Measuring poverty in Afghanistan: Why and how?

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Vienna University of Economics and Business (WU Wien)

Outline

- Why do we measure poverty?
- How do we measure poverty (in Afghanistan)?
  1. Data source
  2. Methodology
- What do we do with information on poverty?
- What do we know about poverty in Afghanistan?

Why do we measure poverty?

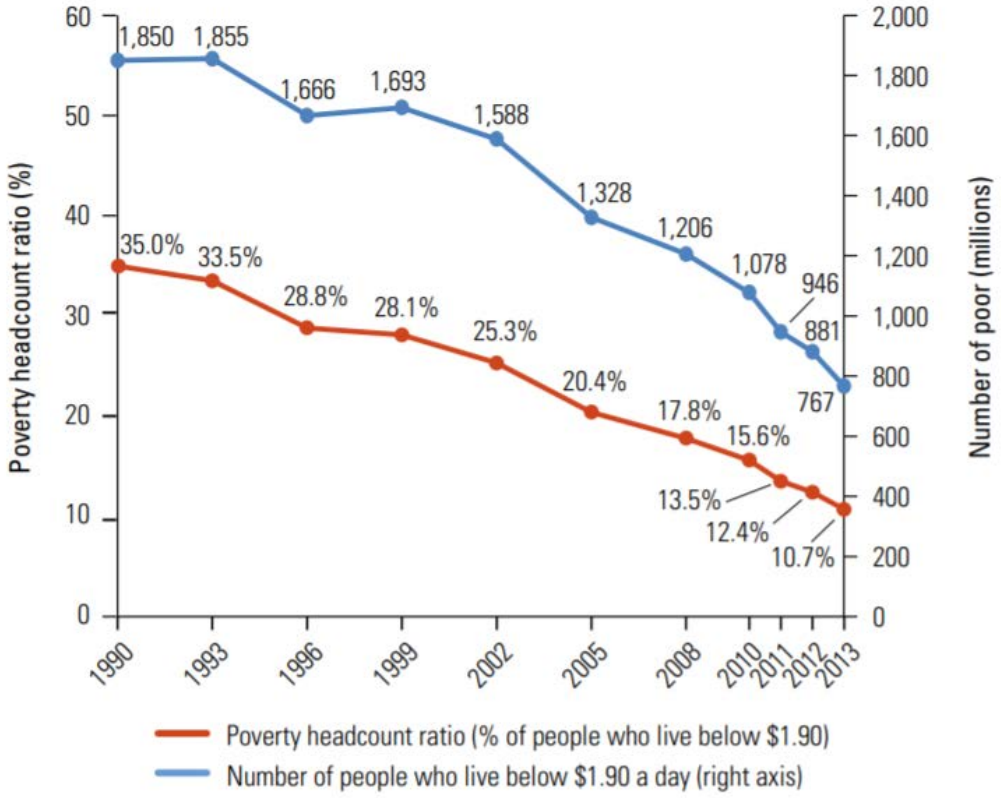
The World Bank Group's twin goals and national development priorities

WBG Goals

- **End extreme poverty**
  - by decreasing the percentage of people living on less than $1.90 a day to no more than 3%
- **Promote shared prosperity**
  - by fostering the income growth of the bottom 40% for every country.
- **Sustainability**
  - an overarching theme
- Achieving these goals require promoting environmental, social, and fiscal sustainability:
  i. secure the long-term future of our planet and its resources
  ii. aim for sustained social inclusion
  iii. limit the size of economic debt inherited by future generations

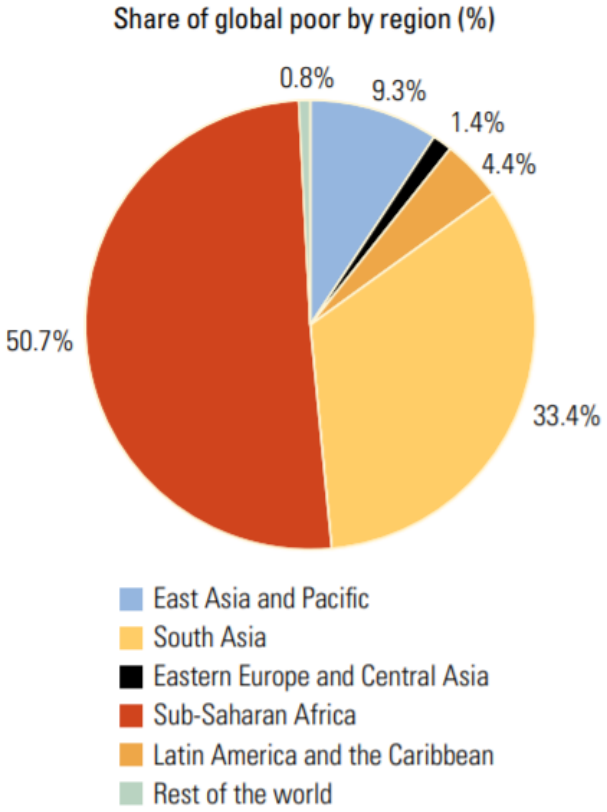
Global poverty trends

Trends in the Global Poverty Headcount Ratio and the Number of the Global Poor, 1990–2013



Source: Latest estimates based on 2013 data using PovcalNet (online analysis tool), World Bank, Washington, DC, http://iresearch.worldbank.org/PovcalNet/.
Note: Poverty is measured using the US$1.90-a-day 2011 PPP poverty line.

Where Are the Global Poor Living? The Global Poor, by Region, 2013



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Afghanistan's Development Priorities

- Afghanistan National Peace and Development Framework (2017 to 2021)
- 5-year strategic plan for achieving self-reliance
- Lays out sustainable development path that will help Afghanistan meet its many challenges
  - including to bring an end to poverty, and ensure security and stability
- Overarching goal of Afghan government is to reduce poverty and improve welfare of Afghans

What is poverty?

Different definitions:

- …from narrow approaches…

  lack of specific consumptions (e.g. too little food energy intake; too little leisure)

- …to broader…

  Poverty is the lack of "well-being" (e.g. lack of "capabilities": inability to achieve certain "functionings"

- Poverty is a complex and multidimensional phenomenon

Why do we measure poverty?

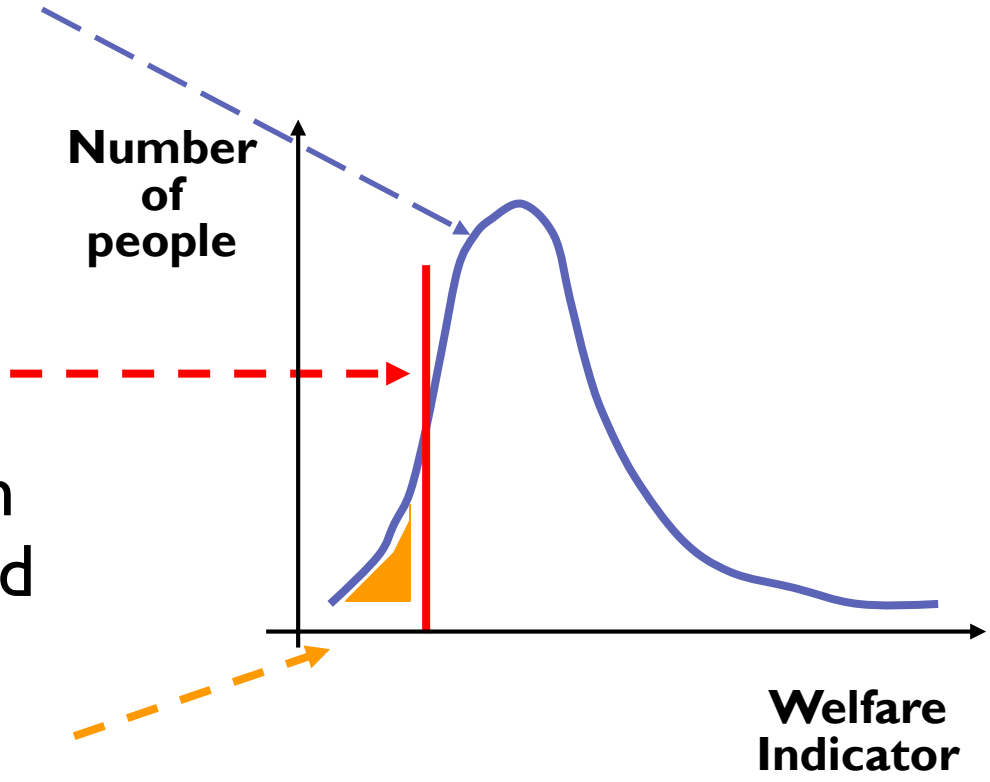
- Inform program design
  - Who are the target groups?
  - How should transfers be allocated?
  - How much impact will they have on poverty?
- Monitoring progress
  - Has poverty increased? Did growth help the poor?
- Foster evidence based policy making
  - Who were the losers and winners from economy-wide policy reforms? (ex-ante vs. ex-post)
  - Social spending: who benefits from government subsides? Who will be hurt by retrenchment?

