

# ➤ **Afghanistan Agricultural Assessment and Framework Development**

**Additional supporting materials**

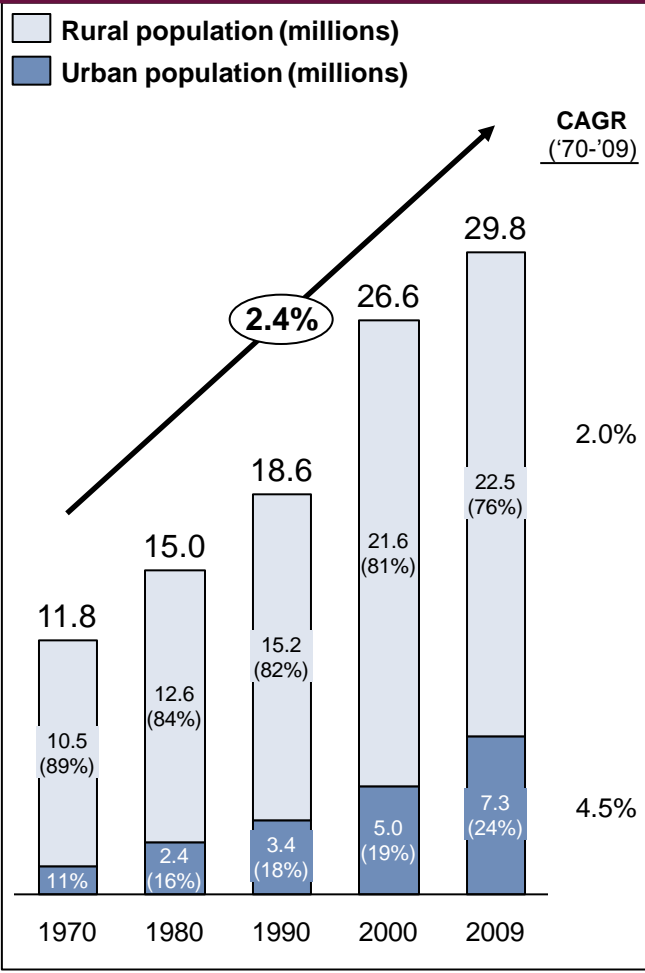
April 22, 2011

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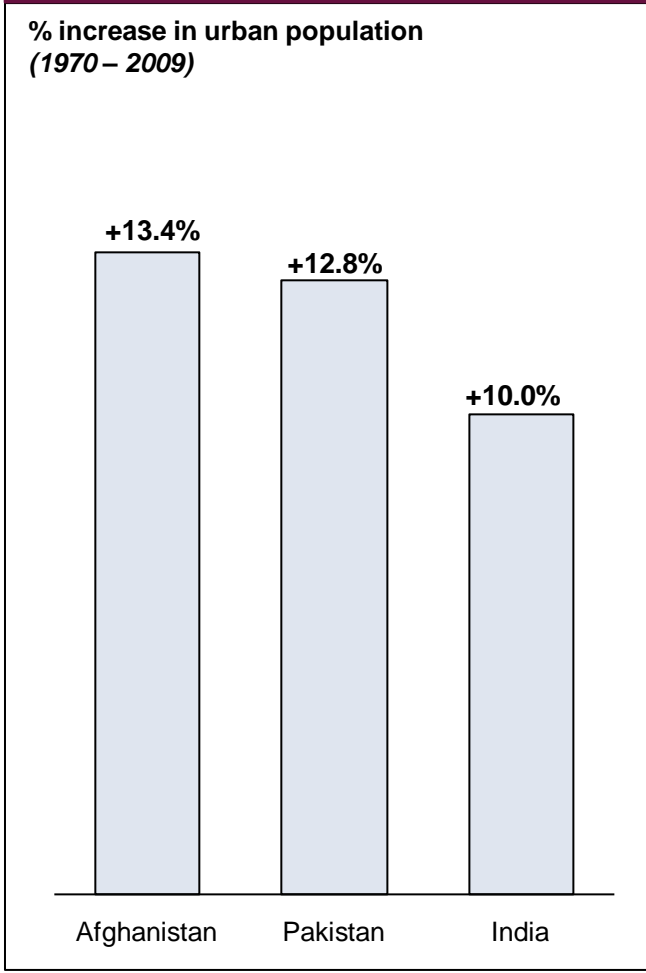
1. Population and GDP
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# Overview of Afghan population

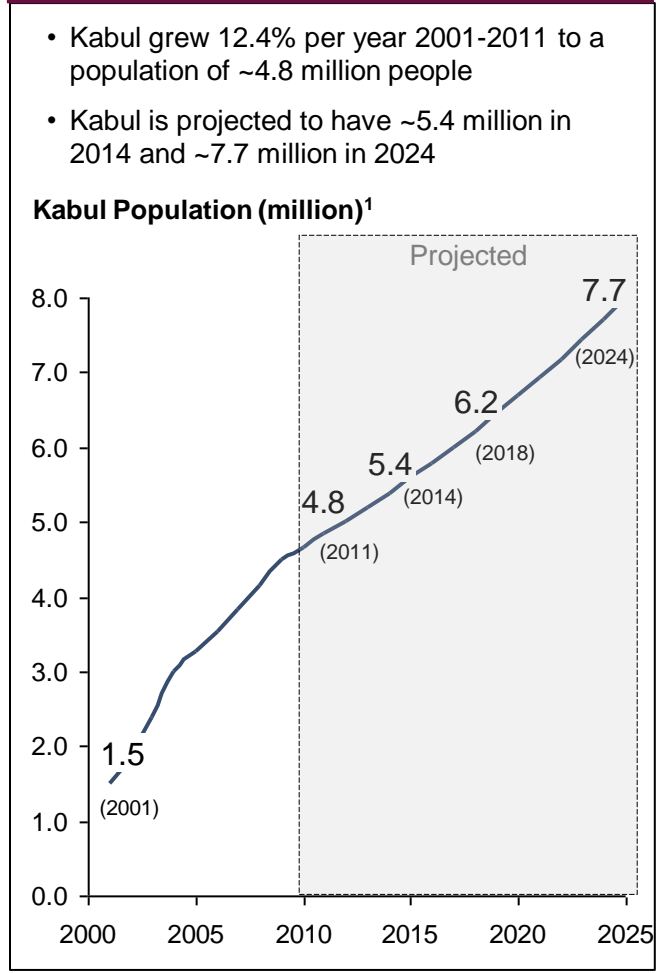
## Urban population has increased at ~4.5% over the past 40 years...



## ...increasing faster than other countries in the region...



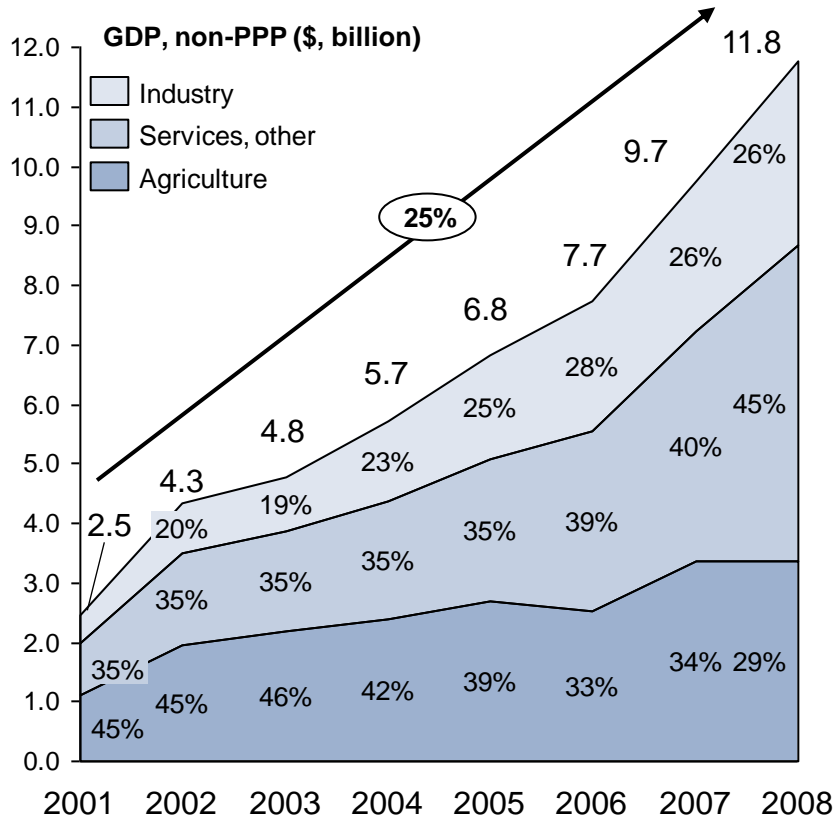
## ...while Kabul has tripled in size in the past decade



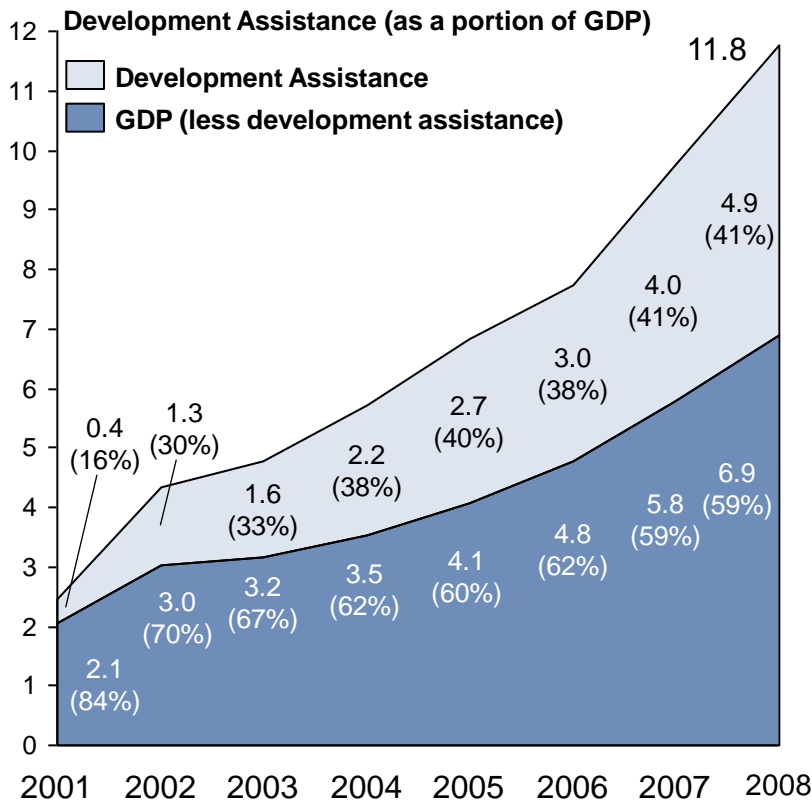
1. Dalberg analysis based on population estimates by the World Bank, the Humanitarian Practice Network (HPN), and RAWA News  
 Source: data.worldbank.com; The Humanitarian Practice Network, "Kabul, Afghanistan: a case study in responding to urban displacement" (2009);  
 RAWA News, "Unsafe housing puts Kabul residents at risk" (2009)

# Overview of Afghan GDP

Afghanistan has experienced GDP growth of ~25% per year since 2001...



...fuelled primarily by a 12x increase in foreign aid, to over 40% of GDP.



The export value of poppy is currently estimated at \$1.4 billion per year, which would increase agricultural output to approximately 40% of GDP if it were included.

