

# SENATE OF PAKISTAN



**REPORT NO. 4 OF 2019**

**SPECIAL REPORT OF THE SENATE STANDING COMMITTEE ON  
SCIENCE AND TECHNOLOGY**

**ON**

**"THE EXPO CUM CONFERENCE TITLED ROLE OF HIGHER EDUCATION IN  
SCIENCE AND TECHNOLOGY FOR SOCIO-ECONOMIC DEVELOPMENT IN  
PAKISTAN," HELD AT PCSIR LABORATORIES, LAHORE;  
11-13 FEBRUARY, 2019.**

**PRESENTED BY:  
SENATOR MUSHTAQ AHMED  
CHAIRMAN (COMMITTEE)**

## SENATE SECRETARIAT

### SPECIAL REPORT OF THE STANDING COMMITTEE ON SCIENCE AND TECHNOLOGY ON "EXPO CUM CONFERENCE TITLED ROLE OF HIGHER EDUCATION IN S&T FOR SOCIO-ECONOMIC DEVELOPMENT IN PAKISTAN, HELD AT PCSIR LABORATORIES LAHORE; 11-13 FEBRUARY 2019"

I, Senator Mushtaq Ahmed, Chairman Standing Committee on Science and Technology, have the honor to submit, on behalf of the Committee, this special report on "Expo cum Conference titled Role of Higher Education in S&T for Socio-Economic Development in Pakistan," held at PCSIR Laboratories Lahore, 11-13 February 2019, in compliance of Standing Committee's recommendations.

2. The composition of the Committee is as under:-

1.	Senator Mushtaq Ahmed	Chairman
2.	Senator Muhammad Azam Khan Swati	Member
3.	Senator Gul Bashra	Member
4.	Senator Nuzhat Sadiq	Member
5.	Senator Syed Muhammad Sabir Shah	Member
6.	Senator Gianchand	Member
7.	Senator Sassui Palijo	Member
8.	Senator Dr. Sikandar Mandhro	Member
9.	Senator Sarfaraz Ahmed Bugti	Member
10.	Senator Kamran Michael	Member
11.	Senator Hilal-ur-Rehman	Member
12.	Minister In-charge for Science and Technology	Ex-Officio Member

3. The Committee had recommended in mid-2018 that Ministry of Science and Technology (MoST) should organize an Expo cum Conference to not only showcase our national talent on S&T but also provide a platform for linkages between R&D organizations and industry. Accordingly, MoST organized an Expo cum Conference on 11-13 February 2019 at PCSIR Laboratories, Lahore. The Chairman Committee and Senator Syed Muhammad Sabir Shah visited Lahore to attend the Conference and witness the Expo.

4. Under Standing Committee's broader direction and vision, aim of the Expo cum Conference was to bring together leading academia, R&D organizations and industries to share their experiences and bridging gap to build up quality education in science and technology and to develop linkages to support innovation based entrepreneurship for socio economic development in

the country. The event was well attended by stake holders from all across the country, who participated with keen interest and shared insights into the role of higher education, new trends, issues and challenges, linkages with industry, entrepreneurships, policy matters and transfer of technology.

5. At the Expo, all organizations working under MoST's administrative control, multiple industries and academia exhibited their R&D products, while educational institutes also displayed their brochures and admission schedule etc. The expo was visited by different delegations/representatives from Chambers of Commerce, Trade Associations, Industries, Universities and as well as students of local academic institutions. Participants highly appreciated the conference cum expo and also requested that such type of events should be organized often for bridging up the gaps and creating stronger linkages.

6. The Expo cum Conference provided an interdisciplinary platform for academia, R&D organizations and industries to present and discuss the most recent innovations, trends, and concerns as well as practical challenges encountered and solutions adopted which is a major contribution for the development and integration of knowledge. It also offered an opportunity to interlink and collaborate with each other for joint ventures and technology transfer. It also highlighted public needs, shared success stories and at the same time discussed various issues and challenges that need to be addressed and recommendations that can lead towards sustainability.

7. Addressing the Conference, Senator Sabir Shah called for national cohesion and harmony to promote and develop one national vision on S&T and development. He urged for taking firm policy decisions, setting a clear direction and all individuals to play their roles instead of waiting for others to do something. He also expressed the view that political leadership shall get united to national agenda of innovation, progress and empowerment of people through development.