How do we measure poverty?

1. A **welfare measure** for individuals, used to derive a distribution of living standards

2. A **poverty line**, threshold below which individuals are classified as poor

3. A **poverty measure**, summary statistics of poverty in population



Data sources for measuring poverty

National households surveys

What data do we use to measure poverty?

- To understand welfare of a country's population, we have to measure their well-being
- Use multi-topic household surveys (i.e. HBS, LSMS)
  - Even with perfect sample, data collection process is always imperfect, due to non-sampling errors
  - This adds bias and noise to survey indicators
  - Survey quality improves with:
    - High capacity in National Statistics Offices
    - Easy field conditions
    - Increased supervision
    - Incentives and working conditions for data collection staff
    - Non-complex survey and questionnaire design
- Afghanistan Living Conditions Survey (ALCS) – 4 comparable rounds available

Challenges during data collection

- Survey is in the field for one year (seasonality)
- Sampling error:
  - Insecure districts excluded from sample frame (10% of pop)
- Non-sampling errors:

Category	Examples from Afghanistan
Sampling coverage	Cluster and HH replacement due to insecurity
Lack of privacy or legitimacy	Non response to culturally sensitive questions (i.e. does your daughter go to school?); socially desirable bias (i.e. child labor
Respondent errors or behavioral effects	"Forgetting" household members in the roster
Interviewer errors	Fraud, inaccurate or incomplete reading of questions, wrong coding of answers, wrong probing technique
Data entry errors	Missings and typos

Poverty measurement methodology

Welfare measure

Constructing the welfare measure

- Welfare measure is foundation over which all poverty analysis rests
- Principles:
  - Goal is to be able to rank individuals in terms of welfare
  - Should be comprehensive
  - Retain transparency and credibility
- Important clarifications
  - Consumption: destruction of goods and services by use
  - Expenditure: consumption valued at prices paid
  - Income: maximum possible expenditure on consumption without depleting assets

Welfare measure

- Main components

Food component

Non-food component

Consumer durables (assets)

Housing

- Starting point
  - Each household chooses consumption levels of individual goods to maximize utility within a given budget and at given prices

Food component

- In general, straightforward aggregation exercise of all food items
  - Consumed by the household
    - Each household indicates quantities consumed for 92 food items in past 7 days
    - Includes items (i) purchased; (ii) home produced; (iii) acquired by means of non-monetary transactions (gifts and food aid); and (iv) meals consumed outside the home
  - Valued at prices household faces
    - Collected via market price survey in market that village frequents

Non-Food component

- Wide range of non-food items with different reference periods
- Computation straightforward (add expenditures) but difficulties in choice of which items to include
- In general, include:
  - Frequently purchased goods and services (e.g. soap, cooking fuel, personal care, recreation, transport, supplies)
  - Less frequent but regularly purchased items (e.g. clothing, kitchen equipment, textiles, household items)
- In general, exclude:
  - Lumpy expenditure (i.e. large and infrequent: weddings, birth, funerals, Hajj)
  - Items for which is hard to estimate accurately (i.e. public goods and leisure)

Consumer durables

Durable goods are consumer products that

- Withstand wear and tear or decay
- Can be used over a relatively long period without being depleted or consumed

- Failure to include durable goods may underestimate inequality
- Never interested in purchase price of durables but in "rental equivalent" – *flow of services* households receive from durable
- Add annual cost of holding the stock of each durable to expenditures on non-durables

Housing

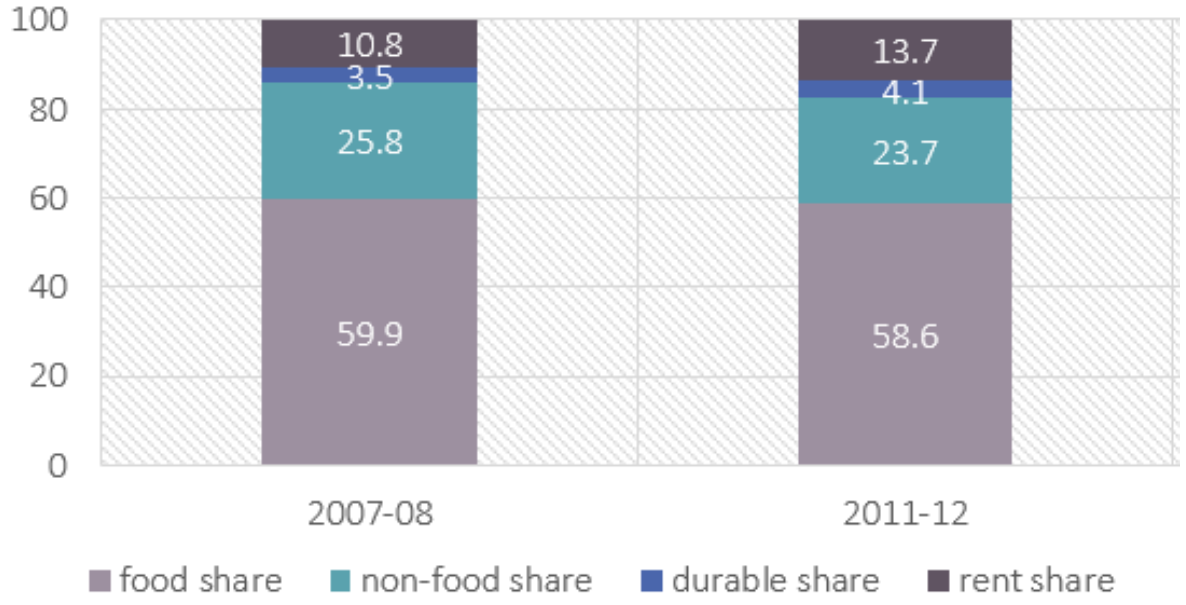
- Theoretical viewpoint
  - When *expenditure* is used as a yardstick of welfare, important to achieve comparability across households
  - Two type of households: renters & non-renters
- Empirical implementation
  - For renters: actual reported rent
  - For non-renters: *impute* what they would be paying if they were renting instead of owning based on housing characteristics

Adjustments to the welfare aggregate

- Temporal deflation
  - Accounts for differences in the cost of living across *time*
  - Use of non-food CPI for non-food items
- Spatial deflation
  - Accounts for differences in the cost of living across *space*
    - Price levels in urban Kabul different from price levels in rural Farah
  - Food prices adjusted via spatial and temporal food price index
- Household composition
  - Welfare typically assessed at individual level – percentage of *population* living in poverty
  - Accounts for differences in number of household members
  - Divide household-level aggregate by household size

Budget shares

- Engel's law: as incomes in countries rise, proportion of income spent on food falls (even if absolute expenditure on food rises)
- Declines in food share may also be caused by a decline in overall expenditures due to deterioration of welfare



