

RELEVANT TODAY AND TOMORROW?

Cadastral 2014: Nineties, Nexus and Next

Cadastral 2014 is a unique phenomenon in the land administration domain. Its striking simplicity enables it to speak to policymakers, managers and technicians alike. It enjoys an almost unprecedented role in guiding global land administration discourse, and has done so for almost two decades. In countless countries its impact upon land administration design is profound. But what about the decade ahead? Will Cadastral 2014 remain relevant? Is a new Cadastral 2014 required? What might drive such a vision? What would it include? Recent issues of *GIM International* have tackled these questions, as did a dedicated session and accompanying publication at the 2014 FIG International Congress in Kuala Lumpur, Malaysia. So, what comes next?

At the heart of Cadastral 2014 lie six visionary statements. Most observers would agree that these are still relevant in 2014. Statement 1, relating to the breadth and nature of rights recorded in cadastral, remains a central point of discussion in most developed economies. Likewise, many countries are still grappling at a strategic level with Statement 2:

the need and requirement to merge mapping and registration components. The bold declarations in Statements 3 and 4, regarding the death of mapping, pen and paper, are largely correct for many contexts; however, many emerging economies continue to use manual approaches. Discussions focus on how and when a sustainable move to modelling and computerisation might be achieved. Meanwhile, in this post-New Public Management era, the relative benefits of utilising the private sector in land administration activities, as outlined in Statement 5, remain hotly contested. The same applies to the need for cost recovery as mentioned in Statement 6. Whilst examples of self-financed 'business-like' cadastral can be cited, many organisations continue to be funded through conventional means.

Although the ongoing relevance of Cadastral 2014 appears indisputable, the assuredness of the original statements is clearly up for debate. For various reasons, not all countries have fulfilled the statements. Moreover, many contexts may have no desire to implement them (yet). This tension represents strength in Cadastral 2014:

the conviction in the statements provokes land administrators to take a position, which in turn promotes robust and critical discussion on the nature and design of the land administration system in question. Avoiding implementation of Cadastral 2014 neither implies failure for a country nor irrelevance for Cadastral 2014. It merely demonstrates that context matters. Since its publication in the late 1990s, increasing acknowledgement has been afforded to the importance of recognising local circumstances in land administration design. This philosophy, now embedded in the concepts such as 'fit for



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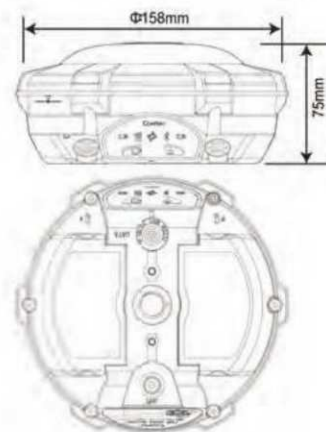
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purpose’ and the ‘continuums of land rights and recording’, can partially be ascribed to the provocative nature of Cadastre 2014. In this regard, Cadastre 2014 will continue to retain relevance.

Meanwhile, Cadastre 2014 should not be reduced to its six statements alone. Behind the statements lie significant amounts of data capture and analysis. This work focused on synthesising the nature and design of many national and state land administration systems. It remains one of the more comprehensive efforts to benchmark global land administration activities. It acts as a touchstone for the range of new land administration evaluation tools being developed in the contemporary era: ones that go beyond the strategic, managerial and operational aspects of cadastral systems to consider actual societal outcomes. This development is perhaps the most important legacy of Cadastre 2014.

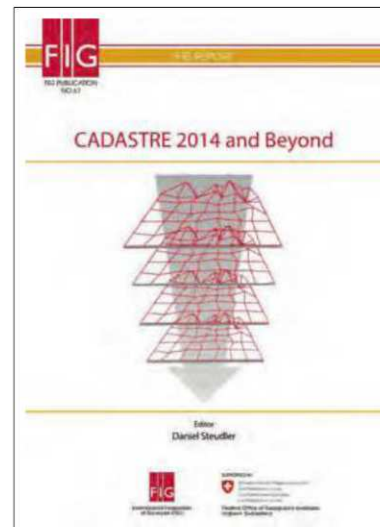
NEW VISION NEEDED?

If Cadastre 2014 remains relevant, is there need of a new vision? When work on Cadastre 2014 was initiated by FIG in 1994, the overarching aim was to forecast the role and nature of cadastral systems 20 years ahead. Presumably, the vision was intended as one that all countries could aspire to. However, the idea of a definitive vision for cadastral systems is perhaps now outdated; efforts to consolidate a cadastral vocabulary, if not philosophy in the post-Cold War period, appear to have limitations when the complexities of any national system are unpacked. The idea that a vision could enjoy a shelf life of 20 – or even ten – years can be questioned: in practical terms, most organisations do not attempt to strategically plan beyond five years. Against this backdrop, the motivation for a new version of Cadastre 2014 appears thin.

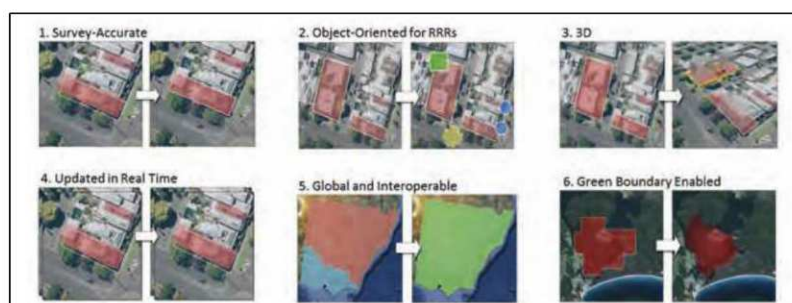
The incentive appears stronger if the vision is recast as a means for enabling global discourse. The value of a vision becomes clearer: strategic planning

within countries; international and regional comparison; and plotting future research activities are enhanced. The content of Cadastre 2014 was less important than its easily accessible graphical presentation and six-statement format. It created a globally shared language for discussing cadastral systems: a long-held and defining feature of the FIG agenda. From this perspective, there is a good argument for developing new visions.

