

Kyrgyzstan: A model for sustainable base mapping

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Introduction

- Initially to summarize the current state of geospatial and the development of NSDI in Kyrgyzstan
- Funded by the Norwegian Mapping Authority as part of a joint project with Statistics Norway
- Local partner is the State Agency for Land Resources
- Used World Bank IGIF toolkit for baseline assessment
- Sustainability of geospatial investment: base mapping

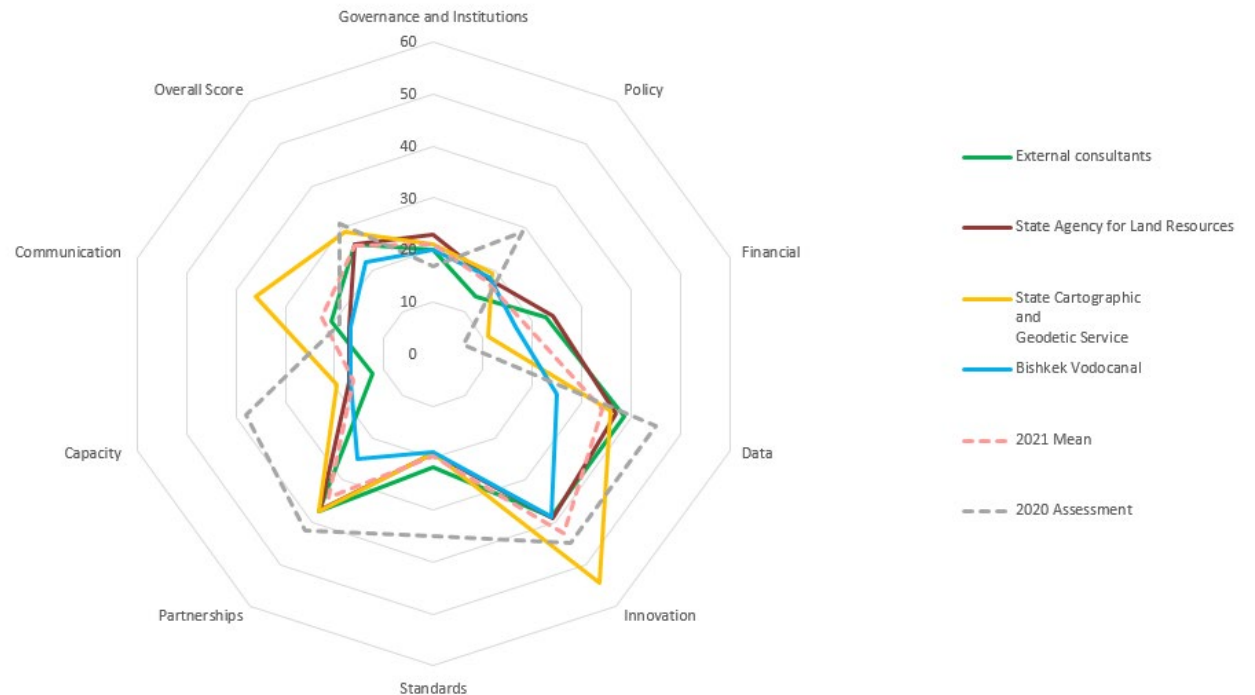
Strengths & weaknesses

Strengths

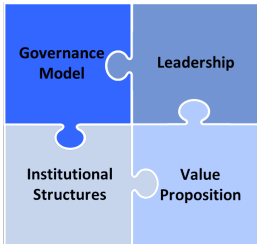
- Governance & cooperation
- Digital transformation
- International donor support
- Capacity development

Weaknesses

- Lack of visibility and awareness
- No geospatial champion
- Over-reliance on donor funding
- No sustainable business model
- Data sharing and open data
- Effectiveness of NSDI group
- Fragmented geospatial data and services



Pathway highlights



Strengths: NSDI working group, draft action plan & Digital Kyrgyzstan
Weaknesses: No geospatial champion, no value proposition, no formal NSDI strategy or plan



