

Pursuing the prime objective to **strengthen STI capacities**, ISESCO has, under its Action Plan 2016-2018, placed its focus on the scientific projects likely to step up Member States' efforts in these areas in their pursuit of sustainable economic growth. This action will be pursued in light of the resolutions of specialized Islamic conferences and Member States' commitment to international conventions and treaties, especially of **Rio+20**, while taking into account the **Strategy for Science, Technology and Innovation in Islamic Countries**, the **OIC Ten Year Plan of Action (TYPOA) 2016-2025**, the **Vision 1441H on Science and Technology** as well as the recommendations of the **OIC Summit on Science and Technology**.

During the three coming years, further attention will be directed towards strengthening **STI policies and science governance** and promoting North-South and South-South cooperation in order to improve the performances of STI systems and planning in the Member States.

Action will also be led to entrench a scientific culture that can contribute to bridging the gap between **science and society**, strengthening **National Systems of Innovation (NSI)** and enhancing the role of **Science and Technology Parks (STPs)** in harnessing technological advances for the socio-economic development of the Member States.

**University-industry partnership** will be reinforced to boost the marketing of scientific research products and facilitate the launch of **small and medium enterprises (SMEs)**, while fostering entrepreneurship particularly **women leadership** in science and reinigorating the role of the youth in the advancement of sciences.

In a bid to build an STI-based economy, a set of activities will be geared towards enhancing the capacities of technology institutions in terms of **acquisition and commercialization of technologies**. This will include the implementation of **technology forecasting programmes** in the identification, formulation, appraisal and promotion of technological projects, technology transfer processes, and capacity building in the **agricultural sector**, while **adopting new methodologies and techniques** to boost productivity, such as biotechnology which holds a tremendous potential for socio-economic development in agriculture, healthcare, the environment and industry, as prescribed by the **Strategy for Development of Biotechnology in the Islamic World** and its implementation mechanisms.

As part of implementation of **the Strategy for Promotion of Nanotechnology in Islamic Countries**, focus under the 2016-2018 Action Plan will be on capacity building, training of specialized human resources and promotion of cooperation and partnership. ISESCO will also continue to analyze the ethical implications of using new knowledge and technologies under **the Islamic Body on Ethics of Science and Technology (IBEST)**.

A set of programmes will be devoted to facilitating transition to **knowledge-based economies (KBES)** providing technical counsel to policy makers, promoting training and capacity building and establishing assessment frameworks and benchmarks for knowledge based economies. ISESCO will also support the effort aimed at promoting transition to e-government through the required integration of **information and communication technologies (ICTs)**.

In **science education**, programmes will be implemented to elaborate and improve relevant **national policies and strategies** both in terms of theory and application. Efforts will be exerted to improve quality of **science education** by developing high quality human capital capable of contributing to STI promotion. Attention will be accorded to fostering **Open Access to Education**, aligning **scientific and technical education curricula** with comprehensive development plans, promoting e-education through the establishment of **virtual libraries and campuses**, and developing entrepreneurial skills through **commercialization and entrepreneurship education**. As part of joint programmes of the Education Directorate, the Science and Technology Directorate, ISESCO Center for Promotion of Scientific Research (ICPSR) and the Federation of the Universities of the Islamic World (FUIW), the **High Level Quality and Accreditation Committee (HLQAC)** will continue to follow up on implementation of “**Key Performance indicators**” to inculcate quality in higher education and improve the performance of the universities in the Islamic world. The **TAFAHUM programme** will be implemented to promote mobility of students, teachers and researchers, foster experience sharing, and harmonize education systems. New models of information sharing mechanisms and systems will be created within the framework of the **Pan-Islamic Research and Education Network (PIREN)** to benefit from each country’s knowledge resources.

**Given the crucial importance of ecological balance** for development sustainability, and based on the principles of the Islamic perspective which regulates mankind’s relationship and harmony with the **environment**, focus over the three coming years will be placed on the implementation of programmes to step up Member States’ efforts in ensuring protection for the living and non-living resources and their governing balances, and **conservation of biodiversity** and **protection of endangered native species**, while addressing issues of waste and pollution by providing expertise and counsel and promoting capacity building.

As part of implementation of the **Strategy for Promoting Energy Efficiency and Clean and Renewable Energy Sources in the Islamic World**, the **Strategy for Management of Water Resources** and the **Water Vision 2020**, the 2016-2018 Action

Plan has devoted more attention to implementing programmes to improve Member States' energy efficiency, increase reliance on new and renewable resources of energy, take advantage of the **Adaptation funds**. Special attention will be accorded to the needs of people in rural and remote areas and support capacity building to meet water security challenges, rationalize use of water resources and fight pollution and desertification.

In the light of the **Islamic Declaration on Sustainable Development** and the **General Framework of Islamic Agenda for Sustainable Development (GFIASD)** as well as the **recommendations of the UNCSD Rio+20 summit**, ISESCO will, over the three coming years, step up efforts of competent authorities, further awareness of the need to adopt firm norms in environmental policies development, and improvement of environmental governance, while conducting **Environment Impact Assessments (EIAs) of projects**, and engaging in the transition to a **green economy** to ensure an efficient response to international, regional and national environmental issues.

**Human-induced climate change** is a major threat to environment sustainability. In this connection, ISESCO will, under its new action plan, promote further knowledge of such a challenge, increase awareness of **climate change and its economic and social impacts**. The Organization, under the **Executive Work Plan for the Implementation of the Strategy for Disaster Risk Reduction and Management in Islamic Countries**, will assist the Member States to cope with disasters and mitigate their impacts, improve **disaster preparedness, post-disaster response and reconstruction**.

Science and Technology Directorate to achieve these objectives, the Science action plan for the years 2016-2018 will focus on the implementation of the following projects:

1. **Project on building a sustainable scientific development eco-system.**
2. **Project on technological innovations for sustainable socio-economic development.**
3. **Project on modernization of science education to address future needs.**
4. **Project on sustainable natural resource management.**
5. **Project on promoting environmental governance.**

## 1. Project on building a sustainable scientific development eco-system

General framework:

Pursuing the prime objective to strengthen Member States' STI capacities conducive to a sustainable system for scientific development and the resolutions of the previous sessions of the Islamic Conferences of Ministers of Higher Education and Scientific Research, Health, and the Environment and relevant international conventions and agreements, especially of UNCSD or Rio+20; and taking into consideration the Strategy for Science, Technology and Innovation in Islamic Countries and its implementation mechanisms, action under the Science action plan for the years 2016-2018 will be focused on invigorating science policy programmes and improving science governance and science diplomacy for a sustainable scientific development. ISESCO will also pursue the OIC Ten Year Plan of Action (TYPOA) 2016-2025, the OIC Vision 1441H on Science and Technology as well as the recommendations of the OIC Summit on Science and Technology within the framework of the triennial STI priorities for 2016-2018. To this end, the required political will be mobilized through the organization of regional and sub-regional parliamentary forums and bringing policy-makers, the scientific community, the civil society and the media on one platform to address legislative, incentive measures and priorities in the context of promoting STI in the Member States. Special attention will be given to promoting North-South and South-South cooperation through teaming, twinning, networking and synergizing actions of the partners concerned for collective benefit.

