

# Land Administration Master's Programme Mission Revisited

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the Netherlands

**Key words:** Land Administration, Master's Programme, Curriculum Review, Mission and Vision

## SUMMARY

Less than a quarter of the countries in the world maintain a complete land administration system. Conventional land titling programs appear incapable of bridging the gap; they fail to support the provision of a minimum form of land tenure security – for all the citizens, including vulnerable ones.

Land administration is one of six specializations within the Master of Science in Geo-information Science and Earth Observation taught at Faculty of geo-information science and earth observation (ITC), University of Twente, the Netherlands. In order to provide an up-to-date course programme, based on the most recent trends and developments, our course is periodically reviewed and improved. The review is usually based on the survey with our alumni, information from key specialists and latest developments in the in the land administration domain based on literature (e.g. books, scientific journal papers, conference proceedings). For our last review of the curriculum of our land administration programme we added an extra step as we experienced difficulties in getting our review process well started. In a series of workshops with all staff involved (professors, lecturers, post docs and PhD researchers) we decided to first define the mission and vision statements for our land administration domain.

The following (re-) defined mission and vision statements resulted from our joint effort and common agreement, and will guide further curriculum review and improvement:

Our *vision* is land tenure security for all. This aligns with the UN Sustainable Development Goal 1.4. that seeks to ensure that ‘all men and women, in particular the poor and the vulnerable, have equal rights to and ownership and control over land and other forms of property’ by 2030. We respond with our *mission* to provide education, research, and capacity development in responsible land administration, to develop land administration capacity rooted in cadastral intelligence, and to create change agents capable of designing and applying both responsible and fit-for-purpose land administration solutions. Therefore, our *goal* is to continue to be known as the unique global center for the inspiration, development and diffusion of geospatial innovations in both responsible and fit-for-purpose land administration.

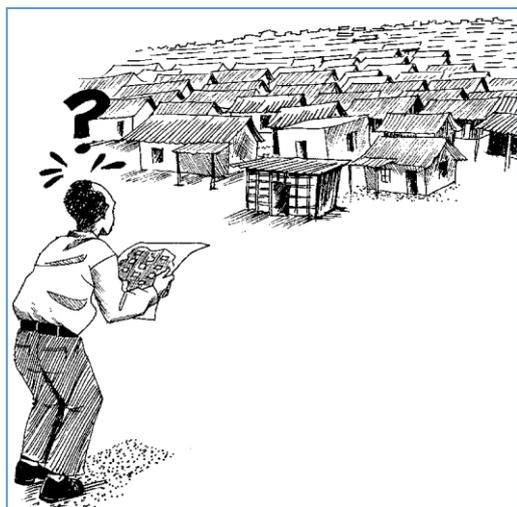
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## 1. INTRODUCTION

Land administration is widely recognized as a critical success factor in economic growth, food security, nature conservation and poverty reduction. Currently, the situation in the world in regard of the land administration is that less than 30 percent of the land parcels in the world are maintained in a complete land administration system. Conventional land titling programs appear incapable of bridging the gap: they fail to support the provision of a minimum form of land tenure security – for all the citizens, including vulnerable ones. Therefore, within our land administration programme, at the Department of Urban and Region Planning and Geo-Information Management (PGM) at Faculty ITC, we respond with provision of appropriate education, research, and capacity development in the area of land administration.

Land administration is one of the six specializations in the Master of Science in Geo-information Science and Earth Observation (ITC, 2017). In order to provide an up-to-date course programme, based on the most recent trends and developments, our course is periodically reviewed and improved. The review is usually based on the survey with our alumni, information from key specialists and latest developments in the land administration domain based on literature (e.g. books, scientific journal papers, conference proceedings). For our last review of the curriculum of our land administration programme, we added an extra step as we experienced difficulties in getting our review process well started.



In a series of workshops with all staff involved (professors, lecturers, post docs and PhD researchers) we decided to explore the trends in land administration and define the mission and vision statements for our land administration domain and programme.

Figure 1. Review of the MSc Land Administration: where to start? (illustration from GLTN (2008) used as metaphor)

The aim of this paper is to describe the rationale and methodology, the workshop process and intermediate results, and the final outcome: the mission, vision and goal statements for the land administration domain and how they will guide the further curriculum review process.

