

IAS KUCHING DECLARATION
on
Energy for Sustainable Development
and
Science for the Future of the Islamic World and Humanity

adopted at Kuching/Sarawak (Malaysia)
on
6 Sha'aban 1424
2 October 2003

PREAMBLE

WHEREAS *Allah* (God) *Subhanahu Wata'ala* has endowed Man with reason, and made the pursuit of knowledge an (absolute) obligation, and as the teachings of Islam emphasize the importance of prudently using all resources for Man's lasting well-being;

WHEREAS the doctrines of Islam explicitly emphasize that human-beings' relation to nature should be one of stewardship and not of unrestricted mastery, and as Islam promotes a balance between all living creatures and their life-sustaining environment;

WHEREAS concepts such as sustainability, and analytical tools such as human development indicators, provide conceptual frameworks for linking Research and Development (R&D) to societal outcomes, thus invariably leading towards the implementation of an R&D policy that addresses the complex interconnections among technological advance and societal responses and needs including sustainability;

WHEREAS sustainable development provides the only practicable way forward if our world's peoples are to live in harmony with each other, and as access to affordable and reliable energy, drawn from environmentally acceptable sources of supply, is an important feature of sustainable development;

WHEREAS renewable energy sources and technologies provide a virtually infinite supply and environmental compatibility with sustainable development;

WHEREAS Organisation of Islamic Conference (OIC) and developing countries vary in their energy and sustainability outlook, as some have developed a vision that interlinks their energy future to their sustainable development outlook, and others due, among other considerations, to the abundance of their natural energy resources, have not given due priority to this issue;

AND WHEREAS,

- (a) The Islamic Academy of Sciences has long realised that science is a major asset of humanity, an asset that in the 21st century offers new opportunities and faces new challenges as well as old ones; challenges related to the prevalence of sustainable development, justice, tolerance, dialogue between civilisations and peace;
- (b) The Islamic Academy of Sciences firmly believes that the international science/academic community must lead the way in bridging prevailing civilisational, social, economic, even political divides between the peoples of the world;
- (c) Science education forms the starting point for genuine capacity building in Science and Technology (S&T) in developing countries;

MOREOVER,

- (One) **BEING CONCERNED** about the prevailing and growing gaps – including knowledge gap – between the North and the South, which are marginalizing many developing countries and isolating the science communities therein;
- (Two) **NOTING WITH CONCERN** that millions of people in rural areas of developing countries live without access to modern energy services, and that many in urban areas suffer the same deprivation and a third of our world's population has unreliable access to modern energy services;
- (Three) **OBSERVING WITH CONCERN** the lack of a long-term energy policy at the national level in most member countries of the OIC;
- (Four) **NOTING WITH CONCERN** the limited number of centres of excellence and the general deficiency of S&T institutions in many OIC member countries, especially those centres that are involved in renewable energy R&D;
- (Five) **NOTING WITH CONCERN** the lack of specialized energy and sustainability-focused educational programmes at all levels of education in most OIC countries and the inadequacy of educational institutions;

AND,

- (a) **RECOGNISING** the pressing need to encourage investment to support education in science and mathematics, fields where Muslim scientists have made highly significant contributions in earlier times, and noting that these efforts should take advantage of the enormous advances in Information and Communications Technologies (ICTs), but emphasising the great value of 'hands-on' approach to introduce young children to science, and further realizing that such initiatives should include school-based education as well as informal science education through science museums and centres, the media, organising and participating in science olympiads, to encourage greater public awareness of science;
- (b) **OBSERVING WITH CONCERN** the difficulties faced by some OIC member countries in combating alphabetical adult illiteracy and in promoting computer awareness and utilization among the adult population;

- (c) **NOTING WITH CONCERN** the absence of co-ordination between the various institutions involved in science and mathematics education within the educational process;
- (d) **NOTING** the apparent slow adoption of advanced educational and ICT tools such as personal computers, access to the Internet, etc. and the general inadequacy of educational infrastructure;

NOW, THEREFORE, the Islamic Academy of Sciences:

- (i) **REALIZING** that some OIC member countries face critical energy shortages and rely heavily on imported non-renewable resources;
- (ii) **ACKNOWLEDGING** that renewable energy resources, appropriate to local conditions, usually offer an attractive energy resource to rural populations and can make an increasing contribution in urban areas, and that – for economic, strategic and environmental reasons – renewable energy resources are expected to become the supply of choice;
- (iii) **ACKNOWLEDGING** that nuclear energy which does not release greenhouse gases at the generation stage as well as the clean renewable wind, hydro, biomass, geothermal, and solar energies, appear to be attractive for the generation of electricity and that their contribution in the global energy mix will significantly increase in future;

MOREOVER,

- (a) **APPRECIATING** the activities being carried out by many UN, OIC, governments, academic institutions, and non-governmental organizations in the area of sustainable energy research and related technological applications;
- (b) **REALISING** that no single nation-state can survive in the management of resources in total isolation from a regional and international context and that we all are interdependent;
- (c) **UNDERSTANDING** that at the dawn of the 21st century, the world of science and higher education is marked by a complex struggle, between continuity and change, and the rise of new challenges, opportunities and new modes of 'learning to learn,' and that the idea of reforms, innovations, transformations and *evolution* rather than *revolution* tells us that higher education and science are in ferment in creating and constructing knowledge;
- (d) **NOTING** that in responding to the growing demands of the market-forces of the Knowledge-based or K-economy, a fresh-look is needed to re-examine the delivery of higher education in OIC and Developing countries in terms of quality and relevance, and also to re-examine the scientific development and acquisition capacity as well as technology application into the productive sectors of the economy;