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1. Population and GDP

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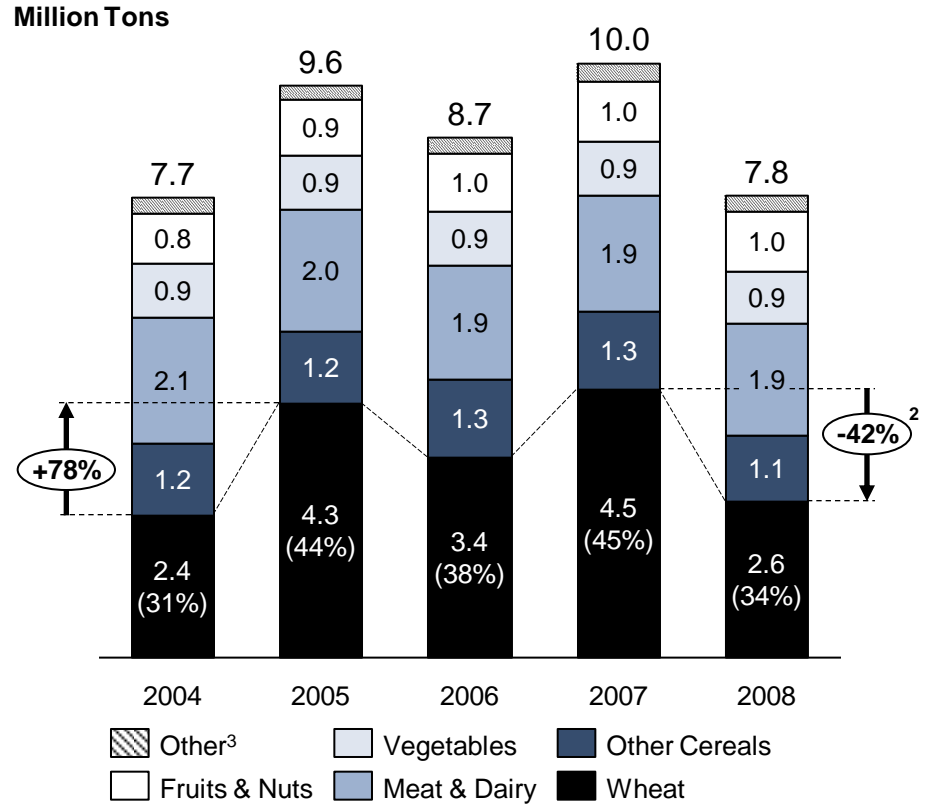
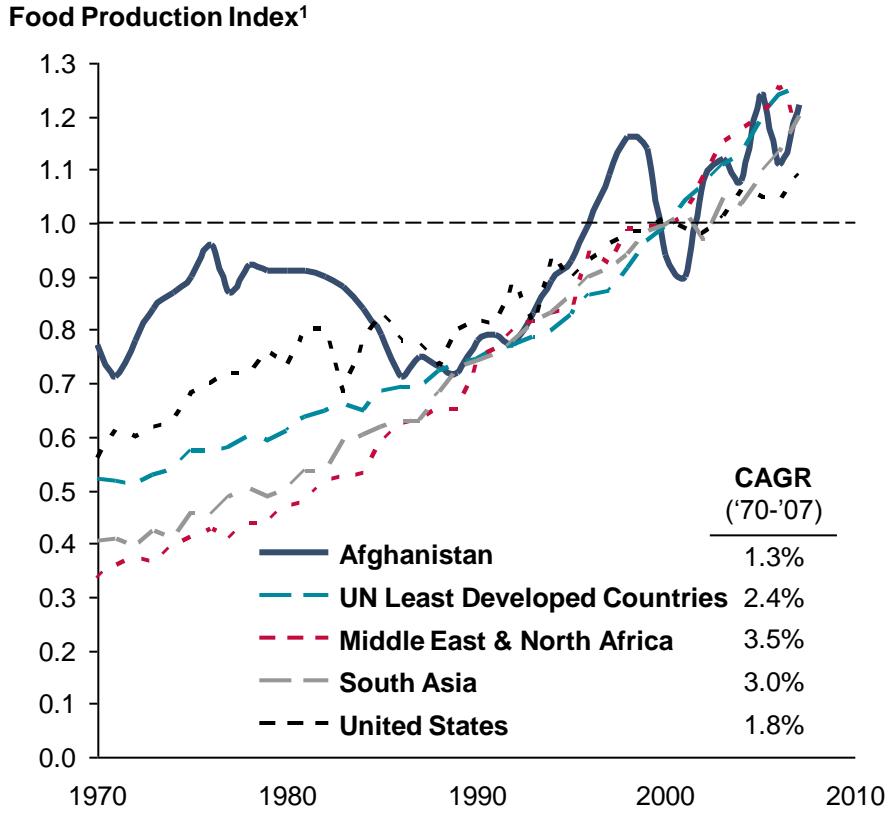
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# Afghan agricultural productivity

Agricultural productivity has grown slowly relative to South Asia and other regions

Wheat represents ~30-45% of total crop production by volume but output varies greatly from year to year



1. World Bank food production index baseline set in 2000 at a relative value of 1.0

2. Decline in wheat production due in large part to drought during 2007/8 season

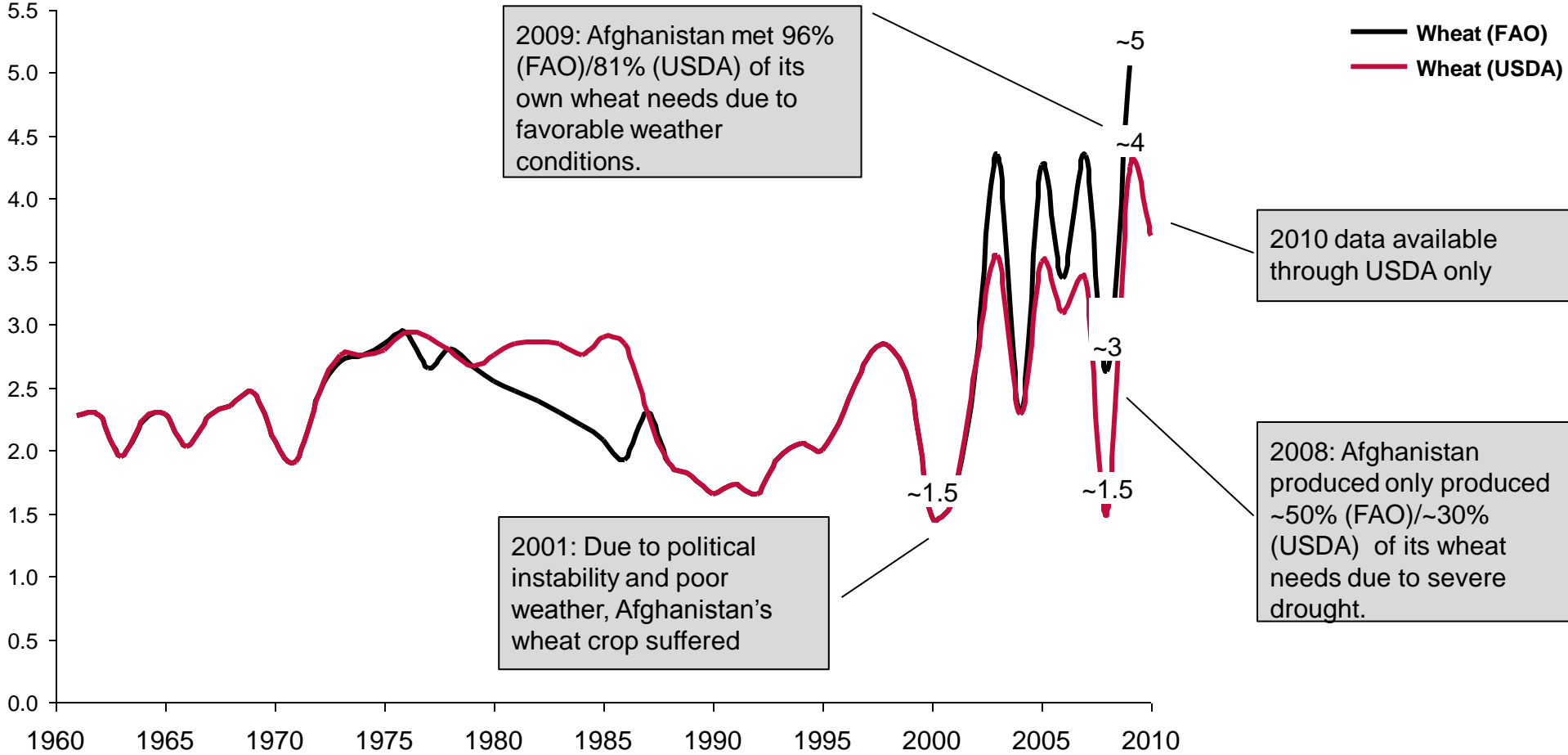
3. 'Other' includes wool and skins, refined sugars and oils, processed beverages, tea, coffee, and spices

Source: data.worldbank.com; FAO STAT

# Afghan wheat productivity

Wheat production in Afghanistan: 1961 - 2010

Metric tons (millions)



2009: Afghanistan met 96% (FAO)/81% (USDA) of its own wheat needs due to favorable weather conditions.

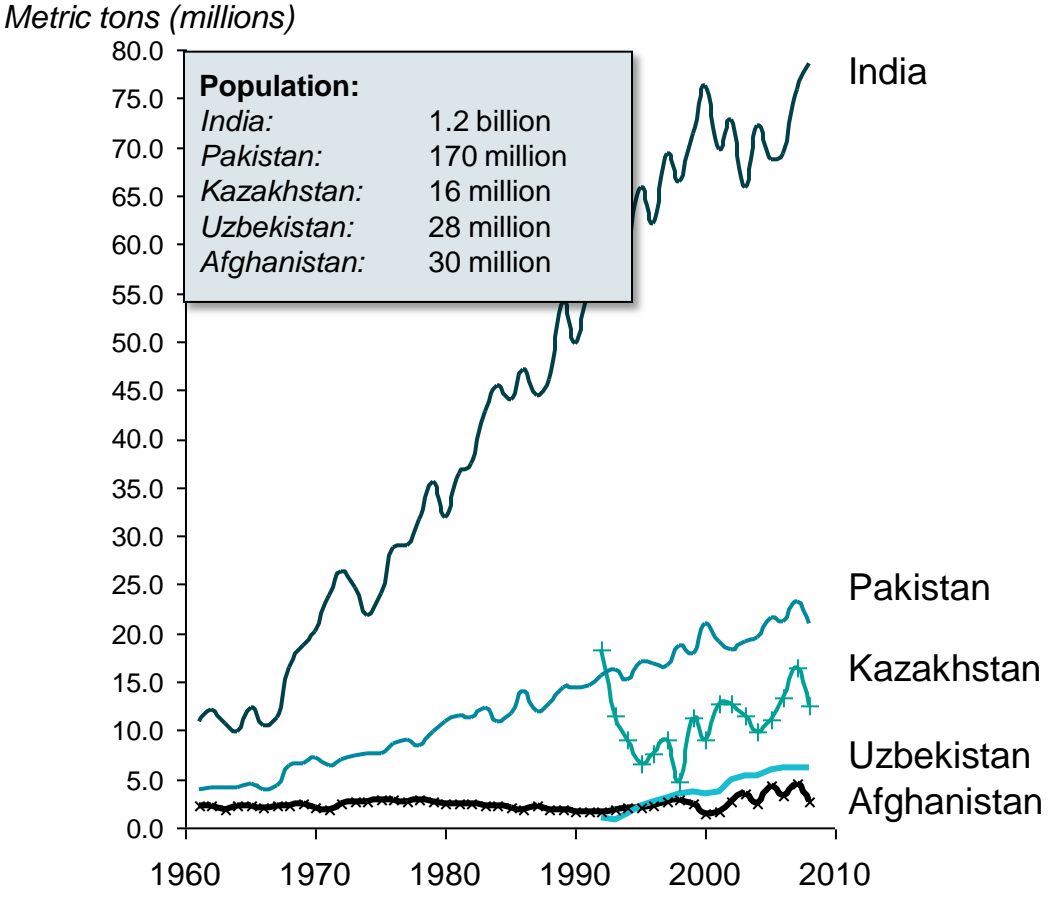
2010 data available through USDA only

2001: Due to political instability and poor weather, Afghanistan's wheat crop suffered

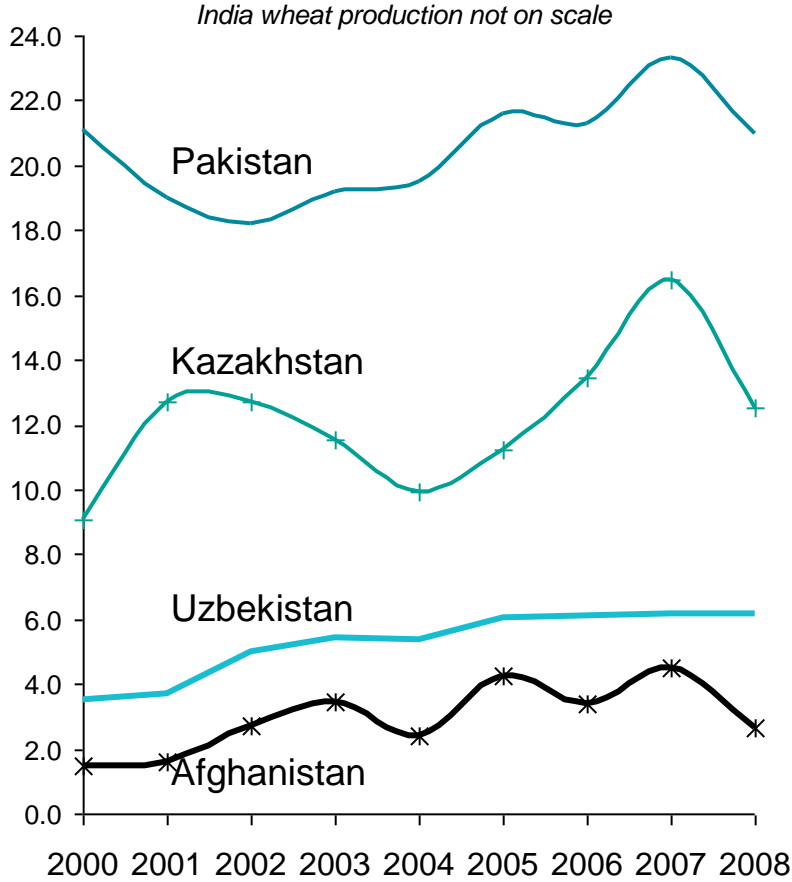
2008: Afghanistan produced only produced ~50% (FAO)/~30% (USDA) of its wheat needs due to severe drought.