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## 2. A NEW METHODOLOGY

The need for a fundamental curriculum review of our land administration programme was felt for some years. Earlier attempts to discuss this with the staff involved did not result in agreements in which direction to go, technological or more institutional, and further steps were limited to incremental updating of separate learning units. However the need for a curriculum review was becoming really urgent last year in particular because of the following considerations:

- Declining number of students,
- Website not attracting our target students,
- Need for course review (last one 2007 and partially in 2015),
- Upcoming transition in the course calendar to 2 academic years<sup>1</sup>,
- Changing technologies, and
- New directions and scope for land administration in general.

In order to get our curriculum review process right we realized we needed a well formulated strategic direction first. We decided to explore the trends in land administration and expecting this would lead us into the right direction. However we noticed this was still not a sufficient starting point for an agreed curriculum review. We realized we needed a common vision and mission for our land administration domain. Active involvement of all staff and researchers was considered important to create commitment and ownership. Quite some young new staff members had recently joined the team, and this would give them the opportunity to engage with the topic, to bring in their fresh ideas and to become part of the team. Views of the new staff could bring unexpected insights and innovative directions. More senior staff members could benefit and open their minds by spending quality time on reading and discussing new developments in the land administration domain.

It was therefore decided to plan a series of workshops with all staff involved: professors, lecturers, post docs and PhD researchers, based on the following principles:

- Evidence-based
  - Global developments and trends,
  - Outcome of own research over the last years, and
  - Survey alumni and their employers.
- Ownership
  - Full participation of all land administration staff,
  - Knowledge sharing and learning, and
  - Common agreement.

The outcome of these workshops was expected to give strategic direction for our land administration domain and guide the review of the Master's programme. The authors of this paper developed and guided this process.

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<sup>1</sup> Although the current MSc has a study load of 118 ECTS (60 ECTS is one academic year in Europe), the contents is squeezed into an 18 months very intensive schedule.

### **3. SERIES OF WORKSHOPS**

The following workshops have been taken place, each with its own purpose and expected outcome:

Workshop 1. Trends in Land Administration

Workshop 2. Mission and Vision of our Land Administration domain

Workshop 3. Agreement and Conclusion for Curriculum Review

#### **Workshop 1. Trends in Land Administration**

The first workshop was organized in mid-June 2016. In order to prepare for the first part of the workshop all participants (professors, lecturers, post docs and PhD researchers) involved in the land administration specialization had to prepare themselves and were invited to formulate 3 global trends that we should consider when defining the future direction of our land administration programme. These trends should (at least) be based on the outcomes of the World Bank Conference on Land and Poverty (WB, 2016) and/or the UNGGIM Fourth High Level Forum on Global Geospatial Information Management (UNGGIM, 2016); both of whose conference proceedings are available online. Participants were free to bring in other resources as well (e.g. FIG (2016)).

In order to trigger the discussion on our future direction, the workshop started with two provoking presentations by our leading scientists, reflecting the outcome of our academic research: 'Creating cadastral intelligence: smart surveyors, mandated mobs and cadastrobots', (Bennett, 2016) and 'How wicked is land administration?' (Zevenbergen, 2016).

These presentations were followed by team work. In teams participants had to discuss the following: Trends in Land Administration: what do we notice? Use was made of cards with key words, describing their identified trends based on the literature provided, and new insights from the presentations by the leading researchers. The teams were then asked to continue discussing: Trends in Land Administration: what does it mean for our future direction?

Team outcome was presented in plenary and discussed. A summary report was made of the outcome and suggestions for the steps to follow. This report was used as input for the next workshop.

#### **Workshop 2. Mission and Vision of our Land Administration domain**

Initially we thought one workshop would be enough to get started well with the curriculum review. However, it was noticed in the first workshop that although we agreed on the trends observed in land administration, we did not yet agree on our strategic direction for the curriculum review. We concluded that we needed another step and first formulate a common vision and mission.

The second workshop was organized in first half of July 2016. It was a continuation of the discussions and input from the first workshop with a suggestion to move toward the next logical step, to formulate the mission and vision statements of our land administration domain. Once this is clear and agreed, we can actually review the current programme (objectives, target group, teaching

approach, modules) and align this with the new proposed transition towards a 2 academic year calendar.

After an introduction on the work done so far and an introduction in what is a vision and a mission, in this second workshop two teams worked on defining a vision for our land administration group, guided by the following instructions:

- Write down some key terms describing elements for the vision of the Land Administration group at ITC.
- Think big! Be ambitious.
- Use the resources and team discussions outcomes of our first workshop (figure 2).