Poverty measurement methodology

Poverty Lines

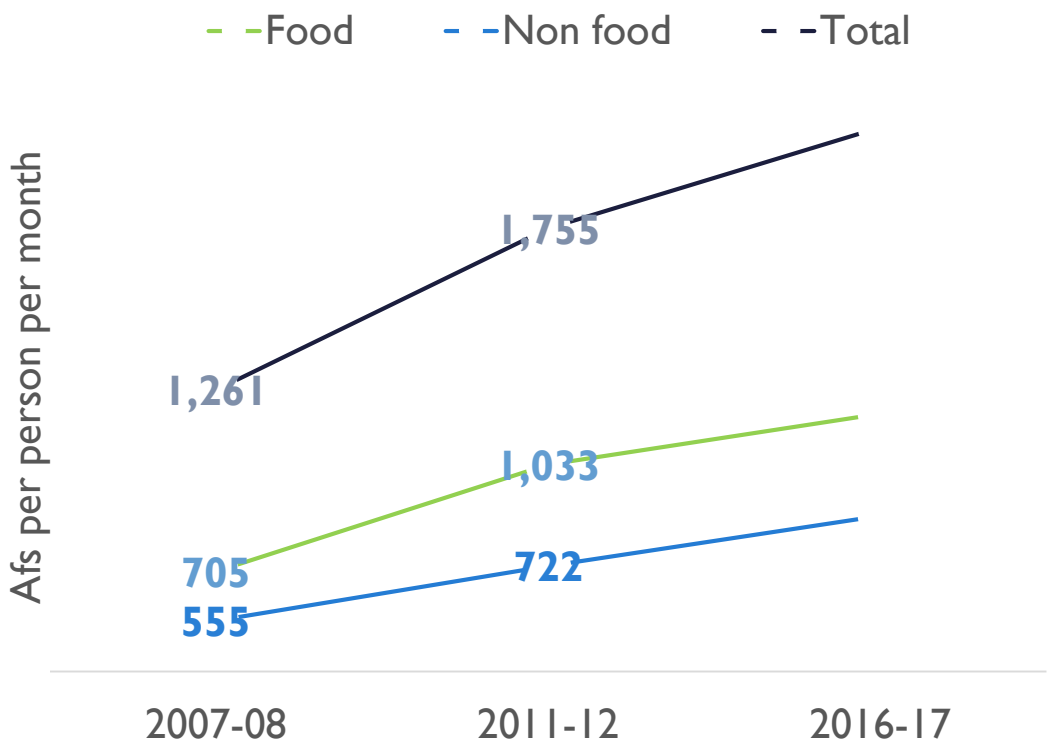
Definition

- Benchmark for assessing whether individual can attain minimum level of wellbeing required to satisfy basic needs
- 2 types of lines:
  - Relative: …to average income or consumption (i.e. some percentage of the mean or median level)
  - Absolute: …based on the cost of attaining a basic standard of living and is anchored to nutritional requirements
- Main principle for absolute line
  - Consistency → poverty line be fixed in terms of the welfare level (standard of living)

Absolute approach using CBN

- Poverty line is the **cost** of a **bundle** of goods deemed to be **sufficient** for basic needs
- This implies two major steps:
  1. **Stipulate** an adequate consumption bundle with both food and nonfood components (in Afghanistan 2,100 calories per person per day); and
  2. **Estimate** the cost of the bundle for each group
- Two components
  - Food poverty line
  - Allowance to account for basic non-food needs

Poverty lines in Afghanistan, 2007-08 and 2011-12



Now that we know about the poor… What's next?

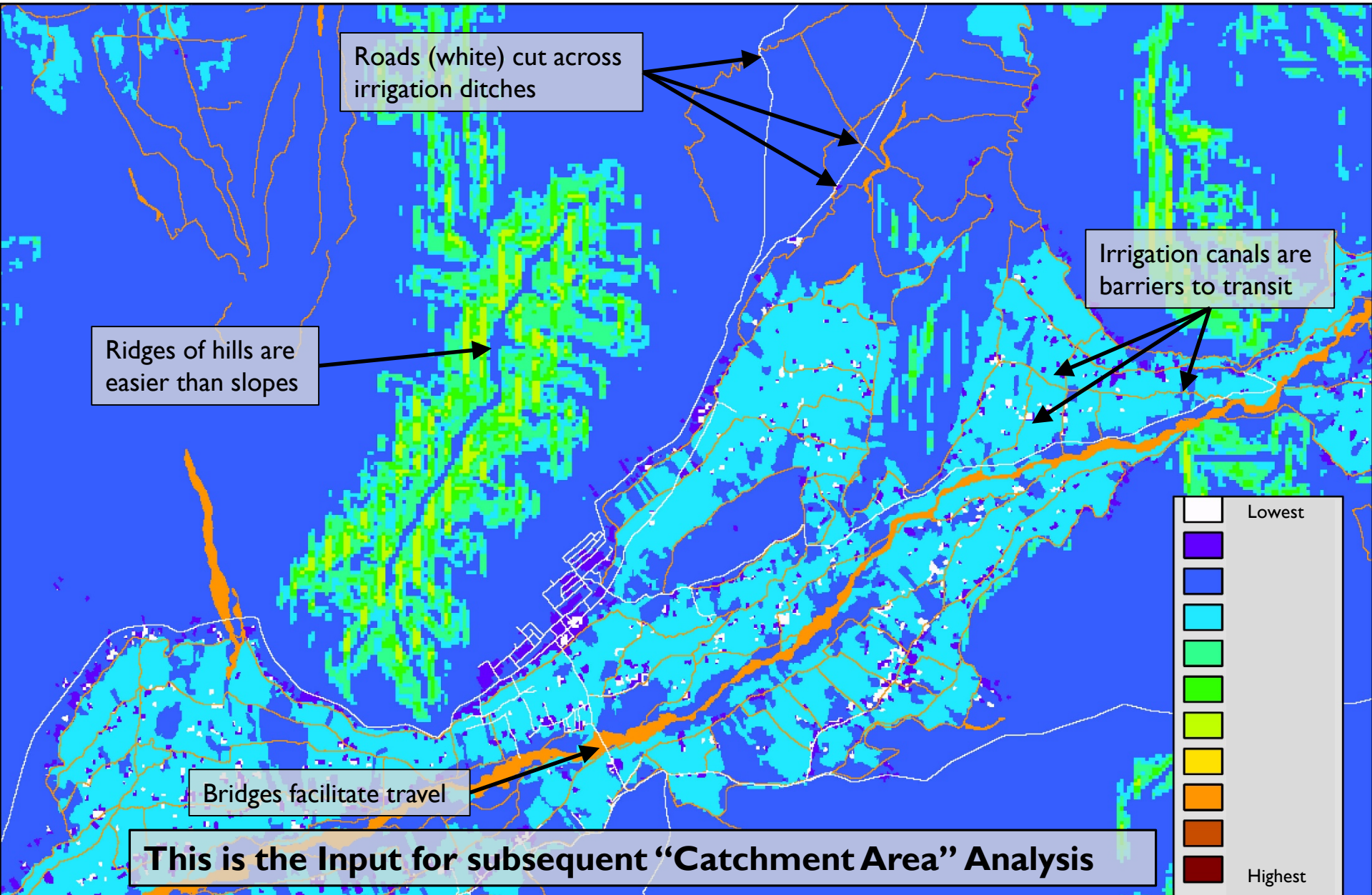
Measuring poverty beginning of our endeavor

- Provide analytical notes to understand
  - Causes of poverty and poverty profiles
  - Correlate poverty with other outcomes (such as labor market, education, conflict)
  - Define ways in which poverty outcomes could be overcome
- Provide analysis into project design by answering questions such as
  - If new electricity line were to be built, where should it go to ensure poor populations benefit from grid?
  - How will influx of Afghan returnees affect situation for host communities?
  - If we increase taxes on cigarettes, how does it affect the poor?
  - If we were to define a wage rate to assure civil servants don't live in poverty, what would it be?
- Support government in defining development programs
  - Design poverty reduction programs (i.e. cash assistance, public works, in-kind transfers)