# Regional wheat productivity

Regional wheat production levels has shown substantial growth in last ~50 years...



...though in last 10 years, regional markets exhibit similar levels of volatile demand



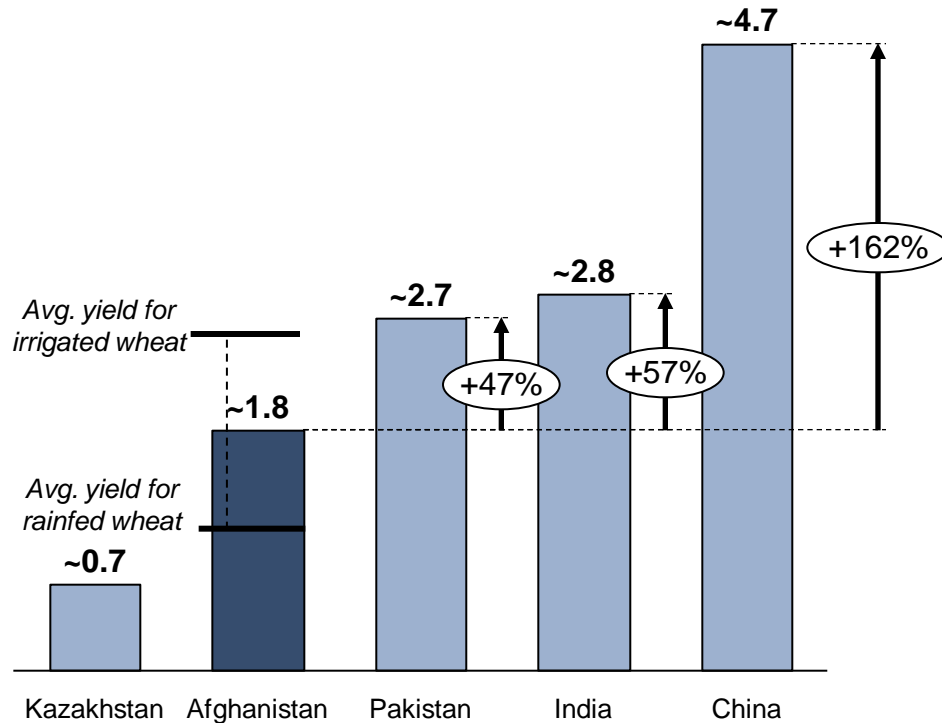
\* Afghanistan    — Pakistan    — Uzbekistan  
 + Kazakhstan    — India



# Regional wheat yields

## Average wheat yields per hectare

Tons/hectare (2010)



## Examples of inefficient agronomic practices which contribute to lower wheat yields

### Inputs to production

- Low quality seeds: 7-10% of wheat is saved for next year's seeds; however they are low quality and do not improve yields<sup>1</sup>
- Little use of fertilizer: Just over half of farmers used some sort of fertilizer, although 40% said that this did not meet all of their needs<sup>2</sup>

### Production methods

- Limited knowledge of pest management: Only 17% of farmers used pesticides or herbicides on their crops<sup>3</sup>
- Inadequate water management: Farmers tend to over-irrigate their crops when water is available leading to lower overall yields<sup>4</sup>

### Post-production

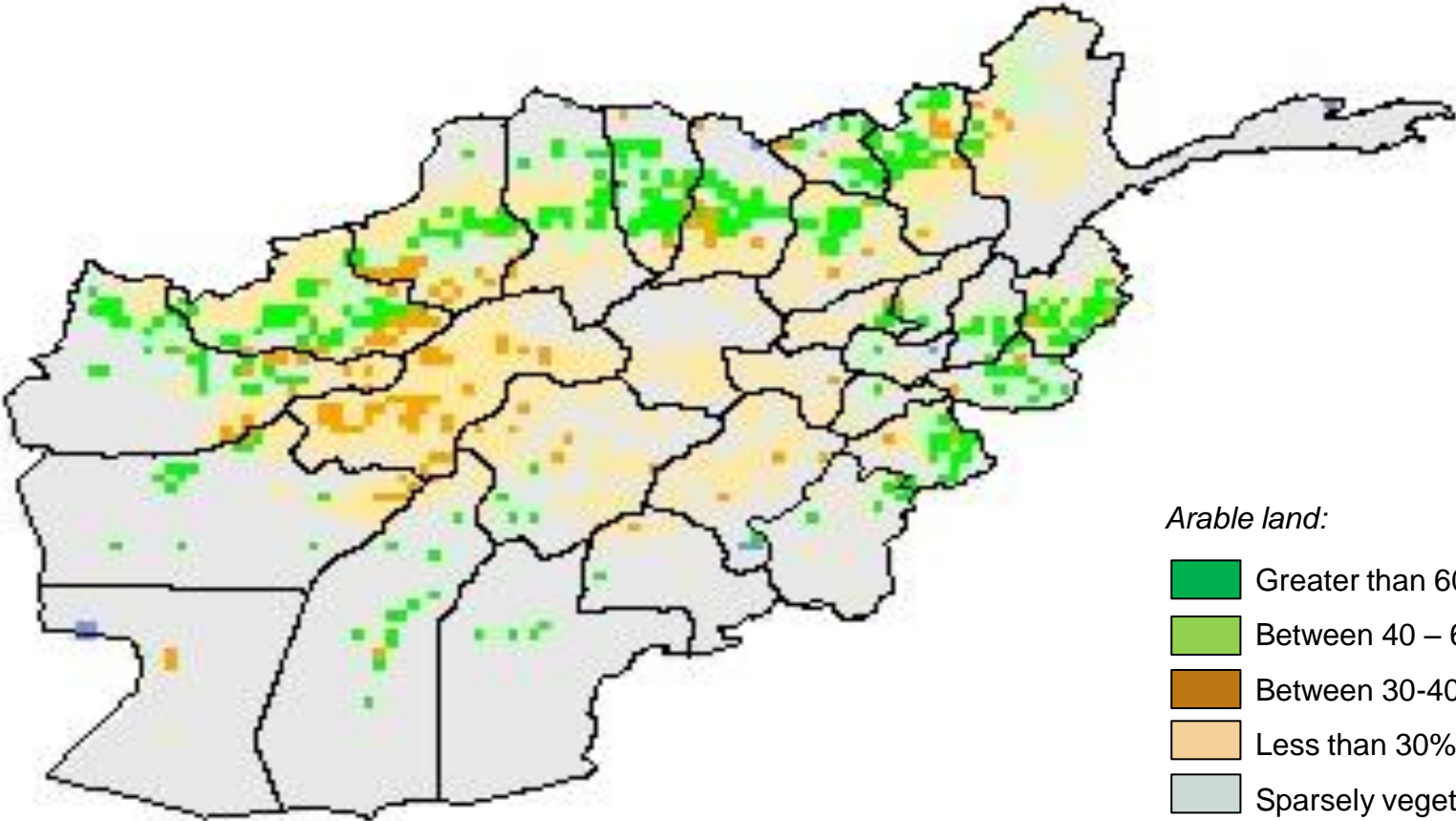
- Non-mechanized agriculture practices: Based on comparable statistics from Pakistan, up to 8% of wheat could be lost due to a lack of mechanized tools to harvest wheat<sup>5</sup>

**While multiple factors influence low yields, primary and secondary research highlights agronomic practices together with irrigation as significant drivers**

1. National Risk and Vulnerability Assessment 2007/08 ; 2. *Ibid.*, 3. *Ibid.*; 4. AWATT Program Factsheet, 5. "Food Price Increases in South Asia," 2008; "Post harvest losses in agriculture and their containment", University of Faisabad, 1998.

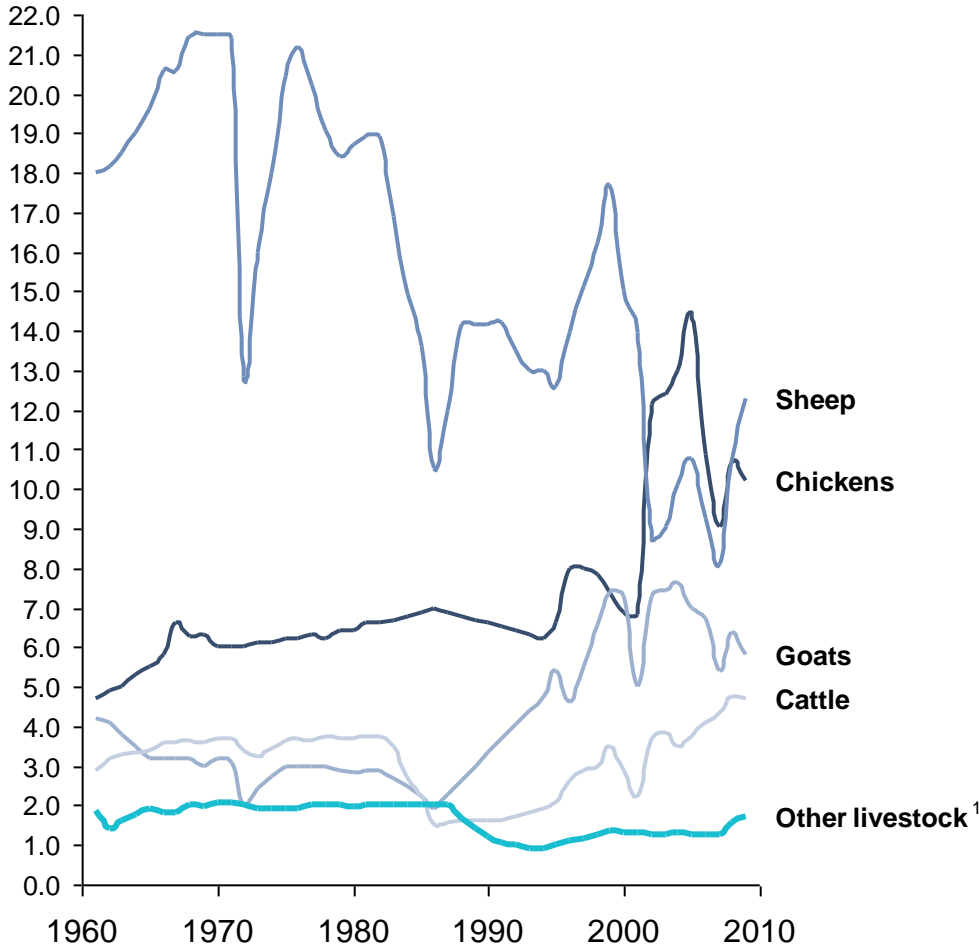
Source: Agricultural Progress Report, 2010; USDA PSD Database;

