



Developing
knowledge and
capacity in water
and sanitation

Relying on markets to address human rights: Sanitation supply chain analysis in low-density settings

Insights from Vietnam

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Our research question

What is the viability of **market-based solutions** for sanitation products in **low-density** areas, given the impact of **distance** and **transport cost**?



Key messages of this presentation...

1. **Market-based approaches** to improving sanitation coverage have increased in recent years.

2. **Equity implications** need close consideration, especially in low density, remote locations.

3. Toilet coverage is **lower** in areas of **high poverty**. These areas also experience highest priced sanitation products due to **distance** and **transport costs**.

4. Market-based approaches require **nuanced application** and **other forms of support** or significant market intervention are likely required.

Research location







METHODOLOGY

Mixed methods approach

- **Supply chain mapping**
 - Outputs and the physical flow of sanitation products, and services
- **Semi-structured interviews**
 - Skills and capacity
 - Employment of women
 - Level of entrepreneurship
 - Access to credit
 - Governance considerations
- **Quantitative data collection**
 - Product costs
 - Labour and Transport costs
- **Economic and spatial analysis**
 - Geographic Information System (GIS)



Some supply chain actors & products



Brick maker



Roof tiles



Toilet pans



Supply shop owners



Cement



Transport providers



Masons



Households



RESULTS

Supply chain actors and factors

Profits and turnover in the supply chain

- Supply chain for most materials was optimised
 - Low profit margins were accepted by supply shops in Muong Ang
- Rapid turnover of materials commonly used for construction
- One shop reported turnover of 400 tonnes per month of cement
 - = 7% profit for small purchases
 - = 5% profit for larger purchases
- Toilet pans were sold with higher profit margins (16%)



Muong Ang District

Dien Bien



Dien Bien Cement
Producer:
“Dien Bien Cement”
Sell Price:
1,350,000VND

Hanoi

Thai Binh



Thai Binh Toilet Pan
Producer:
“Hao Canh Ceramic
Company”
Sell Price:
155,000VND



**Dien Bien
Cement Producer**



**Transport
costs**



**Muong Ang District
Supplier**

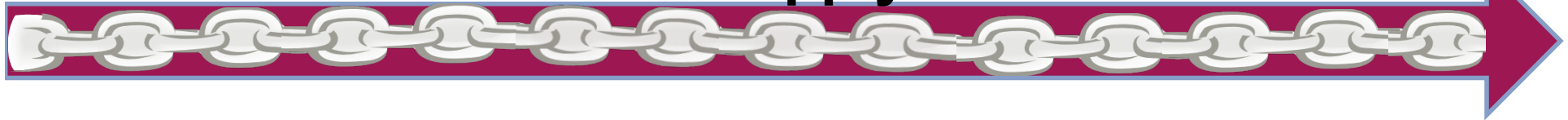


Transport costs



**Household,
Xuan Lao
Commune**

Cement supply chain





**Dien Bien
Cement Producer**



**Transport
costs**



**Muong Ang District
Supplier**



Transport costs



**Household,
Xuan Lao
Commune**

Cement supply chain



Toilet pan supply chain

**Thai Binh Toilet
Pan Producer**



**Transport
costs**



**Muong Ang District
Supplier**



Transport costs



**Household,
Muong Lan
Commune**



Key factors affecting the supply chain

Relationship with supplier / shop seller:
Prices negotiable and dependent on strength of relationship

"It costs over 1M VND to get there but depends on negotiation with the customer. This means how well you know the person. It is a bargaining process." Transport provider, Muong Ang

Access to credit: Credit supports demand, and 80% of customers buy materials using credit

Credit offered to a large proportion of customers. Repayment terms loose, and generally expected that debts be repaid before the lunar new year each year.

Transport providers and road access

Road access: Short distance from supplier and easy access = lower transport costs. No /difficult road access = higher transport costs.