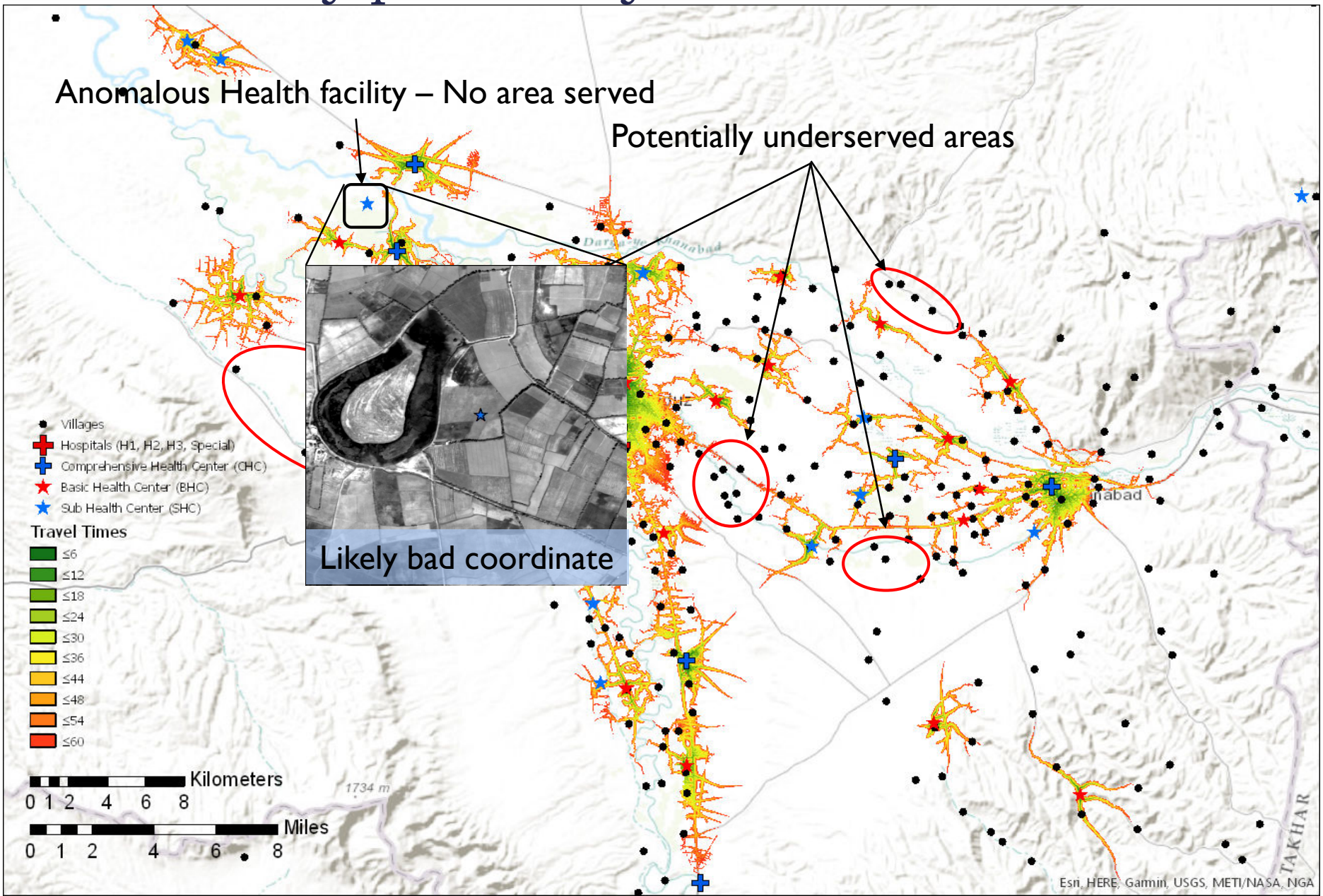
What do we use beyond household survey data?

- Data challenges are pervasive in Afghanistan but relatively good and growing endowment of geospatial data is available
  - Including satellite imagery
  - Increasingly available for free at relatively high quality and frequency
  - Technology and analytical methods to access and use geo-spatial data for development has made rapid advances in recent years
- Explore spatial "catchment" area models
  - 2 hour travel time, by foot to health facilities
  - Define "Time-Cost-Raster" to capture distance as function of travel time instead of linear distance
  - Model uses elevation, land cover, water features (barriers to travel), and roads

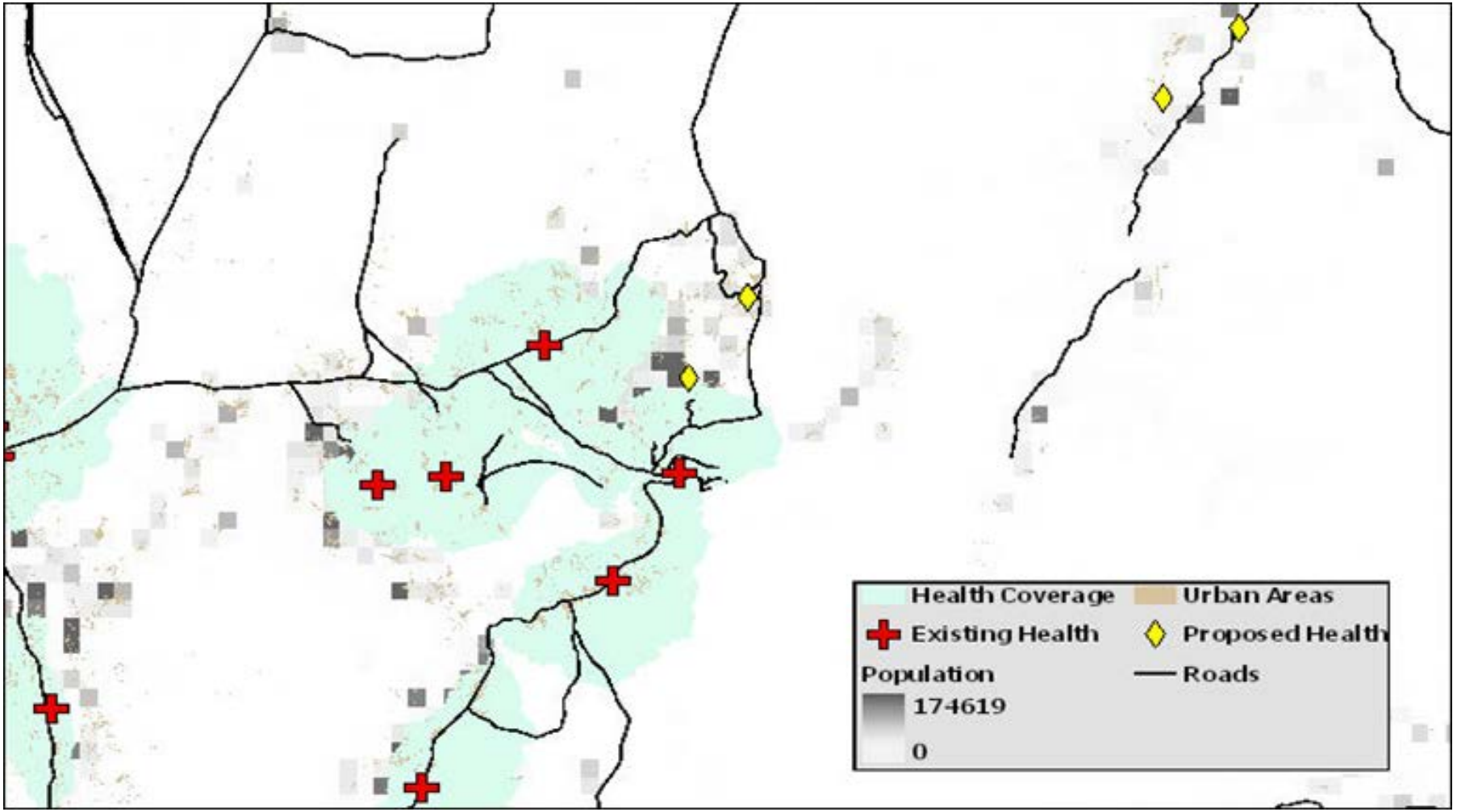
Visualizing the raw time-cost raster



Using the model to highlight poor coordinates and identify potentially underserved areas