# Afghan arable land (12% of total land area)



# Afghan livestock husbandry

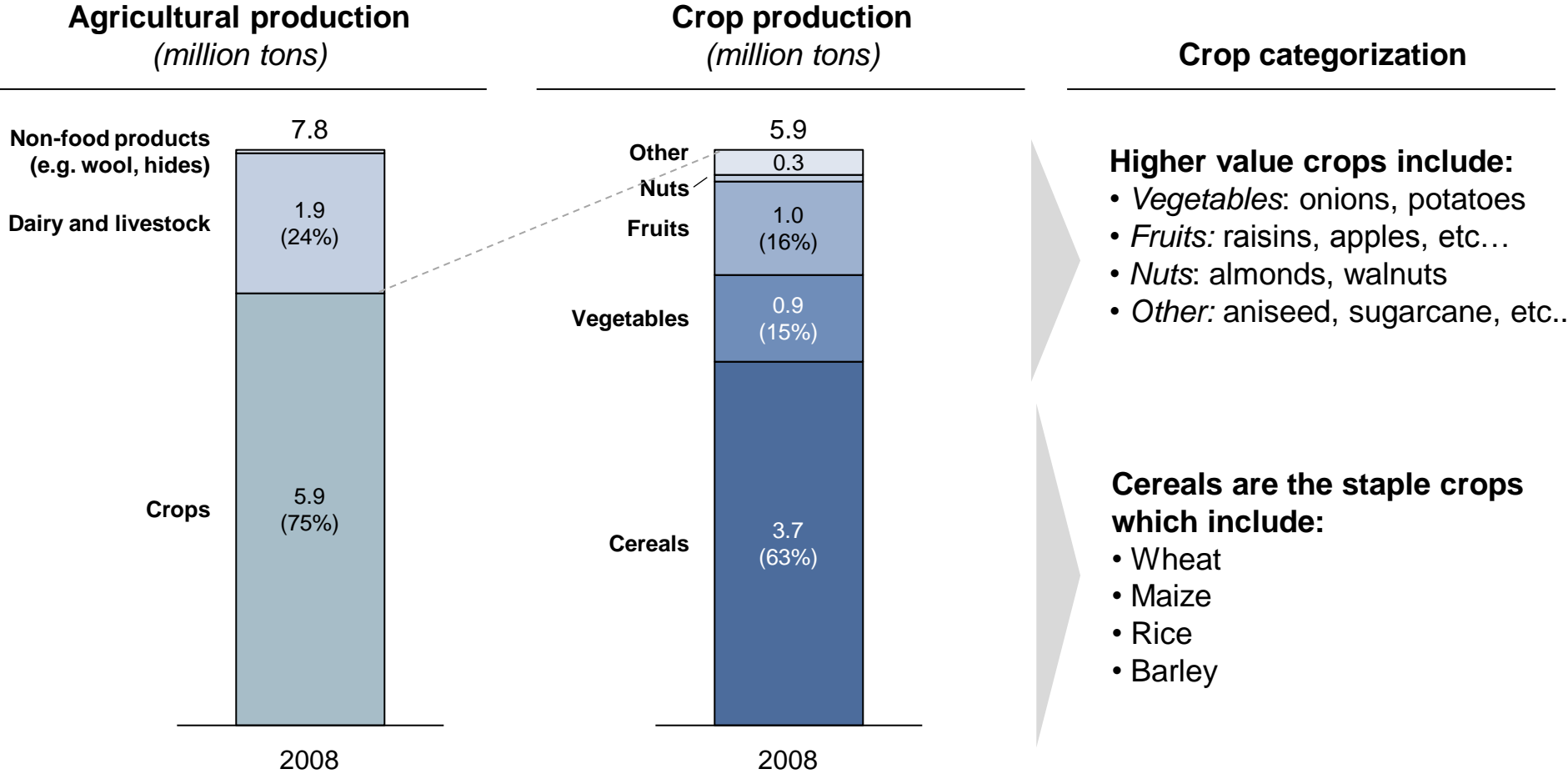
Number of livestock (millions)



Livestock products (millions tons)



# Afghan crop production volumes



- Higher value crops include:**
- *Vegetables*: onions, potatoes
  - *Fruits*: raisins, apples, etc...
  - *Nuts*: almonds, walnuts
  - *Other*: aniseed, sugarcane, etc..

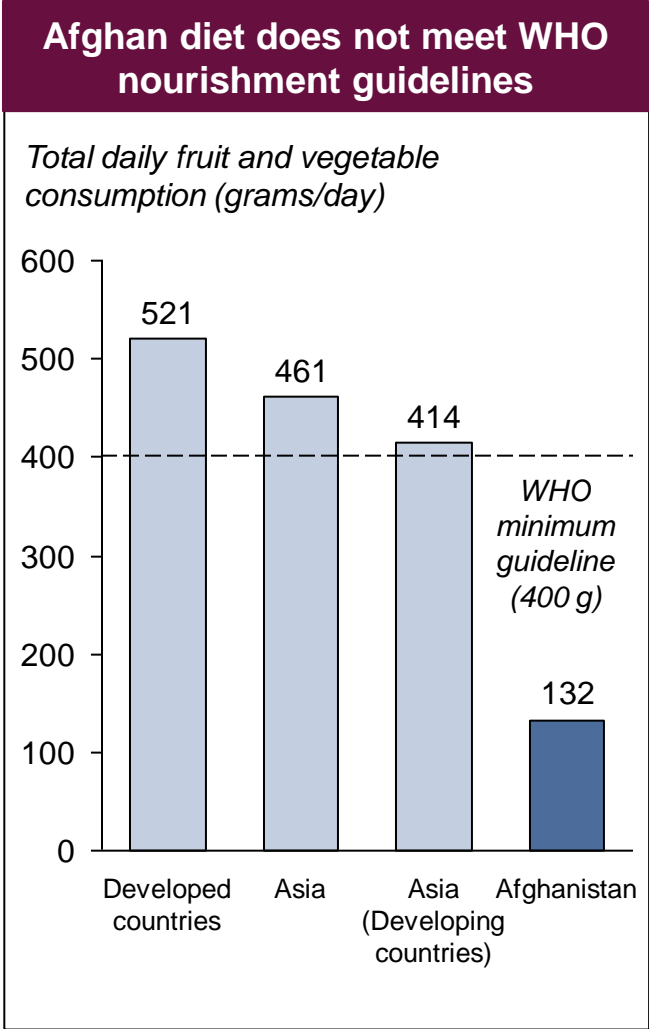
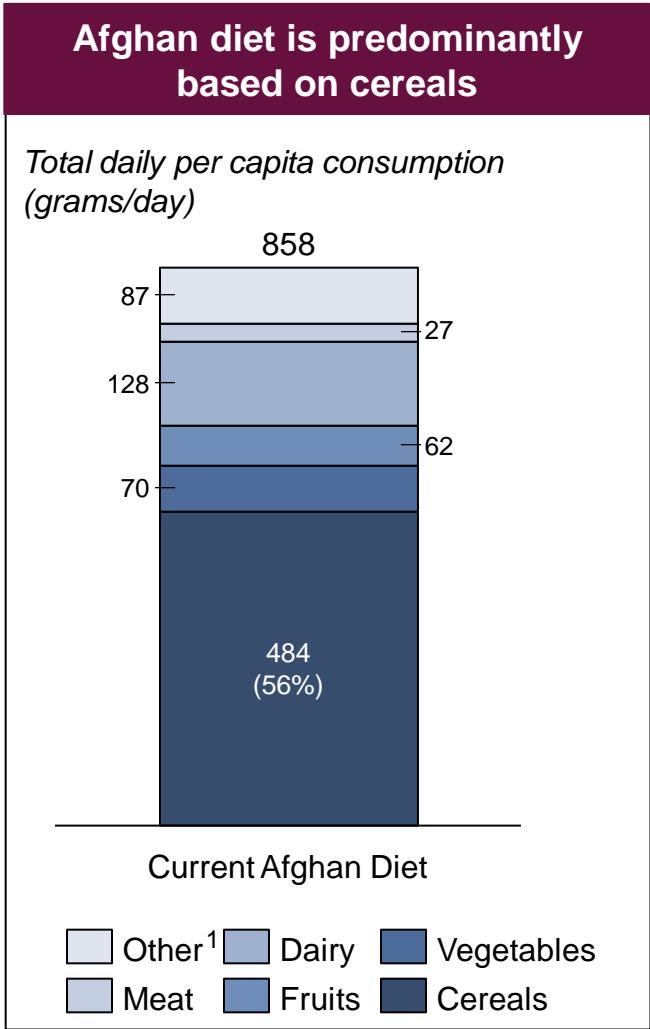
- Cereals are the staple crops which include:**
- Wheat
  - Maize
  - Rice
  - Barley

**Cereal crops represent nearly 75% of total agricultural production in Afghanistan**

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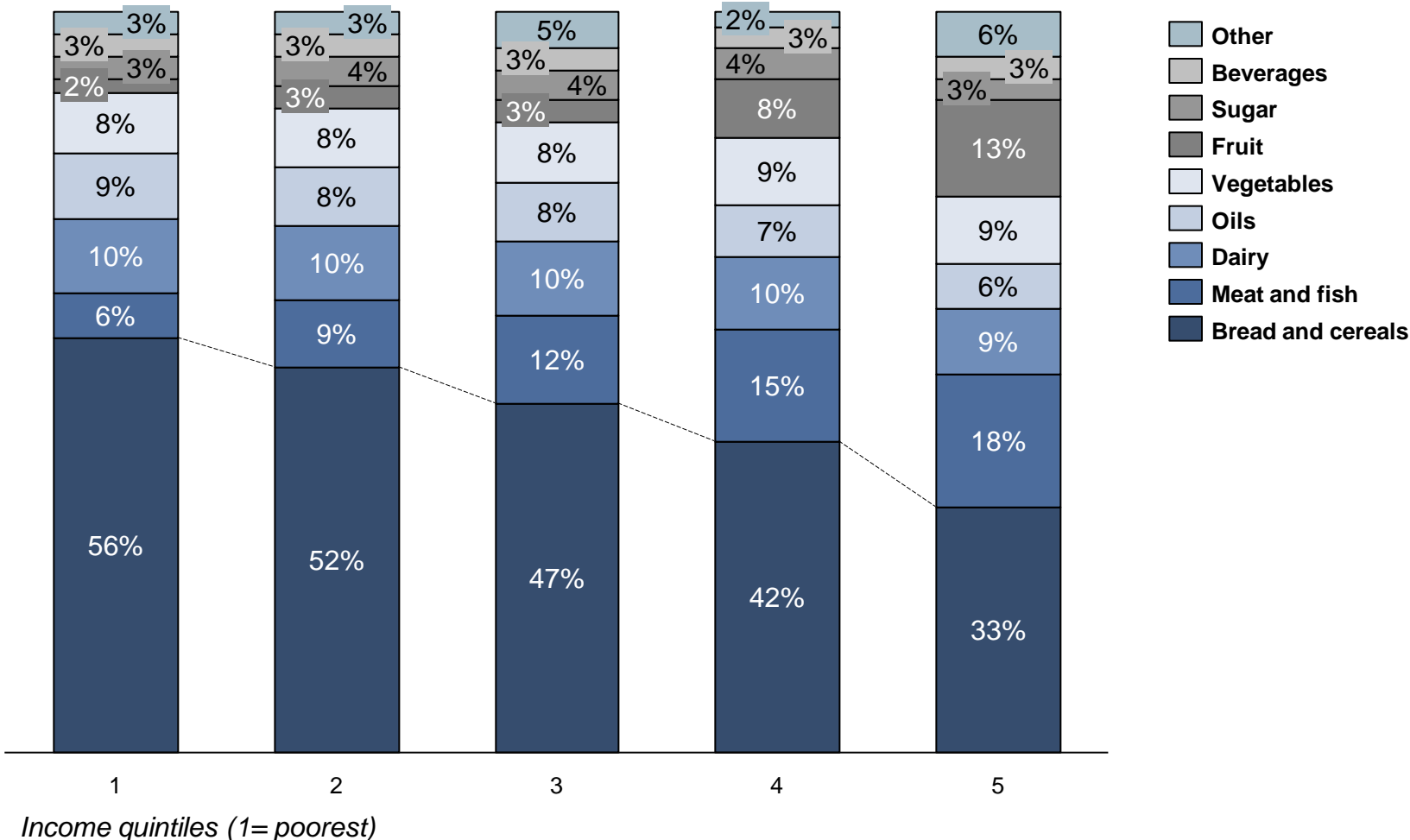
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# Afghan diet and nutrition levels