Figure 2. Defining our strategic direction based on global trends, our own research, alumni survey, team work and team output.

In two teams the vision was discussed and later the teams joined to come up with a common view. This was reported and shared for further discussion and to allow those not present to contribute.

Again it was noticed one workshop is not enough to define both vision and mission.

It was therefore decided that the workshop facilitators will work on a draft mission statement and circulate it among staff for their comments. Both the vision (resulting from workshop 2) and the proposed mission statement circulated in the period between the second and the third workshop, among all staff and comments and suggestions were incorporated as much as possible.

### Workshop 3. Agreement and Conclusion for Curriculum Review

During the third workshop, initially a presentation about the results and analyses from the first and second workshops was done. Land administration trends and direction “where to go?” from the first workshop were elaborated, and draft vision statements were presented from the second workshop. The circulated vision and mission statements were presented, further discussed and agreed upon by all.

At this stage of the process the alumni survey of 2015 was presented (de Vries and Lengoiboni, 2015). The aim of this survey was to identify the reasons for the phenomenon that we face in last 5-7 years, such as declining amount of potential students that registered each year; the content of the similar programmes; the needs of our future students; and trends in technology in our land administration domain.

We were now ready to start the real curriculum review and look at the current learning objectives of our land administration specialization against the generally accepted mission and vision statement defined by the group and agreed by all.

## 4. OUTCOME OF THE WORKSHOPS

### 4.1 Workshop 1. Trends in Land administration.

#### *Presentations by leading scientists*

The following Table 1 summarizes the main messages from the presentations by the leading scientists. Both had different emphasis. The first presentation in particular focused on the opportunities and threats and pictured an futuristic mission and vision for land administration. The second presentation highlighted in particular the research challenges in our domain.

'Creating Cadastral Intelligence: Smart Surveyors, Mandated Mobs, and the Cadastrobots'	
Presents and challenges 'our goal' <ul style="list-style-type: none"> <li>• Create change agents</li> <li>• Tenure security for all</li> <li>• Cadastral intelligence concept</li> </ul>	
Cadastral surveyors' perspective	
'How wicked is land administration?'	
<ul style="list-style-type: none"> <li>• Discusses research problems in land administration, related to land registration issues.</li> <li>• Wicked, moderate or tame problems</li> <li>• Tenure security and property rights focus</li> </ul>	
Land registration perspective	

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Table 1: Summary of the two presentations by leading researchers

### Team 1 Discussion

#### Trends

Within the workshop, Team 1 determined major drivers which necessitate changes in current land administration practices. Drivers include population growth, climate induced migration and displacement (climate refugees) and rebuilding after climate change disasters. Through the lens of fit-for-purpose land administration, which was seen as the entry point and focus of land administration concepts, future trends were grouped and arranged according to land administration functions. Based on smart land information infrastructures and real-time “spaceless” data, new SDI application and multiscale, multipurpose land administration is enabled. New forms of land government and assessment shall contribute to achieving the SDGs. These trends in land administration functions are facilitated but also pushed by technological and non-technological innovative tools. Both green dashed arrows show, that the whole conceptual model is designed as a loop where the SDGs are seen as a goal but also as a driver for recent trends in land administration. In general it could be argued that the whole land administration paradigm is challenged by the new way that land administration is done.

#### What does this mean for our future direction?

Students should be prepared for the new way that land administration is done.

Fit-for-purpose LA was mentioned two times and also plays a central role in our conceptual model, it might be worth to focus more on this concept and associated innovative approaches and tools.

Nowadays, a lot of (real-time) spatial data is available. Since land information infrastructures are the base of land administration functions, it might be important to see, how this data can be used to extract information on land in order to facilitate smart land information infrastructures.