Using the model to identify underserved areas for new facilities



Using served areas to mask population density to observe areas and place possible new locations

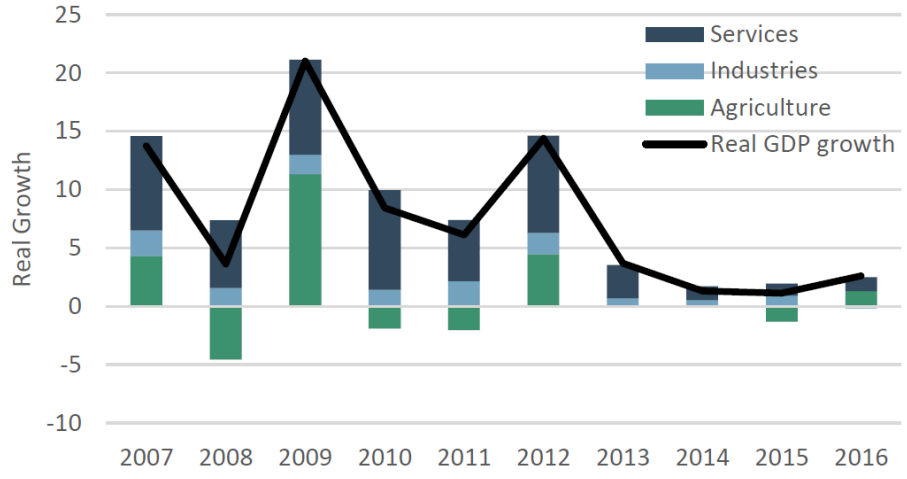
Afghanistan's welfare outcomes

Based on ALCS 2013-14

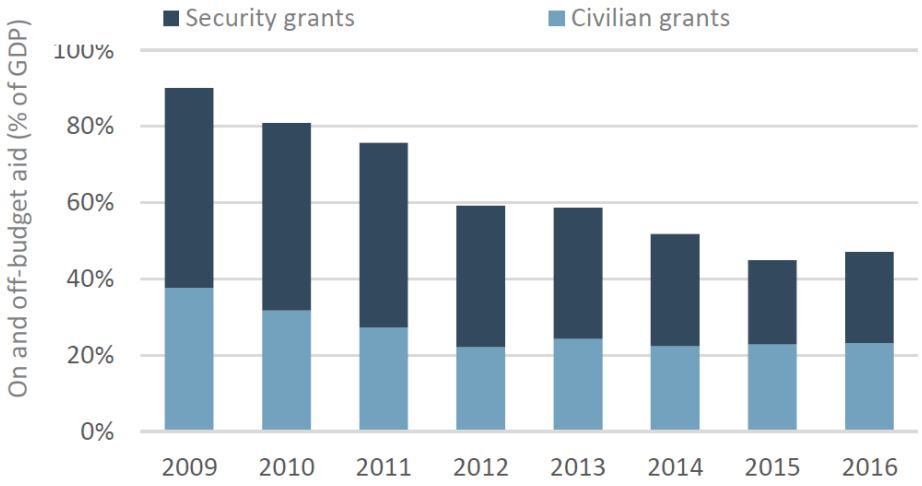
Context

- Recurring episodes of violence and insecurity
- Economic and political instability
- Displacement of populations within and outside the nation's borders
- Afghanistan's harsh geography coupled with increased conflict in many rural areas, make for extremely challenging living conditions
- Declining international security and civilian spending

GROWTH FELL TO THE LOWEST RATES SINCE 2001



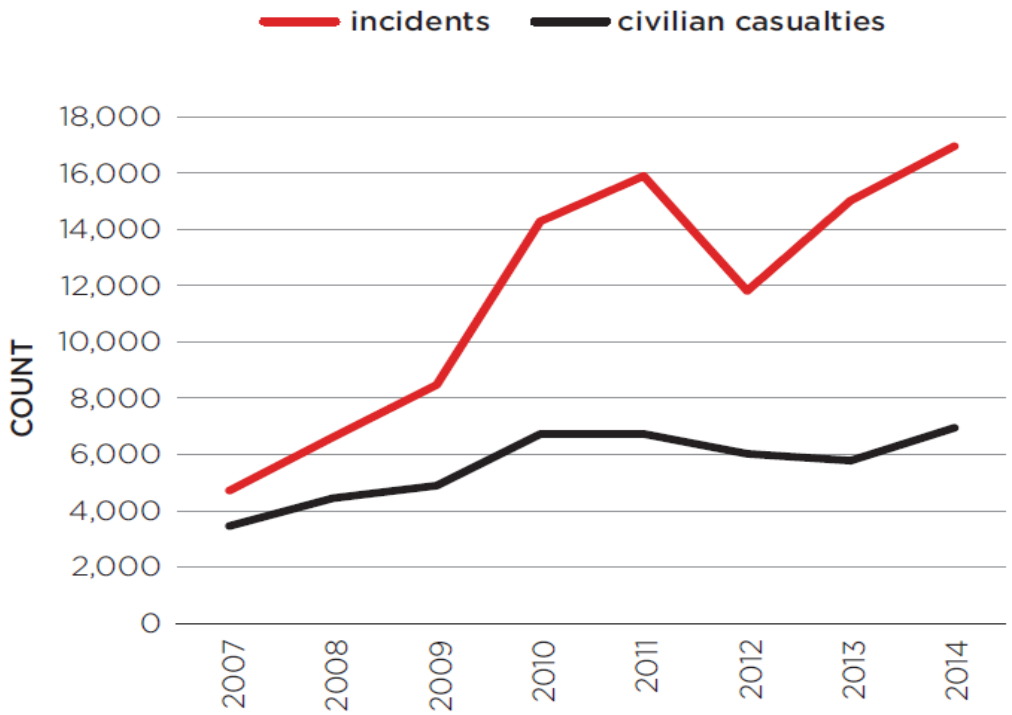
MILITARY AND CIVILIAN AID ALMOST HALVED OVER 2009-2014



Perception or reality?

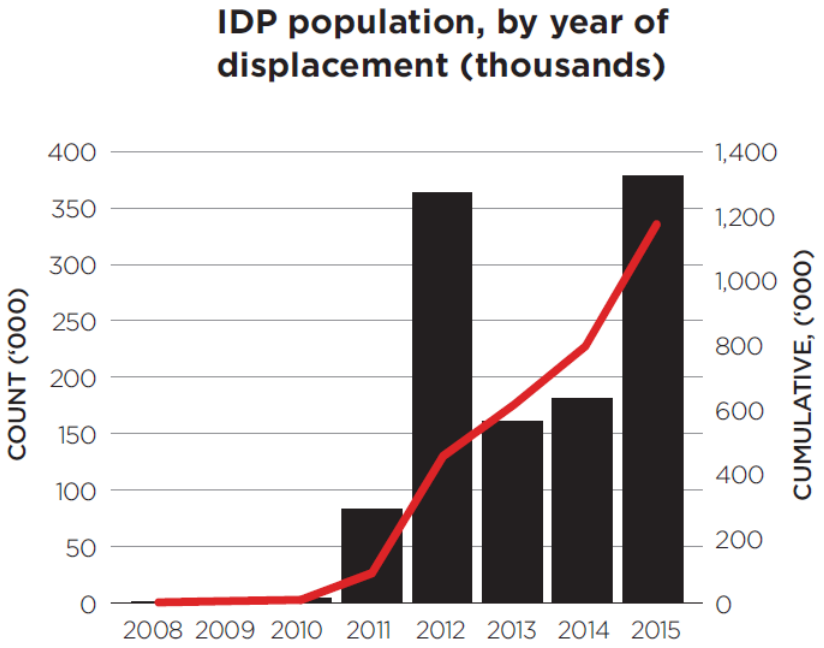
Intensification of conflict

- Increase in number of incidents and casualties
- Conflict more widely spread throughout Afghanistan's territory