With this ideal in mind, a group of researchers instigated discussions at the 2010 FIG International Congress in Sydney (Bennett et al, 2010). The scope was limited to Australian cadastral systems. Future drivers of change were hypothesised using political, legal, economic, social, technical and environmental analytical lenses: urbanisation, unbundling of property rights, climate change, emergency & disaster response and global economic integration were all forecast. In response, and in deliberate homage to Cadastre 2014, six design elements were drafted. From the Australian perspective, future cadastral systems would be: 1) eventually upgraded to survey accuracy; 2) object-oriented allowing incorporation of unbundled property rights, restrictions and responsibilities; 3) capable of 3D storage and visualisation, and integrating with building information; 4) updated in real time; 5) more standardised and interoperable both nationally and internationally; and 6) required to capture and represent ecologically inspired boundaries or green property rights.



The preliminary vision sparked response, most prominently channelled through a series of articles and invited replies in *GIM International*. Responses were invited from key representatives of the World Bank, UN-Habitat, FAO, FIG, academia and other national land administration officials, amongst others. Some commented on the relevance of the design elements, but implied the vision was too contemporary: more innovation was necessary. More generally, the preliminary vision was misinterpreted as applying globally – rather than only to Australia, as intended by the authors. International agencies tended to criticise the vision for its focus on technological possibility, rather than the humanitarian demands of food security, clean water provision, adequate shelter and good land governance. In these contexts, ‘pro-poor’ and more ‘fit-for-purpose’ visions were required.



◀ Experts revisited Cadastre 2014 in June 2014 at the XXV FIG Congress in Kuala Lumpur, Malaysia.

◀ A first attempt in 2010, for the Australian context.

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From a global perspective, the criticisms were entirely relevant. There is little doubt that the largest challenges for land administration lie beyond the more-developed contexts. A cadastral or land administration divide exists; most countries do not have up-to-date information on the relationship between land and the people that use it. The information remains unrecorded and obscure to governments, citizens and potential investors alike. The situation is argued to impede many development activities.

With regards to the vision, this cadastral divide begs the following questions: can (or should) these two land administration discourses, the more-developed and the developing, be merged? Could (or would) a new Cadastre 2014 play a uniting role? Or



As often argued by prominent land administrator Robin McLaren, the land administration sector is being challenged: deliver innovative ideas for accelerating land information delivery in less-developed contexts, and do it fast, cheaply and fairly.

What role can cadastres play in all this? The short answer is: potentially plenty. However, first there is a need to better marry the two forces that drive cadastral research and business: 1) the technological advancements in geoinformatics (e.g. UAVs, GNSS,

their focus and restructuring their product offerings (e.g. Trimble). In summary, whilst most of Cadastre 2014's six visionary statements remain highly relevant today, the assuredness in them is clearly up for debate. Discourse has moved from Cadastre 2014's one-size-fits-all approach to discussions of 'fit for purpose' and the 'continuum of land rights'. Whether any new vision could enjoy the 20-year shelf life of Cadastre 2014 is quite uncertain. If the vision is considered as a tool for generating a global discourse then motivation appears quite strong. Meanwhile, any new vision must go beyond mere technical and organisational possibilities. It must comprehensively consider the role of cadastres in pressing humanitarian demands including those described in the Post-2015 Development Agenda. Fusing these societal demands with technological possibilities is a challenge for all countries, if not all cadastres. ◀

Any new vision must go beyond mere technical and organisational possibilities

alternatively, as they often do, will these discourses remain in disparate rooms in our conference venues? It appears there is room for discussion.

THE NEW PLAYING FIELD?

The UN's Post-2015 'Sustainable Development Goals' (as they are likely to be known) will replace the Millennium Development Goals. Although they are still a work in progress, land and transparency on land ownership will be either a specific objective or a cross-cutting theme in the goals. Meanwhile, in 2012 the CFS endorsed the 'Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security'. That document says much about how land tenure and land tenure information ought to be established, protected and governed.

HRSI, webGIS, WSNs, crowdsourcing, the cloud, Lidar, etc.); and 2) the emerging societal problems that land administration, or cadastres, can help to solve (e.g. pro-poor land tenure security, rapid urbanisation, land grabbing, food security and climate change). The Post-2015 Development Agenda provides a new impetus to fuse research and business activities relating to these new societal demands and technologies. Already, new global commercial software and technology providers are emerging with product offerings (e.g. Thomson Reuters), whilst existing players are intensifying

FIG PUBLICATION

This paper is an abstraction of a chapter in: Steudler, D., (2014), *Cadastre 2014 and Beyond*, FIG Publication No 61, International Federation of Surveyors.

FURTHER READING

- Steudler, D., (2014), *Cadastre 2014 and Beyond*, FIG Publication No 58, International Federation of Surveyors.
- Bennett, R.M. Rajabifard, A., Kalantari, M., Wallace, J., and Williamson, I.P. (2010) *Cadastral futures: building a new vision for the nature and role of cadastres*. In: XXIV FIG International Congress 2010: facing the challenges, building the capacity, 11-16 April 2010, Sydney, Australia.
- Kaufmann, J. and Steudler, D., (1998), *Cadastre 2014: A Vision for a Future Cadastral System*, International Federation of Surveyors, Switzerland.

◀ *The UN's Post-2015 Development Agenda and CFS/FAO's Voluntary Guidelines: starting points for a new vision?*