Innovation and management of scientific research outputs are the driving forces of economic progress. Efforts under ISESCO's science and technology programmes will be oriented towards strengthening national systems of innovation (NSI), developing research and innovation infrastructure, enabling Science and Technology Parks (STPs) to strengthen economies through ensuring the expected cohesion between researchers and industries, and channelling research results into the industrial sector and small and medium enterprises (SMEs) in such a way as to ensure a commercial exploitation of research results. Action in this regard will also seek to encourage scientists and researchers and dedicate grants and appreciation prizes as a fitting tribute to scientific innovations and inventions, while guaranteeing intellectual property rights and patenting.

Being aware of the role of science culture as a mainstay of national science action plans, ISESCO will support programmes on the use of new media towards the popularization of science, involving society in science, enhancing its interest in science and technology and increasing people's sense of curiosity in this regard.

Gender equality is also a main concern under this priority. In this regard, ISESCO will carry out activities aimed at strengthening women's role in science and technology through provision of better opportunities for the advancement of their scientific careers, and promotion of their leadership through greater intervention in science policies and decision making processes. Active participation of youth in scientific development will

also be encouraged so as to attract and protect scientific talents. This will be carried out under the Action plan of the Islamic World Academy for Young Scientists (IWAYS) and through strengthening national youth science academies.

Objectives:

- To rejuvenate science, technology and innovation policies and improve governance for effective scientific development systems.
- To mobilize political will through parliamentary forums and scientific commissions towards firm legislation and commitments to scientific development.
- To spur innovation through strengthening science parks and technology incubators, establishing SMEs and introducing technopreneurship.
- To cultivate science culture through bringing science closer to society and encouraging thinking and creative minds.
- To involve women and youth in effective participation in STI for the creation of gender and youth sensitive sustainable eco-system conducive to scientific development.

Areas of intervention:

- Re-invigorating STI policies and good governance.
- Linking science with society.
- Empowering women and youth in science and technology.
- Building indigenous capacity to absorb innovative technologies.

Partners:

- Ministries of STI, national and parliamentary commissions as well as relevant science policy institutions in the Member States.
- UN and other international, regional and national organizations working in the sphere of science policy and governance.
- Scientific and technological institutions, centers of excellence, science foundations, academies, science parks and incubators.
- Civil society actors, media and think tanks.
- Woman science chairs, women networks and institutions, as well as youth forums and national science youth academies in the Member States.

Total budget:

**US\$ 1,150,000.00**

Area of intervention 1: re-invigorating STI policies and good governance

Science policy needs alignment with the international scene mutations to meet the challenges of globalization. ISESCO will seek to reinvigorate STI policies and promote

a good governance system that is more responsive to the STI needs of Member States. This can be achieved only through reviewing STI policies, strengthening science diplomacy, developing good governance and providing expertise to policy makers to assist them in the formulation, implementation, monitoring and evaluation of STI policies and programmes. ISESCO will support the development of the key trends in STI and encourage science observatories to map STI capabilities, as they provide decision and policy makers with insights into national and global scientific and technological trends and statistical data for judicious policy making and planning. In this regard, programmes will be implemented to strengthen the capacities of scientific institutions in a bid to develop a culture of research and innovation. Parliamentary forums will be conducted to reaffirm the commitment of the political leadership and higher authorities in the Member States to taking firm actions for the promotion and advancement of science and technology. ISESCO will continue fostering North-South and South-South cooperation in STI through increased sponsorship of joint programmes and will facilitate regional coordination, international grouping and socio-cultural affiliations for the achievement of greater objectives.

Expected outcome: an STI-development favoring system established and upheld by realistic strategies and planning

| Performance Indicators:   | Measurement Indicators:  |
|---|--|
| <ul style="list-style-type: none"> <li>• Better science policies and national programmes for enforcing technology and innovation.</li> <li>• Parliamentary forums and scientific commission mobilized to launch effective programmes with an impact on scientific development.</li> <li>• Cooperation and partnership fostered to develop STI.</li> </ul> | <ul style="list-style-type: none"> <li>• 6 workshops and seminars organized and 3 studies prepared on science policies, governance and science diplomacy.</li> <li>• 3 regional and 3 national parliamentary forums and events implemented for enhancing the role of parliamentarians at regional and national levels in developing STI systems.</li> <li>• 6 regional initiatives launched for effective collaboration among the scientific institutions and bodies.</li> </ul> |

Area of intervention 2: linking science with society

Anchoring a scientific culture in society is *sine qua non* for its progress. In this connection, ISESCO has always been keen to supporting programmes intended to raise awareness of new scientific issues in order to enhance general know-how of lay man, the ultimate aim being to develop a scientific culture in the Member States and accordingly enhance knowledge and understanding of scientific development processes. Joint efforts will be made to bridge the knowledge and digital divide and promote traditional and indigenous knowledge. This will also be sought through the reinforcement of the role of media in popularizing science and through the training of science journalists to improve their scientific reporting skills. Attention will also be given to creative thinking minds through organizing meetings on a regular basis, along with scientific camps, caravans and exhibitions, with the aim to enhance scientific curiosity and increase the general public's awareness of new scientific knowledge,

inventions and discoveries. In addition, the organization of exhibitions will be utilized to highlight emerging fields, new research, technology innovations and new products in order to stimulate the interest of the general public, businessmen, companies and industries.

Expected outcome: gap between science and society bridged through cultivation of scientific culture and encouraging creative minds

| Performance Indicators   | Measurement Indicators   |
|--|--|
| <ul style="list-style-type: none"> <li>• Science culture cultivated through scientific knowledge enriched society.</li> <li>• Curiosity for science enhanced through scientific camps and exhibitions.</li> <li>• Media is better aligned for popularization of science.</li> <li>• Creative minds enabled to play role in steering intellectual development.</li> </ul> | <ul style="list-style-type: none"> <li>• 2 seminars organized on popularization of science.</li> <li>• 6 science camps, caravans and exhibitions conducted in three regions.</li> <li>• 3 training workshops conducted for young journalists on enhancing their skills on scientific reporting.</li> <li>• 3 meetings of the creative minds on important scientific issues.</li> </ul> |

Area of intervention 3: empowering women and youth in science and technology

Women’s socio-economic status features among the strategic indicators of any country’s development. Like in other sectors of society, women have very limited opportunities in scientific professions. Women equal participation is vital for any nation’s ability to innovate and progress in science and technology, and half of society’s brain pool cannot be left wasted, especially in the current era of KBEs. ISESCO will thus continue its programme aimed at empowering women and developing women leadership in scientific professions and support women science chairs and regional women networking.

In order to give enough attention to youth in such a way as to understand their issues and enable them to play an effective role in economic development, efforts must be deployed to give them access to the right skills, due opportunities and a favorable environment. This will help convert their passion into viable products, build competitive advantage societies, and bring excellence in performance and quality in achievements in any area they are entrusted with. ISESCO will implement special programmes for the Islamic Academy of Young Scientists to encourage creative and talented minds, develop an informed response to unemployment and other issues, enhance opportunities and change the culture of negligence and marginalization.

