Signed off by Mark Napier, CSIR,
project leader of urban knowledge hub project:

MMapier

science & technology
Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA

Policy Brief

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INNOVATION FOR INCLUSIVE DEVELOPMENT **31 March 2018**

THE NEED FOR WEB-BASED, INTEGRATED, LONG-TERM KNOWLEDGE PLATFORMS FOR BUILT ENVIRONMENT KNOW-HOW

Introduction

The proposition outlined in this policy brief arises from research and platform development done as part of the project to establish an online urban knowledge hub, seed-funded between 2015/16 and 2018/19 by the Department of Science and Technology, and led by the Council for Scientific and Industrial Research's Built Environment unit.

The proposition is that government should enhance the body of knowledge on policy and practice in urban development, sustainable human settlements, and infrastructure investment, by giving added attention to establishing stable, accessible online platforms as repositories of such knowledge.

To do this, the relevant departments and agencies would need to enhance and extend their knowledge management policies, protocols, funding sources, institutions, and establish the knowledge management culture required to achieve greater stability, and interoperability between repositories.

Nature of the problem

The practice of building cities, towns and villages over decades, and the role that the state plays in regulating, funding, implementing and managing the built environment, are complex processes. The specifically South African project of transforming colonial and apartheid urban spatial patterns is also challenging and complex.

In the built environment sector, the processes associated with knowledge generation, capture and sharing are extremely important if the practice of building sustainable and inclusive human settlements, and investing in the built environment, are to continuously improve in efficiency and effectiveness.

In this knowledge-generation and management cycle, most actors in the sector are experiencing challenges, especially in government departments (local, provincial and national) and many of the agencies associated with the state.

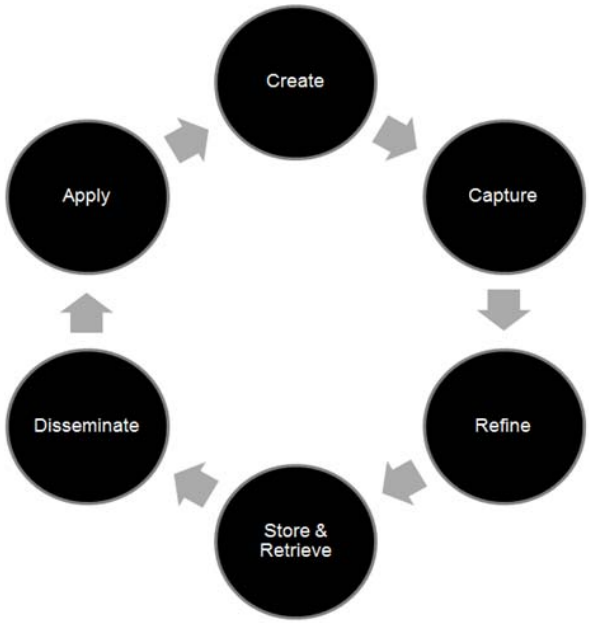

Figure 1: The knowledge management cycle

The level of support for building knowledge repositories, regularly incorporating new knowledge products, maintaining the repositories, and promoting sharing and learning via such platforms is generally uneven across government spheres, departments and agencies.

The one major challenge that we wish to discuss in this policy brief is the absence of a stable set of repositories of state (and non-state) information.

Linked to this are generally weak or inconsistent protocols to manage this knowledge so that repositories can speak to one another.

In this policy brief, we therefore call for organs of state to take responsibility for ensuring the establishment of stable, durable, integrated knowledge bases focused on policy and practice in the built environment.

This goes beyond ensuring clarity on who the state custodians for various datasets are (this had already been set out in law), and is more directed towards the next level of knowledge products (i.e. interpretations of data, advisory material, and especially documentation of best practice for implemented infrastructure projects).

Legislative and regulatory context

Although the legislative context needs to be scanned for further relevant regulations, and expert opinion needs to be sought, at this stage the legislation and regulations likely to have some bearing would include the following:

1. The National Archives and Records Service Act, 1996, which governs the proper management and care of the records of governmental bodies.
2. The Promotion of Access to Information Act, 2000, which gives effect to the constitutional right of access to any information held by the state.
3. The Spatial Data Infrastructure Act, 2003[1], which provides for the establishment of South African Spatial Data Infrastructure to regulate the collection, management, maint-enance, integration, distribution and use of spatial/ geographic information.
4. The South African Statistical Quality Assessment Framework, which aims to improve the integrity of official statistics, and could help with classifying various types of information releases.

Some of the above are of tangential interest (e.g. the laws and frameworks regulating spatial and statistical data), but lessons need to be learnt from how these regulatory instruments have led to improving the integrity of information and ensuring its availability in the long term. There are also relevant provincial and municipal regulations that require further investigation.

Evidence for the proposition

A user needs survey[2] undertaken as part of the Urban Knowledge Exchange South Africa Project provided clear evidence of a demand for stable, online repositories of information. Of the 57 respondents, 22 (or 39%) highlighted that not having access to an effective web-based platform to assist with knowledge sharing was a significant challenge.