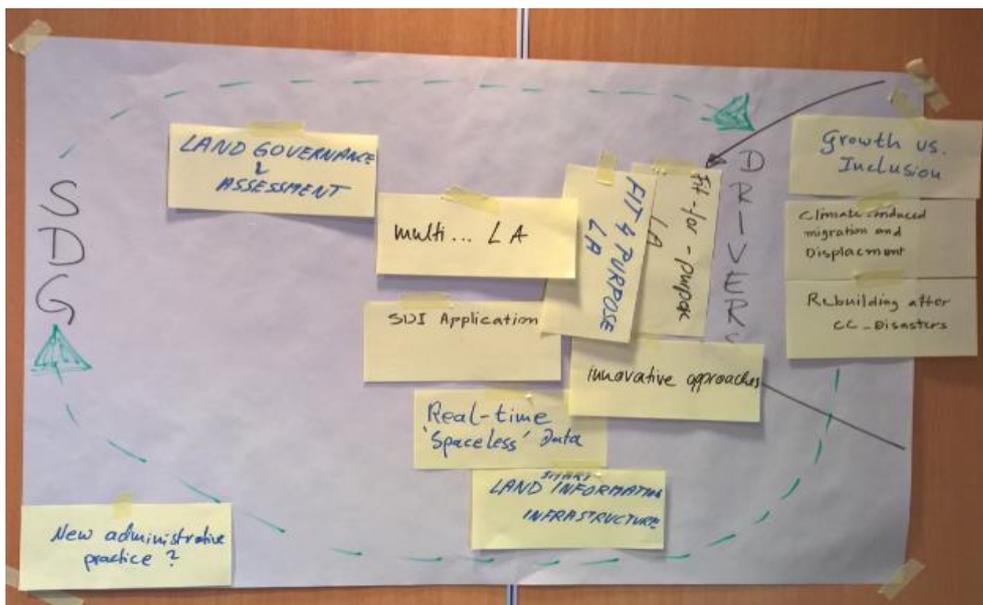


Figure 3: presents the input as per the discussions in the Team 1

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## Team 2 Discussion

### Trends

Initially, all four group members presented their three identified trends in land administration and stuck the cards with the trends on the wall. Then, they were clustered into three groups:

- More technical trends (left side of the poster),
- More institutional trends and goals (right side of the poster), and
- Bridging / connecting trends (e.g. trend required to accomplish institutional trend with technology and *vice versa*) – the middle of the poster.

### What does this mean for our future direction?

Afterwards they had a discussion on what was noticed. One group member pointed that during the last World Bank Conference there was a noticeable divide / clustering in one set of conference rooms of technical people and of institutional people in another set. Another group member said that, on the contrary, the trend is that technology was never so close and easy accessible to the people. After this, the first group member explained that the noticed divide was within the land professional community and perhaps the trend discussed by the second group member was more present with ordinary people who should benefit from land administration.

Overall the discussion was in the line with the trends presented on the poster (see the image below): technical; institutional and bridging trends.

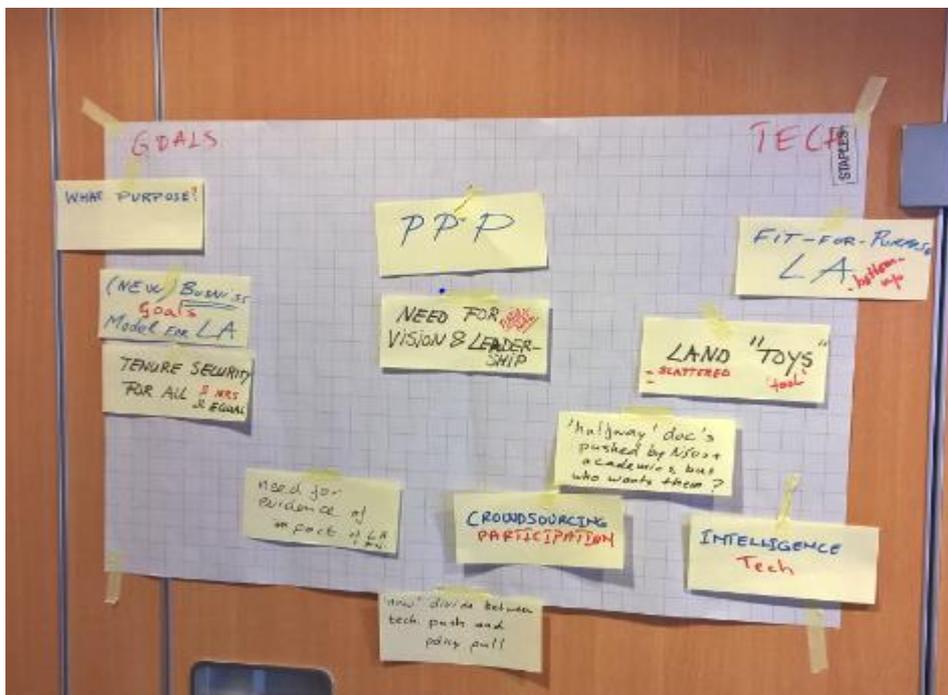


Figure 4: presents the input as per the discussions in the Team 2

## Team 3 Discussion

### Trends

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The trends could have been arranged/linked in many ways. Whilst we used the Land Management Paradigm to organize the trends, a simpler approach could have been 'societal pull' vs. 'technology push'.

