



abroad

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Land tenure and sustainable economic empowerment in Colombia

Effective land administration is key to agricultural productivity and sustainable rural development. How does this work in practice though? How does land tenure security help people improve their living conditions in an environmentally sustainable way? In a new project, we are exploring these linkages at ground level. Kadaster collaborates with ICCO Colombia and Tropenbos Colombia, two NGOs specialised in economic empowerment and responsible natural resources management.

Indigenous and Afro-Colombian communities

Although the number of people with customary rights is diminishing worldwide, the areas covered by customary rights are vast and often under lots of pressure from rising global demand for natural resources. This raises conflict and debate. Most indigenous groups have great difficulty in adjusting to a rapidly changing world. While “new” technologies, such as cell phones, internet, and motorcycles, create new conditions for connecting with the wider world. Traditional economic practices, including fishing, hunting, and slash-and-burn agriculture, often do not provide sustainable incomes. Other economic opportunities are scarce, and many youngsters choose to escape the poverty trap by working in illegal coca production, or by joining guerrilla or narco-gangs.



Post conflict areas need sustainable empowerment

Indigenous, Afro-Colombian and peasant communities are amongst the most vulnerable groups in Colombia. In post-conflict areas, where these communities are often located, a new equilibrium between power seeking groups is still to be established. The situation, especially in rural areas, is far from stable and government involvement remains low. It is precisely in these areas that we will start an integrated project linking land tenure, economic empowerment, and responsible natural resources management. The project is part of the Land-at-Scale programme of the Netherlands Enterprise Agency (RVO).

| Mathilde Molendijk and Piet Spijkers



EDITORIAL

Take it for granted?

“When I started my career as a junior researcher at Wageningen University & Research, I certainly learned lots about remote sensing and the use of satellite imagery applications in relation to agriculture and climate. Atmospheric corrections, geographic projections, multi-temporal analysis,... it was all part of the game. To do my job, I understood, and needed to understand, what it was all about! Now, some 30 years later, I have to confess I have become a somewhat ignorant user of mobile apps; apps in which locations, satellites, radars - and many other technological achievements - seamlessly come together. Really, I have very little clue anymore how it all works; but it does. You could say I'm now at the level that I trust the weather app more than looking at the sky (it should rain now ...?!).

As geospatial data managers of the world, cadastral organisations experience the same development. Our users don't (need to) understand anymore how topography, cadastral boundaries, deeds and titles relate to each other. Society is becoming solution (or case) driven, rather than data driven. Our customers trust that our information provides legal and locational certainty, without understanding the algorithms and science behind that. That's our 'job'. Our responsibility. We have to understand about scales, projections, temporality, legislation and so on, that are the base for the data, information and services we provide.

My phone says I have to go inside now to finish this editorial; rain is expected in 5 minutes at this exact location. Hopefully, my colleagues in Wageningen continued working on the right algorithms and data integration these last 30 years to make this rain come true.”

| Kees de Zeeuw

Collaboration with Ukraine on geo-information integration

Kadaster and StateGeoCadastre (Ukraine) signed a 5-year Memorandum of Understanding (MoU) on institutional cooperation on National Spatial Data Infrastructure (NSDI). The memorandum enables stronger cooperation between the two institutions. For example, on exchange of experts and delegations, increased NSDI capacity, and cooperation on cartography, topography, cadastre and land registry.



Roman Leshchenko, Head of the StateGeoCadastre, mentioned: “This document opens opportunities for regular exchange of experience and best practices for the development and effective functioning of the national infrastructure of geospatial data.”

Frank Tierolff, chairman of the Kadaster Board of Management, confirmed the importance of the MoU: “Ukraine has been a frontrunner in self-assessing its NSDI state-of-play and plotting a future NSDI strategy. This MoU allows StateGeoCadastre and Kadaster to collaborate effectively on geo-information integration.”

| Vincent Verheij

Secondment and support for UN-GGIM

Since the establishment of the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM), Kadaster has sought to contribute substantially at policy and expert levels. With the 10-year anniversary upon us, the cooperation is being further intensified via a virtual secondment. Eva-Maria Unger, senior land administration advisor, will undertake this across the first half of 2021.



