Setting up a National Research Data Curation Service for Qatar

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Qatar at a glance

- Located in the Middle East, a peninsula bordering the Persian Gulf and Saudi Arabia
- Current ruler HH Tamim bin Hamad Al Thani is the eighth Emir of Qatar
- Has the world's third largest natural gas reserves and oil reserves
- Has the highest (93K USD) per capita income in the world
- Classified by the UN as the most advanced Arab state for human development

Source:
http://www.slideshare.net/hendarwish/qatar-powerpoint-for-english
Qatar at a glance

Museum of Islamic Art

Katara Cultural Village

The Pearl - Qatar

Mall of Qatar
1 Qatar National Library
A brief history

• Established as a central library in 2008
• Officially launched in November 2012 as a national library
  o as a non-profit organization under the umbrella of Qatar Foundation for Education, Science, and Community Development (QF),
  o by Her Highness Sheikha Moza bint Nasser, Chairperson of QF
• To support Qatar in its journey from carbon-based economy to knowledge-based economy
“designed to encourage visitors to explore the progression of knowledge from the past to present”.
QNL Vision

“To be one of the world's preeminent centers of learning, research, and culture; a guardian of the region’s heritage; and an institution that promotes discovery and the nourishment of the human spirit.”
Qatar Vision 2030

Social Development

Environmental Development

Economic Development

Human Development

QNV 2030
QNL Functions

المكتبة العامة
Metropolitan Library

المكتبة الجامعية والبحثية
University and Research Library

المكتبة الوطنية
National Library
QNL as a Research Library

• Aims to establish itself as a centre of excellence for research data management, curation and publishing
  o to help Qatari researchers and academics to address their research data-related needs.

• Research data curation is a key element of QNL strategic objectives and offered as part of QNL’s core services
2 Research Landscape in Qatar
An overview

• A developing research landscape with a number of significant achievements over the past decade
  o Discovery of five exoplanets that bear the Qatar's name (Qatar-1b to Qatar-5b) in June 2016
  o Collaboration with CERN to upgrade LHC in 2013

• The main driver is the Qatar 2030 vision, implementation of which is lead by QF through
  o Qatar National Research Fund (QNRF), the leading funding body in Qatar
  o Qatar National Research Strategy and Priorities Programs
  o National Commitment (2.8%) as a result of Decree-Law No. (24) Of 2008.
Research Institutions in Qatar
Towards a sustainable Research Culture in Qatar: impact of QNRF

- Creating Research Culture
- Building Human Capital in Research
- Building Knowledge based Economy
- Generating IP and Patents
- Publications (2500+ in QRP)
- Building Research Infrastructure
- International visibility

Source: http://slideplayer.com/slide/3176564/
Research Data Management in Qatar

• Disparate data storage and management practices
  o Data on researchers, research capacity, ongoing research projects and research outcomes are scattered throughout Qatar and in various formats
  o Also concerns government institutions, including the Ministry of Public Health and private entities that are engaged in conducting research

• Limited utilisation of available national research potential
  o Allows research duplication and reduced research focus in areas of high priority
Research Data Management in Qatar

- Challenges in generating nation-wide reports, budgets and statistics on research related matters
- Challenges/lack of clarity in enforcing/applying IP rights to research data
  - Especially for research projects involving the branch campuses of foreign universities
- Reservation about publishing research data
- Needs a nationally co-ordinated approach to research data management
- QNRF does recognise this need
  - Commenced collaboration with other partners, including QNL
3 QNL Research Data Curation Service
QNL Research Data Curation Service

• Underpinned by a national infrastructure for research data curation for Qatar to ensure wider efficiency
• Requires a robust and sustainable service model involving collaborative efforts from all key stakeholders
• The wider goal is to develop a sustainable information ecosystem for managing and disseminating all research data in Qatar
Training & consultancy

• Incorporating research data management practice into the early stages of a research project lifecycle is deemed important

• Training workshops on research data management plans offered to researchers with new projects

