



Jordan's Strategic Research Agenda in cultural heritage Analysis of main results

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Main objectives

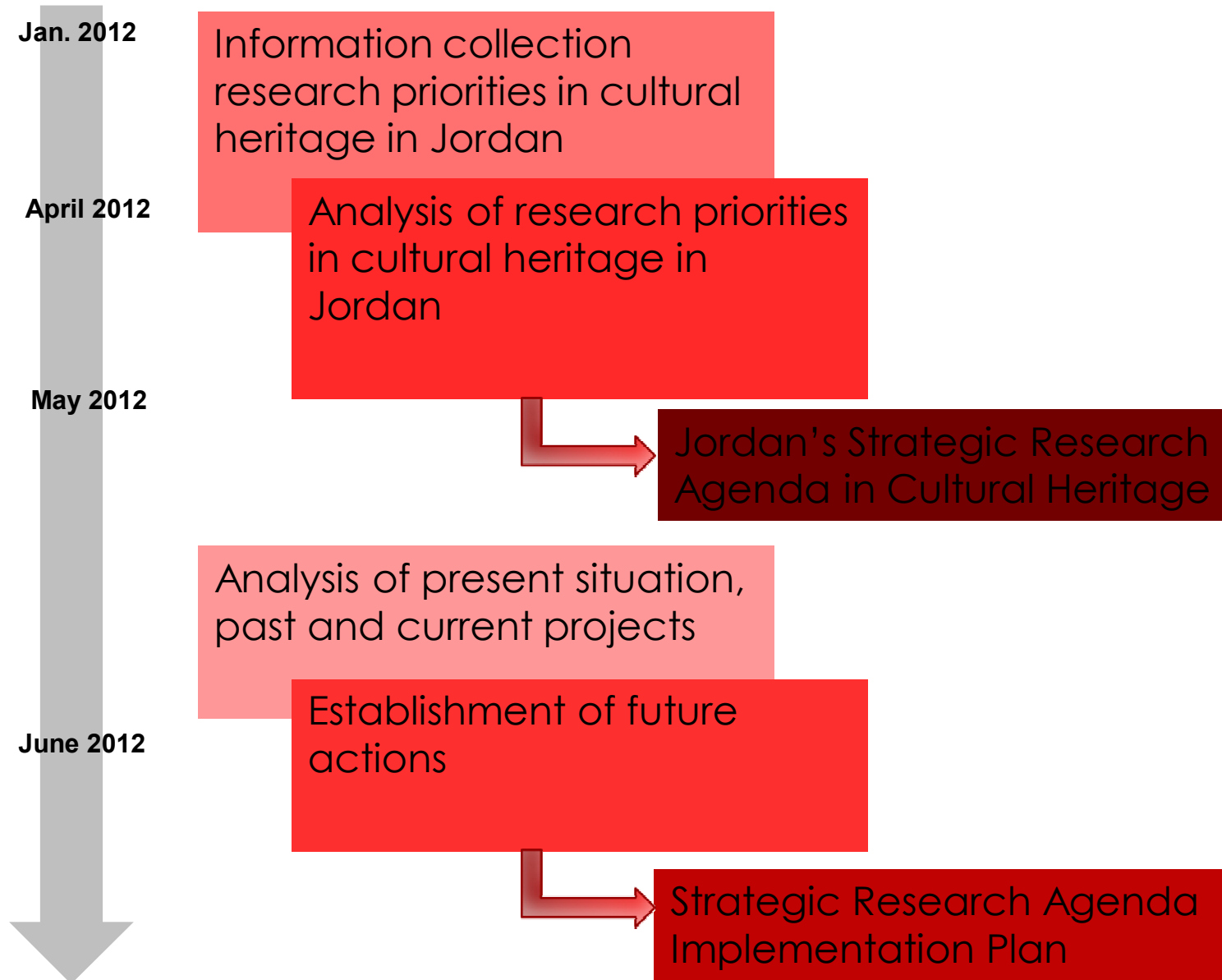
The work performed had the main objective of **giving an overview of Jordan's research and innovation priorities, needs and capacities in Cultural Heritage.**

It was achieved by the following partial objectives and activities:

- To produce a questionnaire for the analysis of research priorities in cultural heritage in Jordan
- To deliver a clear synthesis of research priorities in Jordan and their planning for the coming 3 years after the project completion
- To deliver an implementation strategy of the identified research priorities

Structure

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Methodology

- An **analysis of documents** on cultural heritage research, in particular Strategic Research Agendas, roadmaps and Implementation Action Plans has been performed with the purpose of establishing a preliminary list of research priorities.
- A **questionnaire**, available on-line, was produced and circulated among relevant stakeholders, mainly research entities based in Jordan and other institution with a working experience in Jordan and based outside the Country
- **Analysis of data** collected in order to identify future research areas in cultural heritage
- **Analysis of the present situation** in the cultural heritage research field in Jordan
- **Establishment and definition of future actions** to be implemented

Gathering information

58 questionnaires were completed and information collected focused on:

➤ **Statistical information**

- General profile of the institution answering the survey

➤ **Cultural heritage in Jordan**

- Collecting a general overview on entities involved in cultural heritage research and entities supporting cultural heritage research
- Detecting main problems affecting Jordan's cultural heritage
- Collecting information on programmes, clusters and networks promoting research on cultural heritage

➤ **Research priorities**

- Evaluating the relevance of different future research sectors of cultural heritage and their possible achievement in a short-medium-long term.