Expected outcome: gender-sensitive and youth-responsive policies and strategies installed towards women and youth leadership and talent harvesting in the scientific development process

| Performance Indicators   | Measurement Indicators  |
|--|---|
| <ul style="list-style-type: none"> <li>• Women empowerment in scientific and technological professions upheld to achieve holistic gains of scientific developments.</li> <li>• Women Science Chairs made effective in supporting women participation.</li> <li>• Youth confidence in scientific professions built and a new vision and creativity promoted.</li> </ul> | <ul style="list-style-type: none"> <li>• 3 Workshops organized on empowerment of women in science and technology.</li> <li>• 4 events supported under ISESCO's Women Science Chairs programme and 2 new Women Science Chairs created in Member States.</li> <li>• 4 Meetings of Islamic World Youth Science Academy conducted to encourage youth participation in science.</li> </ul> |

Area of intervention 4: building indigenous capacity to absorb innovative technologies

Today's global technological boom was possible only through building technological capacities. In order to maintain competitiveness in today's world, it is essential to provide the necessary infrastructure to encourage the adoption of innovation and technology in every facet of the economy. In this regard, focus will be placed on activities aimed at adopting a strong technology policy and developing a platform for institutions capable of absorbing new technologies. The role of governments, universities, scientific research institutions and industries will be aligned towards this capacity building process. Technology foresight programmes will be implemented so as to absorb, adapt and develop new technologies and utilize them to solve socio-economic problems.

Expected outcome: national technological capacities built to secure the greatest advantages from new and advanced knowledge

| Performance Indicators  | Measurement Indicators   |
|---|--|
| <ul style="list-style-type: none"> <li>• Vibrant science and technology policies introduced to realize the greatest advantage from new and emerging technologies.</li> <li>• Local and indigenous technology capacity promoted for immediate social-economic and commercial gains.</li> </ul> | <ul style="list-style-type: none"> <li>• 6 activities implemented to introduce vibrant technology policies.</li> <li>• 3 workshops launched on technology foresight to foster innovation in technologies.</li> </ul> |

## **2. Project on technological innovations for sustainable socio-economies development**

General framework:

Success in the global competitive economy hinges on the ability to innovate and commercialize technologies. Programmes of this project will focus on enhancing the capacities of technology policy institutions through assisting policy makers and governmental authorities in introducing viable technology policies with capabilities facilitated in the acquisition and commercialization of technologies so as to gain socio-economic benefits. A number of support programmes will be directed towards enabling the competent authorities to develop indigenous technologies and efficiently assimilate foreign ones in accordance with the present-time priorities and resources and helping them attain technological competence and self-reliance.

Given their extensive potential, biotechnology and genetic engineering will be promoted under the Strategy for Development of Biotechnology in the Islamic World and its implementation mechanisms. By the same token, biotechnological programmes and policies will be invigorated and technical assistance and guidance will be provided to the Member States to strengthen their biotechnology institutes.

Nanoscience and nanotechnology will be promoted under the Strategy for Promotion of Nanotechnology in Islamic Countries, and focus will be placed on programmes aimed at providing expertise on the necessary infrastructure, devising education and training programmes, supporting the establishment of nanotechnology centers and promoting research in nanotechnology-based industries and their role in creating new high-value employment and generating benefits in the fields of agriculture, healthcare, information technology, energy production and utilization, and environmental materials' manufacturing. It is also scheduled to organize specialized meetings and conferences in order to mobilize the competent parties to give greater importance to strengthening nanotechnology, setting relevant national infrastructures, and developing adequate national policies to fulfil the sought goals.

Under the activities of the Directorate of Science and Technology and the Directorate of Social and Human Sciences, and through the channel of the Islamic Body on Ethics of Science and Technology (IBEST), ISESCO will maintain its interest in the ethical implications of the applications of new knowledge and technologies. In this regard, ISESCO will expand the Ethical Net portal to improve its interactivity in such a way as to develop knowledge in all areas of scientific research and new knowledge and accordingly achieve consensus on ethical issues. This consensus will be extended to take an international lead by the intervention of religion specialists through holding joint events on some ethical issues of common interest.

Objectives:

- To encourage innovation through strengthening science parks and technology incubators, building capacities of SMEs and introducing technopreneurship.
- To tap the huge potential of Biotechnology and Genetic Engineering.
- To harness nanotechnology for greater socio-economic benefits.
- To prevent threats associated with the misuse of technology and maintain the Islamic ethical values.

Areas of intervention:

- Strengthening innovation for economic gains.
- Promotion of biotechnology.
- Promotion of nanotechnology.
- Promoting bioethics in science and technology.

Partners:

- United Nations and national, regional and international organizations operating in technology and innovation.
- Ministries of science, technology, innovations and agriculture as well as technology institutes and bodies.
- Specialized institutions and Centers of excellence in the areas of nanotechnology and nanoscience, biotechnology, agriculture, remote sensing, space technology, etc.
- Civil Society networks, coalitions and NGOs.

Total budget:

**US\$ 1,120,000.00**

Area of intervention 1: strengthening innovation for economic gains

A national system of innovation holds an important place in the translation of new knowledge into useful products. The Directorate, in coordination with the Human and Social Sciences Directorate, will implement programmes to improve the efficiency of the National Innovation Systems in order to align innovation with the requirements of society and development, promote entrepreneurship, set up technology parks, boost venture capital funding, involve the private sector, and encourage mobility of competencies and resources in higher education to ensure that scientific knowledge and research outputs are converted into socio-economic gains. Science parks and business incubators are important for the creation of new enterprises, knowledge development, commercialization of resources and management of innovations and intellectual property. ISESCO, within this area of intervention, will strengthen science parks and build capacities to contribute to creating an innovation-enabling environment, stimulating productivity, facilitating of new SMEs and enhancing the competitiveness of existing ones. Also, a number of activities will be carried out to activate university-

industry partnership in order to boost the marketing of scientific research products, while furthering awareness and building capacities in patents, copyright and trademarks to help researchers protect and benefit from their research works.

Expected outcome: innovation and entrepreneurship capabilities built at grass-root level through a strengthened national system of innovation

| Performance Indicators  | Measurement Indicators  |
|---|---|
| <ul style="list-style-type: none"> <li>National research and innovation systems bolstered to translate scientific innovations into valuable economic products.</li> <li>Role of science parks and incubators aligned in delivering useful and innovative products.</li> <li>University-industry interaction promoted to highlight the role of science in economic development.</li> <li>Capacities on patenting and intellectual property rights strengthened.</li> </ul> | <ul style="list-style-type: none"> <li>6 events organized to strengthen national systems of innovation.</li> <li>2 symposia and 3 training workshops for science parks managers and stakeholders organized for effective partnership.</li> <li>3 university-industry consultation meetings organized for effective partnership.</li> <li>3 consultation meetings of the Intellectual Property Network organized.</li> </ul> |

Area of intervention 2: promotion of biotechnology

Biotechnology, a promising sector for Member States, is still not able to deliver tangible outputs due to the lack of proper planning and adequate facilities. ISESCO, under the implementation mechanisms of the Strategy for Development of Biotechnology in the Islamic World, will continue to mobilize the competent authorities to attach greater importance to strengthening biotechnology, defining relevant national goals and devising adequate national policies. Focus under this area of intervention will be on promoting biotechnology programmes in health, energy, the environment and agriculture. Support programmes will provide technical assistance and guidance to the competent authorities to support biotechnology institutes and develop research performance; and training will be provided in order to produce highly qualified human resources in new biotechnological techniques. Major advances in agriculture and health fields will be highlighted to enable Member States to benefit from them.