The technology push trends tended to be more specific (e.g. AGILE, BIM) - whereas the societal pull elements were more broadly described (e.g. 'land governance')

*What does this mean for our future direction?*

The technology push elements are always changing - and usually rapidly. In a course like ours, these will come and go. Therefore, they are more easily added to the course in the short term.

The societal pull elements change more slowly. Those listed, upon inspection, are already included in our course. Decision needs to be made on whether to build the courses more clearly around these concepts - or whether we are happy for them to sit on the periphery.

Land Management Paradigm Group (Team 3), debates, topics and trends in the area of land administration were discussed against the Land Management Paradigm. The Land Management Paradigm was used as a framework to group the ideas.

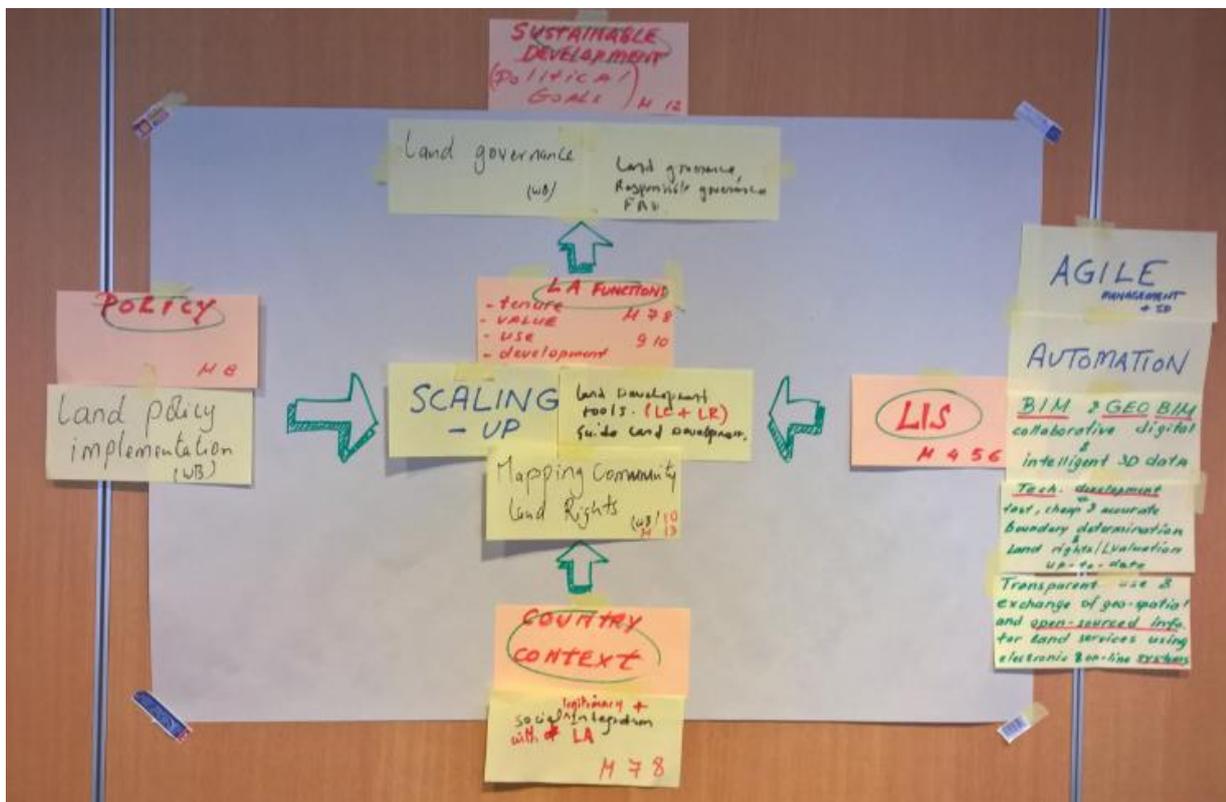


Figure 5: presents the input as per the discussions in the Team 3

### Plenary discussion

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After presenting the results from each group work, in the closing part of the first workshop, Prof. Zevenbergen discussed the question: does the land administration programme at ITC focusses on all four aspects of land administration? or does it lean more towards the ‘cadastre’ / land tenure part? For better illustration of the discussion he presented the following three diagrams.

