

To: Dr. S. Zaheer Hussain
Deputy Scientific Adviser (P&C)
Ministry of Science and Technology (MoST)
Islamabad

Subject: **National Science, Technology & Innovation (STI) Policy 2021- Outline**

Reference: STI Policy 2021 Formulation Working Group Meeting on December 16, 2020
your email on the subject dated January 01, 2021 and January 15, 2021.

1. In view of the discussion on December 16, 2020, the subject policy is considered to be very critical for future national development of Pakistan. Dr. Syed Adnan Qasim, Registrar NUTECH and member of STI Policy formulation working group is busy in preparing a draft of subject document of his inputs related to STI policy 2021. Different experts and professionals are being consulted to make logical, focused, dynamic and implementable policy in the light of vision, mission of MoST and in view of transforming our nation to become scientifically and technologically advanced through innovation and creativity in the future.

2. In reference to last e-mail on January 15, 2021 and after going through the contents of initially proposed outline, following inputs/ comments/ suggestions are forwarded for kind consideration:-

- a. The outline is generally agreed to but requires more critical modifications.
- b. Since "Preamble" of any National Policy represents its "Heart, Spirit and Soul", hence it may be developed after incorporating inputs of all committee members, which should be debated in a meeting and then be got approved from Chairman PCST/ Secretary MoST.
- c. "Introduction" may be replaced by the following:-
 - (1) "Brief Review" of history and current landscape of Science, Technology and Innovation in Pakistan.
 - (2) Brief Critical Analysis of Past/ National STI Policies.
- d. Policy vision may be made more elaborative. In this context following visions are suggested:-
 - (1) **1st Suggestion**. "National Transformation through Advancements in Science, Technology and Innovation".

- (2) **2nd Suggestion.** “Building Scientifically Developed, Technologically Advanced and Innovatively progressive Pakistan”.
 - (3) **3rd Suggestion.** “Developing Modern Pakistan through Knowledge Excellence in Science, Technology and Innovation”.
 - (4) **4th Suggestion.** “Development Excellence through Advancement in Science, Technology and Innovation”.
- e. The suggested Mission may be modified as follows:-
- (1) Acquisition of Excellence in Science to create, develop and promote innovative technologies for national industrial and economic development through creativity, intellect and scholarship.
3. **Objectives.** Following STI-2021 policy objectives are suggested:-
- a. Excellence in Science education as per best international practices of elite academic institutions of world’s leading nations.
 - b. Integration of knowledge of science with all important sectors of economy and segments of society as vital pivot of national human development.
 - c. Integration of fundamental sciences with applied and social sciences to create and develop innovative technologies as per best international practices of the modern world.
 - d. Creation and establishment of national echo-system to advance scientific knowledge, technological developments and innovative products for the society.
 - e. Conversion of global scientific discoveries into technology products for national industrial and economic development.
 - f. Creation of strong and well-integrated national science and technology development system.
 - g. Make Pakistan “Elite Stake Holder” of 4th Industrial Revolution (Industry 4.0) through advancements in science, technology and innovation.
 - h. Transformation of national economy into science and technology driven ‘Knowledge Economy’.

- i. Create strong Academia-Industry-Govt (Triple Helix) based national system of science promotion to create innovate technologies.
- j. Develop science for national human development, technology for national industrial development and innovation for national economic development.
- k. Create human resource for scientific discovery, technology creation and innovative products development for value-added hi-tech exports.
- l. Establishment of National “Academic Project-to-Industrial Product” development system through promotion of science, technology and innovation.
- m. Development of cohesive defence and civilian industry based R&D system of science, technology and innovation for national socio-economic development.
- n. Establish integrated national system of academic and industrial collaboration in science and technology with international academia and industry to develop innovative technology products for international markets.
- o. Transformation of all national scientific R&D based and technology driven organizations, academia and industry into outcome based productive and dynamic enterprises of tomorrow.
- p. Create system of integration of Ministries of Science and Technology (MoST), Education and Professional Training (MoE&PT), Information Technology (MoIT), Health (MoH), Industries & Production (MoIP), Commerce & Trade (MoC&T), Planning, Development & Reforms (MoPDR) and defence production (MoDP) as active stakeholders for the promotion of science, technology and innovation in academia and industry.
- q. Develop cohesive and vibrant system of national and international stakeholders including academia, industry, R&D enterprises, developmental agencies and multi-national companies for the promotion of science and advancement of technology in Pakistan.
- r. Facilitation of national policy making institutions to cultivate innovation in national design for socio-economic development.

- s. Promotion of national socio-economic development by enhanced exports and better human development index (HDI) gradings through science, technology and innovation.
 - t. Develop system of diplomatic engagement of international govts, institutions and organizations through the use of scientific break throughs, indigenous technology developments and innovative products.
 - u. Develop an echo-system of indigenization of commercial products through scientific research promotion, technologies development support and innovation.
4. Aforementioned subject outline suggestions in view, it is suggested that second meeting of STI policy formulation working group may be convened in the first week of February 2021 for intellectual debate, discussion and finalization of layout of STI-2021 policy.
5. Forwarded for information and kind consideration as desired, please.

Dr. Syed Adnan Qasim
Member STI Policy-2021 Formulation Working Group
Registrar, NUTECH