# Afghan consumption by income quintile

Afghan diet composition



# Examples of common Afghan food

## Main dishes

### STAPLES



- **Unleavened bread** is a critical part of any meal and the average Afghan consumes at least two loaves a day made of wheat, barley or maize
- **Rice** is also widely consumed and is another key staple in the Afghan diet and forms the basis of the national dish “palao”
- **Dough dumplings** (“khamerbob”) are also made on special occasions

### MEATS



- **Lamb, goat and cow meat** are the most popular options and are either cooked in a stew (“qorma”) or in a kebab
- **Chicken meat** is also used but is not as popular

## Side dishes

### VEGETABLES, FRUITS & NUTS



- **Eggplants, okra, potatoes** and other locally available vegetables are often used as side dishes
- **Tomatoes and onions** are widely used in both main and side dishes
- **Fruits and nuts** are also widely used in main dishes (ie. “palao”)

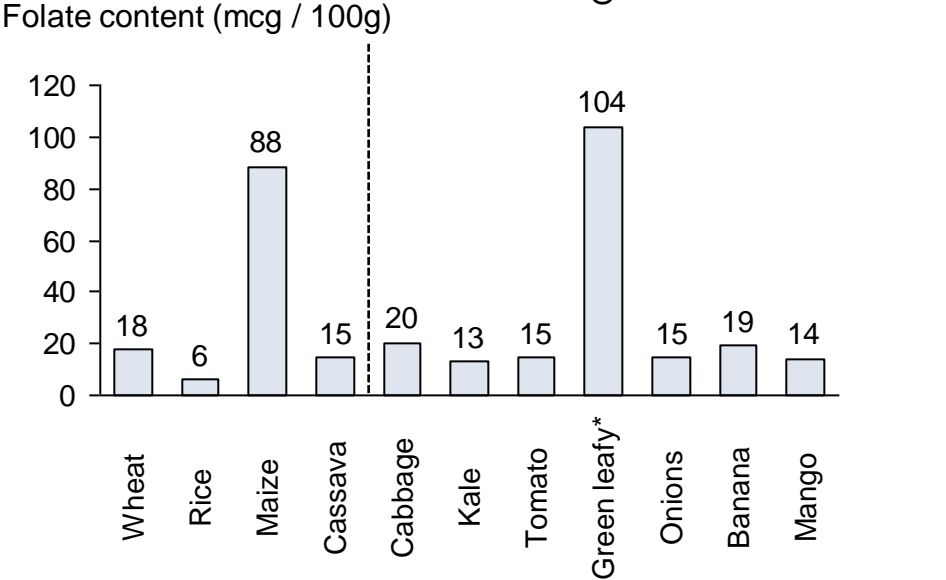
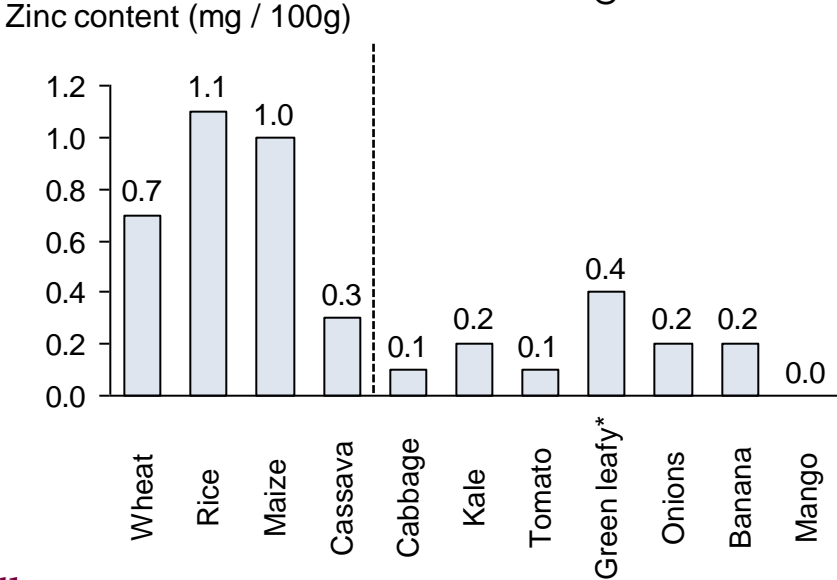
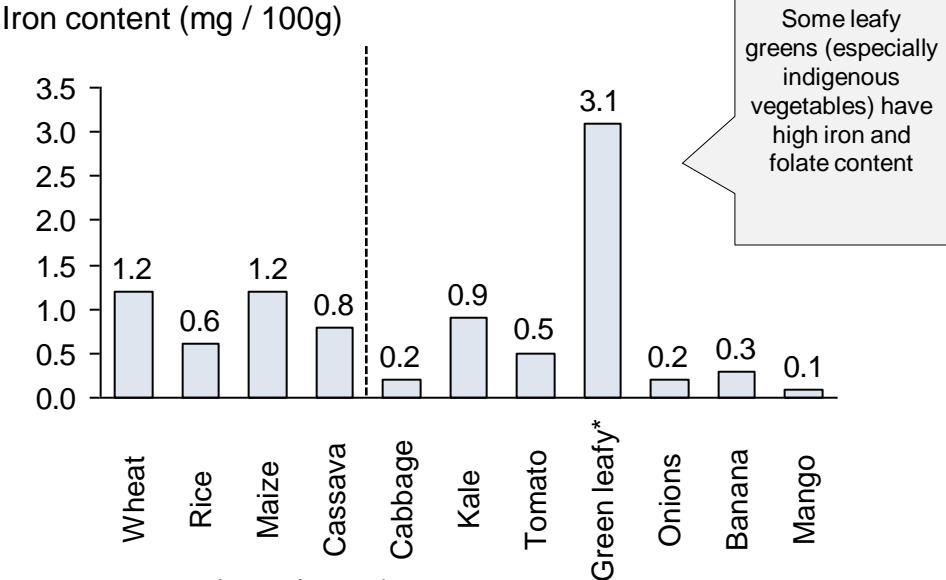
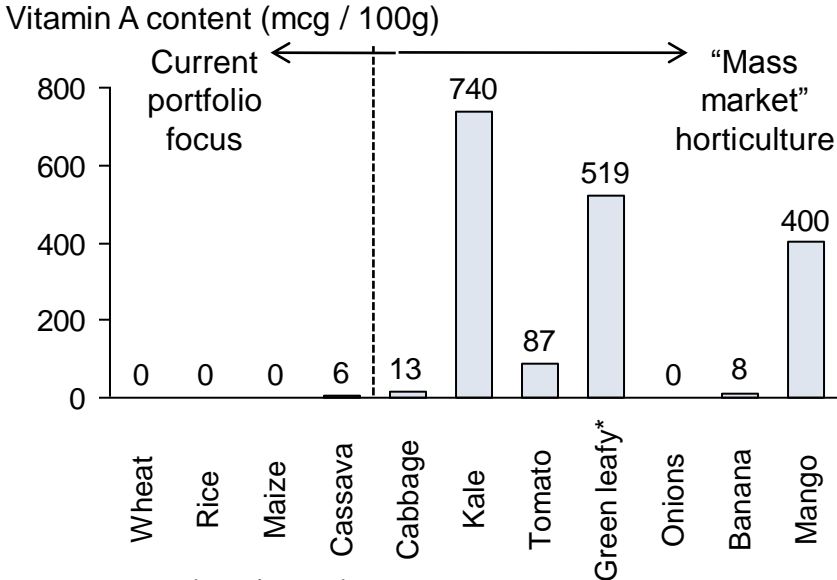
### YOGHURT



- **Yogurt** is an important part of an Afghan meal and can be used in the preparation of the main meal or as a side dish



# Nutrition sources



# Overview of macronutrients and micronutrients

Macronutrients	
<u>Function:</u>	Provide structural material and energy
<u>Types:</u>	<ul style="list-style-type: none"> <li>• Carbohydrates</li> <li>• Fats</li> <li>• Protein</li> <li>• Fiber</li> <li>• Water</li> </ul>
	<p>Together account for total caloric intake</p> <p>Necessary for digestion and fluid balance</p>
<u>Recommended ratio of energy sources:</u> <sup>1</sup>	
	<p>Total Calories (Mean requirement: 2100 Calories*)</p>

Micronutrients																		
<u>Function:</u>	<ul style="list-style-type: none"> <li>• Act as coenzymes and cofactors in numerous metabolic processes</li> <li>• Many are directly or indirectly involved in gene expression</li> </ul>																	
<u>Types (not exhaustive)†:</u>																		
	<table border="0"> <thead> <tr> <th colspan="2"><u>Minerals</u></th> <th><u>Vitamins</u></th> </tr> </thead> <tbody> <tr> <td>• Calcium</td> <td rowspan="2">} Bulk minerals (electrolytes)</td> <td>• Vitamin A</td> </tr> <tr> <td>• Magnesium</td> <td>• Vitamin C</td> </tr> <tr> <td>• Iodine</td> <td rowspan="4">} Trace minerals (catalysts)</td> <td>• Vitamin D</td> </tr> <tr> <td>• Iron</td> <td>• Vitamin E</td> </tr> <tr> <td>• Selenium</td> <td>• Vitamin K</td> </tr> <tr> <td>• Zinc</td> <td>• B Vitamins</td> </tr> </tbody> </table>	<u>Minerals</u>		<u>Vitamins</u>	• Calcium	} Bulk minerals (electrolytes)	• Vitamin A	• Magnesium	• Vitamin C	• Iodine	} Trace minerals (catalysts)	• Vitamin D	• Iron	• Vitamin E	• Selenium	• Vitamin K	• Zinc	• B Vitamins
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**Fruits and vegetables are the best source of macronutrients and micronutrients**

Note: \*Requirements vary significantly by age, gender and health status; mean is based on weighted average across subgroups; †List of micronutrients is not exhaustive (focus is on most significant)  
 Source: Humanitarian Charter and Minimum Standards in Disaster Response (2004 Edition); World Health Organization; medscape.com

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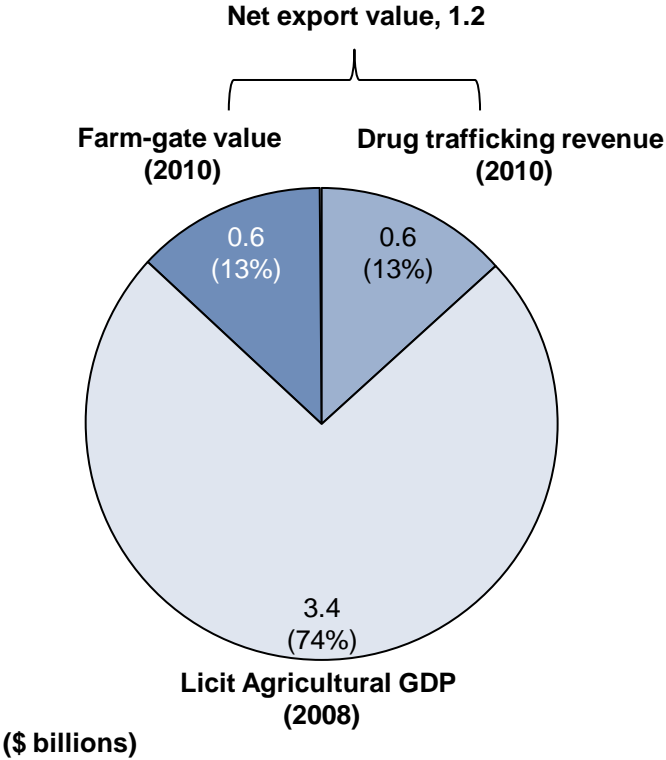
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# Afghan poppy production overview