Strengths: Donor funding
Weaknesses: lack of use cases & benefits studies, insufficient government funding, lack of coherent policy on data access & charging

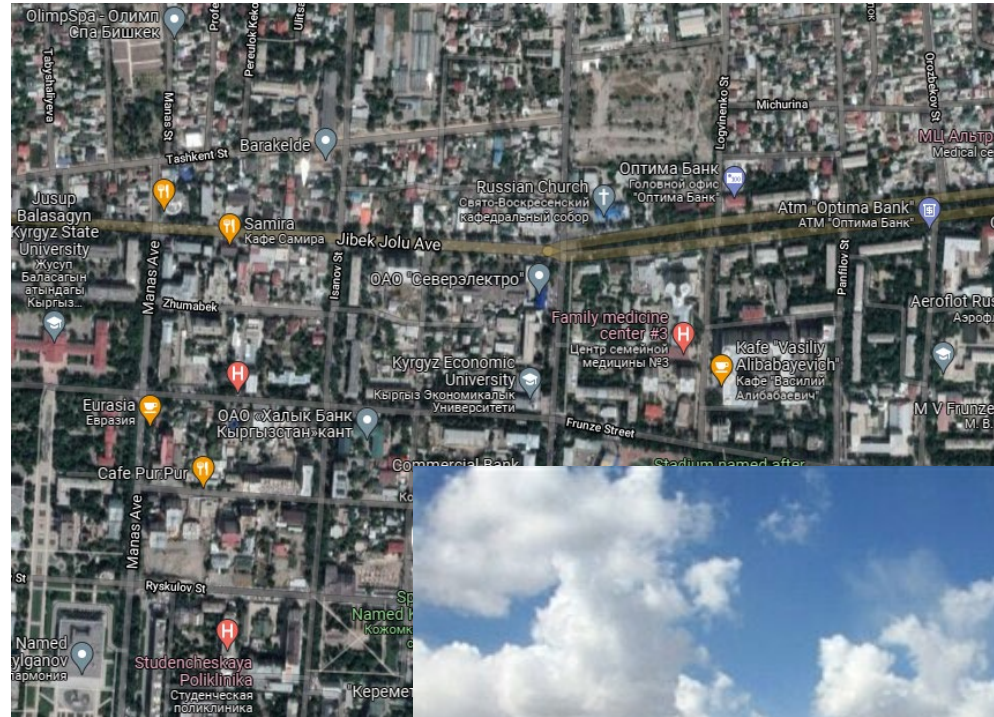
Proposed Actions

Develop a small number of **geospatial use cases** that are aligned with government policies to raise awareness and to obtain a budget for a socio-economic impact assessment

Develop an outline value proposition, supported by a **socio-economic impact assessment and business model** leading to the formation of an approved NSDI strategy

Use cases

- 2018 Norwegian National Mapping Authority orthophoto project
 - 20cm & 10cm capture
 - Investment in storage, distribution infrastructure, digital photogrammetric stations & training
- Assess the value of this data to Kyrgyzstan and the potential to capture again in the future
- Focus on tangible economic benefits to the country and the sustainability of such mapping



Land Registration & Cadastre

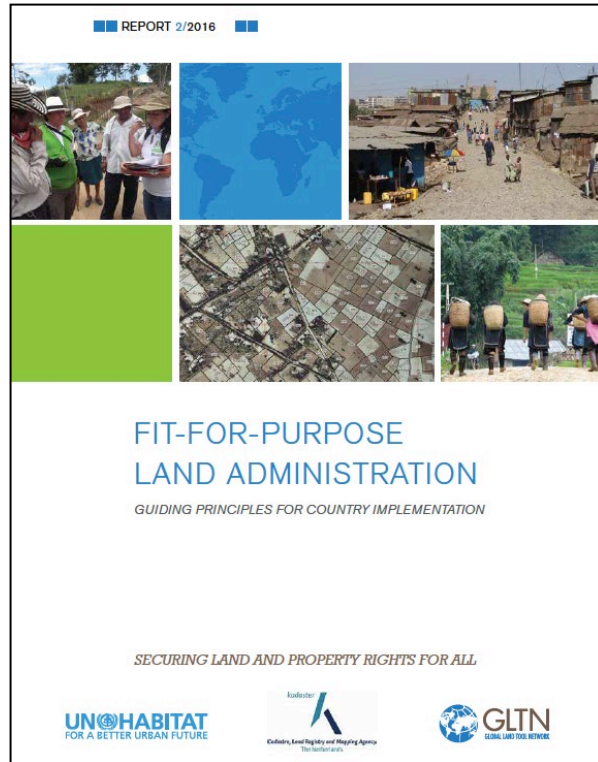
Disaster and risk management – earthquake hazards