• QNRF and QNL jointly organised two workshops in 2016 on research data management
  o Attended by over 200 researchers

• Potential for embedding research data curation within QNRF-funded research workflows

• Needs to build sufficient data librarianship expertise to cover all major areas of research in Qatar
QNL Research Data Curation Service Model

QNL Executive Directorate
(Policy and governance)

QNL Research Data Curation Services

- Collaborate/contribute
- Raise awareness
- Develop/support
- Provide services

QNL Research Data Curation Services

- Seminar/workshop
- Open Access
- Copyrights/licensing
- Data management & planning
- Data Librarianship
- Data publishing
- Digital preservation
- Digital repository
- Reporting

Academic/Research institutions

- HBKU
- CMU Qatar
- Qatar Univ.
- Other

Government/private agencies

- Ministry of Public Health
- Other

Funds
Collaboration with Stakeholders

- **QNRF**
  - Proposed to offer the preservation and access infrastructure to all QNRF-funded research output
  - A joint working group is exploring opportunities to implement active research data management in QNRFs reporting cycle
- **Domestic universities and local research institutes**
  - QNL is in a good position to offer data management services including a repository for preservation and access
- **Branch campuses of foreign universities**
  - QNL advocates the retention of all research data funded by Qatar in the country to ensure access and usability
Collaboration with Stakeholders

• Individual researchers
  o Transforming the awareness into actual data management practice is a key challenge

• Government agencies
  o Effort to influence the Ministry of Information & Communications Technology (ictQATAR) policy for governing exchange of data between government agencies and with the general public

• Other QNL teams
  o Adoption of institutional strategy
  o Close collaboration with the Digitisation, Systems and Applications teams as well as the Subject Librarians
QNL Research Data Curation Service Model

Qatar National Library (QNL)

QNL Executive Directorate
(Policy and governance)

QNL Research Data Curation Services

Public Services

Data Curation

Digitisation

Systems, Applications and Web development

Develop/support

Provide services

Data Curation Services

Raise awareness

Seminar/workshop

Open Access

Copyrights/licensing

Collaborate/contribute

Data Librarianship

Data management & planning

Data publishing

Digital preservation

Digital repository

Reporting

Academic/Research institutions

HBKU

CMU Qatar

Qatar Univ.

Other

Funds

Government/private agencies

Ministry of Public Health

Other
QNL IT Capacity

• **Servers**
  o Total Servers – 66 Servers
  o Total Memory – 12 TB

• **Storage**
  o Disk Capacity – 1.35PB (1,378.3 TB)
  o Tape Capacity – 7.6 PB (7,780 TB)
  o Tape Library Scalable to:
    - 56 Drives, 252 MB/sec – 50.8 TB/hr
    - 3000 Tape Slots, 8TB/tape – 24 PB
    - 2 Robots
4 Work plan and conclusions
Initial two-year work plan

- Oct-15: Inception of a data curation unit at QNL
- Oct-15 - Dec-15: Planning and High Level Design
- Jan-16: Setup of an Islandora repository system in a test environment
- Jan-16 - Feb-17: Tools testing and configuration, test ingests
- Sep-16: First Research Data Curation Workshop held
- Oct-16: Digital Preservation strategy finalized
- Feb-17: Move of repository system into production environment concluded
- Mar-17 - Dec-17: Regular ingests, implementation of additional features
- Jul-17: Workflows with key stakeholders established
- Oct-17: Public access website finalized, datasets published with DOIs
- Dec-17: Data Seal of Approval Certification concluded
Conclusions

• Setting up a national data curation service is a monumental task!
• QNL is taking confident steps towards developing a sustainable service
  o Implementation of the service model is underway
  o The digital repository system is being developed to offer preservation and dissemination services to a greater variety of research data
  o Complemented by a wider support model for Qatar-based research
  o Progress has been made in raising awareness through workshops and customised training sessions.
THANK YOU

Questions and remarks are welcome now or later:

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