Expected outcome: utilization of new and emerging biotechnologies promoted through mobilizing support and adopting effective strategies and plans

| Performance Indicators  | Measurement Indicators   |
|---|--|
| <ul style="list-style-type: none"> <li>Strategies and action plans for promotion of biotechnology set in place.</li> <li>Biotechnology applications promoted in development-related areas.</li> </ul> | <ul style="list-style-type: none"> <li>2 meetings of the International Biotechnology Advisory Committee (IBAC) organized to follow-up implementation of the biotechnology strategy.</li> <li>6 symposia organized to strengthen knowledge and understand new and useful biotechnologies in health, agriculture, energy production and environment protection.</li> </ul> |

Area of intervention 3: promotion of nanotechnology

Within the framework of the Strategy for Promotion of Nanotechnology in Islamic Countries, ISESCO will continue to accord high priority to encouraging Member States to adopt national nanotechnology policies, develop infrastructure, and introduce relevant education and training programmes. Under this area of intervention, ISESCO will continue to co-organize the sessions of the International Workshop and Conference on Nanotechnology to promote the development of an integrated vision of this technology, define its research priorities, open up opportunities for interdisciplinary teaming and collaboration at local, regional and international levels, and explore the state-of-the-art achievements of nanotechnology in Member States. Training workshops will be conducted in such vital nanotechnology areas as agriculture, healthcare, information technology and energy production. The competent authorities will be provided with technical counseling in setting up necessary infrastructure and in implementing their national nanotechnology policies and programmes. Studies and research on nanotechnologies and nano-industries will be encouraged and Member States' access to their results expanded to create new high value employment, generate health and environmental benefits, and provide a strong basis for a sustained economic growth. The on-line training course will be expanded to incorporate new courses dedicated to the emerging areas.

Expected outcome: better understanding of the promising potential of nanotechnology research and its role in achieving rapid economic growth

| Performance Indicators  | Measurement Indicators  |
|---|---|
| <ul style="list-style-type: none"> <li>• Nanotechnology introduced and existing nanotechnology programmes strengthened in the Member States.</li> <li>• Access to new research in various areas of nanotechnology and nanoscience expanded.</li> <li>• Capacities in nanotechnology built through introducing distance education programmes.</li> </ul> | <ul style="list-style-type: none"> <li>• 3 nanotechnology conferences organized to introduce policy initiatives towards speedier adoption of nanotechnology.</li> <li>• 3 workshops conducted to publicize new research on emerging nanotechnology areas.</li> <li>• Nanotechnology online education programme strengthened.</li> </ul> |

Area of intervention 4: promoting bioethics in science and technology

In a bid to step up the efforts of the Islamic Body on Ethics of Science and Technology (IBEST) and reinvigorate its role in analyzing the ethical implications of new knowledge and technology applications, action under this area of intervention will continue, in coordination with the Directorate of Social and Human Sciences, to implement the decisions of IBEST and strengthen the role of national ethical commissions, bodies and centers in enforcing the ethical aspect in the use of technologies as well as natural and human resources. The ethical network's portal will be made more interactive to enhance knowledge as well as to achieve consensus of opinion on ethical issues. This consensus will be extended to the international level by involving various religious stakeholders in holding joint events on special issues

pertaining to science ethics and undertaking the necessary follow-up actions to ensure implementation of international bioethics-related declarations.

Expected outcome: coordination promoted and scope of partnership expanded to promote the work of IBEST

| Performance Indicators   | Measurement Indicators  |
|--|---|
| <ul style="list-style-type: none"><li>• Work of bodies specialized in ethics of science and technology promoted and coordinated.</li><li>• Ethics information portal expanded to allow greater access to diverse relevant information and points of view of renowned scholars, scientists and media practitioners.</li></ul> | <ul style="list-style-type: none"><li>• 3 meetings of scientific ethical groups and 1 General Conference of IBEST conducted to debate sensitive ethical issues.</li><li>• 3 projects conducted to expand and enrich the bioethics web portal of ISESCO.</li></ul> |

### 3. Project on modernization of science education to address future needs

General framework:

Science education is the bedrock on which the whole infrastructure of the S&T system as well as the industrial and technological base is built to meet the needs of the future and the requirements of transition to the knowledge economy. In this regard, action under this project and over three years will focus on providing expertise to elaborate and develop national science education policies and strategies and aligning scientific and technical education curricula with comprehensive development plans to ensure that education promotes creativity, innovation, research and development. Action will also focus on urging the competent authorities to strengthen open access to education by facilitating understanding of issues related to Open Access, proposing suitable models and Open Access Policy guidelines as a practical tool for driving Open Access forward, and extending support for establishing new virtual libraries and campuses through enhancing integrated information communication technologies. ISESCO will also convene the 8<sup>th</sup> and 9<sup>th</sup> sessions of the Islamic Conference of Ministers of Higher Education and Scientific Research (ICMHESR) as well as the meetings of the Consultative Council for Implementation of the Strategy for Science, Technology and Innovation, in coordination with the Education Directorate, the ICPSR and the FUIW.

In addition, a number of activities will be carried out to promote commercialization and entrepreneurship education and provide opportunities for lifelong learning so that workers can keep pace with the rapid developments in technology, globalization, and new business practices. In order to activate the OIC Collaborative Efforts in Commercialization and Entrepreneurship Education (OIC-CECE), a set of programmes will be implemented to review science curricula to align them with Member States' comprehensive development plans.

Under this project, efforts will be made to ensure quality in science education so as to produce quality human resources capable of contributing to socio-economic progress and building better societies. The High Level Quality and Accreditation Committee (HLQAC) constituted by the 6<sup>th</sup> ICMHESR will continue to follow-up implementation of "Key Performance Indicators" to anchor quality in higher education and improve the performance of the universities of the Islamic world. Under the TAFAHUM programme and in cooperation and coordination with the Education Directorate, ICPSR and the FUIW, a number of activities will be implemented to facilitate the mobility of students, teachers and researchers and seek to foster exchange, cooperation. Action will also continue to activate the Pan-Islamic Research and Education Network (PIREN), which connects local researchers and education networks in the Islamic countries to share and improve their performances through combined efforts.

Objectives:

- To facilitate transition towards KBEs, through laying firm foundation for S&T development, stimulating innovation and creativity, exploring new avenues, and building sound infrastructure for resurgence in all fields of knowledge.
- To align science education policies to national development plans and strengthen science education institutions to modernize curricula and develop talent to bridge knowledge divide.
- To inculcate entrepreneurship skills in the students, through developing curricula in entrepreneurship and commercialization education.
- To foster cooperation and collaboration among educational institutions, and facilitate interactions and exchange of the students, researchers and faculty to promote rapprochement of peoples and intercultural dialogue.
- To ensure enculturation of quality in higher education through installing quality assurance frameworks under the Key Performance Indicators Programme.

Areas of intervention:

- Building knowledge capacities for sustainable economic development.
- Bolstering science education curricula and basic sciences and fostering commercialization and entrepreneurship education.
- Enhancing cooperation among the academic institutions.
- Enculturation of quality in higher education institutions.

Partners:

- United Nations and national, regional and international organizations.
- Ministries of education and higher education, universities, higher education commissions and other specialized educational institutions and bodies.
- OIC General Secretariat and institutions including COMSTECH, SESRIC, IDB, FUIW, IUT, IUN, IUIU and IIUM.
- Civil society networks, coalitions and NGOs.
- Regional quality assurance and accreditation groups.

