Addressing land rights challenges using high-resolution geospatial data, mobile technology, and the blockchain

New Technology panel
LANDac Conference 2017
Utrecht, the Netherlands
29th-30th June, 2017

Kartik Kumar
SpatialTrust
kartik@spatialtrust.com
+31 614634697

SPATIALTRUST
kartik@spatialtrust.com
+31 614634697

OUR MISSION

To help secure land rights & natural resources for Indigenous Peoples across the globe

Credit: United Nation, 2017

kartik@spatialtrust.com
+31 614634697

WHO ARE WE?

Kartik Kumar
kartik@spatialtrust.com

Robert Jacobson
robert@spatialtrust.com

Gil Torovezky
gili@spatialtrust.com

kartik@spatialtrust.com
+31 614634697

SPATIALTRUST

Credit: MRLG, 2017

A secure, trusted & resilient platform for land governance

- Land as a “digital asset” on the blockchain
- Distributed, immutable, auditable transaction ledger
- Custom access controls
- Dispute resolution tools
- Extensible to remittances, payments, insurance, aid, healthcare etc.

SPATIALTRUST
kartik@spatialtrust.com
+31 614634697

TECHNOLOGY SUITE

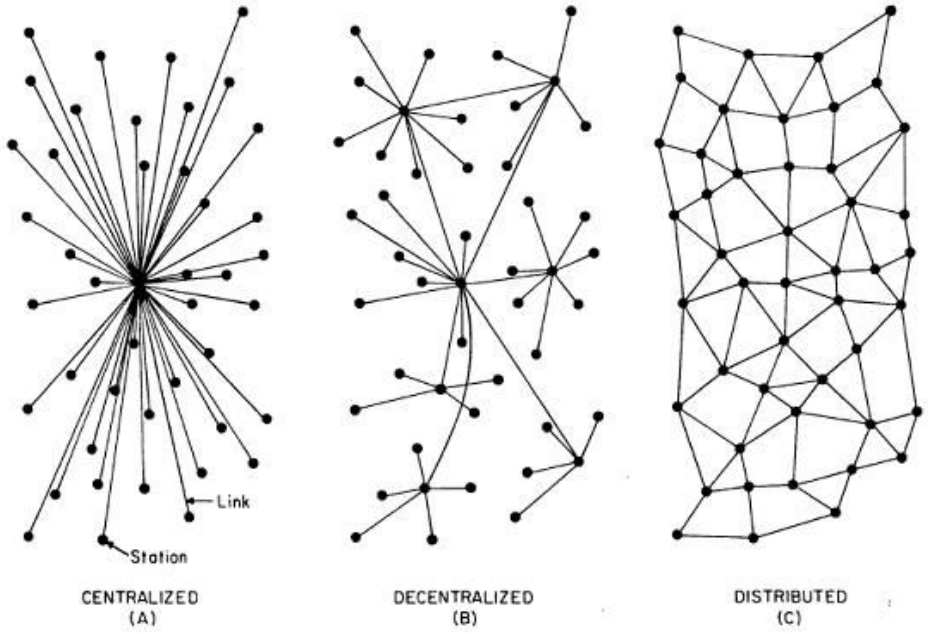
- Mobile technology
  - Rapid uptake of mobile tech within rural communities
  - “Last mile” infrastructure
- High-resolution geospatial data
  - Satellite data
  - Aerial data from drones/UAVs
  - Ground data
- Blockchain technology
  - Emerging from FinTech world
  - Under trial for tenure security & land rights systems

SPATIALTRUST
kartik@spatialtrust.com
+31 614634697

WHAT IS BLOCKCHAIN?

- New form of **distributed** database
- Firstly introduced in 2008 for cryptocurrency (Bitcoin)
- No single authority as for traditional database

Credit: Mas, 2016



SPATIALTRUST
kartik@spatialtrust.com
+31 614634697

WHAT IS BLOCKCHAIN?

