

**The Atlas of Islamic World Science and Innovation
Project Terms of Reference ¹
June 2009 (revised in June 2011)**

1 Project Aims

The Atlas of Islamic-World Innovation is a three year partnership between Organization of the Islamic Conference (OIC), the Royal Society, COMSTECH, Islamic Development Bank (IDB), ISESCO, SESRIC, *Nature*, the British Council, the Qatar Foundation and the IDRC. The project has six aims:

- To map key trends and trajectories in science and technology-based innovation across the fifty-seven OIC Member Countries, and combine quantitative data with qualitative analysis gathered through interviews, workshops and other in-country fieldwork;
- To look in greater detail at a geographically and economically diverse sample of OIC countries, and offer an independent, objective and authoritative assessment of how their innovation capabilities are changing, and the opportunities and barriers to further progress; and to set out a vision for their transition to an innovation-driven knowledge economy;
- To identify new opportunities for collaboration between scientists, policymakers, the private sector and non-government sector in the Islamic world and Europe, particularly directed towards shared global challenges of climate change, poverty reduction and sustainability;
- To make developments in science, technology and innovation more visible across the OIC and to the wider world, and to produce a series of agenda-setting articles, publications and events which spark scientific, policy and media discussion and debate in the Islamic world, Europe and beyond;

¹ The Atlas of Islamic-World Science and Innovation Terms of Reference were originally discussed by the founding project partners of the OIC Secretariat, COMSTECH, IBD, ISESCO, SESRIC, *Nature* and Demos (now represented by the Royal Society) at the project kick-off meeting in Istanbul, Turkey, June 2008. They were subsequently improved through discussions between the OIC family institutions (mentioned above) and Demos in Baku, Azerbaijan, October 2009, and in Damascus, Syria, May 2009. They were finalised and officially approved, at the direction of Professor Ekmeleddin Ihsanoglu, Secretary General of the OIC, in London, UK, June 2009 at a meeting between the Royal Society, COMSTECH, *Nature* and the OIC Secretariat. At the completion of the pilot phase, the Terms of Reference were to be reviewed and amended as appropriate.

- To build the skills and capacity of science and innovation analysts and decision-makers across the Islamic world, and create new networks for the exchange of ideas, policies and good practice both within the Islamic world, and between the Islamic world and Europe;
- To make the status of S&T commercialization opportunities more visible within OIC countries and the rest of the world, with the aim to attract S&T-focused investments to OIC member states, and to identify opportunities for matching the supply and demand sides of S&T, and joint S&T research and development programs, with the aim to promote integration among OIC countries.

2 Project Scope and Dimensions

The following is a guide to the types of areas which could be considered as part of the country reports. It is not an exclusive listing and research will be tailored as appropriate in each country to cover either additions or alternative elements of the national STI system. Country reports will also be written with input from internationally reputed and eminent authorities in the various fields under consideration.

Possible areas for consideration include:

- A priority of the country reports will be to not only consider the present status of each country, but also to consider the changes that need to be made in the light of international best practices so that the country's current policies to promote science, technology and innovation can be modified and improved.
- The present STI policy in each country will be studied objectively, with recommendations directed at assisting each OIC member country to transition to a knowledge economy.
- The problems in implementation of STI policy that exist in each country will be comprehensively studied and specific suggestions for their improvement including changes in legal infrastructure and other measures given.
- Further steps required to be undertaken for promotion of STI in each member country will be proposed in detail. This will initially require a comprehensive study of all the relevant factors which promote innovation (including how to encourage the creation of a critical mass of high quality scientists, engineers and technicians, ease of new company formation, amendment of laws and specific measures needed to ease new company formation requirements and incentivize private sector to invest in R&D so that the private sector invests in setting up research laboratories such as through tax incentives or grants from the government etc.). Such recommendations will be proposed after careful

comparison of steps taken by some model countries such as Finland, Sweden, Denmark, Korea etc. which have successful innovation policies. The final document will contain specific suggestions so that a new STI policy can be formulated, or if one exists, it can be brought in line with the best international practices.