The secondment focuses on two key aspects of the UN-GGIM's work programme: i) the Integrated Geospatial Information Framework (IGIF) and ii) the Framework for Effective Land Administration (FELA). This involves how to leverage the IGIF Implementation Guide, support the design and development of IGIF country-level action plans, and support in-country operationalisation of FELA.

On the secondment kicking-off, Frank Tierolff, chairman of the Kadaster Board of Management said: “Kadaster has always contributed actively to the work of UN-GGIM, simply because it is important. The secondment of Eva-Maria Unger and her support to UN-GGIM's work programme is another step in this joint journey. The secondment embodies Kadaster's key value 'driven': encouraging our staff to embrace constant development while serving the public cause.”

| Eva-Maria Unger



Collaboration with Chad counterparts

In December 2018, under the supervision of the Ministry of Spatial Planning, Housing and Urbanisation (MATDHU), several ministries and civil society organisations in Chad jointly established a commission to review the country's land codes and laws. This was spurred by implementation and management challenges of conventional land administration approaches. Without proper land information, land management becomes difficult. This increases disputes over land, leads to non-productivity of agricultural land and uncontrolled urban development, which hampers overall development. As in many other French-speaking African countries, legislation and regulations in Chad are anachronistic, often dating back to the colonisation periods.

The review of the land code is now almost complete. Building on that, MATDHU and Kadaster will start a collaboration this year. The aim is to improve Chad's land administration by setting up a blueprint for a future system that leads to reducing cost, time and complexity of land registration and maintenance. The Dutch Government's Land-at-Scale programme will finance the collaboration.

| Christelle van den Berg

New publications on 3D and remote sensing

Kadaster always strives to create and share knowledge based on our mapping and land administration experiences in the Netherlands. We work together with the business community, other government agencies, the geospatial industry and universities. In our projects, we test, apply, and scale innovations. Recent examples are user friendly apps for data acquisition, automated feature extraction for cadastral boundary identification, conceptual data modelling in land administration, scale generalisations of spatial data, and fit-for-purpose approaches in land administration. Beyond these research and development activities, we also recently published in two special issues of scientific journals in cooperation with Delft University of Technology and the University of Twente

(Faculty of ITC). The first is a collection of papers entitled Remote Sensing for Land Administration published as a book and in the open access journal Remote Sensing. The second series of publications is on 3D Land Administration for 3D Use in the journal Land Use Policy.