Total budget:

**US\$ 1,204,000.00**

Area of intervention 1: building knowledge capacities for sustainable economic development

The world economy is increasingly being characterized as a “Knowledge economy”, given the growing role of knowledge as a key factor of productivity and economic growth. ISESCO is endeavoring to facilitate transition to Knowledge-Based Economies through developing intellectual potential of societies, creation of competent human resources to

generate and wield new knowledge, as well as efficiently use new information and communication means so as to become part and parcel of the global information society. Action under this area of intervention will continue to help the competent authorities in the Member States accelerate transition towards knowledge and innovation-based economies through formulation and implementation of well-articulated and coordinated cross-cutting knowledge economy strategies and intervention of decision makers and media in the overall move towards knowledge societies. Focus will be more on successful economic transformation through activating growth models based on knowledge and innovation and creating assessment frameworks and benchmarking models for measuring the status of KBE which could be updated annually so that they can serve as motivators and competitors. ISESCO will also continue to organize Open Days on Knowledge Economy, as well as staging exhibitions, scientific camps, scout rallies and similar events in order to promote general understanding of the role of science and technology in addressing society's issues. Integration of ICTs will be promoted in the educational institutions as well as in the important areas linked to economic development to bridge any digital divide. In view of serious threats to digital content security, ISESCO will continue to build capacities in cyber security, in cooperation with the Center of Information and Communication.

Expected outcome: transition towards KBEs facilitated through introducing and assimilating the growing stock of global knowledge and its adaptation to local needs and creation of knowledge and technology

| Performance Indicators   | Measurement Indicators   |
|--|--|
| <ul style="list-style-type: none"> <li>• Attention diverted to needs of the knowledge economy.</li> <li>• Necessary strategies and action plans introduced towards strengthening the KBEs.</li> <li>• Digital divide bridged through introduction of latest ICT tools in various areas.</li> <li>• Capacities built in protection and security of cyber data.</li> </ul> | <ul style="list-style-type: none"> <li>• 9 Knowledge Economy Open Days organized in Member States.</li> <li>• 3 conferences organized to facilitate transition towards KBEs.</li> <li>• 3 experts' meetings held on promoting the use of ICTs in various important scientific areas of economic importance.</li> <li>• 3 workshops organized on cyber security.</li> </ul> |

Area of intervention 2: bolstering science education curricula and basic sciences and fostering commercialization and entrepreneurship education

Action under this area of intervention will focus on strengthening national science education policies and programmes, and integrating new education trends and technologies to achieve international standards, the aim being to improve learning opportunities through development of capabilities, competencies and essential cognitive and non-cognitive skills within the context of lifelong learning; a number of programmes will be implemented to help the competent authorities develop comprehensive and inclusive science curricula to bridge education parity, conduct the necessary assessments to ensure effective links between learning processes and their impact, and introduce good practices in the development, adaptation and use of Open

Educational Resources. ISESCO will continue to support vocational education institutes and will focus their programmes to develop skills necessary for the technical support staff to address the issues of employability in order to develop intellectual and creative talent in students in addition to acquiring the values, attitudes, skills, and knowledge that are needed to gain access to the labor market and contribute to comprehensive development.

Entrepreneurship education stands among the most powerful tools of higher education for building a vibrant economy and facilitating transition towards knowledge-based economies. Under this area of intervention and as part of the ICPSR’s programmes, a number of activities will be carried out to highlight the Research, Innovation, Commercialization and Entrepreneurship Education (RICE) value chain. A high priority will be accorded to imparting commercialization and entrepreneurship education and skills to enable students to turn vision and ideas into reality and bring innovation and creativity into force. Under the OIC-CECE, pilot programmes will be launched to effectively improve and reform educational institutions and review curricula to link them to comprehensive development plans.

Expected outcome: efficiency of Science education bolstered and commercialization and entrepreneurial education promoted

| Performance Indicators  | Measurement Indicators  |
|---|---|
| <ul style="list-style-type: none"> <li>• National capacities strengthened to develop evidence-based science education policies.</li> <li>• Science education strengthened through incorporation of new curricula.</li> <li>• Education oriented to market demands in order to promote employability.</li> <li>• Professional development of teachers improved through training on new teaching technologies.</li> <li>• Curriculum in commercialization and entrepreneurship education made available to educational institutions.</li> <li>• Collaborative models for commercialization introduced to educational institutions.</li> </ul> | <ul style="list-style-type: none"> <li>• 6 national events organized on introducing vibrant evidence based scientific education policies</li> <li>• New science education curricula introduced in new areas and existing ones revised.</li> <li>• 3 symposia on open education resource, addressing employability and vocational training.</li> <li>• 6 teacher training programmes organized on the use of new electronic delivery methods and display techniques.</li> <li>• 6 projects launched to prepare curriculum at various levels in commercialization and entrepreneurship education.</li> <li>• 3 events launched to assist in developing innovation and commercialization licensing and start-ups framework.</li> </ul> |

Area of intervention 3: enhancing cooperation among academic institutions

In a bid to foster collaboration between academic institutions and share knowledge, skills, expertise and resources to meet the development goals of Member States, the TAFAHUM programme will be implemented in cooperation between the Science and Technology Directorate and the Center for Promotion of Scientific Research (ICPSR) in order to facilitate the exchange of students, faculty and researchers among universities in the Islamic world. ISESCO, through the Vice-chancellors Forum’s meetings, will provide necessary platforms to promote cooperation among universities and higher education institutions in the Member States and facilitate active intervention and intellectual partnerships. ISESCO will expand the Pan-Islamic Research and Education

Network (PIREN) to improve performances of the local researchers and education networks in Member States so achieve mutual benefit through combined efforts. ISESCO will also convene regular meetings of Country Coordinators, to strengthen connectivity and launch effective mutual collaborative projects.

Expected outcome: mobility of students, researchers and faculty promoted to share expertise and enhance academic networking and values of mutual understanding and dialogue

| Performance Indicators   | Measurement Indicators   |
|--|--|
| <ul style="list-style-type: none"> <li>• Effective contribution to the rapprochement between academic communities to share experiences and enhance mutual knowledge.</li> <li>• Better sharing of experiences and good practices among the universities.</li> <li>• Exchange of knowledge promoted among the educational and research institutions through improved connectivity under PIREN project.</li> </ul> | <ul style="list-style-type: none"> <li>• 3 projects of mobility of students, researchers and faculty launched among the universities in the Member States, within the framework of the ‘TAFAHUM’ programme and in collaboration with other partners.</li> <li>• 3 Vice-Chancellor forums conducted for better collaboration among the universities.</li> <li>• 6 events launched to connect local researchers and education networks under the PIREN project.</li> </ul> |

Area of intervention 4: enculturation of quality in higher education institutions

The search for quality in higher education is more intense than ever before. In this era of technological innovation and knowledge-based economy, the Member States need to devote more attention to higher education, as it is now understood solely as an economic factor rather than a tool of social development. In this regard, action under this area of intervention will continue to hold the ICMHESR and implement relevant programmes in cooperation with the Science and Technology Directorate, the Federation of the Universities of the Islamic World (FUIW), the Education Directorate and the ICPSR, and devote more attention to bringing excellence in higher education and launching effective programmes for the enculturation of quality in higher education. Emphasis will be placed on bringing reforms in governance of universities to improve their performance. Implementation of the Key Performance Indicators will continue to valorise the role of quality and accreditation in achieving comprehensive excellence in university education and establishing academic linkages to capitalize on scientific and technological innovation, quality and accreditation drivers. ISESCO will reinforce collaboration and cooperation among regional quality assurance organizations and bodies in the OIC Member States and will develop an educational web portal for the dissemination and sharing of knowledge and good practices pertaining to quality assurance standards in the OIC Member States.