- Country reports will propose specific changes in the education systems at school, college and university level in order to promote innovation and entrepreneurship. This would require specific suggestions regarding introduction of new curricula or changes in the existing curricula.
- Country reports will propose specific steps required to commercialize the knowledge created in universities through the implementation of various measures such as establishment of technology and business incubators, technology parks etc.
- Country reports will present detailed proposals on mechanisms whereby the higher education, science & technology sectors can play a dynamic role in promoting science, technology and innovation through identification of specific weaknesses in the major institutions and proposal of specific steps needed to strengthen them. These may include such initiatives as increasing mobility of scientists from public sector R&D institutions to industry, incentives of scientists to work in Technology Parks, incubators etc.).
- Country reports will propose steps required to promote venture capital schemes, including a detailed chapter on various existing models of such schemes with recommendation of which one is most suitable after critical review of international best practices.
- Country reports may contain specific proposals regarding the format for conducting proper Technology Foresight exercises in order to prepare national development plans.
- Country reports will contain a section regarding the role the government and private sectors can play in order to promote R&D investments in the country, taking into account the international best practices.
- The actions required to attract FDI (expert processing zone, government incentives etc.) after a critical assessment of international best practices in rapidly developing countries will also be considered.
- Engineering education may also be considered, its present status and how it should be expanded over the next 10 years in order to make each OIC member country self-reliant in manufacture, and to assist in its transformation to a knowledge economy.

- Measures for absorption of technology through foreign direct investment and diffusion of technology in agriculture and industry will also be considered.
- Specific scientific capacity in areas such as metrology and the potential to establishment of centres of international level of excellence may also be considered.
- Capacity building should be an explicit part of the country reports: each report could usefully include a brief section highlighting the main capacity building outcomes resulting from the study.

A detailed guide to research methodology as approved by the JMT is contained in a separate document.

3 Project Governance Structure: Roles and Responsibilities

The project will operate through the following governance structure (see the diagram in Annex 1):

The Joint Management Team (JMT)

The Joint Management Team (JMT) will be responsible for overseeing the project at every stage. The JMT will comprise representatives of the OIC General Secretariat, the Royal Society and IDB, SESRIC, COMSTECH, ISESCO, *Nature*, the British Council, the Qatar Foundation and IDRC. The JMT will meet as required over the course of the project. The JMT will be chaired by the Secretary-General of the OIC, Professor Ekmeleddin Ihsanoglu. Additional partners and other parties may be invited to join the JMT on either a temporary or longer-term basis at the JMT's discretion over the life of the project.

The JMT approves appointments of Lead Researcher, National Research Partner, members and chairs of the Peer Review Committees (PRC), as well as signing off country reports.

The JMT will ensure that all the country reports are independently, objectively and rigorously peer-reviewed prior to publication, at which time JMT members will also be invited to make comments and suggest revisions. The JMT will then sign-off reports prior to publication.

The Joint Management Team will:

- Review and approve the project aims, roles and responsibilities of the JMT and the other entities of the project governance structure;
- Review and approve the overall project budget, and the itemized allocation;

- Review and approve the overall project work plan and timeline, and ensure its full coverage of the project aims;
- Review and approve the final list of countries to be studied and the broad issues that each country study will cover;
- Approve the Lead Researcher and National Research Partner;
- Review and approve the list of the members of the Peer Review Committee (PRC);
- Review and approve the contractual and partnership arrangements with the project partners and funders;
- Assist lead researchers with access to key individuals and institutions involved in science, innovation and policymaking as part of the fieldwork;
- Ensure that all of the project's outputs are independently and objectively peer-reviewed prior to publication, at which time JMT members will also be invited to make comments and suggest revisions. The JMT will then sign-off reports prior to publication;
- Determine which publications will be available free of charge in print form and for electronic download, and decide how to use other project material such as data, information, notes and working papers produced during the project;
- Review the regular progress and financial status reports submitted by the Project Managers, and take any corrective actions required to keep the project on track;
- Make decisions through a consensus of the JMT, and by a 2/3 majority vote where a consensus is not possible.
- Ensure each country report carries a disclaimer statement at an appropriate place;
- Determine that the country reports could be published under the collective authority of all project partners.