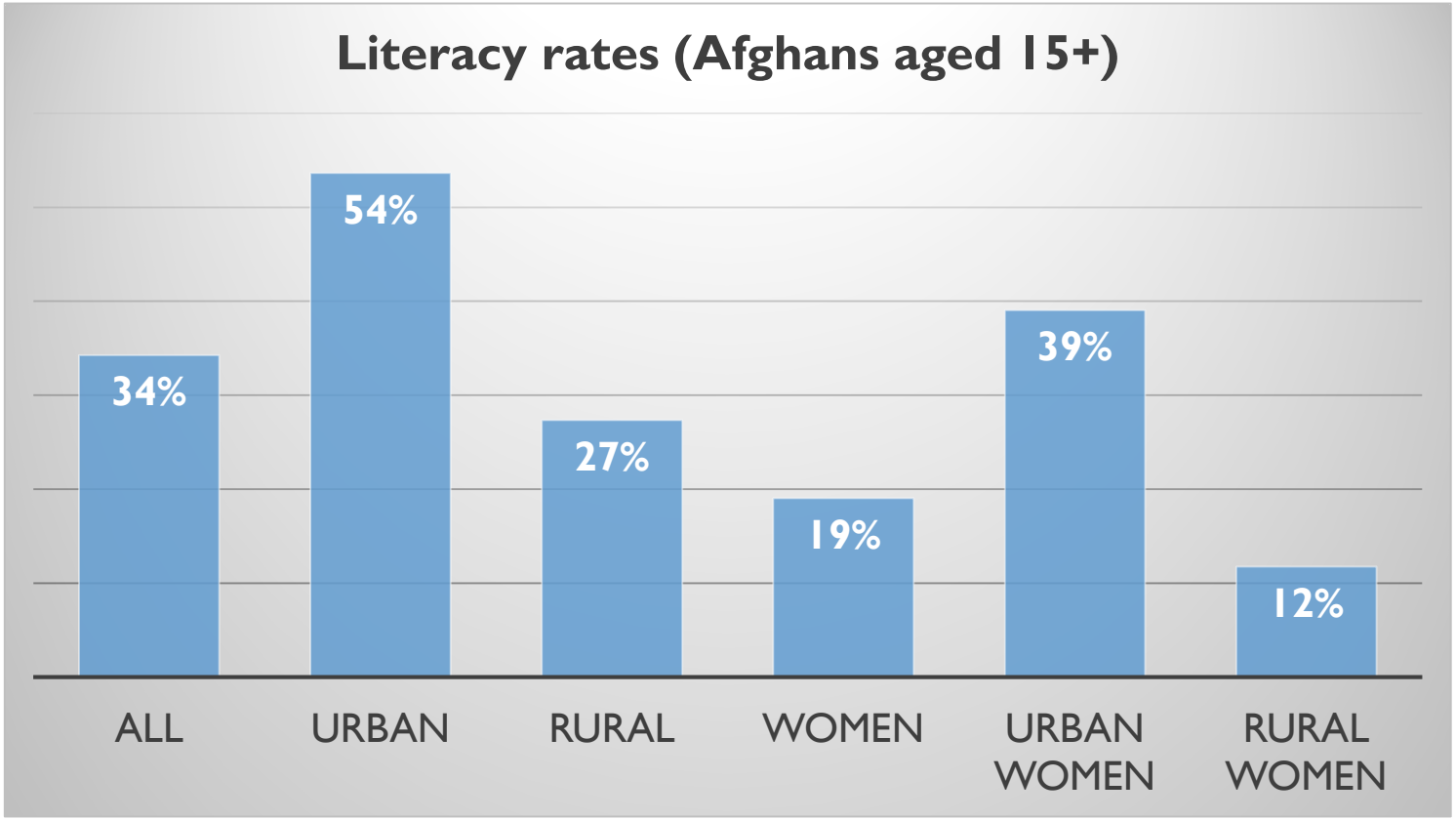


Increase in internal displacement

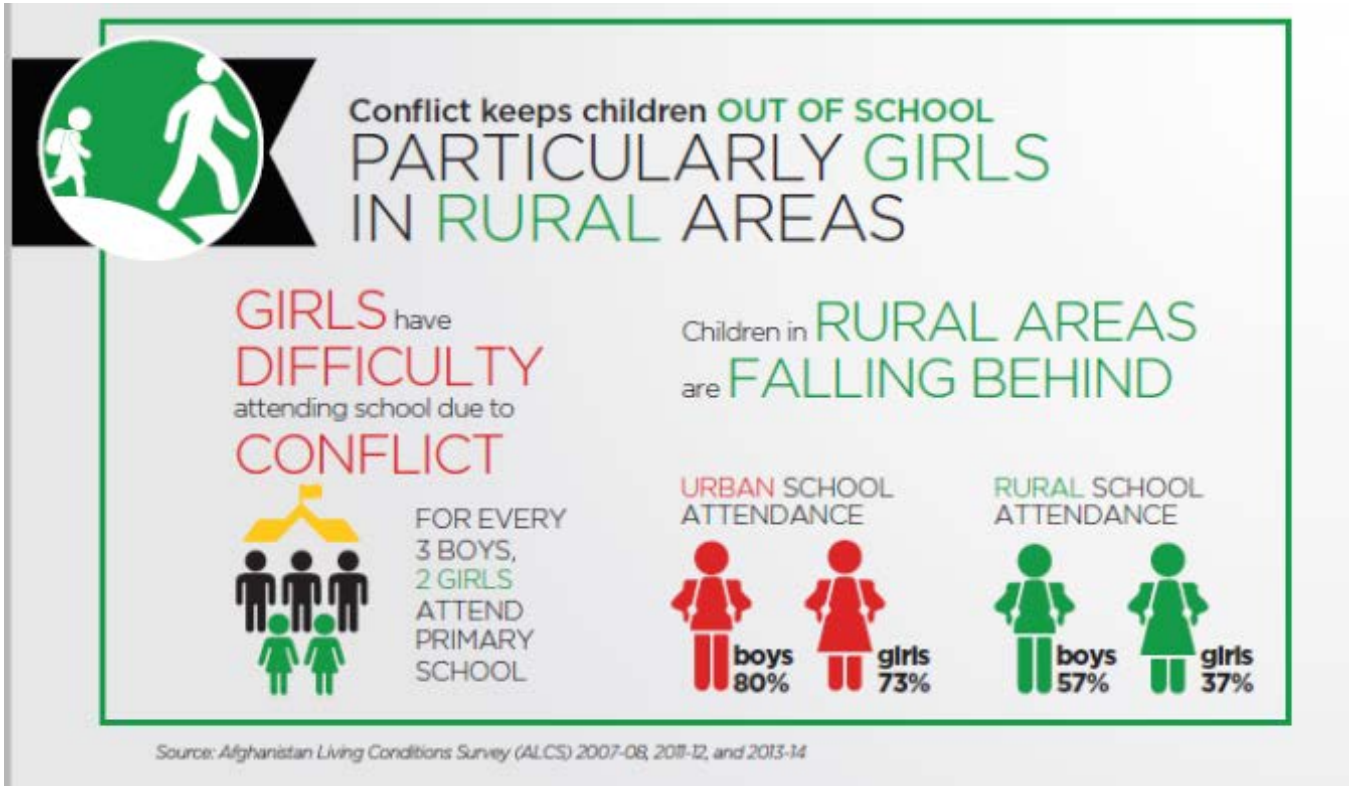
- Number of IDPs has been growing since 2011
- On average, every security incident (casualty) happening in a district leads 9 (10) into displacement.
- High vulnerability of IDPs, especially immediately after displacement