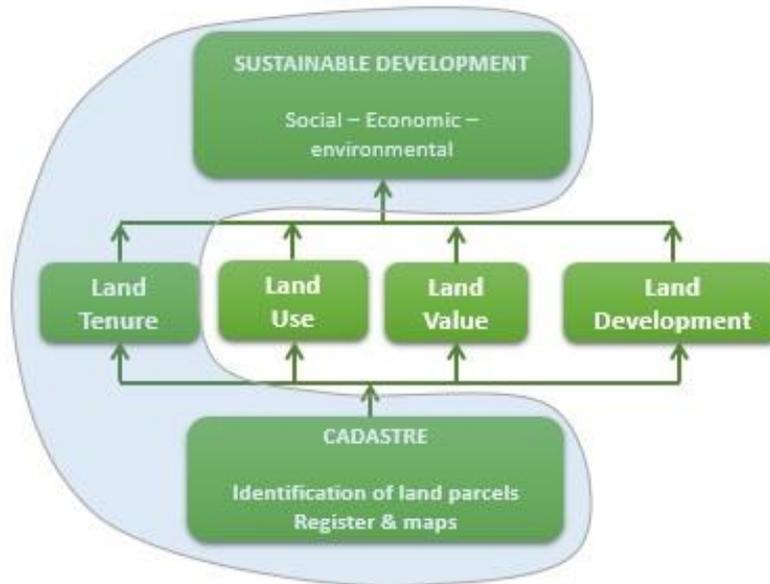


Diagram 1: Focus on Cadastre, land tenure in support of sustainable development

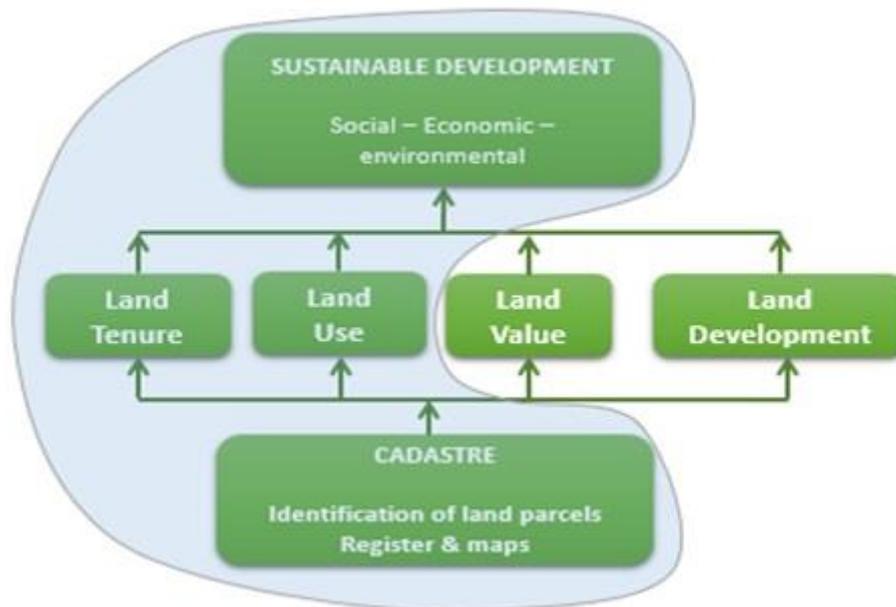


Diagram 2: Focus on Cadastre, land tenure and land use in support of sustainable development