8. The Chairman Committee asserted that it is research and innovation which have changed the world more than anything else. He observed that the very first word of Wahi (revelation of Quran) was Iqra, which showed how critical study and knowledge is in Islam. He added that innovation and S&T can be an alternate to literally everything in this world but there can be no alternate to innovation and S&T. He lamented the fact that Pakistani society had become addicted to fame, politics, sports and showbiz and has left behind educationists, academia, students, researchers, innovators and thinkers. He noted that there has been a lot of emphasis and noise these days on knowledge driven economy but to achieve that a country has to be education centric, which unfortunately Pakistan is not. He also maintained that 60% population of Pakistan is below 30 years of age and it can be turned into a huge asset by equipping them with quality education and

S&T knowledge, otherwise it will be wasted to meaningless activities and lip service. He concluded by emphasizing on the significance of three Es i.e. useful education, gainful employment and meaningful engagement.

9. In its meeting held on 14<sup>th</sup> March 2019, the Standing Committee, while reviewing compliance of its recommendations and directions, lauded MoST for organizing Expo cum Conference. It was further recommended that Expo cum Conference should be made a regular annual feature, making it a national level event of showcasing national talent, innovations and research in the fields of Science and Technology, which can also include competitions in different categories for best innovations in order to generate more interest and participation.

10. Based on its observations during the visit to Expo cum Conference, subsequent discussions and feedback from MoST, PCSIR and other stakeholders, the Committee makes following recommendations with regard to Expo cum Conference and its intended benefits for the country:

- i. Expo cum Conference should be made a regular annual feature, making it a national level event of showcasing national talent, innovations and research in the fields of Science and Technology, which can also include competitions in different categories for best innovations in order to generate more interest and participation.
- ii. Formation of Scientific Advisory Committee (Think Tank) on Science & Technology at Ministerial level having representation from MoST, HEC, Eminent Scientists/Engineers (with proven track record) and Industries for developing, implementing and monitoring of strategic policies on Research, Higher Education, Innovation and Commercialization such as:-
  - a. To devise a framework/roadmap for strengthening the collaboration/ partnership among R&D institutes, academia and industry for the promotion of entrepreneurship culture.
  - b. To develop scientific and innovation agenda to prioritize the research areas according to need of the Country such as Bio-technology, Nano-technology, Alternate Energy Resources, Mineral Resources, Water Resources, Engineering Materials, Environment, Food Safety & Security.
- iii. Establishment of Research, Innovation & Commercialization Cell at Ministry of Science & Technology with a mandate to guide, support and facilitate its R&D organizations for optimum utilization of their Human & Capital Resources for:-
  - a. Developing linkages with industry & academia
  - b. Undertaking demand driven R&D
  - c. Value-addition, especially for exports

- d. Development of import substitutes
  - e. Entrepreneurship development & transfer of technology to the local industry
  - f. Effective publicity programs through S&T exhibitions, seminars, conferences and news bulletins etc.
- iv. Entrepreneurship and commercialization of R&D should be taught as a subject at university level.
  - v. Easy access to micro financing for university graduates to promote the culture of entrepreneurship based on R&D.
  - vi. Promotion of the culture of need-based research projects in collaboration with R&D institutes, academia and industries.
  - vii. Extensive skill development training programs to create job opportunities and supplement the economic activities under CPEC regime.
  - viii. Launching a national Career Counseling Program and establishment of career counseling centers at all universities in the country.
  - ix. Strategy should be developed to attract industrial donors for R&D funding likewise national ICT R&D funds of Ministry of Information Technology.
  - x. Centralization of S&T curricula for the whole country in order to create sustainable and harmonious innovation growth.
  - xi. Incentive policies (like tax rebates etc.) should be introduced for industries and SMEs to acquire indigenous technologies developed by local researchers & academia.
  - xii. Incentive policies for scientists and faculty members should be formulated.
  - xiii. Facilitation should be provided to institutions, scientists and researchers in filing patents, and to SMEs / entrepreneurs in licensing.
  - xiv. S&T parks and technology incubation centers should be established and encouraged at all universities to create an ecosystem for entrepreneurship.

  
(Haris Rehman)  
D.S / Secretary Committee

  
(Senator Mushtaq Ahmed)  
Chairman Committee