Education


Literacy rates (Afghans aged 15+)
34%
54%
27%
19%
39%
12%
ALL
URBAN
RURAL
WOMEN
URBAN WOMEN
RURAL WOMEN

Girls have little opportunity to go to school



Access to services

Access to basic services:

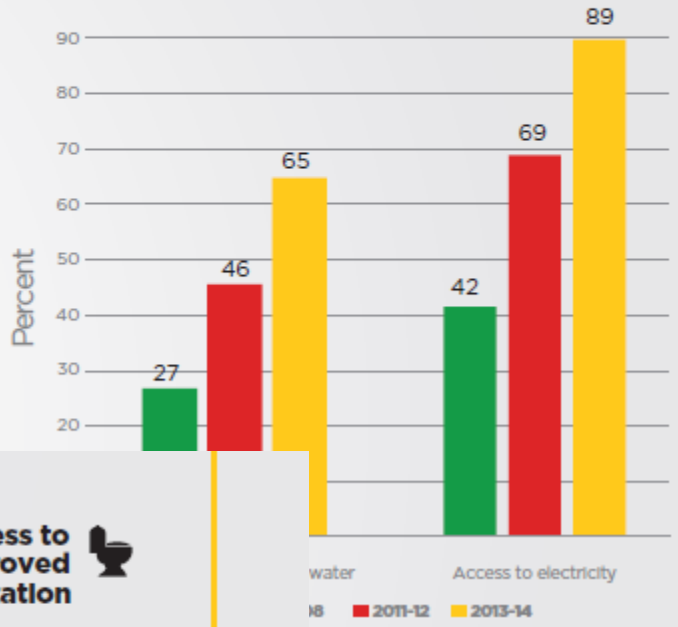
A SUCCESS STORY, WITH A FEW EXCEPTIONS

Access to water and electricity continues to improve, at even faster rates

However,

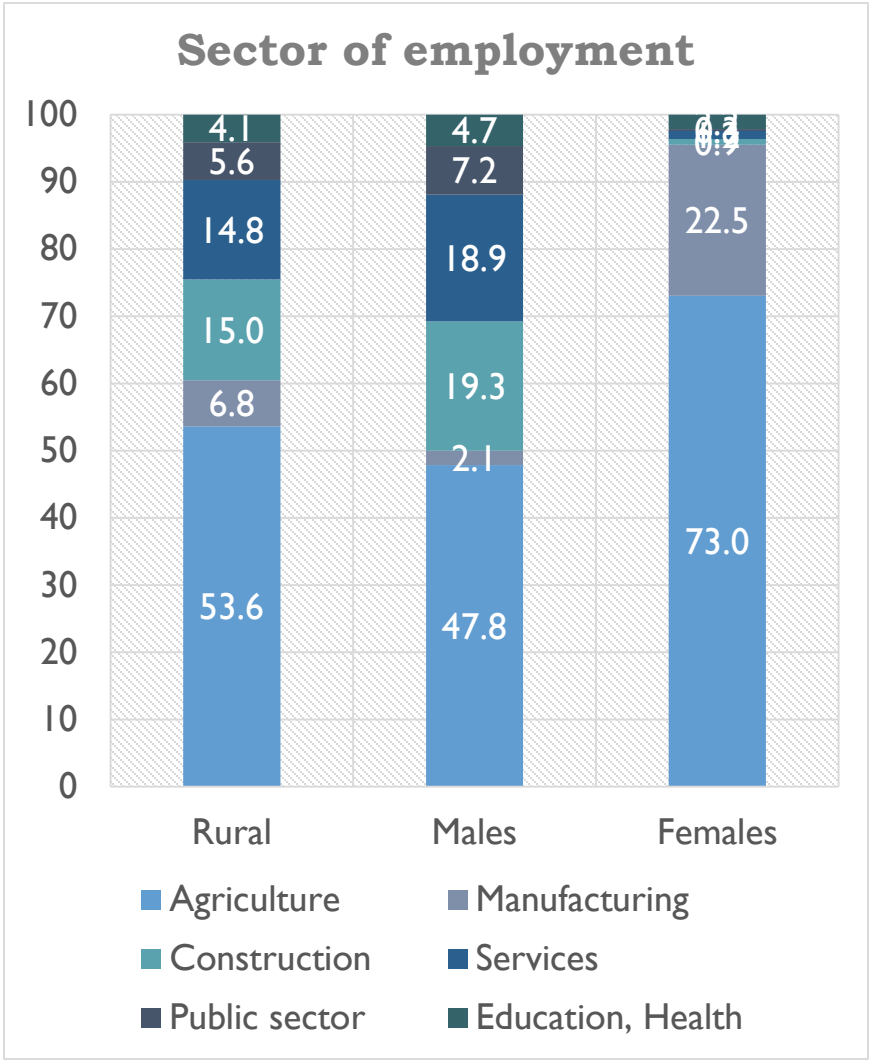
URBAN-RURAL INEQUALITIES