## Agricultural Cultivation

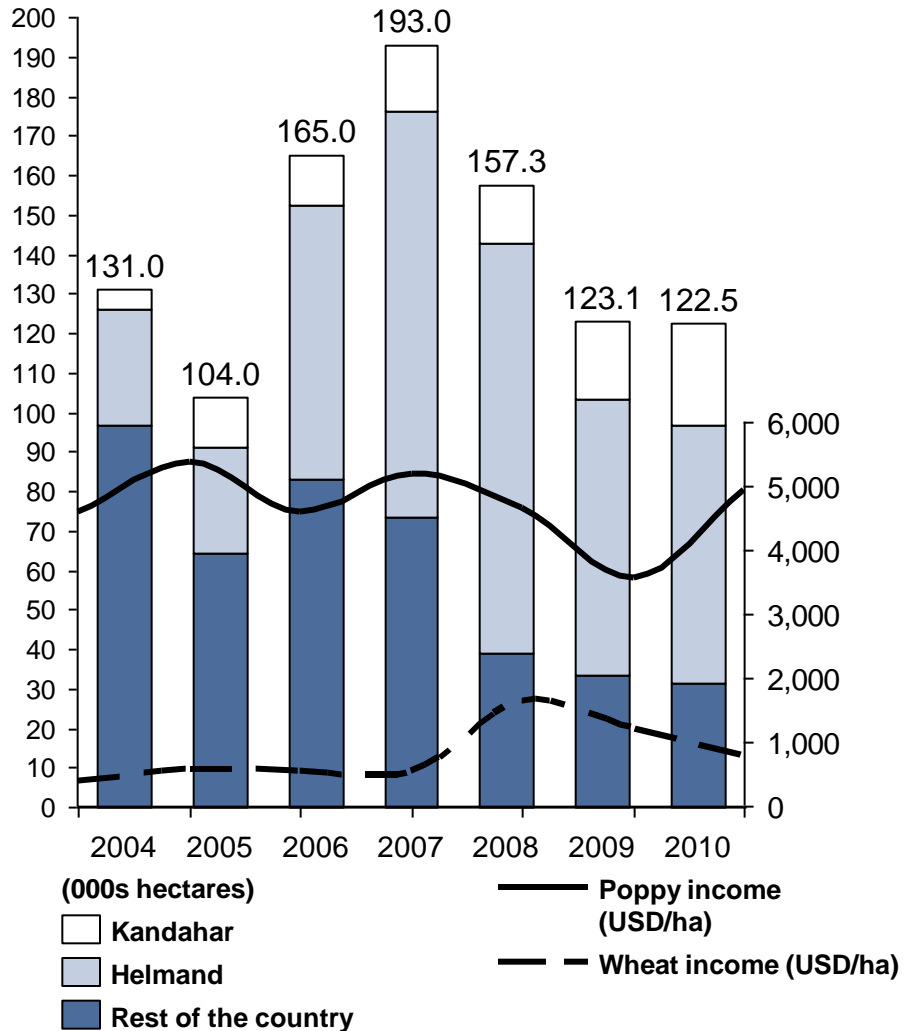


## Agricultural GDP and Poppy Industry

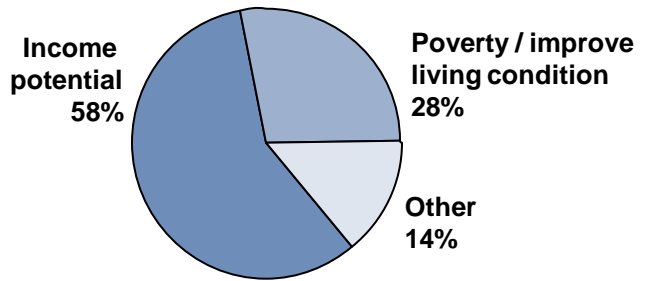


# Afghan poppy production income

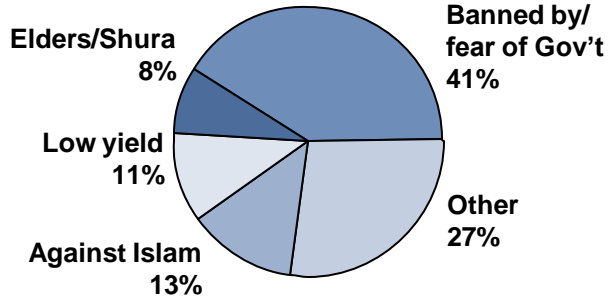
## Poppy cultivation and income



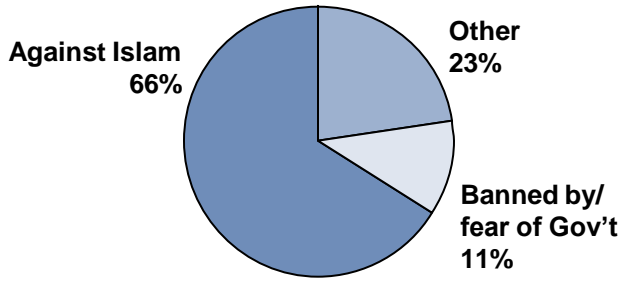
### Reasons for cultivating opium (2010 survey n=392)



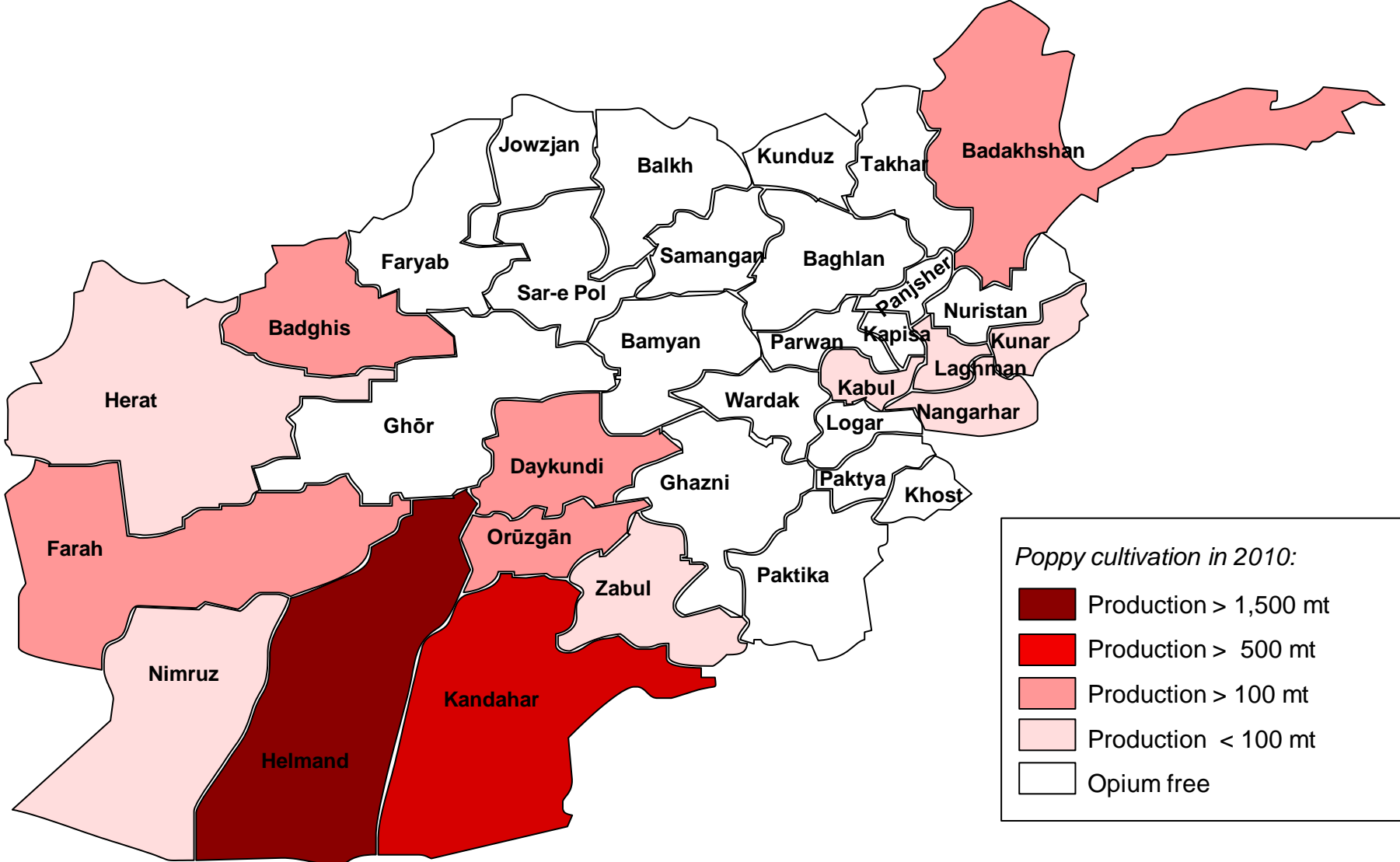
### Reasons for stopping (2010 survey n=1,507)



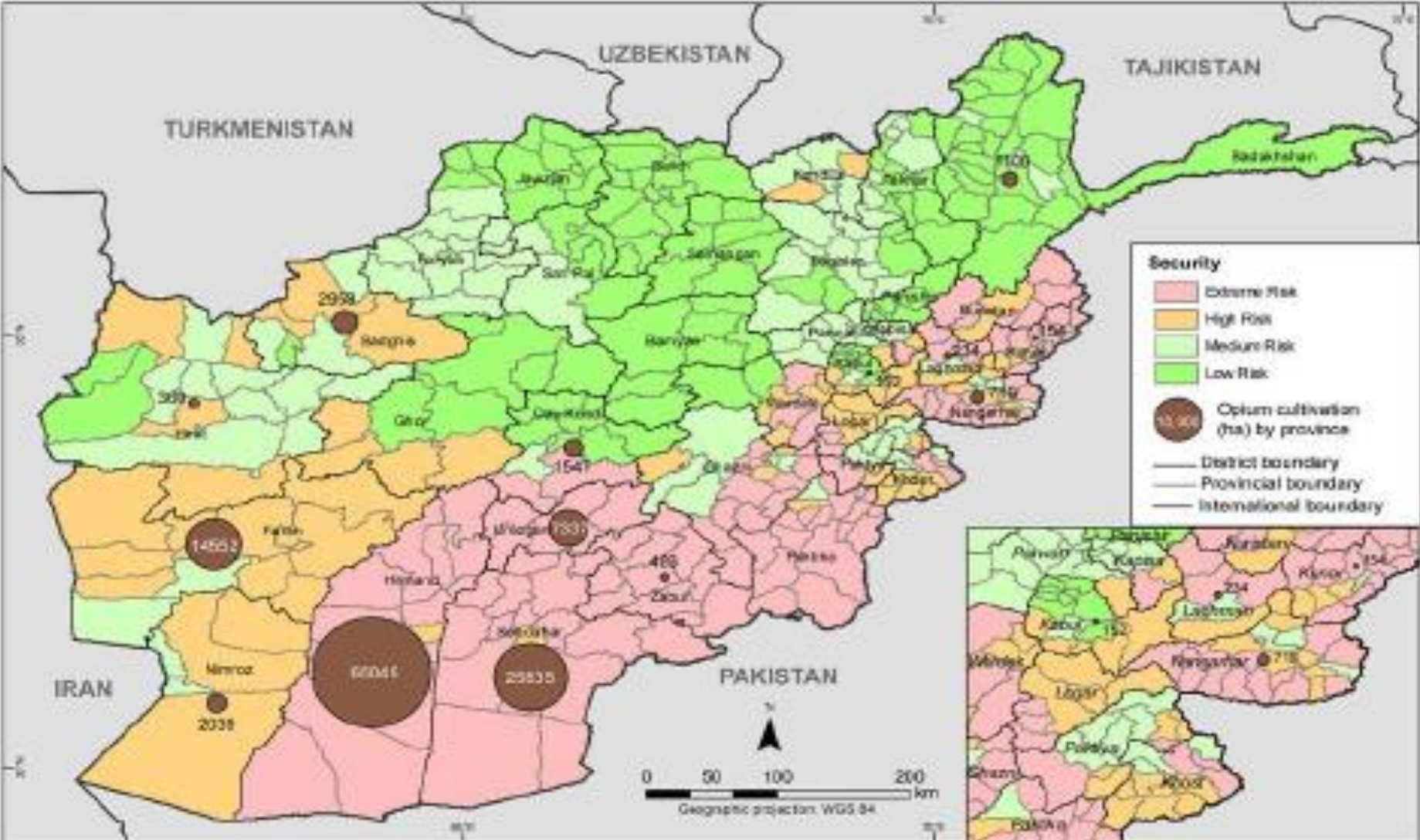
### Reasons for never cultivating (2010 survey n=2,460)