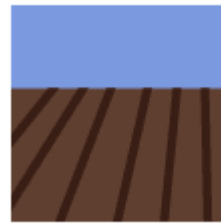
Use case: Land Registration & Cadastre Orthophoto



Fit-For-Purpose Land Administration



<https://gltn.net/download/fit-for-purpose-land-administration-guiding-principles-for-country-implementation/>



land

Special Issue "Fit-for-Purpose Land Administration-
Providing Secure Land Rights at Scale". 2021

https://www.mdpi.com/journal/land/special_issues/FFPLA

The phrase FFP is commonly used for any intervention or activity that is appropriate, and of a necessary standard, for its intended use

Registration statistics within area covered by digital orthophotos sponsored by the Norwegian Government

Category of Registration	Plots/ Buildings/Facilities	First Registration	Quality Improvement
Bishkek Area			
Registered	154,900	0	92,900
Non-registered (Formal)	42,000	42,000	0
Non-registered (Informal)	21,500	21,500	0
Wider Orthophoto Footprint Area			
Registered	1,493,500	0	896,100
Non-registered (Formal)	149,350	149,350	0
Non-registered (Informal)	74,675	74,675	0
TOTAL	1,935,925	287,525	989,000

Benefits of Adopting the FFPLA Approach

	Traditional Approach US\$ 53 per parcel / building	FFP Approach US\$ 13.5 per parcel / building	Financial Saving
287,525 first registration properties	US\$ 15 million	US\$ 3.8 million	US\$ 11.2 million
989,000 properties for quality improvement	US\$ 52 million	US\$ 13 million	US\$ 39 million

New registrations 2021 to 2035

**Annual savings of between USD
185,000 to USD 250,000**

UN ESCAP estimates urban population growth in Bishkek running at 2.15% pa. from 2020 to 2035 (https://www.unescap.org/sites/default/files/Summary%20report_Urbanization%20and%20resource%20trends%20in%20Kyrgyzstan.pdf)

Potential of 4,600 to 6,300 new registrations required annually – 82,000 in total over the 15 years.