THE ISLAMIC ACADEMY OF SCIENCES AND THE SCIENTISTS, TECHNOLOGISTS AND POLICY-MAKERS MEETING AT KUCHING, SARAWAK, MALAYSIA, DURING 29 SEPTEMBER- 02 OCTOBER 2003 CALL UPON the international community to:

- (a) **EXTEND**, in the spirit of co-operation, all possible help to developing countries in the area of technology transfer, R&D human resource development, as well as debt relief, to enable them to channel more resources to mapping an environmentally sustainable future;
- (b) **CONTINUE** to support research projects of importance in the developing countries, especially in the field of renewable energies, and related emerging technologies in general;
- (c) **CONTINUE** to support research projects of importance in the developing countries in science and mathematics education;
- (d) **INCREASE** institutional and national North-South and South-South academic and scientific collaboration to help developing countries build up their S&T capacity;
- (e) **FACILITATE** the opportunities for scientists of the countries of the South in terms of under-graduate, post-graduate and post-doctorate studies in the North and other parts of the South as a means of building up the critical mass of scientists and technologists in poorer countries;

AND CALL UPON the leaders and decision-makers of Islamic countries to:

- (i) **ESTABLISH** national academies of sciences in their countries, or where such independent entities exist strengthen them, so that they may act as independent advisory bodies to their respective governments;
- (ii) **EVALUATE** their energy policies and where possible incorporate them into national S&T policies;
- (iii) **STRENGTHEN** specialized R&D institutions, the output of which can eventually be smoothly transformed into marketable technological products;
- (iv) **INTRODUCE** environmental awareness programmes at the various stages of the educational process;
- (v) **STRENGTHEN** sustainable energy research centres, especially solar and hydrogen energy research centres, and provide them with all possible incentives to bolster their research and market their technological output;
- (vi) **INTRODUCE** appropriate legislation and incentives, including tax relief and customs exemptions, to promote the use of sustainable energy resources;
- (vii) **ALLOCATE/DIVERT** available resources to science education, with a view to building up a scientific and technological manpower base capable of adapting and developing new technologies;

- (viii) **EMPHASIZE** the key role played by contemporary applied and basic sciences education for gaining mastery in the transformational technologies of information technology, biotechnology, and nanotechnology;
- (ix) **ADOPT** a holistic approach to scientific research and development and technology utilisation and establish the necessary technology management processes for the purpose;

AND FURTHER CALL UPON the relevant OIC and other organisations to:

- (a) **PROMOTE** a realization among educationists from all disciplines of the need to produce an appropriate base for socio-economic development in OIC countries through the use of a combination of ideological and utilitarian approaches;
- (b) **ENCOURAGE** inter-agency collaboration in the area of sustainable energy adoption and assimilation;
- (c) **COLLABORATE** with more advanced countries in building the scientific capacity required for the development of hydro and nuclear power, as well as wind, hydrogen, geothermal and solar energies;
- (d) **ENCOURAGE** and support OIC-based sustainable-energy industrial ventures;
- (e) **DEVELOP** databases of human resources involved in sustainable energy research and application in OIC countries to facilitate appraising national strengths and weaknesses;
- (f) **PROMOTE** interest in science education at all levels, in a manner compatible with local culture and needs, but without excluding international experience gained in this domain including that of many European and American academies of sciences;
- (g) **CONTINUE** to address developments in basic sciences and mathematics, and not to marginalize this backbone of S&T development;
- (h) **UPGRADE** primary education through the introduction of illustrated and interactive educational resources and textbooks, and encourage scientists and educationists of repute to participate in the production of such materials and textbooks;
- (i) **ENCOURAGE** and promote the publication of quality research material of OIC scientists on the Internet;
- (j) **ENCOURAGE** the participation in the annual “Nobel Laureates Meeting in Lindau,” which is a unique scientific event, at which Nobel Laureates give lectures to and interact with young researchers from a variety of countries;

- (k) **IDENTIFY AND INTERACT WITH** champions of Science at the institutional, national, regional, OIC and international levels, to promote the cause of science for development;
- (l) **STRENGTHEN** academic and scientific links with international science academies, and other scientific bodies worldwide;

MOREOVER, THE ISLAMIC ACADEMY OF SCIENCES:

- (1) **SUPPORTS** the setting up of an OIC energy forum to critically examine future energy strategies of OIC member countries;
- (2) **SUPPORTS** the setting up of the proposed International Renewable Energy Agency, as a new international body mandated to promote all aspects of renewable energies, at the international level;
- (3) **URGES** all OIC member countries to contribute generously to the newly established OIC Science and Technology Fund, and commends highly the efforts of Pakistan and the OIC Standing Committee on Scientific and Technological Co-operation (COMSTECH) in launching this timely initiative.