# Afghan poppy production by geography and volume



# Afghan poppy production by geography and security level



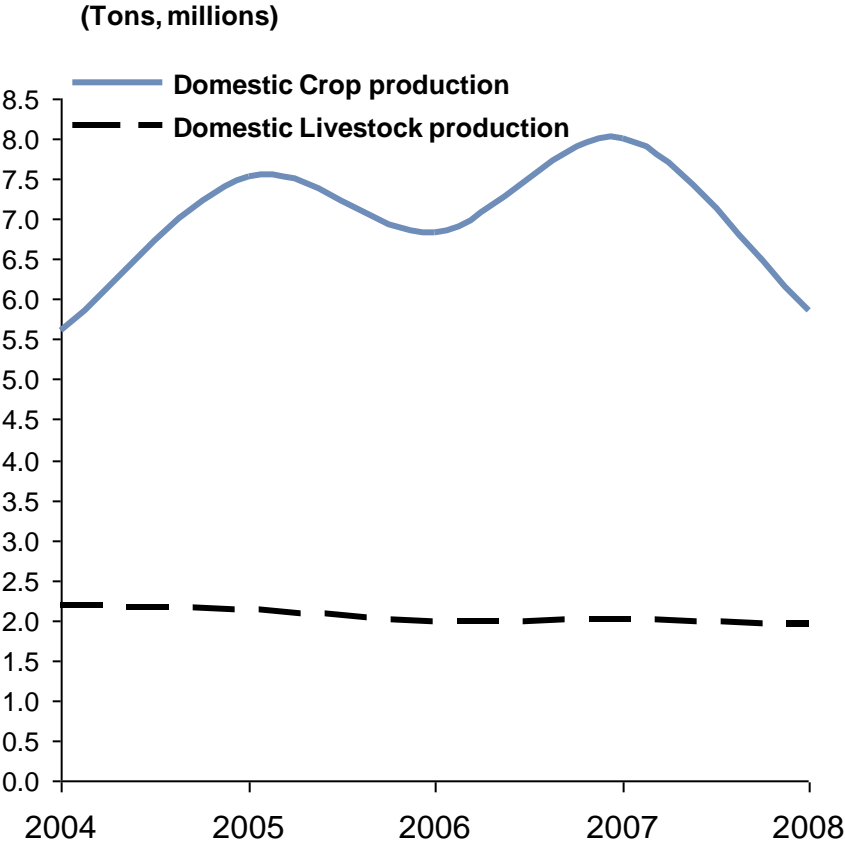
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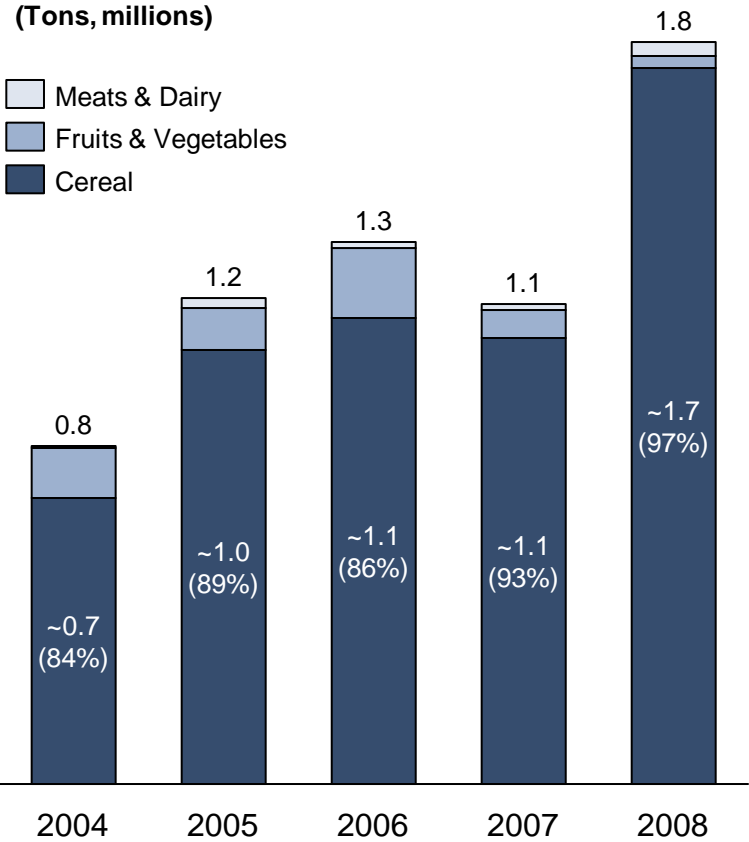


# Staple imports to Afghanistan

Crop and livestock output has seen little or no growth...



...increasing the need to import staple crops<sup>1</sup>



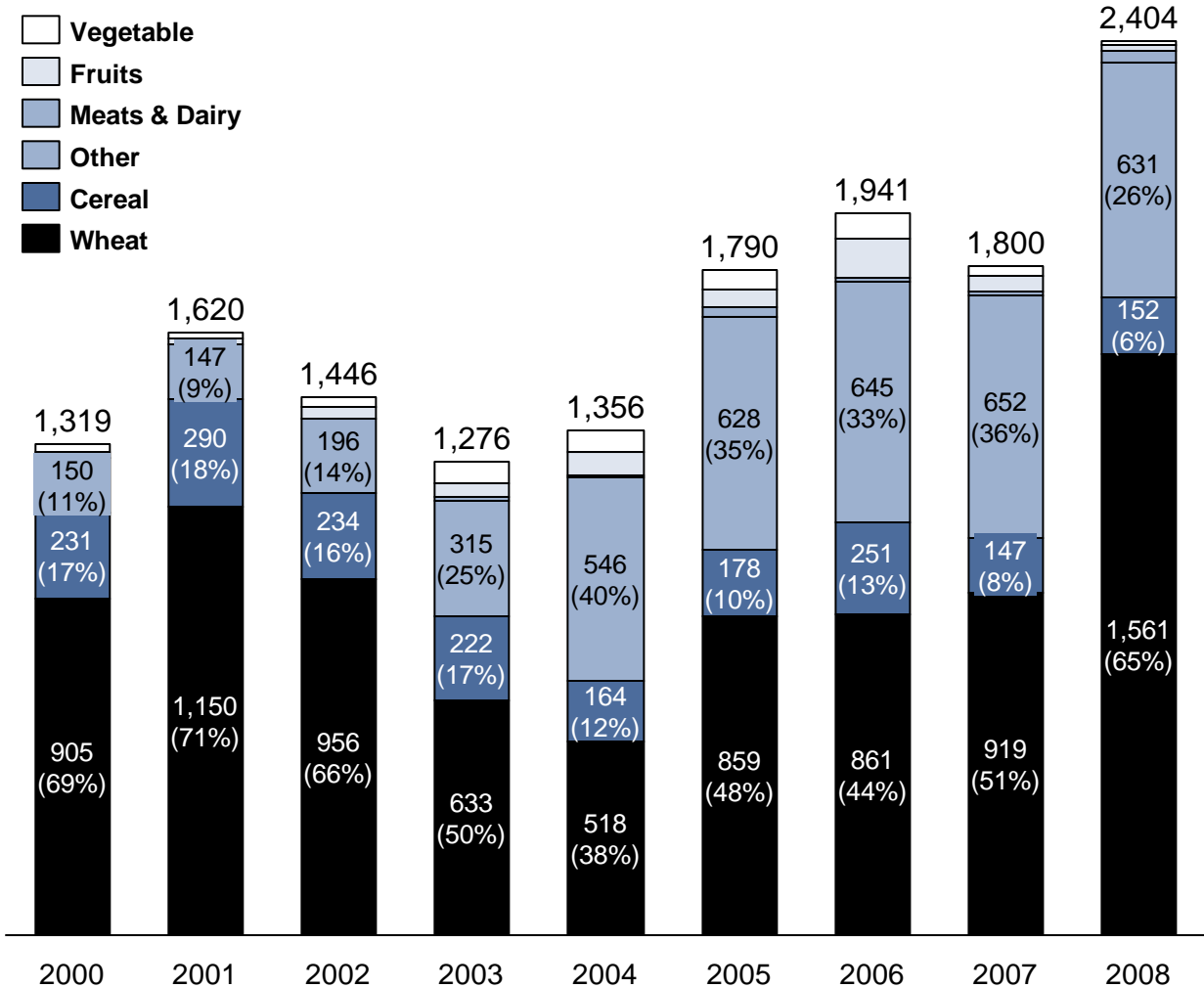
1. Import data does not include non-staple food products such as refined sugars and oils, processed beverages, tea, coffee, and spices  
 Source: FAO STAT, 2008

# Afghan trade balance



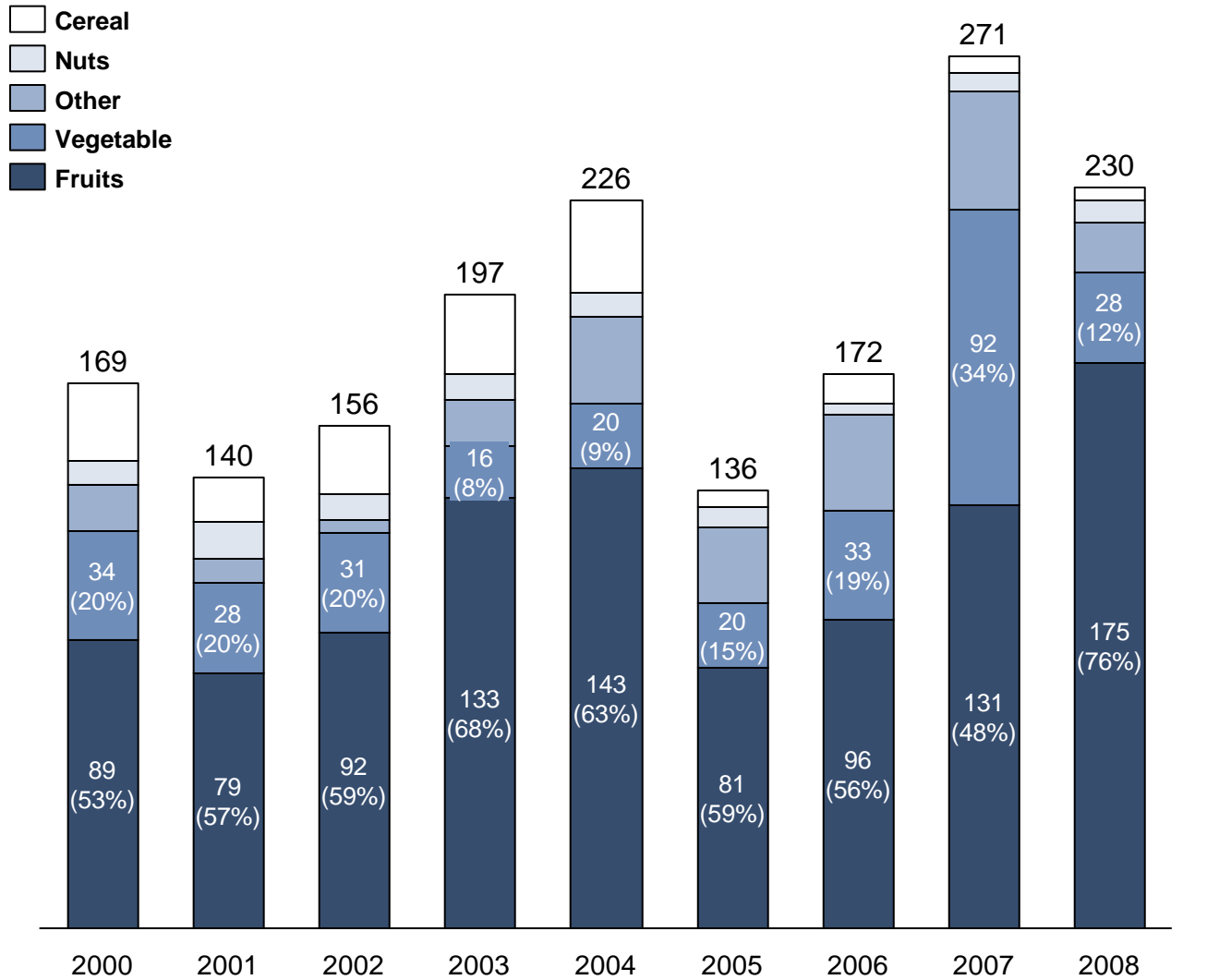
# Afghan agricultural imports

Total Agricultural Imports (tons, thousands)