Expected outcome: higher education systems strengthened and performances of universities enhanced through enculturation of quality and conducting projects of vital importance

| Performance Indicators  | Measurement Indicators   |
|---|--|
| <ul style="list-style-type: none"><li>• Joint scientific Islamic action re-invigorated, progress in higher education sector evaluated and vital higher education projects launched through holding sessions of ICMHESR and meetings of the Consultative Council.</li><li>• Improved performance of universities and better quality of university education.</li></ul> | <ul style="list-style-type: none"><li>• 2 sessions of ICMHESR and 2 meetings of the Consultative Council for Implementation of the Strategy for Science, Technology and Innovation in the Islamic Countries organized.</li><li>• 3 regional events on university performance indicators and university education quality issues.</li></ul> |

#### 4. Project on sustainable natural resource management

General framework:

Ecological equilibrium is of utmost importance in maintaining the sustainability of natural resources. Following the principles of the Islamic perspective, which seize and codify the interaction between humans and ecological space in which the normality and balance of the relationship are achieved through the maintenance and preservation of natural resources, ISESCO will pursue its efforts under this project and over the three coming years to activate the General Framework of Islamic Agenda for Sustainable Development (GFIASD) and the Sustainable Development Goals (SDGs) and implement the programmes aimed at helping the competent authorities adopt sound ecosystem approaches, protect living and non-living resources, preserve biodiversity, control land degradation and desertification, and update and enforce special legislation. A new series of activities will be directed towards capacity building in conservation, management and sustainable exploitation of natural resources including mineral, land, biospheres, water, etc., without harming the environment and the right of future generation thereto. The use of new mining tools and technologies will be encouraged for sustainable utilization of mining resources, and remote sensing and space technologies will be promoted for exploration and preservation purposes.

In a bid to ensure energy security of Member States, and considering the dire need for sustainable energy to strengthen economies, protect ecosystems and achieve equity, ISESCO, under this project and pursuing its Strategy for Promoting Energy Efficiency and Clean and Renewable Energy Sources (RESs) Use in the Islamic World, will implement programmes to improve energy efficiency and increase reliance on new and renewable resources of energy.

Water crisis is emerging as a more serious problem at international arena with each passing day due to misuse, over exploitation, population growth and impact of climate change among other factors. As part of the Strategy for Management of Water Resources in the Islamic World and the Water Vision 2020, action under this project will continue in order to build up capacities to meet water challenges facing by the Member States. Efforts will be exerted to step up Member States' policies aimed at facilitating access to safe drinking water, preserving water resources, improving water supplies for agriculture and other economic needs, promoting programmes of institutions concerned and enhancing relevant knowledge and skills. Absence of clean drinking water and sanitation facilities, which engulfs millions of lives each year, will be paid attention through implementing programmes to tackle the sources of water pollution and encourage expansion of sanitation facilities in both urban and rural areas. ISESCO will implement programmes to control desertification and land degradation.

Oceans, seas, islands and coastal zones are critical for sustainable economic prosperity. Most of the Islamic countries lie in maritime zone and are rich in fisheries, mineral and gas resources. Therefore, the sustainable exploitation of these resources offers immense economic benefits, especially to the off-shore communities. These resources are

deteriorating at alarming rates due to misuse, pollution, ignorance and weaknesses of planning and management. Further, there is a greater risk of destruction from tsunamis and storms, which may cause irreversible damages to ocean resources. ISESCO will assist Member States to develop programmes aimed to preserve and manage marine environment and ocean resources, especially fisheries and rehabilitation of mangrove forests and other affected resources.

Objectives:

- To maintain ecological balance and facilitate sustainable utilization of natural resources.
- To promote cost-effective renewable energy technologies especially for use in rural and remote areas or poor communities.
- To strengthen policies, programmes, knowledge for improving integrated management of water resources.
- To protect living and non-living marine resources and their sustainable utilization.

Areas of intervention:

- Ecological Balance and Sustainable Utilization of Natural Resources.
- Conservation of Energy and Promotion of Renewable Resources of Energy.
- Enhancing Water Security and Proper Sanitation and Mitigating the Impact of Drought.
- Protection of Marine Environment and Sustainable Utilization of Ocean Resources.

Partners:

- United Nations and other national, regional and international organizations concerned with sustainable development and environment protection.
- Ministries of environment, water, energy, renewable energy, marine resources, and other national, regional and international environmental institutions and bodies in the Member States.
- Civil Society networks, coalitions as well as non-government organizations working in maintaining the environment equilibrium and sustainable development and utilization of natural resources.

Total budget:

**US\$ 1,200,000.00**

Area of intervention 1: ecological balance and sustainable utilization of natural resources

Action under this area of intervention will focus on supporting and encouraging suitable policies and programmes on sustainable management of natural resources with a view to maintaining ecological balance, creating a healthy and viable world for future generations, strengthening the capacities in the conservation of biodiversity, improving awareness on endangered species publishing and widely disseminating the latest

information on new sustainable management techniques and natural resources management practices for the sustainable development of natural resources in the Member States. Support will also be extended to the competent authorities who need to conduct geological surveys in mapping and preparing the Minerals, train in new mining techniques and surveys for collecting data and use of space technology and remote sensing for exploration of natural resources. Special attention will also be given, under this area of intervention, to agriculture in its key role as a driver of economic development, food security and environmental stability for the majority of people in their daily use of natural resources.

Expected outcome: capacities built in sustainable utilization of natural resources and maintaining ecological balance

| Performance Indicators  | Measurement Indicators  |
|---|---|
| <ul style="list-style-type: none"> <li>• Better conservation, management and utilization of biodiversity and maintaining ecological balance.</li> <li>• New technologies and knowledge in exploration of natural resources.</li> <li>• Capacities in sustainable utilization of natural resources.</li> <li>• Food security through introducing latest knowledge and cutting-edge tools.</li> <li>• GIAHS conserved.</li> </ul> | <ul style="list-style-type: none"> <li>• 3 workshops on ecological balance and preservation of plant and animal biodiversity organized.</li> <li>• 6 training workshops on remote sensing and data collection held to optimize benefit from natural resources.</li> <li>• 3 workshops held on mining and other techniques for sustainable use of natural resources.</li> <li>• 6 programmes launched to enhance skills of agricultural communities in adopting new technological tools.</li> <li>• 6 workshops organized on GIAHS.</li> </ul> |

Area of intervention 2: conservation of energy and promotion of renewable resources of energy

Energy is a main driver of economic and social development and improved quality of life. ISESCO, under its Strategy for Promoting Energy Efficiency and Clean and RESs Use in the Islamic World, will continue to promote use of renewable energies and improve the efficiency in energy use and conservation in order to reduce the negative impact of climate change, and adopt measures supporting the development of criteria for the sustainable production of biofuels and ensuring that these measures will contribute to the achievement of climate, energy and environmental goals. ISESCO will continue to co-organize the World Renewable Energy Congresses at international and regional levels in collaboration with World Renewable Energy Network (WREN) to promote renewable energy. Needs of people in rural and remote areas will be given special attention through promotion and utilization of renewable energy resources, which are environmentally clean and technically simple, to fulfil their basic energy needs. ISESCO will continue to organize its regional consultation groups meetings, renewable energy summer schools, regular training programmes and will promote joint action with partners including UNESCO. Dissemination of simplified information on renewable energy will be a part of the promotion of know-how and awareness campaigns.