| Chrit Lemmen and Rohan Bennett

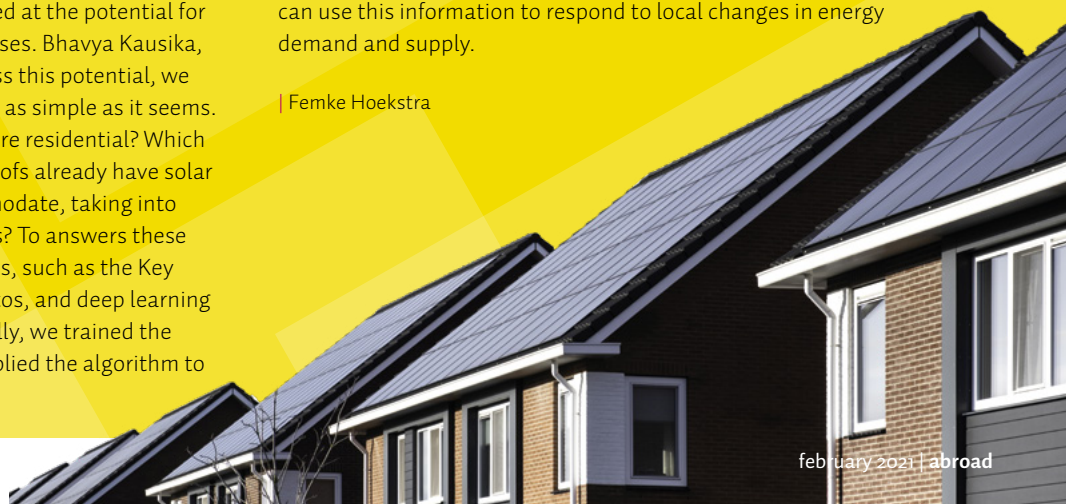


Mapping solar potential to support Dutch network operators

To achieve the goals of the Paris Climate Agreement, 30 regions in the Netherlands are drawing up Regional Energy Strategies. For one of those regions, Zeeland, Kadaster looked at the potential for increasing the number of solar panels on houses. Bhavya Kausika, GIS Specialist at Kadaster explains: "To assess this potential, we designed an automated process, which is not as simple as it seems. Because how do you know: Which buildings are residential? Which roofs have proper solar orientation? Which roofs already have solar panels? How many panels can a roof accommodate, taking into account, for example, skylights and chimneys? To answer these questions, we used a combination of data files, such as the Key Register Addresses and Buildings, aerial photos, and deep learning technology. By first analysing an area manually, we trained the system in finding suitable roofs. Next, we applied the algorithm to

a pilot area and later, after some adjustments, we automatically analysed the entire province of Zeeland." Local network operators can use this information to respond to local changes in energy demand and supply.

| Femke Hoekstra



Global Land Tool Network

Partner Days 2020 and moving forward

The 2020 GLTN Partners' Meeting took place virtually in December 2020. During the pandemic, perhaps more than ever, collaboration and partnership amongst the many actors remains key. The main theme of the meeting was 'Tenure Security as a Key Element of COVID-19 Response and Impact Mitigation'.

Colleagues from Kadaster, together with FIG and other GLTN partners including Cadasta Foundation, University of Twente (ITC) and the Volunteer Community Surveyor Program prepared a side event on 'Collecting best practises on Fit-For-Purpose Land Administration and the social tenure domain model'.

FIG, with support from ITC and Kadaster, will prepare a publication called 'Fit-For-Purpose Land Administration Implementation'. It will include valuable insights from the session and the collection of best practices. The publication will focus on recommendations to further speed up the efforts to document, record and recognise people to land relationships in all forms.

The publication will soon be available on www.fig.net.



| Paula Dijkstra



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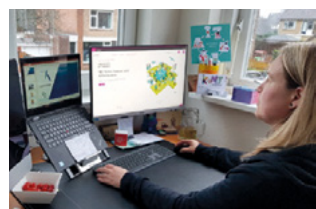
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Online training on Fit-For-Purpose Land Administration

Kadaster, supported by the University of Twente (ITC), has been working on online training materials on the basics of Fit-for-Purpose Land Administration (FFP-LA). Now, the first prototype is almost ready. In February and March, our project counterparts in Colombia, Benin, Brazil and

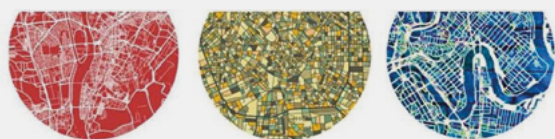


Mozambique will test the prototype. We will ask their feedback on this way of knowledge sharing and whether they think it is suitable for wider use. With these training materials, we hope to increase the understanding of FFP-LA. We expect that in time these materials will be openly accessible to anyone who is interested.

| Xanthe Duivenbode



Small Talk



SECOND ARAB LAND CONFERENCE
22, 23 and 24 february 2021
Cairo, Egypt

2nd Arab Land Conference

Taking place in Cairo, Egypt, and online, from 22 to 24 February 2021, Kadaster will actively participate in the 2nd Arab Land Conference. Beside paper presentations, a masterclass on Fit-For-Purpose Land Administration has been organised together with ESRI Northeast Africa, focusing on the Arab region. We are also involved in the preparations of a roundtable session on land administration together with the Global Land Tool Network and the Worldbank.

| Haico van der Vegt

