for Nuclear Research (CERN, Geneva); ELLETRA Synchrotron (Italy); Sp-Ring-8 (Japan); KEK Accelerator (Japan); Fermi-Lab (US); Synchrotron light source (Brazil and Singapore); Synchrotron Radiation Sources Beam-line (Russia) etc. Global Centre for Nuclear Energy Partnership (GCNEP), a constituent unit of the Department of Atomic Energy (DAE) is having MoUs with 16 international partners

including USA, Russia, IAEA, France, etc. to strengthen global partnerships to promote safe, secure and sustainable nuclear energy for the service of mankind.

(b) Significant progress has been made in fostering and expanding international partnerships with many countries. Joint S&T calls for proposals have been implemented in different areas of S&T. These projects are progressing well in terms of their objectives and outcome. Details of projects progressing in this respect, country-wise, field-wise are given in the Annexure.

(c) The main aim of these collaborations is to connect Indian research with global efforts particularly in the frontier areas of S&T and in areas addressing global challenges. The collaboration has helped in facilitating joint R&D projects, seminars, fellowships, training programmes, increased research capacity building and infrastructure development, exchange and exposure visits, access to advanced facilities, technology transfer, joint publications etc. Partnership in global mega research infrastructure facilities enable access to our researchers to advanced facilities & participation in mega-science/ consortia projects. These collaborations have helped projecting India's S&T prowess globally thereby supporting brand-building for the organization and the nation at large.

(d) The proposed measures include periodic reviews of these collaborative MoUs through Joint Working Group mechanism to monitor implementation of each of the activities undertaken to identify mutually rewarding collaborations and build new modes of synergistic linkages in different areas of S&T research. In addition, GCNEP is constantly working to build expertise in nuclear technologies by facilitating collaborations with national & international organizations, fostering knowledge exchange, skilled human resource development, joint research, and technological advancements.

Annexure

Area / Domain	Countries in Bilateral Engagement
Applied Mathematics	France, Poland, Russia, UK, USA
Advanced Manufacturing	Australia, Germany, UK, USA
Astronomy	Australia, Belgium, Chile, Russia, S. Africa, Thailand, USA
Agri Biotech	Australia, Egypt, Mexico, S. Africa, Taiwan, UK
Biomedical Devices	Australia, Israel, Singapore, Taiwan, Japan, UK, USA
Clean Energy	Australia, Austria, Brazil, France, Finland, Germany, Korea, Norway, Singapore, Spain, UK, USA
Climate Research	France, Norway, Peru, UK, USA
Cyber Physical Systems, 5G/6G	Denmark, France, Israel, Japan, Netherlands, Norway, South Korea, UK
Quantum Technologies	Finland, France, Japan, Russia, USA
Engineering Sciences	Belarus, Canada, France, Germany, Russia
Glaciology	Iceland, Norway, Switzerland
New and Advanced Materials	Austria, Belarus, Brazil, France, Germany, Italy, Japan, Korea, Netherlands, Russia, UK
Robotics/ Sensors/ Embedded Systems	Austria, Canada, Korea, Portugal, Slovenia, Sweden, Switzerland, Taiwan
Seismology/ Geo-hazards	Canada, Iceland, Mexico, Norway, Taiwan, New Zealand
Smart Grids	Finland, Netherlands, UK, USA
Smart City	Germany, Sweden, Switzerland, UK
Water Technologies	Australia, Canada, France, Israel, Mexico, Netherlands Singapore, Sweden, UK

Area / Domain	Forums in Multilateral Engagement
All areas of S&T	ASEAN (Association of Southeast Asian Nations)
All areas of S&T	BIMSTEC (Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation)
All areas of S&T	BRICS (Brazil, Russia, India, China, South Africa)
Water technologies, Clean energy, E-mobility.	EU (European Union)
INCOIS, Hyderabad has extended their training programs as per their annual calendar of events for researchers from IORA Member States.	IORA(Indian Ocean Rim Association)
Young Scientist Conclave at JNCASR, Bangalore	SCO (Shanghai Cooperation Organization)

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