National Focal Point (NFP)

The National Focal Point (NFP) is appointed by the participating OIC Members State and represents its government. The NFP, being the most relevant government department or agency, will be consulted regularly in respect of its country study and act as “door opener” in the country fieldwork. The NFP will have an opportunity to propose the name of potential National Research Partner (NRP) to the project managers and will be consulted on (but not endorse) the final selection of the NRP (the more workable the relationship between the NFP and NRP, the more likely the recommendations can be

practicably implemented) . Within each country study, the NFP and the NRP are to assist in the development of the research. The NFP will also be given an opportunity to propose the name of potential Peer Reviewers to the project managers. NFP helps in dissemination of the findings to relevant institutions and networks (government and non-government), as well as the media. NFP will assist in the organization of national launching event to disseminate the results and recommendations of the report following the main launch conference. The NFP along with the NRP and the two project managers will actively participate in the planning and execution of the national launch of the project for dissemination of its findings. The NFP will be consulted by the two project managers prior to proposing launching event of country study report to the JMT. The NFP is required to maintain close coordination with project managers, lead researcher and NRP throughout the period of the project, and to ensure that its engagement throughout is prompt, thereby minimizing potential delays.

The National Focal Point will:

- Act as a key point of contact for the project, nominating a senior representative as their focal person ;
- Support and facilitate the project's research in their country, by helping the Project Managers to establish contacts with other actors in the national science, technology and innovation system; providing access to available policy documents and data; and identifying potential experts and case studies;
- Suggest names of independent researchers (from universities, research institutes or think tanks) who can act as the National Research Partner, or assist in other ways with the research process;
- Host at least one seminar or workshop for national science and innovation experts to contribute to the research process;
- Nominate prospective members of the PRC;
- Organize a national dissemination event following the main launch conference;
- Help in dissemination of the findings to relevant institutions and networks (government and non-government), as well as the media;
- Attend all meetings of the PSG and other meetings as required.

It is important that the NFP – appointed by the OIC Member State– is engaged regularly throughout the course of the study, in order to address any concerns that the NFP might have, recognizing that this will help with report launch, dissemination and implementation of the report's recommendations.

In order to maximise its support and ownership of eventual recommendations the NFP shall also have the “right to reply” to critical analysis in the report.

The Project Managers

Responsibility for the day-to-day coordination and delivery of the project will be shared between two organisations, both of which will report to the JMT. SESRIC in Ankara will be the OIC Project Manager, and will have lead responsibility for liaison with other OIC institutions. The Royal Society in London will be the EU Project Manager, and will have lead responsibility for liaison with other EU partners. Reporting to the JMT, SESRIC and the Royal Society will supervise the delivery of the work plan, track progress against project timelines, and oversee budget allocations and contractual relationships. Between meetings of the JMT, the Department of S&T in the OIC Secretariat will be responsible for day-to-day liaison and coordination between the two Project Managers.

The Project Managers, in consultation with the JMT and National Focal Point (NFP), are to identify and propose Lead Researcher and National Research Partner (NRP) for each country study to the JMT. The Project Managers will submit a list of potential reviewers including possible chair of Peer Review Committee to the JMT in consultation with the NRP, NFP and Coordinator of the Peer Review Process. The Project Managers are to oversee the immediate dissemination of the findings, in conjunction with the NFP and NRP. This will include determining of the date of launching of the report.

The two Project Managers (SESRIC and the Royal Society) will:

- Take shared responsibility for all aspects of project management, under the auspices of the JMT;
- Prepare a detailed work plan including timelines, and a draft budget that will cover all planned activities within the project, as a proposal to the JMT;
- Supervise the delivery of the work plan, distribute responsibilities and track progress against project timelines and objectives;
- Manage the utilization of the budget;
- Regularly appraise JMT on project progress, including preparation of formal reports at JMT meetings and submission of a final report in [December 2012];
- Oversee the contractual relationships between the project partners and funders;
- Report any encountered risks or issues that may affect the successful completion of the project to the JMT;

- Propose to the JMT the names of prospective lead researchers, NRPs and members of the PRC;
- Propose international launching in consultation with National Focal Points, NRPs and JMT;
- Contribute to the planning and execution of the immediate dissemination of the findings, in conjunction with the National Focal Points, NRPs and research partners;
- Oversee quantitative and qualitative fieldwork and country case studies, including the process of gathering information and interviews, and recruitment of the research and editorial team, and the project website.