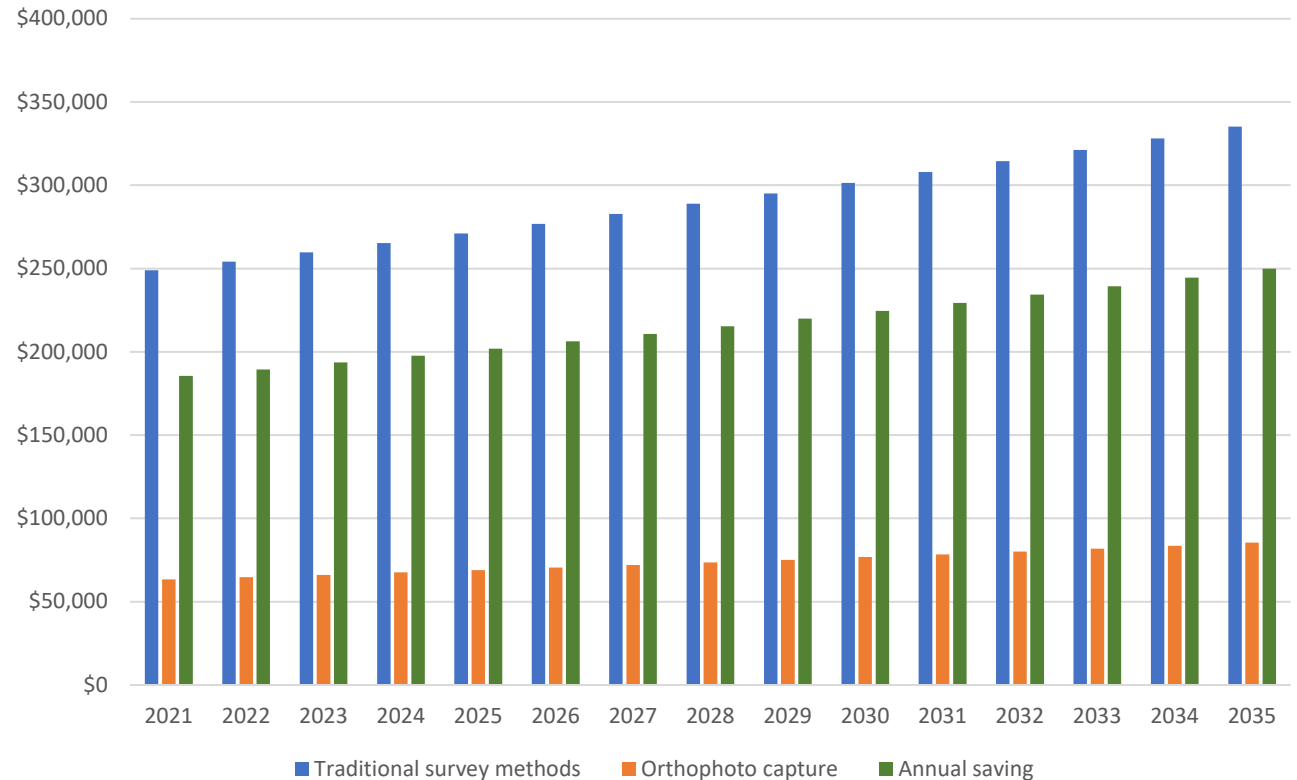
Registration cost using traditional survey: USD 4.3 million

Registration cost using orthophotos: USD 1.1 million

Does not consider inflation.

Costs exclude orthophoto data capture – reflect SALR internal costs only.

Registration costs Bishkek
New registrations 2021 to 2035



Other Benefits

- 200 court cases at a total cost of USD 800,000 related to land disputes
- **Experience in other countries suggests up to 40% saving on these: USD 320,000 pa**
- With increased security of tenure being achieved across the country and trust established in the land records managed by government, the mortgage providers will provide more loans for property owners due to the reduction in risk. This in turn will lead to increased economic development and will encourage a much more vibrant land market to be developed in Kyrgyzstan.

Prerequisites to Achieve the Benefits

- **Legal and regulatory framework** – the current legal and regulatory framework guiding the registration of properties in Kyrgyzstan imposes strict technical procedures and corresponding accuracy requirements. These will have to be modified to provide the flexibility needed by the FFP approach.
- **Engagement strategy** – the successful adoption of the FFP approach will involve the commitment of a range of stakeholders and this will involve a significant cultural change, especially for the surveying community. An awareness campaign for citizens will be essential for them to understand the reasons for change and the benefits.
- **Political backing** – the FFP approach will only be successfully adopted and implemented if there is strong political commitment. Political support needs to be established and nurtured to then convince the range of other stakeholders involved.

Acknowledgements

Norwegian Mapping Authority

Bakytbek Djusupbekov & Almaz Abdiev, SALR, Kyrgyzstan

Robin McLaren

Elena Busch, Norwegian Mapping Authority

Alexei Ushakov, Yulia Bystrova, Professor Akylbek Chymrov, Azamat Karypov, Professor Luis Ángel Ruiz Fernández, Narynbek Isabekov, Sabyr Chukumbaev, Dr Alexander Zubovich, Merder Totonov, Rimma Chynybaeva, Adam Tashtemirov