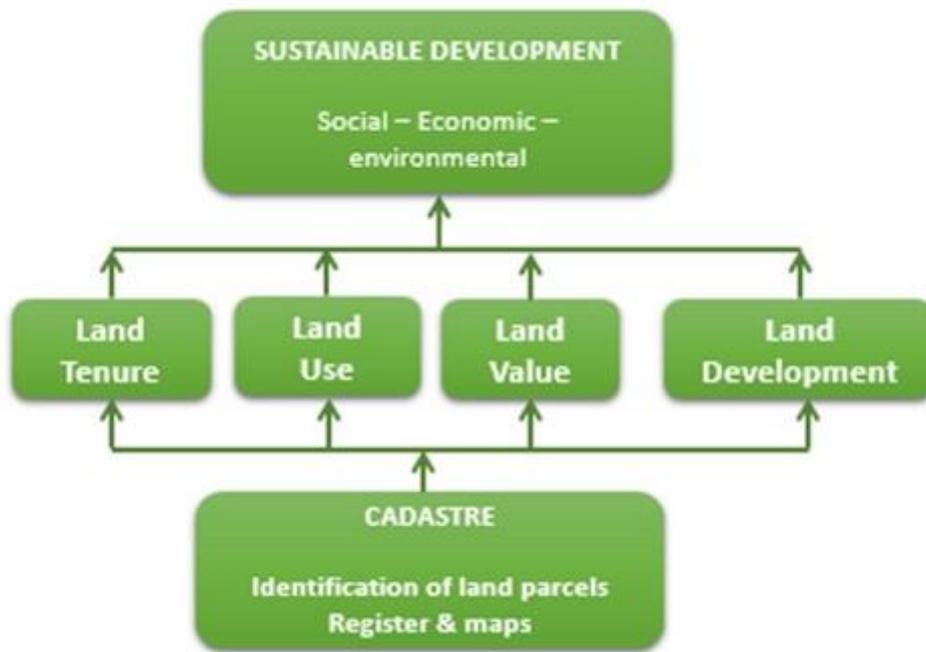


Diagram 3: Focus on Land Administration by covering all aspects supported by a cadaster i.e. land tenure, land use, land value & land development – in support of sustainable development

Higher presented diagrams fit within the Land Administration Functions (middle box) of the land management paradigm.

Prof. Zevenbergen, further described the T-shaped and multiple T-shaped model for a future professional in land administration and the consequences for the curriculum. A T-shaped professional ‘possess deep disciplinary knowledge along with a keen ability to communicate across social, cultural and economic boundaries’ (<http://tsummit.org/t>).

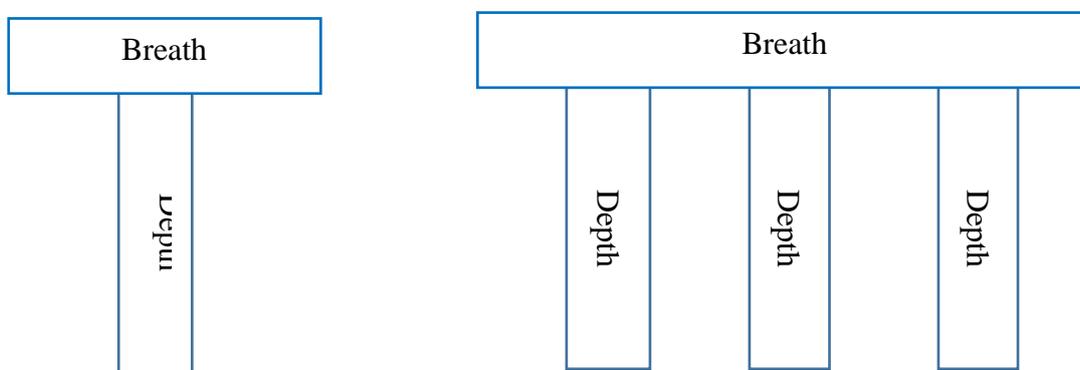


Figure 6: T-shaped and multiple T-shaped model (<http://tsummit.org/t>)

## 4.2. Workshop 2. Mission and Vision of our Land Administration domain

The second workshop was organized as a continuation of the discussions and input from the first workshop with a suggestion to move toward the next logical step, to formulate the mission and vision statements of our land administration domain.

Different 'visionary' directions were identified with different levels of ambition. Ranging from becoming a center of excellence, being the nexus for land administration knowledge exchange, responsible land administration, change agent makers, promote a new era of land administration, ensuring smart/effective and high-tech/ functional Cadastres in all countries, LIS/infrastructure for all, and ensuring tenure security for all (SDG 1.4). The following figure represents the combined output of Team 1 and Team 2.



Figure 7: combined output of Team 1 and Team 2

As a summary of the second workshop the following mission was articulated: the unique international center of land administration change makers to ensure SDG.

Report from the second workshop with the higher mentioned mission statement was distributed with a request to provide opinion, improve it or provide a new mission statement. This resulted with a serial of 4-5 new mission and visions statements.