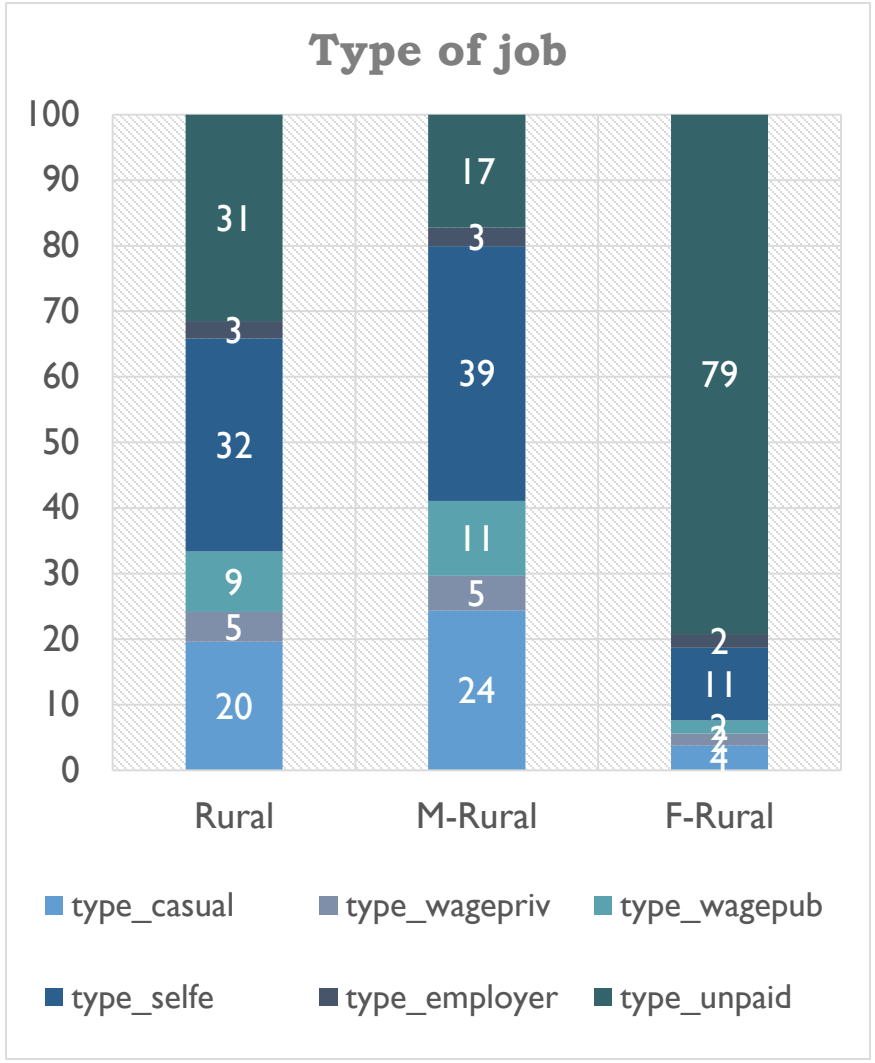
persist and are increasing and



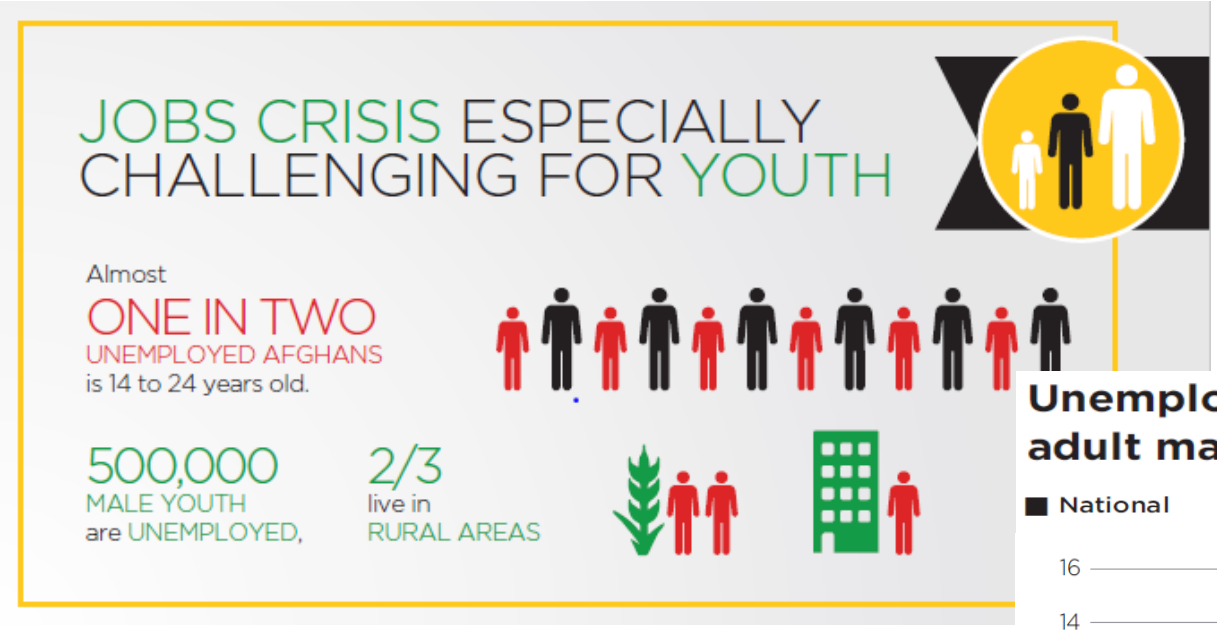
	Access to safe drinking water	Access to electricity	Access to improved sanitation
non-poor	69%	92%	47%
poor	57%	85%	30%

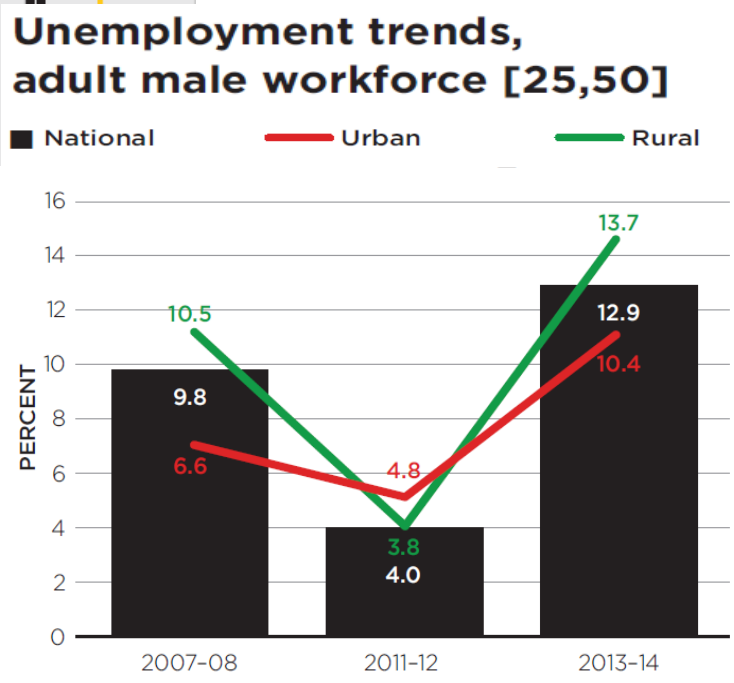
Employment in rural Afghanistan



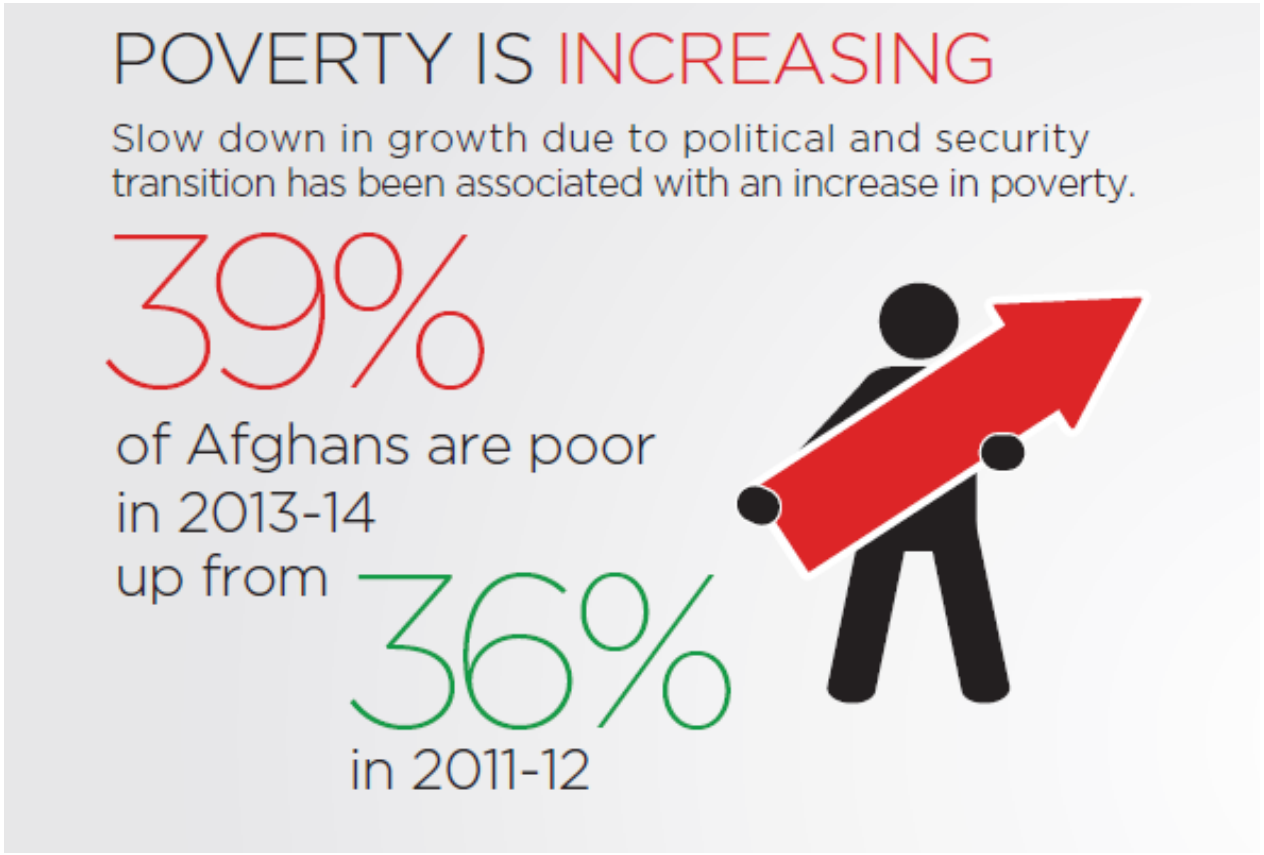


Employment
(or the lack thereof)





Poverty in Afghanistan



Thank you

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