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Astana Declaration on Implementation of Inquiry Based Science Education (IBSE) in the Economic Cooperation Organization (ECO) Region

Capacity Building Workshop on Inquiry Based Science Education (IBSE) for ECO Region 22-25 June, 2015, Astana- Republic of Kazakhstan

As an initiative of ECO Science Foundation (ECOSF), a capacity building workshop on Inquiry Based Science Education (IBSE) was jointly organized by ECOSF and the Committee of Science under the Ministry of Education and Science, Government of Republic of Kazakhstan on 22-25 June, 2015 in collaboration with *La main à la pâte* Foundation France, the Embassy of France in Kazakhstan, the International Science, Technology and Innovation Center for South–South Cooperation under the auspices of UNESCO (ISTIC) Kuala Lumpur and the Inter-Academy Partnership (IAP) Science Education Programme (SEP). The workshop was hosted by the "Palace of Students" Astana- a unique complex of science, technology, engineering, arts and sports Learning Centre for children. It was participated and contributed by 19 Scientists, Educationists, & Policy makers and Global IBSE Leaders from eight countries of ECO and above international institutions, and 59 young teachers & researchers from Kazakhstan.

Purpose of the workshop was to build the capacity of participants to: Recognize the philosophy of IBSE pedagogy in Science, Technology, Engineering and Mathematics (STEM) teaching; Experience the process of inquiry-based science teaching and learning, problem solving skills through hands-on, minds-on activities; Gain insights into activities that not only can encourage and motivate students in science through the hands-on, minds-on activities but also convince decision makers to pursue *Inquiry* based approach for education; and Decide on strategic steps for implementation of IBSE – based STEM in the 10 ECO member countries.

The workshop devoted two days to the concepts of IBSE with hands-on/minds-on activities and global scenario of IBSE implementation and contributions to science and technology development around the globe; a day to review the status and methods of science teaching in ECO member states; and finally round table discussions on the way forward. The constructive deliberations and discussions culminated in the recommendations and outcomes in this Astana Declaration. The Astana Declaration was adopted by the participants of the international workshop.

This Astana Declaration reaffirms that; science and technology and engagement of youth is the key to economic and cultural development of all nations; and IBSE is the most efficient way to go about teaching science, technology, engineering and mathematics (STEM) at schools

The United Nations will adopt the UN Sustainable Development Goals (SDGs) 2016-2030 at the UN Summit General Assembly in Sept 2015. The UN SDGs aim to end Global Poverty by 2030. Besides ending global poverty and its attendant ills of global hunger and ill health, the SDGs break new ground with goals on inequalities, economic growth, decent jobs, cities and human settlements, industrialization, energy, climate change, sustainable consumption and production, peace, justice and institutions. The UN Secretary General stresses **“Young people will be the torch bearers of the next sustainable development agenda through 2030. Transformation is our watchword.”** The achievement of the UN SDGs is heavily dependent on innovations in science and technology. The world would need to nurture the innovative and creative instinct of the young, in order to develop their sense of cooperative work and respect, more generally their human values and attitudes, through inquiry based science education (IBSE).



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This IBSE workshop in Astana is a ground breaking effort to promote IBSE in ECO countries to help them achieve the UN SDGs by 2030.

Therefore this Astana Declaration on IBSE now:

- Urges the President of Republic of Kazakhstan to consider adopting the recommendations of the Astana Declaration in Kazakhstan and urge his fellow leaders in ECO countries to do likewise. We would hope that the President will urge all nations especially South Nations to adopt IBSE based STEM in his address to the UN Summit General Assembly in September 2015.
- Calls upon all ECO countries' Governments to adopt IBSE as way of science teaching, and train a cadre of school teachers as Master Trainers
- Urges the President of Republic of Kazakhstan and Heads of States and Governments of other ECO countries to pursue United Nations Educational, Scientific and Cultural Organization (UNESCO) for adopting and supporting IBSE based STEM as the best way for science teaching at schools in the world.
- Calls upon the ECO Governments to provide for a systematic linkage between primary & secondary schools, the universities/research organization & scientists and industry
- Calls upon Governments in ECO countries and beyond to give high importance to school teachers and provide good incentives so as to attract best minds for teaching
- Urges Industry to support IBSE based STEM education in their own interests and the interest of national economic and cultural development
- Appreciates the initiative of and encourages to ECO Science Foundation to continue playing the catalytic role for promotion of IBSE in the region
- Express thanks to the Committee of Science, Ministry of Education and Science of Republic of Kazakhstan for hosting the workshop and the support provided.

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