### 4.3. Workshop 3 Agreement and conclusion for curriculum review

During the third workshop, initially a presentation about the results and analyses from the first and second workshops was done. Land administration trends and direction “where to go?” from the first workshop were elaborated, and the multiple mission and vision statements were presented from the second workshop. The multiple vision and mission statements were received from our land administration lecturers and researchers in the period between the second and the third workshop. We finally agreed and articulated our new vision, mission and goals statements for land administration programme as follows:

Our *vision* is land tenure security for all. This aligns with the Sustainable Development Goal 1.4. that seeks to ensure that ‘all men and women, in particular the poor and the vulnerable, have equal rights to and ownership and control over land and other forms of property’ by 2030.

We respond with our *mission* to provide education, research, and capacity development in responsible land administration<sup>2</sup>, to develop land administration capacity rooted in cadastral intelligence<sup>3</sup>, and to create change agents capable of designing and applying both responsible and fit-for-purpose land administration solutions.

Therefore, our *goal* is to continue to be known as the unique global center for the inspiration, development and diffusion of geospatial innovations in both responsible and fit-for-purpose land administration.

After we articulated our new vision, mission and goals statements, an overview of the report with results from the review of the MSc land administration programme from 2015 was done. This report was based on the survey with our land administration alumni students requirements and trends, and it identified our strengths and opportunities, weaknesses and threats that we are facing from outside world, and actions that should be taken. It provided the practical bridge from the new mission and vision statement towards the start of the real work on our curriculum review.

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<sup>2</sup> For responsible land administration we refer to Zevenbergen, de Vries and Bennett (2016)

<sup>3</sup> Cadastral intelligence’ is defined here as the ability to acquire knowledge and apply technical and social skills about the relationship between people, rights, and land (Bennett, 2016. Smart Surveyors, Mandated Mobs, and the Cadastrobots).

Survey and report review MSc in land administration at ITC	
Market and Niche for LA ITC	
• Decline students no.	
• Other LA related programmes	
• ITC LA course still unique	
• Interest short courses	
• Variety of background students	

Table 2: Summary of alumni report (De Vries & Lengoiboni, 2015)

We were now ready to start the review of the current learning objectives of our land administration specialization against the commonly accepted mission and vision statement by the group.

## 5. CONCLUSIONS AND WAY FORWARD

The aim of this paper was to describe the methodology for the curriculum review and which input was used and analyses to come to the mission, vision and goal statements for the land administration curriculum taught at ITC. Methodology used here was triangulation, using data and information from three sources. This was then, as discussed in Chapter 3 of this paper, used via a series of workshops working toward articulation of the new mission and vision statements. All these activities and analyses resulted into a mission, vision and goals for land administration curriculum at ITC revisited which is also presented here under Chapter 4.3 of this paper.

After this procedure we updated our land administration curriculum description and we updated the curriculum's general learning objectives accordingly. Currently we are in a next stage where all land administration programme's learning units are being improved in alignment with our revisited mission, vision and goals. These would be incorporated within the new learning units' description, content and learning objectives for the next study year. All land professionals working in our group are looking forward to the start of the 2018 academic year, where we are eager to develop land administration capacity rooted in cadastral intelligence, and to create change agents capable of designing and applying both responsible and fit-for-purpose land administration solutions.

## ACKNOWLEDGEMENTS

We would like to acknowledge and express appreciation for the contribution and input from all professors, lecturers, post docs and PhD researchers working and doing research in our land administration group, within PGM department at Faculty ITC, University of Twente.

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## BIOGRAPHICAL NOTES

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**Prof. Jaap Zevenbergen** is professor in land administration and management at the University of Twente, Faculty of Geo-Information Science and Earth Observation (ITC), department of Urban and Region Planning and Geo-information Management in Enschede - The Netherlands. He holds Master degrees in geodetic engineering and law and defended his PhD on systems of land registration in 2002. He has published several articles and numerous papers about land administration and land registration. He has studied numerous systems of land registration, both as a researcher and as a consultant. He also sits on the board of the Cadasta Foundation and the Foundation to host the 2020 FIG Working Week.

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**Ir. Liza Groenendijk** is the current chair of FIG Commission 2. She is a senior lecturer in Land Administration at the Faculty of Geo-information Sciences and Earth Observation (ITC) of the University of Twente, The Netherlands. Main areas of expertise: Land Administration, Securing Land Tenure, Women Land Rights. Further she is experienced in experience-based learning. Within the domain of land administration she worked in Africa with governments and academia and contributed to the creation of the Eastern Africa Land Administration Network.

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