Expected outcome: energy conservation and utilization of new and renewable sources of energy promoted in the Member States

| Performance Indicators   | Measurement Indicators   |
|--|--|
| <ul style="list-style-type: none"> <li>• International agenda for conservation of energy and sustainable utilization of renewable resources of energy achieved.</li> <li>• Capacities and knowledge on effective and useful new and renewable technologies built up.</li> <li>• Cost-effective renewable energy technologies especially for use in rural and remote areas or poor communities promoted.</li> </ul> | <ul style="list-style-type: none"> <li>• 2 international conferences held on renewable energy, in collaboration with WREN.</li> <li>• 6 training sessions held on new and RESs and technologies.</li> <li>• 3 seminars organized on the use of renewable energy in rural and remote areas and 3 consultation group meetings held.</li> </ul> |

Area of intervention 3: enhancing water security and proper sanitation and mitigating the impact of drought

Water is indispensable for human life, health and wellbeing and it is linked to all sustainable development processes, including environment integrity, food security, reduction of poverty, transformation to green economy. Over the 2016-2018 period, ISESCO will, under this area of intervention and as part of implementation of the Strategy for Integrated Management of Water Resources, continue to dedicate programmes for capacity-building, support competent institutions, enhance the knowledge and skills adequate to address depletion of fresh water resources in vulnerable Member States and draw up policies to stop misuse and mismanagement of water resources and to adopt new water management techniques, including water desalination techniques, required for the management and sustainable development ensuring water security in the Islamic world. ISESCO will also assist Member States to implement methodologies that tackle scarcity of fresh water resources, reduce losses of water through leakage, illegal hook-ups and wastes in irrigation and diseases associated with unsafe water, poor sanitation and hygiene. Consultation meetings will be held on addressing floods and settling conflicts over water resources shared among Member States. Acceptable approaches will be developed to apply the appropriate legislation about use of these waters and related rights and obligations. In a bid to combat desertification and mitigate the impact of drought in Member States, programmes will be implemented to muster support for curbing land degradation rates.

Expected outcome: capacities for securing water resources built through implementation of programmes on integrated management of fresh water resources and fight against desertification

| Performance Indicators  | Measurement Indicators  |
|---|---|
| <ul style="list-style-type: none"> <li>• Water security issue and implementing relevant programmes addressed.</li> <li>• Trans-boundary water use improved.</li> <li>• Anti-desertification and drought control measures elaborated.</li> </ul> | <ul style="list-style-type: none"> <li>• 6 regional consultation meetings and 6 workshops conducted on effective implementation of water programmes.</li> <li>• 3 seminars conducted to improve trans-boundary water use conditions.</li> <li>• 3 workshops conducted to combat desertification.</li> </ul> |

Area of intervention 4: protection of marine environment and sustainable utilization of ocean resources

Oceans are a major source of economic activity and provide livelihood to the onshore communities in maritime Member States. This calls for protecting and preserving ocean living and non-living resources from degradation. Therefore, action under this area of intervention will focus on building capacities in marine management, protecting and preserving marine environment from pollution and misuse, ensuring the conservation and sustainable utilization of aquatic resources including those in the Exclusive Economic Zone (EEZ), and improving conservation and management of fisheries and other marine resources. ISESCO will continue to work closely with its specialized partners to address a wide range of issues on protection of marine environment and improved coordination and data collection, upgrade planning and provide expertise to strengthen management of marine environment and safeguard ocean resources. Training sessions will be organized to bolster capacities for the oceans observation systems, marine meteorology operational oceanographic services and sharing of knowledge.

Expected outcome: capacities built in conservation, management and sustainable utilization of marine resources

| Performance Indicators   | Measurement Indicators   |
|--|--|
| <ul style="list-style-type: none"> <li>• Management, conservation and sustainable utilization of marine resources especially fisheries resources promoted.</li> <li>• Measures for the protection of marine environment and for the rehabilitation of mangrove population elaborated.</li> </ul> | <ul style="list-style-type: none"> <li>• 3 projects launched and 3 workshops held on management, protection and preservation, sustainable development and utilization of marine resources specially fisheries resources.</li> <li>• 3 workshops conducted for mangrove population rehabilitation and marine environment protection.</li> </ul> |

## 5. Project on promoting environmental governance

General framework:

Protection of Environment is the responsibility of all as it provides support system for all forms of life on this planet. Environment should be conserved for present and future generations. Environment sustainability can be best achieved by improving the environmental governance. This trend was reaffirmed by the resolutions of the 6<sup>th</sup> Islamic Conference of Environment Ministers (Rabat, 8-9 October 2015). In application of these resolutions, and in the light of the Islamic Declaration on Sustainable Development and the General Framework of Islamic Agenda for Sustainable Development (GFIASD) as well as the recommendations of the UNCSD Rio+20 summit and the Paris Conference (COP21), this project will seek to implement effective strategies, strengthen the capacities of environment institutions and enhance international and regional cooperation to adopt firm measures for the protection of the environment. A number of activities will be directed towards building capacities for strong environment governance under which governments, the international community, the private sector, civil society and the general public will be realigned for environment sustainability and repairing the damages caused to the environment. ISESCO will also assist in the conduct of Environment Impact Assessments (EIAs) to minimize environment risks.

In addition, ISESCO will provide expertise and counsel to help the competent authorities plan for Green Economy. Policies will be developed while adopting the environment governance that can assimilate and build the capacities related to the concept of green economy, as a mechanism, for sustainable development, and assess the opportunities and challenges related to this concept. ISESCO will also work towards strengthening the capacities of Member States by conducting the necessary studies and researches with a view to developing green technology, adapting it to economic, social and environmental specificities and benefiting from Adaptation Fund and Clean Development Mechanism in accordance with the Kyoto Protocol.

Human-induced climate change is a major threat to environment sustainability. Adoption of appropriate means to face up climate changes has become an emergency for all the countries and requires the setting up of an adequate institutional framework to boost scientific research, organize awareness-raising campaigns, in addition to ensure an efficient participation of all the components of the civil society on national and regional levels. ISESCO's action under this project will focus on providing further knowledge on climate change and its economic and social impacts to help competent authorities take the appropriate measures for the fulfillment of relevant international commitments and to provide the necessary financial resources and adequate skills and techniques that help to strengthen national institutional capacities through joint activities at regional and sub-regional levels. ISESCO will also seek to enhance networking and collaboration concerning activate joint Islamic and international environmental action to support and strengthen negotiation stance in relation to climate change.

Natural disasters, like floods, epidemics, storms, volcanic eruptions, earthquakes, drought, etc. cause millions of deaths, destroying important infrastructures and resulting in the displacement of huge populations, and gross economic losses each year. The Member States must therefore accord a high priority to disaster risks, allocate resources for preparedness and collectively extend relief to areas affected by disasters in the Member States. Under the “Executive Work Plan for the Strategy for Disaster Risk Reduction and Management in Islamic Countries”, adopted by the 5<sup>th</sup> ICEM, a number of support programmes will be dedicated as part of this project for assisting the competent authorities in devising their plans for disaster preparedness, capacity building for post-disaster response, and the groundwork for implementing comprehensive disaster risk management programmes at national level. ISESCO will facilitate integration of new technologies in the management of natural disasters and assist Member States in the rapid transfer and access to information. ISESCO will also encourage the establishment of a Fund for the Reconstruction of Disaster Affected Areas and will exert efforts to develop an Islamic mechanism for concerted relief efforts, in coordination with the OIC General Secretariat.