A distributed log that enables mutiple stakeholders to agree on a shared record of events in a trustless environment

SPATIALTRUST
kartik@spatialtrust.com
+31 614634697

CASE: RAIKAS OF RAJASTHAN

Credit: Daga, 2016

SPATIALTRUST
kartik@spatialtrust.com
+31 614634697

RAIKA COMMUNITY

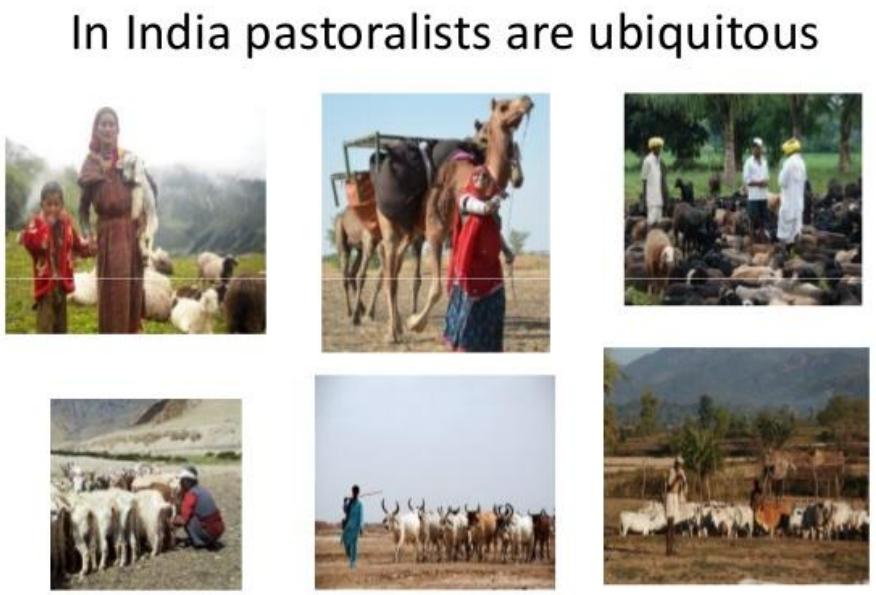
- Pastoralists, semi-nomadic
- Rajasthan's Pali district
- Custodians of Rajasthani camels
- Have herded animals for centuries
- Population ~100,000 spread out over rural area
- Strong understanding of local ecology

Credit: Kumar, 2016

SPATIALTRUST
kartik@spatialtrust.com
+31 614634697

ESSENTIAL TO INDIA

- Economic value
  - > 60% of India's dairy
  - > 50% of India's meat
- Rich history & traditions
- Important as part of the country's diversity
- Key understanding of responsible animal husbandry



Credit: Köhler-Rollefson, 2017

SPATIALTRUST
kartik@spatialtrust.com
+31 614634697

KEY CHALLENGES

- Migrations routes cut off by privatization of land and government regulation (or lack thereof)
- Permit system for access to forests shut down
- Numbers of families keeping animals, especially camels is dwindling rapidly
- Young people are leaving the community
- Prosopis juliflora, an introduced, invasive species is a huge problem

SPATIALTRUST
kartik@spatialtrust.com
+31 614634697

ROLE OF TECHNOLOGY

- Systematically generate immutable records
- Capture ground data, geospatial intelligence and tap into knowledge within the community
- Help develop market for local products (dairy, wool)
- Guarantee quality/transparency through technology
- Generate multi-stakeholder system to grant & manage land access rights
- Raise awareness

SPATIALTRUST
kartik@spatialtrust.com
+31 614634697

GUIDING QUESTIONS

- Inclusivity
  - Multi-stakeholder platform for equitable dialogue & sharing
  - Democratization of data access & privacy & control
- Economic growth
  - Securing resources & collateral
  - Fairer distribution of profits across transaprent supply chain
- Sustainability
  - Reducing fundamental threats to “right to existence”
  - Enabling greater governance of environmental impact
  - Securing livelihood of communities

For further information please contact:

Kartik Kumar
kartik@spatialtrust.com
+31 614634697