Analysis of results

Profile of the organisations answering the survey:

- 77% of the organisations are universities, 13% National bodies, 4% local governments, 4% research institutes and 2% other
- Institutions involved in the survey have mainly experience in restoration and preventive conservation practices, followed by tourism activities, materials, building rehabilitation and urban planning. Categories with less percentage are environment, ICTs and energy
- 47,2% of the institutions involved in the survey have experience in Research, Development and Innovation projects and 35,8% of them are involved in cultural heritage Research, Development and Innovation networks
- 48% of the institutions work at local level or on a single site; 28% at national level, 16% worldwide and 8% at regional level

Analysis of results

Cultural heritage in Jordan:

- Main funding dedicated to cultural heritage comes from Jordanian entities, being the total 60% and 20% coming from International entities
- Research priority of the different topics is as follows: Archaeological sites (25%), Movable heritage (18%); Natural heritage (15%); Architectural heritage (13%); Intangible heritage (9%); Monuments (9%); Underwater heritage (7%) and Urban assets (4%)
- Main problems affecting heritage are management measures and capacities (lack of strategic planning, inadequate restoration/conservation, lack of funding for cultural heritage conservation, etc.), and people awareness and consequently the way they use cultural heritage (lack of specific educational programmes, lack of awareness, looting, vandalism, overuse by tourism, etc.)

Analysis of results

- 28% state that main entities economically supporting conservation in cultural heritage are UNESCO and ICOMOS; 17% by the European Union; 14% by international organizations such as the Getty Foundation, USAID, ACCOR, ICCROM and JICA; 14% by universities; 12% by national government; 5% by religious foundations; 4% by regional or local governments and 4% by private foundations and 2% by public agencies.
- Universities have a major role in cultural heritage research with a 36% of answers, 25% national, regional and local governments, followed by 18% to research institutes. Cultural associations represent a 10% and consultants 5%. None indicated large companies, but they do with SMEs (4%).
- The main programmes promoting research in cultural heritage are mostly International programmes (31%) and European funds (27%)

Analysis of results

Priorities:

The relevance of the cultural heritage related research sectors in Jordan can be prioritized as follows:

- Management, exploitation and maintenance
- Diagnosis, assessment, monitoring and control
- Preventive conservation and intervention techniques
- Materials
- Energy and environment
- City and territorial aspects

Management, exploitation and maintenance

Scope

Background: Cultural heritage management concept has been changing through time, from preservation and dissemination strategies of a particular asset to a an integrated and dynamic vision.

- Exploitation and management from a sustainable perspective
- Cultural heritage as part of an ecosystem that can contribute and improve the dynamization of its environment
- Cultural heritage as part of the socioeconomic development by promoting urban regeneration and regional development
- It is related to the evolution of societies by attracting investments and jobs in creative sectors

Management, exploitation and maintenance

The highest priorities given to this category are the following:

- Development of Cultural Heritage rational management and dissemination strategies (short-term)
- Promotion of sustainable and flexible use of Cultural Heritage (short-term)
- Establishment of dissemination plans and tools of conservation process to provide added value and ensure accessibility for all citizens (medium-term)
- Development of model and strategy for changes tracking due to maintenance and interventions (long-term)
- Development of methodologies to elaborate predictive maintenance plans of the built heritage (short-term)

Diagnosis, assessment and monitoring

Scope:

Background: 40% of the construction activities are devoted to rehabilitation, repair and maintenance.

- Safeguarding of cultural heritage is no longer preservation of a symbolic heritage, but an essential part of the environment and the society
- Promotion of sustainable and preventive strategies and methodologies in order to improve quality of life and attractiveness of cities and landscapes
- Early detection and follow up of damages, pathologies or structural problems
- Use of user friendly technologies for a precise information on current state of conservation for a long term strategy of maintenance

Diagnosis, assessment and monitoring

The highest priorities given to this category are the following:

- Development of new Non Destructive Testing (NDT, MDT) for conservation state assessment (short-term)
- Establishment of guidelines and recommendations about the application of monitoring and diagnosis methods (short-term)
- Development of intelligent monitoring systems for the long term conservation assessment (long-term)
- Elaboration of databases containing damages, testing problems, methods for assessment, diagnosis and monitoring (short-term)
- Establishment of guidelines for active interventions and restoration (short-term)

Materials

Scope:

Background: cultural heritage is characterised by many types of materials, from mono-components to complex structures integrating organic and inorganic constituents. Materials are influenced by environmental parameters, ageing and use of incompatible materials in past interventions

- Materials research should aim at stopping or decelerating decay processes
- New, durable and compatible materials, as well as treatments, should address at preserving authenticity and integrity
- Improvement of knowledge of decay mechanisms and performances
- Development of innovative and sustainable conservation materials or techniques

Materials

The highest priorities given to this category are the following:

- Development of an integral strategy for value assessment of cultural heritage materials (short-term)
- Creation of a knowledge based industry for conservation materials production (long-term)
- Validation of quality control system (long-term)
- Development of “self-learning”, self-cleaning, smart materials (long-term)
- Development of best practice and standard methodologies for conservation of historic materials and interventions (long-term)

Intervention techniques

Scope:

Background: Cultural heritage intervention techniques show a very large diversity of scenarios but the efforts of the last 20/30 years lead to solutions capable to satisfy both safety and conservation requirements

- Improvement on knowledge based on traditional techniques and innovative methods for the intervention in complex areas
- Development of appropriate intervention strategies using less invasive techniques for the improvement of building performances
- New techniques related to areas affected by natural disasters

Intervention techniques

The highest priorities given to this category are the following:

- Elaboration of catalogue of intervention techniques with respect to their effectiveness compatibility –interpretability-reversibility (short-term)
- Setting up of cultural and technological programmes for knowledge and technological exchange with other countries (short-term)
- Improvement of analytical tools for structural assessments and simulation of interventions (medium-term)
- Elaboration of a Database of typologies and morphology of different structural elements (medium-term)
- Identification of proper methodology for analysis of hazard mitigation (short-term)

Energy & Environment

Scope:

Background: Buildings account for 42% of the total energy consumption and produce about 35% of all greenhouse emissions. Climate change sets the priority goals of environmental efforts in relation to the reduction of energy consumption and gas emissions from the built environment, being a prime objective for energy policy at regional, national and international levels.

- Adapt historic buildings to new energy and air quality standards as well as indoor comforts parameters
- Improve knowledge on damages caused by pollutants and meteorological changes
- Contingency plans and natural hazards reduction
- Life cycle assessments and adjustment to new uses for a sustainable building stock

Energy & Environment

The highest priorities given to this category are the following:

- Development of risk management methodologies, models and tools (short-term)
- To identify the optimum management and use of old buildings in terms of energy saving (short-term)
- To develop databases containing relevant specific works suitable for historic buildings as practical decision-making tools (short-term)
- To integrate strategic impact assessments, environmental impact assessments, conservation management and preventive management plans (medium-term)
- To identify the most sustainable sources of alternative energy in order to reduce pollutant emissions (long-term)

City & territorial aspects

Scope:

Background: traditionally heritage was defined as architecture, archaeology or movable objects and it now includes landscapes, urban areas, countryside etc. In many cases, rapid urban growth led to a destruction of natural and built heritage.

- Urban solutions need to be respectful with the environment
- Revitalisation of city centres
- Solutions based on the flexible use of cultural heritage
- Integrated vision of cultural heritage and not limited to a single building

City & territorial aspects

The highest priorities given to this category are the following:

- Planning and decision-making considering citizens lifestyles to assure economic benefits of sustainable tourism and preservation of the memory of cultural heritage (short-term)
- Monitoring and early warning systems for critical deterioration of historic environment (medium-term)
- Development of policies, partnership and networks on safeguarding and enhancement of cultural and natural heritage territorial values (medium-term)
- Improvement of security and reduction of criminality by new holistic urban management approaches (medium-term)
- Methods of better integrating public space within urban environments and ensuring continuity of public space (short-term)

Conclusions

Each of the topic included in the research areas has been analysed, according to the developed and on-going projects in Jordan, scope and objective and possible achievement in time. A tentative planning for their implementation was given, including targets and key indicators for 2030.

- Most research priorities developed in Jordan are related to Intervention techniques and promotion and valorisation of cultural heritage;
- Most of the projects are related to archaeological sites, probably due to the importance of tourism related to this kind of heritage
- Research priorities related to assessment, monitoring & diagnosis and management, exploitation & maintenance have achieved a certain maturity level, but still need to be improved
- Tourism is a crucial factor: mass tourism or non sustainable tourism can affect cultural heritage assets causing an irreversible damage and should be consider in the management priority

Conclusions

- Improvement in research priorities related to materials, energy & environment and city & territorial aspects should be promoted, as all of them are related to sustainable development
- Research is still focused on the asset itself, while it is part of the territorial system and should be considered as an engine for growth and development

Both tourism and sustainable development visions need to share a common ground, preserving, managing, maintaining and promoting a sustainable cultural heritage valorised by society, which promotes the economic growth of the country respecting the nature, the environment and the heritage itself.



*Thank you
for your attention*

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