The survey also asked participants to specify which existing online urban development knowledge platforms they currently accessed or used information from. Some 58,6% of participants stated that they did not currently access or use information from existing online urban development knowledge platforms. The survey uncovered a range of other types of information that potential users would want to access from urban knowledge repositories if these were more accessible. The overall level of demand for urban knowledge repositories was high among the respondents, with 91% indicating that their organisation would actively contribute to online platforms if they were more accessible.

[1] https://www.gov.za/documents/spatial-data-infrastructure-act

[2] Azra Rajab and Mark Napier (March 2016). User Needs and Interest Assessment Report. Urban Knowledge Hub Project.

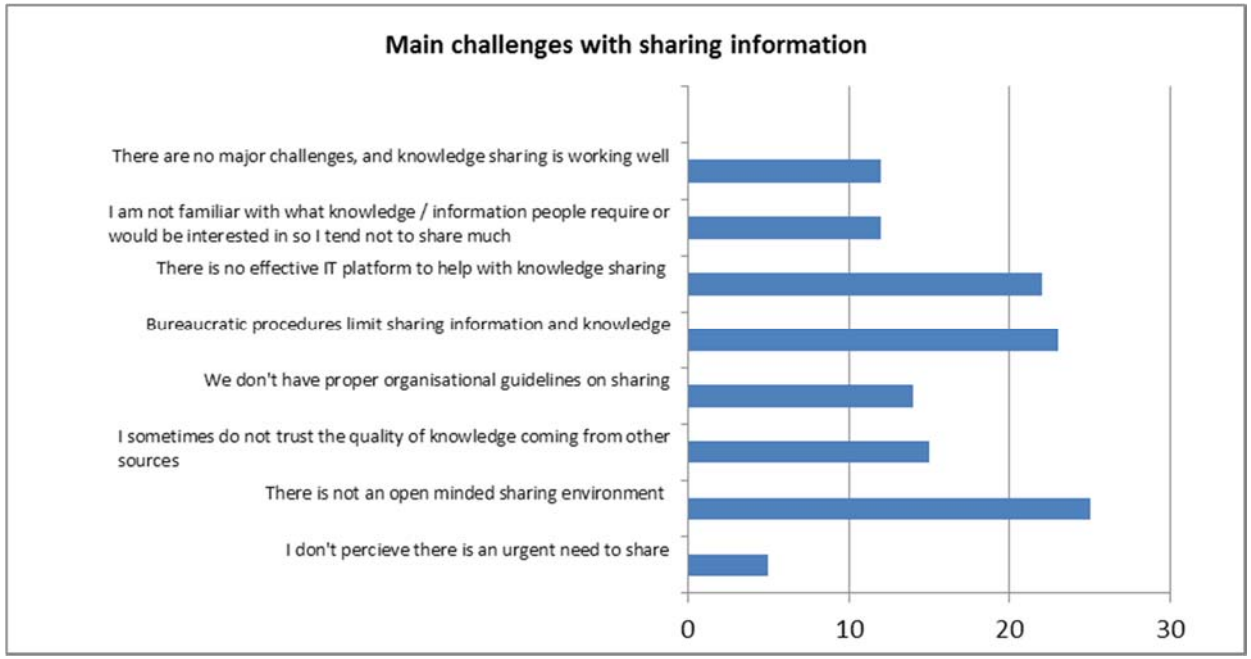

Figure 1. Responses to question "What are the main challenges in sharing your information, best practices, lessons learnt, etc. with people from other organisations?" Source: Urban Knowledge Exchange South Africa Project user needs survey.

Government departments and agencies (and non-state organisations) working in the built environment sector are now more likely to make information available online than, for example, 10 years ago. So, what is the problem?

In discussions with people active in the sector, the following challenges are often expressed:

1. Up-to-date, useful materials are placed on departmental or agency websites, but users either have difficulty finding it, or resources are moved or deleted after a certain time.
2. Materials are sometimes lodged in unsearchable formats (e.g. image scans).
3. The resources are poorly classified (in terms of the keywords and other metadata and tags associated with each resource), so that user searches are unsuccessful.
4. Some websites are poorly structured, meaning that browsing for relevant materials is difficult or impossible.
5. Some knowledge bases are established but not maintained or go offline, resulting in the loss of information.
6. Procurement of services by the state to assist in the development and maintenance of online content management systems is particularly difficult under current regulations.
7. There are no online platforms that aggregate specialised, high quality information across a wide range of departments and agencies, and cover the public and private sectors and civil society.

All of this results in short and long-term negative impacts, including the following:

1. The loss of institutional memory.[3]
2. Longer times to locate relevant materials.
3. The duplication of efforts.
4. Poorly informed practice (implementation mistakes are repeated).
5. The inefficient use of funds.
6. The loss of trust in state delivery agencies, and accusations of lack of transparency (even if these are ill-founded).