Ethnicity

Some ethnic minorities (e.g. Hmong) traditionally have a low latrine uptake



RESULTS:

Spatial mapping of costs

Common toilet types in Muong Ang

Pit latrine



Main materials:

- Bricks
- Cement
- Steel
- Iron
- Roof tile

Total cost of materials:

**1.14M VND
USD \$54**

Total weight of materials:
726kg

Double Vault Latrine



Main materials:

- Bricks
- Cement
- Steel
- Iron
- Roof tile

Total cost of materials:

**2.84M VND
USD \$133**

Total weight of materials:
2227g

Pour flush septic tank



Main materials:

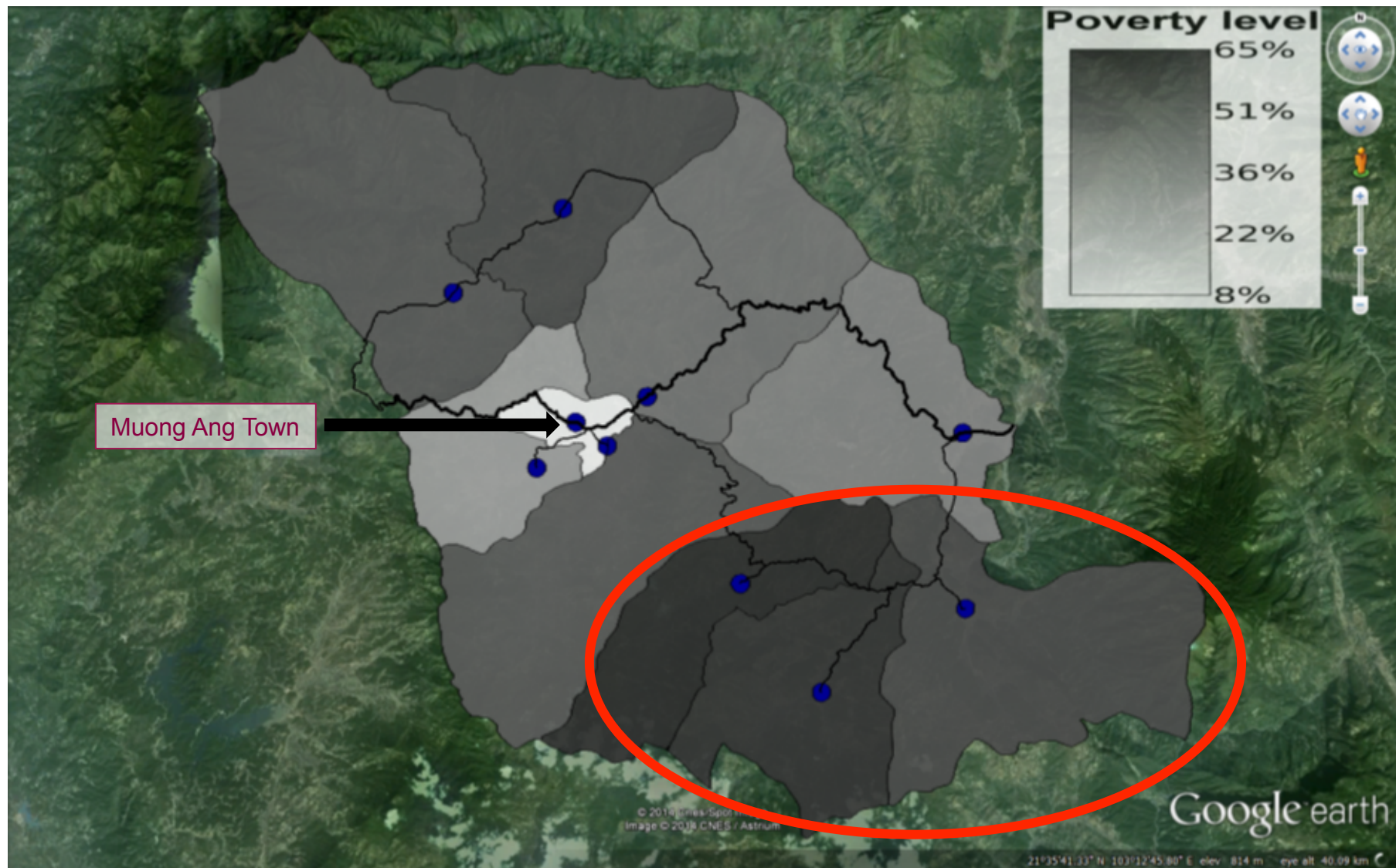
- Bricks
- Cement
- Steel
- Iron
- Roof tile
- Toilet pan