Objectives:

- To build up capacities in environment governance for improving efficacy of environment protection policies, programmes and projects.
- To develop a general consensus of the Islamic world on international environment issues through calling ICEM and IEBE Meetings.
- To facilitate transition towards green economy in important sectors and develop necessary infrastructures for sustainable development.
- To foster capacities to cope with climate change impact and understand climate variability scenarios and prediction models.
- To improve the institutional capacity to cope with disaster and mitigate its damages under the framework of the Executive Work Plan for the Strategy for Disaster Risk Reduction and Management in Islamic Countries.

Areas of intervention:

- Strengthening Environment Governance and Developing Consensus on Environmental Issues.
- Green Economy and Clean Development Mechanism.
- Climate Change Adaptation and Mitigation Measures.
- Disaster Preparedness, Risk Reduction and Management.

Partners:

- United Nations and other national, regional and international organizations, agencies concerned with sustainable development and environment protection.

- Ministries of environment, disaster management and other national, regional and international environment institutes, foundations, commissions, conventions, partnerships groups, campaigns and agencies.
- Civil society networks, coalitions and organizations as well as non-government organizations working in environment protection and conservation, green economy, climate change, disaster management, etc.

Total budget:

**US\$ 1,220,000.00**

Area of intervention 1: strengthening environmental governance and developing consensus on environmental issues

Sustainable Development ensures social and economic development in line with environmental sustainability. The capacity to follow up on and implement the International Environmental Conventions needs an adequate institutional and organizational framework as well as adequate implementation mechanisms. In this regard, the activities scheduled under this area of intervention will seek to align national policies and legislation as well as build up capacities in good environmental governance to enforce an effective and comprehensive agenda for environment protection and to comply with the requirements of relevant international conventions. ISESCO will also organize the 7<sup>th</sup> Session of the ICEM and the 3<sup>rd</sup> and 4<sup>th</sup> Meetings of the Islamic Executive Bureau of the Environment (IEBE), to discuss environmental challenges of vital concern facing the Member States and develop consensus on international environmental issues. Further, ISESCO will participate in international environment summits and conferences to present the stance and view of the Islamic world on issues of the environment and sustainable development and strengthen cooperation with international partners, in fulfilment of the principle of common but differentiated responsibility.

Expected outcome: environment sustainability enhanced through improved environment governance

| Performance Indicators   | Measurement Indicators  |
|--|---|
| <ul style="list-style-type: none"> <li>• National policies to incorporate environmental governance reviewed.</li> <li>• Member States' environmental governance and knowledge sharing capacities enhanced.</li> <li>• Joint Islamic action on the environment promoted.</li> </ul> | <ul style="list-style-type: none"> <li>• 3 seminars on adopting environmental governance in national policies.</li> <li>• 3 regional workshops organized on environmental governance issues.</li> <li>• 1 session of the ICEM and 2 meetings of the Islamic Executive Bureau of the Environment organized.</li> </ul> |

Area of intervention 2: green economy and clean development mechanism

The need for green economy is becoming increasingly important as it contributes to low carbon economy, resource efficiency and social inclusion, and reconciles economy and ecology by addressing poverty issues and establishing equality as well as reducing

environmental degradation. In application of the resolution of the 5<sup>th</sup> Islamic Conference of Environment Ministers (Astana, Kazakhstan), which urged Member States to adopt ‘green economy’ as a key “voluntary” tool for sustainable development and poverty eradication, activities will be dedicated in this area to assist the competent authorities to devise the appropriate mechanisms to facilitate transition towards green economy which ensures equitable and resilient progress and provides better quality of life within the ecological limits of the planet. Expertise and counsel will be provided to reorient government policies and plans so that investments are directed towards clean and efficient technologies, natural capital and social infrastructure, the ultimate goal being to drive growth, jobs, environmental improvement, poverty eradication and social equity. In addition, support will be provided for the development of the necessary skills and expertise to benefit from the Adaptation Fund.

Expected outcome: transition to green economy facilitated and clean development mechanism (CDM) developed and strengthened

| Performance Indicators   | Measurement Indicators   |
|--|--|
| <ul style="list-style-type: none"> <li>• Transition towards green economy and development of infrastructure facilitated.</li> <li>• Skills and expertise in utilization of funds for CDM and Adaptation Fund developed.</li> </ul> | <ul style="list-style-type: none"> <li>• 6 events organized on green economy transition mechanisms.</li> <li>• 3 workshops conducted to develop appropriate programmes to benefit from CDM and Adaptation Fund.</li> </ul> |

Area of intervention 3: climate change adaptation and mitigation measures

The issue of climate change and global warming are becoming serious with aggravating threats to economy, health, food and security of people. In this vein, ISESCO will assist in designing effective and measureable national mitigation and adaptation policies, and will strengthen institutional capacities, adapt appropriate knowledge and skills to absorb advanced technologies through training and capacity building programmes to adequately deal with adverse effects associated with climate change. Activities will be scheduled to assist the competent authorities in honoring their commitments in this respect in accordance with the principle of Common but Differentiated Responsibilities, and phasing out of substances that deplete the ozone layer and institute deeper cuts in such emissions. Awareness and knowledge on climate change and its economic and social impacts will be enhanced and ecosystem-based management will be promoted as part of a comprehensive strategy for adaptation to climate change and mitigation of its impact on biodiversity, desertification, land deterioration, marine and coastal environment as well as its effect on human health and safety.

Expected outcome: awareness and knowledge on climate change fostered, economic and social impacts analyzed and strategies and plans put into action

| Performance Indicators   | Measurement Indicators   |
|--|--|
| <ul style="list-style-type: none"> <li>Economic and social impacts of climate change analyzed and realistic adaptation strategies and plans introduced.</li> <li>Skills and expertise to cope with climate change impacts enhanced.</li> </ul> | <ul style="list-style-type: none"> <li>3 experts' meetings organized to discuss climate change impact and explore practical solutions.</li> <li>6 national workshops conducted to cope with climate change impact in vital areas.</li> </ul> |

Area of intervention 4: disaster preparedness, risk reduction and management

As part of follow-up to the implementation of the Executive Work Plan for the Implementation of the Strategy for Disaster Risk Reduction and Management in Islamic Countries, which was adopted by the 5<sup>th</sup> ICEM (Astana, Kazakhstan, 2012), action under this area of intervention will continue through stepping up efforts of needy Member States to reduce threats to human life and property and adopt a coherent and holistic approach to mitigate the consequences of natural and man-made disasters. Awareness-raising activities will be conducted to promote a culture of preparedness and early warning, incorporate disaster reduction strategies into national sustainable development policies, encourage technological innovation in this area, increase financial allocations to disaster risk reduction, and reach an international binding agreement to reduce and address climate change effects.

Expected outcome: capacities in preparedness and mitigation of risks resulting from anthropogenic activities and natural disasters built

| Performance Indicators   | Measurement Indicators   |
|--|--|
| <ul style="list-style-type: none"> <li>Improved institutional capacity to cope with disaster and mitigate its damages through the Executive Work Plan for the Strategy for Disaster Risk Reduction and Management in Islamic Countries.</li> <li>Improved emergency preparedness through local communication systems, sustained public awareness and sensitization campaigns.</li> </ul> | <ul style="list-style-type: none"> <li>6 events organized to set into motion the Executive Work Plan for the Strategy for Disaster Risk Reduction and Management in Islamic Countries.</li> <li>6 training and capacity-building workshops conducted for national volunteer force, and 3 sensitization campaigns launched to improve emergency preparedness response.</li> </ul> |