A statement of what can be achieved with better information infrastructure to underpin knowledge sharing comes from the South African Local Government Association (SALGA) and the SA Cities Network. In Capacity Building through Knowledge Management: A Toolkit for South African Municipalities[4], published in 2013, they highlighted the need for more effective knowledge management in municipalities to achieve specific benefits, including "reduced costs, increased efficiencies, motivated staff, better responsiveness, enhanced decision-making, greater accountability, more democratic governance, [and] improved service delivery."

There is a longer cycle of knowledge management (e.g. reflective practice, documenting lessons, lodging it, disseminating it) that needs wider attention, and this policy brief focuses specifically on one aspect, namely, putting useful urban development /human settlement information on a stable and interoperable platform.

Why the situation needs to change

Reasons for the state to commit significant resources to building a more stable, more durable knowledge base for the built environment include the following:

1. Government should be a learning organisation, with a solid devotion to sound knowledge management practices.
2. Government should be accountable and transparent.
3. Government should relate to, and meaningfully engage with, civil society, the private sector, academics, professionals and other stakeholders.

The state should engage more broadly around best practice and knowledge in the built environment for the following reasons:

1. The built environment is created by many actors and sectors, not by the state alone.
2. Significant funds from the public fiscus are being spent on infrastructure, so the state remains accountable for this spend.
3. Participation and engagement are already enshrined in most planning legislation.

[3] Typical comment: "We know this kind of research was done at some time by someone (usually by a retired official, or by a consultant or by an academic or student), but we do not know how to locate it".

[4] http://www.sacities.net/wp-content/uploads/2014/06/capacity_building_through_km2013.pdf

The following options should be considered to address the situation:

1. Remaining in a situation where knowledge sharing and dissemination are voluntary.
2. Introducing some degree of obligation to ensure that information is made available and is more easily accessible[5].
3. Introducing incentives and regulated obligations to encourage knowledge sharing, using a mixed approach.

Policy implications – What are we calling for?

The suggestion for regulatory change in this area requires further discussion with stakeholders, so what is tabled here is a draft set of recommendations that will require further investigation and engagement.

There has been an overall improvement in knowledge management practice in many parts of government over the last five years. A draft international standard (ISO/DIS 30401) on knowledge management system requirements was recently released.[6]

This is encouraging, and considering the needs and demands outlined above, what we are calling for is the development of shared protocols to ensure a stable, integrated knowledge base of built environment knowledge across government (including non-state actors).

Requirements for the knowledge platform would include the following:

1. Knowledge products (such as reports, papers, manuals, guides, policies, etc.) should be made available over the long term.
2. Resources should be formally and properly classified according to a recognised and shared vocabulary specifically suited to the thematic areas of urban development/human settlements/built environment/infrastructure.
3. Machine readable formats should be used consistently.
4. Open source platforms that can speak to one another should be used.
5. The platforms should be online, backed up, and secure.
6. Procurement guidelines should be developed for the design, development, maintenance and support of online knowledge bases.

More performance specifications would need to be investigated, proposed, discussed and prioritised with stakeholders.

After the performance specifications and protocols have been developed, they should be incorporated into a draft guideline and code of practice linking certain actions and commitments to specific agencies. The draft guideline and code of practice should then be

[5] There is of course already an obligation to make certain information available under existing legislation.

[6] Voting on this standard ended on 15 February 2018.

open to comment, amended as required, and then promoted, adopted and mainstreamed. Finally, the impact would need to be monitored.

Recommended areas for further investigation

To take the process further, the following will be needed:

1. A study of the existing obligations on state departments and agencies to promote good knowledge management practice and make information available.
2. Connected to this, a review of relevant legislation, regulations and incentives.
3. A scan of relevant knowledge management support organisations and programmes (i.e. what support can line departments responsible for the built environment and service delivery expect from other parts of the state machinery and external service providers?).
4. Tracking of the development of relevant ISO standards relating to state and non-state online content management systems, which may assist in developing standards and sharing protocols.
5. The identification of funding models and sources for maintaining available online content over the long term.
6. An investigation of the best forms of intervention to achieve the objectives outlined in this policy brief, to strike the balance between possible regulations and incentives.
7. An investigation into the best use of codes of practice, protocols, etc., to find the appropriate vehicle for promoting the long-term availability of built environment information?

Conclusion

Broad agreement and support across government will be needed.

A round-table discussion of this brief in November 2017 included an initial grouping of 10 national departments and agencies[7] with built environment mandates. The brief was interrogated, amended and validated during the session, contributing to the brief as it currently stands.

More partners would have to be included to take the work forward, especially stakeholders with a state mandate on the promotion of good governance and knowledge management (e.g. the Government Communication and Information System, the State Information and Technology Agency and the Department of Public Service and Administration).

[7] Including the Department of Human Settlements, the Department of Science and Technology, the Department of Cooperative Governance, the SA Local Government Association, the SA Cities Network, the Council for Scientific and Industrial Research, the City Support Programme, the Government Technical Assistance Centre, the Department of Planning, Monitoring and Evaluation, the Housing Development Agency and the Gauteng City Region Observatory.