The Lead Researcher (LR):

A country report will be written by a Lead Researcher (LR) who will have expert knowledge and understanding of science and innovation systems, and of the country in question. This could be an eminent scientist of international reputation, an experienced researcher or an analyst of national science and innovation system and well versed with the STI profile of the particular country. Recognizing the capacity building element of the project, the LR will be assisted by a team of researchers. LR will be identified for each country case study by the two project managers, SESRIC and the Royal Society, in close consultation with the respective National Focal Point and endorsed by the JMT. LR will have an overall responsibility for the delivery of the country report as well as ensuring that the research complies with the methodology outlined in this research (both in terms of qualitative and quantitative data). LR will be responsible for incorporating, where appropriate, comments/amendments proposed by the NRP, NFP and PRC, as well as members of the JMT, prior to publication and in consultation with the Project Managers. In each country, the LR will be overseen and assisted by the two project managers to ensure a consistent approach is applied across all countries and to steer the editorial process. The LR must have pre-existing knowledge or links to the country/region being studied.

National Research Partner (NRP)

The National Research Partner (NRP) is identified and proposed by the two Project Managers for endorsement by the JMT, after consultation with the National Focal Point . The NRP is an organization that is a recognized or an emerging centre of excellence with good links to government, industry, academia and the private sector, as well as the research community, who would be able to join with the Lead Researcher in physically researching and writing the country report.

The National Research Partners (NRP) will:

- Work closely with the Project Managers and National Focal Points to produce a comprehensive, objective and independent study of the science, technology and innovation capacity of their country, as well as opportunities and barriers to further progress;
- Work closely with the National Focus Point to identify relevant institutions and individuals who may be able to assist with the research process;
- Assign a dedicated researcher (ideally leading a team of researchers) to jointly author the final research paper with at least one other independent researcher from the Research Team;
- Benefit from the project's aim of building capacity in policy analysis and implementation by working on the project;
- Assist in the dissemination of the findings to relevant institutions and networks (government and non-government), as well as the media;
- Attend all meetings of the PSG and other meetings as required.

The NRP lead individual would participate in the fieldwork component of the research with the Lead Researcher which would include:

- Up to 10 days of intensive interviewing / research as part of the first scoping trip - usually to occur in the capital city and perhaps one other city. Note: in some countries, the scoping trip will be used to identify potential NRPs so they may not be involved in this part of the research;
- Up to 4 weeks (depending on size of the country) for the second more intensive research trip. As the project is expected to cover science and innovation across the country, the NRP should be willing to travel beyond the capital city to other emerging or potential centres of science and innovation, where appropriate;
- Additional time required to physically write the report (with the Lead Researcher) and then also to respond to any editing requirements or enquiries through the rigorous peer review system.

The Project Steering Group (PSG)

In addition to the JMT, there will be a larger Project Steering Group (PSG), whose membership will comprise the JMT plus National Focal Points and National Research Partners. The PSG will meet as necessary over the lifetime of the project. The PSG will be chaired by the chair of the JMT. It will be responsible for reviewing progress, particularly of the country case studies, and providing comments and suggestions to the JMT.

The Peer-Review Group (PRG)

Professor Atta-ur-Rahman, the Coordinator General of COMSTECH and Fellow of the Royal Society, will act as a coordinator of the Peer-Review Group comprising Peer Review Committees (PRC) for each country study. Each committee will consist of leading independent experts from the research community, industry and civil society (universities and think-tanks etc.) from OIC Member Countries, Europe and beyond. Members will be drawn from the natural, physical and social sciences. Each committee will be headed by a chairperson appointed by the Joint Management Team (JMT) following consultation with the Coordinator of PRG. The members of the Committee will be asked to review all material intended for publication in respect of their country only. The Committees will not meet formally, but members will be invited to attend appropriate events throughout the course of the project and will be an integral part of the final launch conference.

Terms of Reference of the Peer Review Process are contained in a separate document.

Settlement of disputes

Where the project managers are also the co-authors/lead researchers of the reports, then the Chair of the PRC should have editorial control.

Any dispute about the application or interpretation of the provisions in the documents governing the Project will be settled by the Project Managers. If so required the matter shall be referred to the Secretary General of the OIC and the President of the Royal society for final settlement.

ANNEX 1

Project Governance Structure