Total cost of materials:

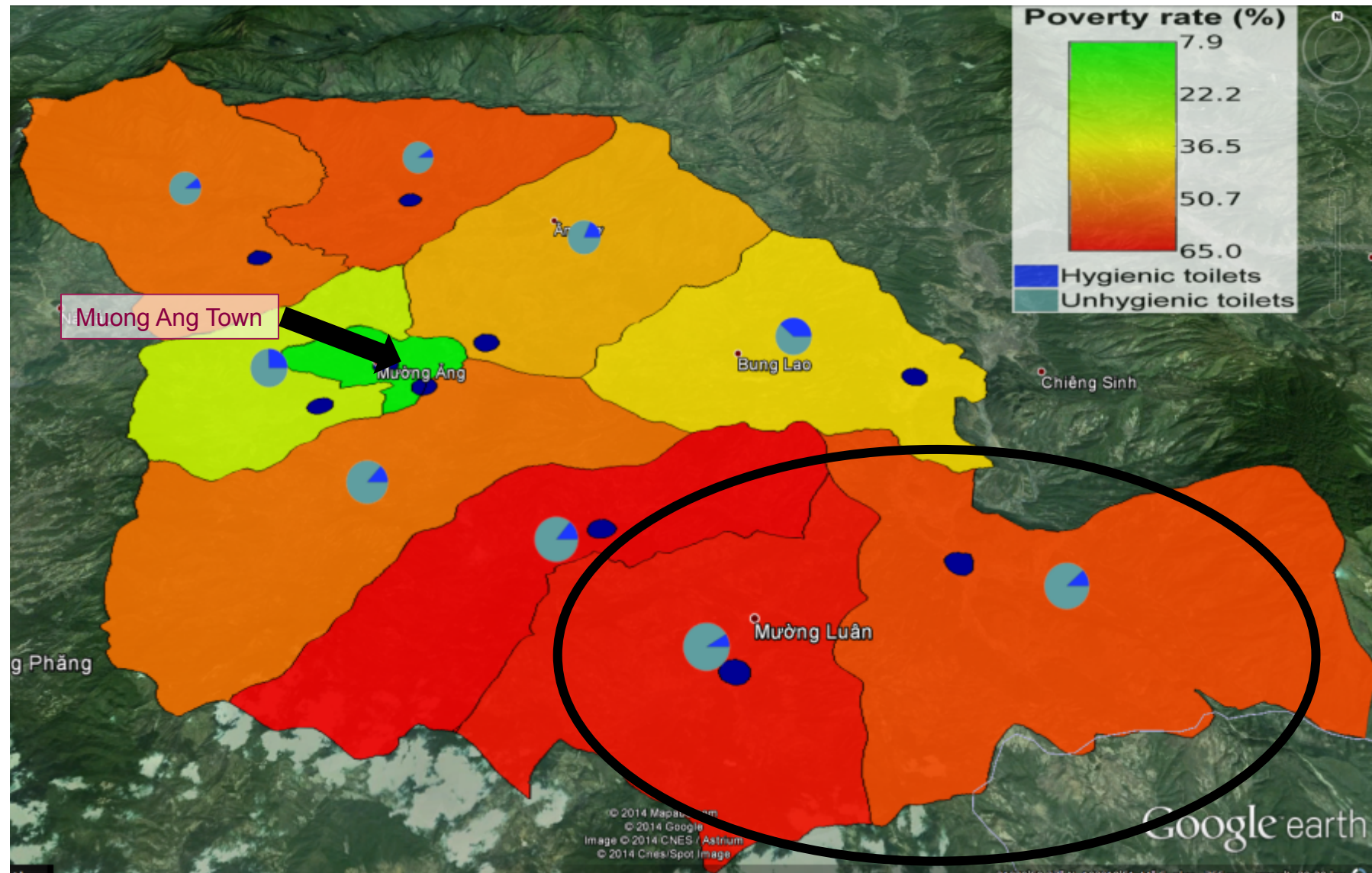
**6.74M VND
USD \$317**

Total weight of materials:
5627g

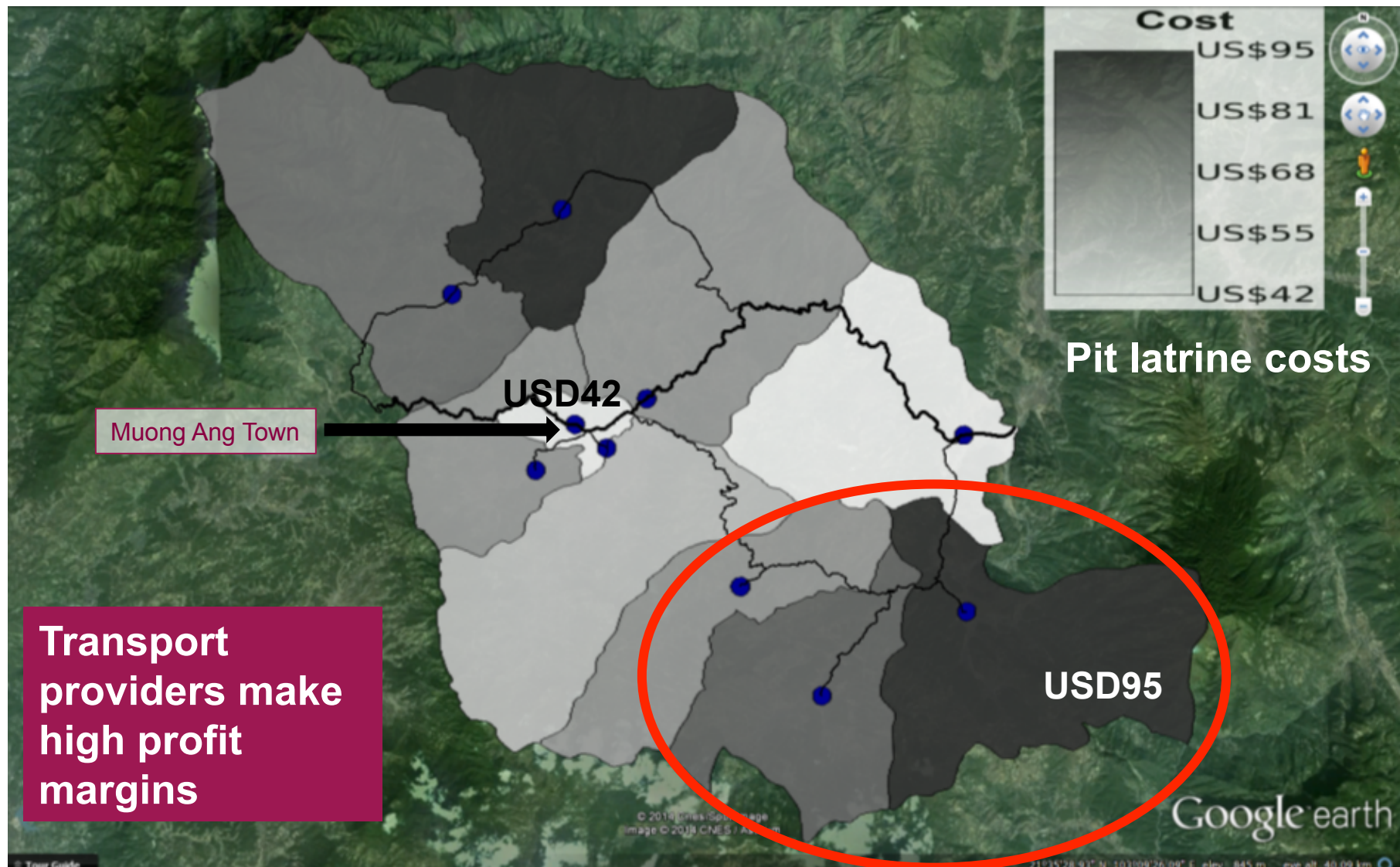
Poverty is higher in more remote areas



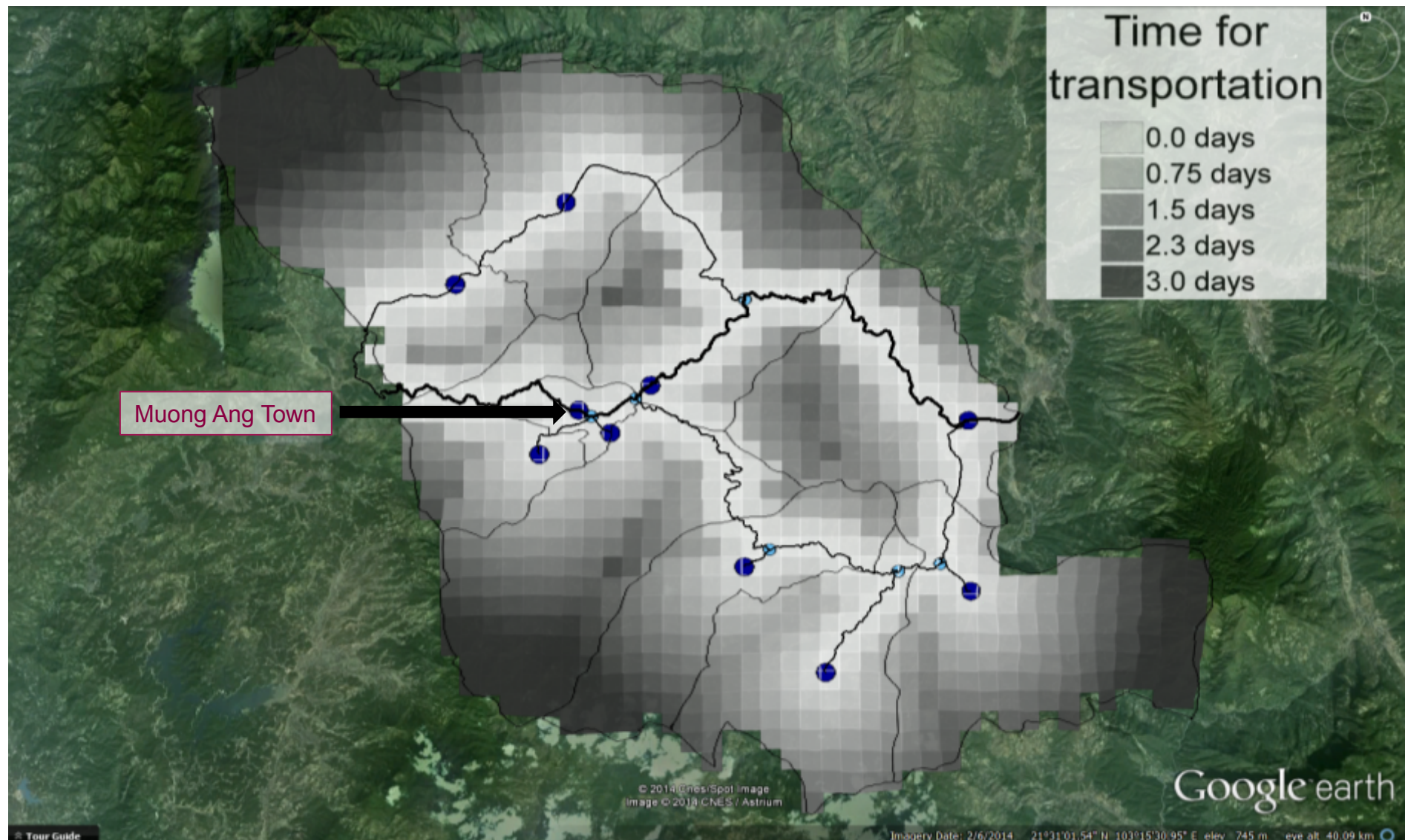
Toilet coverage is lower in remote areas



Costs are higher in more remote areas



Significant transportation time for remote areas



Research implications

- **Need for public sector interventions** to address inequality in access to products by the poor
- **Need for design innovation**: current approved standardised toilet types have high quantity and cost of materials – need attractive, light-weight, durable latrine slabs
- **Need incentives for private sector actors to competitively service remote areas**: Examples include tax incentives, organised bulk purchasing and transport, and targeted administration of vouchers for purchase of toilet materials

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