# Afghan agricultural exports

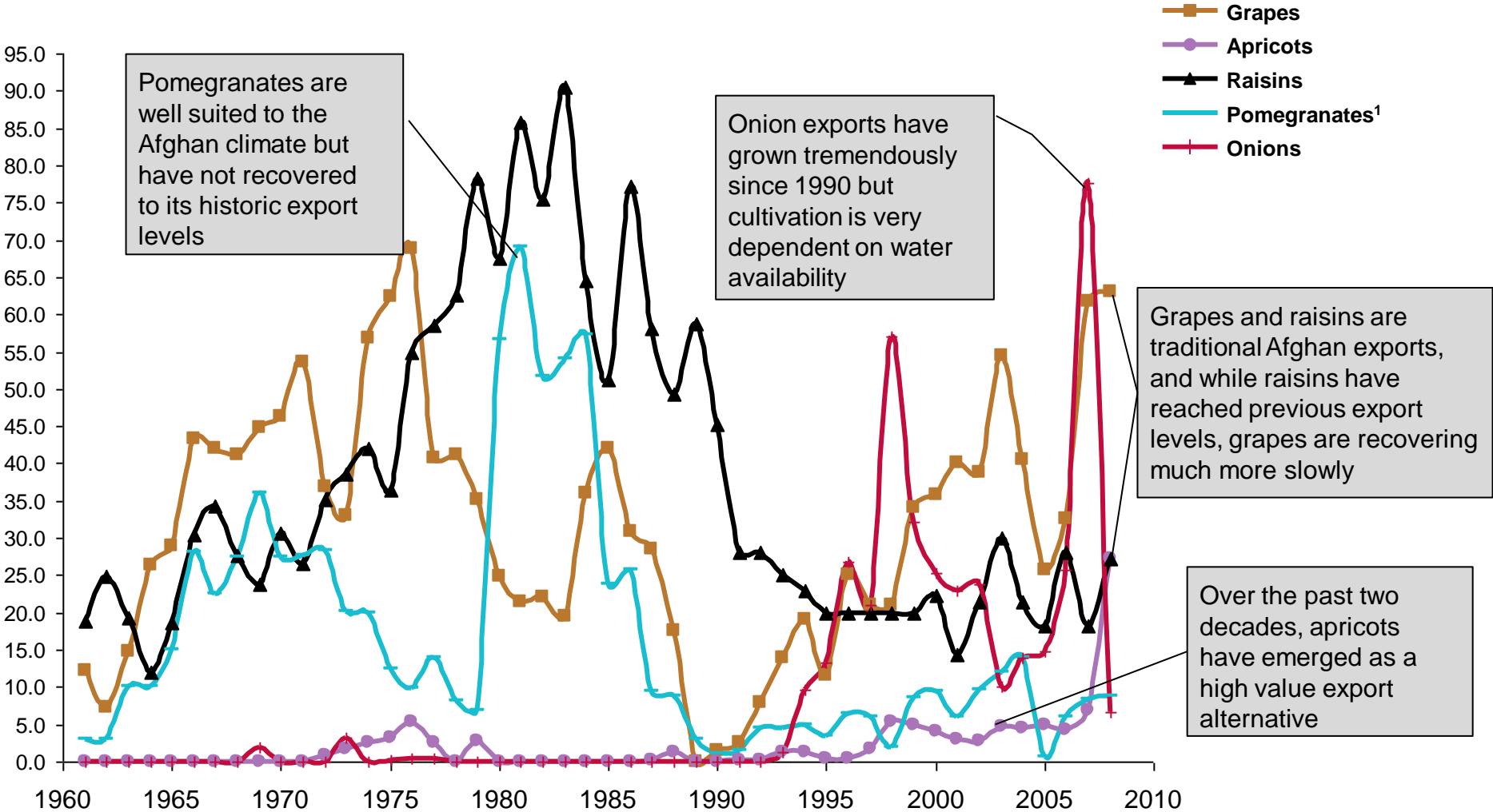
Total Agricultural Exports (tons, thousands)



# Afghan export trends, by product

Export trends for key products, 1961-2008

Metric tons, thousands



Pomegranates are well suited to the Afghan climate but have not recovered to its historic export levels

Onion exports have grown tremendously since 1990 but cultivation is very dependent on water availability

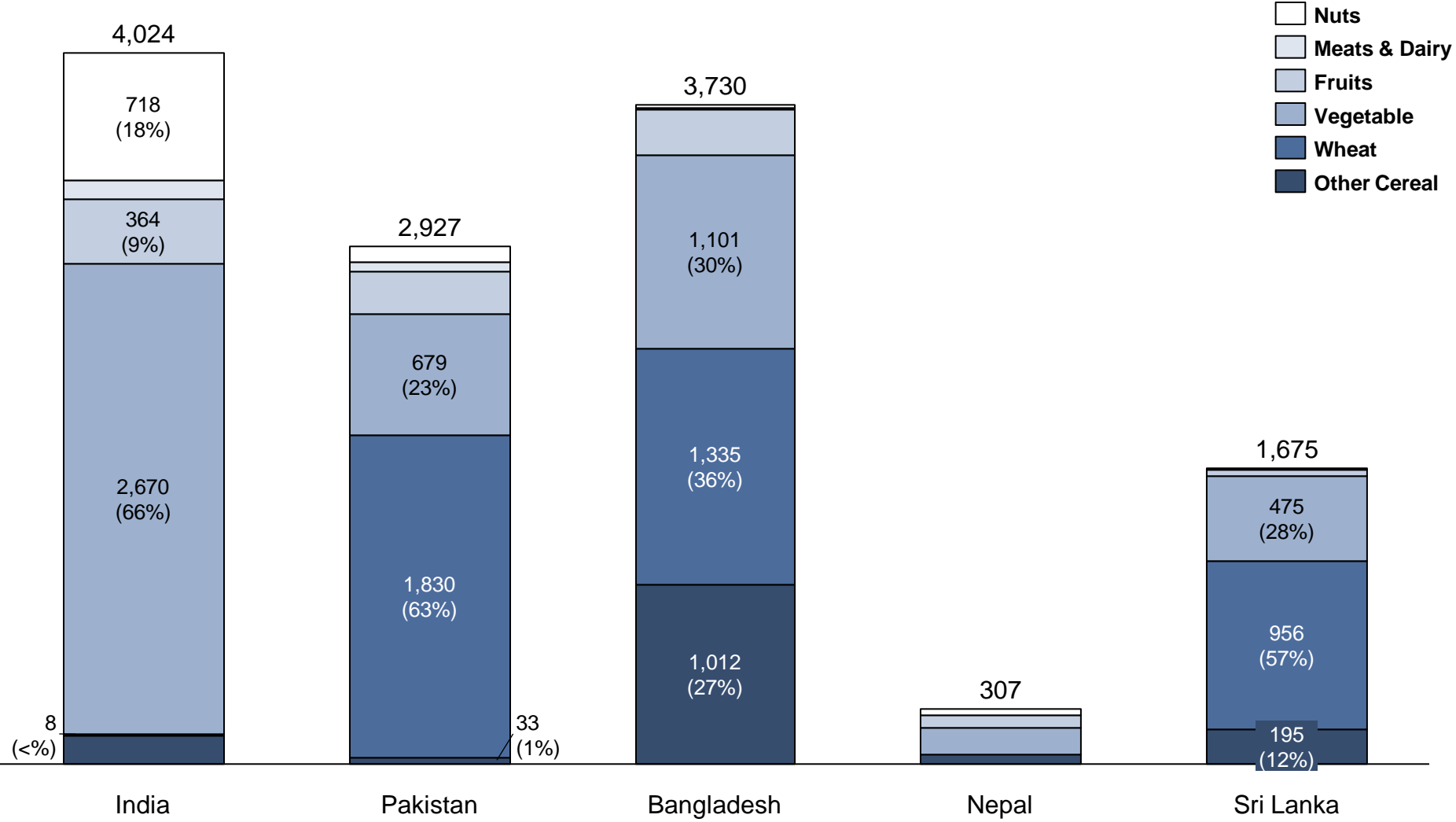
Grapes and raisins are traditional Afghan exports, and while raisins have reached previous export levels, grapes are recovering much more slowly

Over the past two decades, apricots have emerged as a high value export alternative

1. Reported by FAO as 'Fresh fruit, nes' which may include limited quantities of other fresh fruits  
Source: FAO STAT

# Regional imports of agricultural products

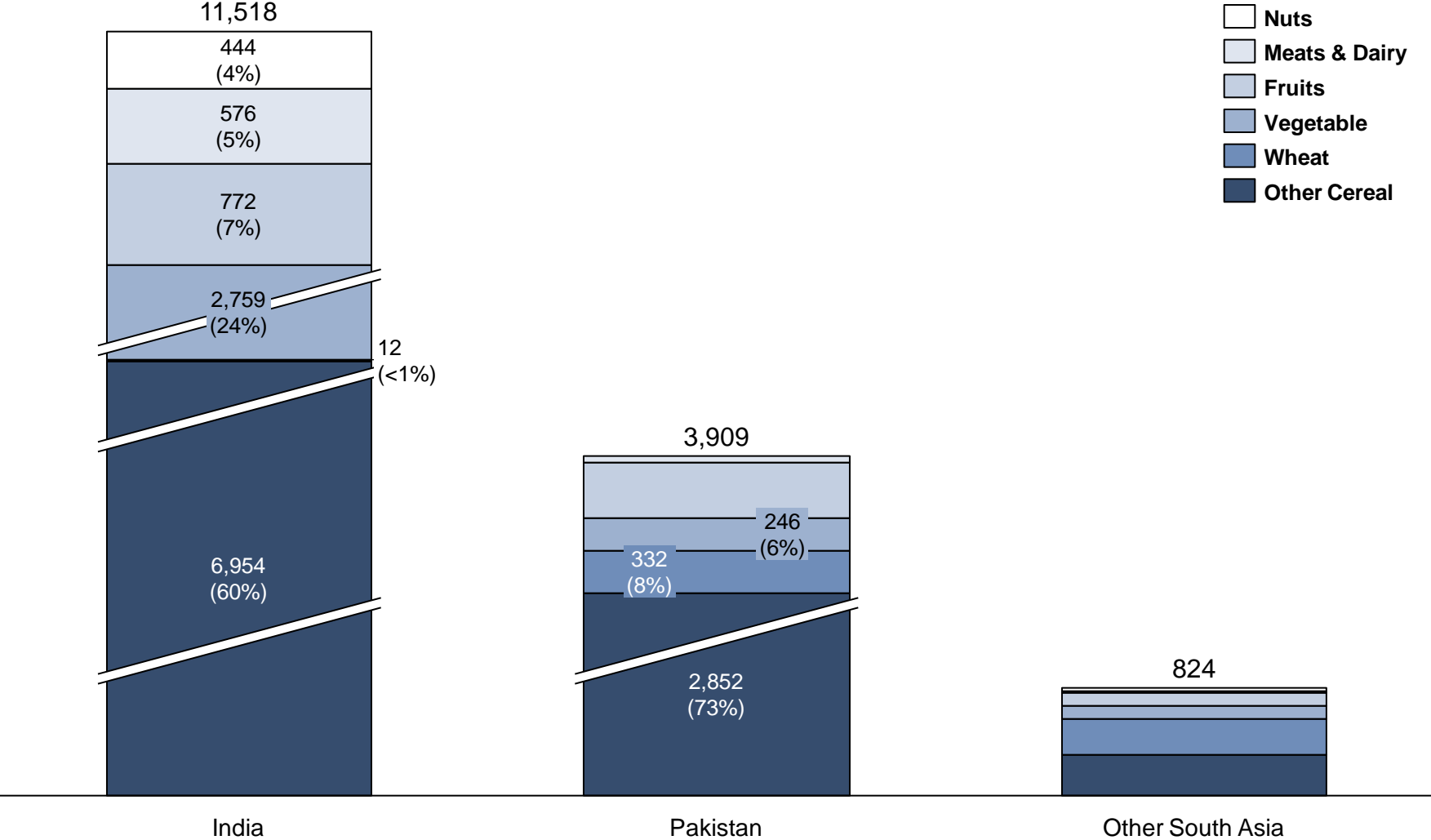
2008 agricultural imports (tons, million)



# Regional exports of agricultural products

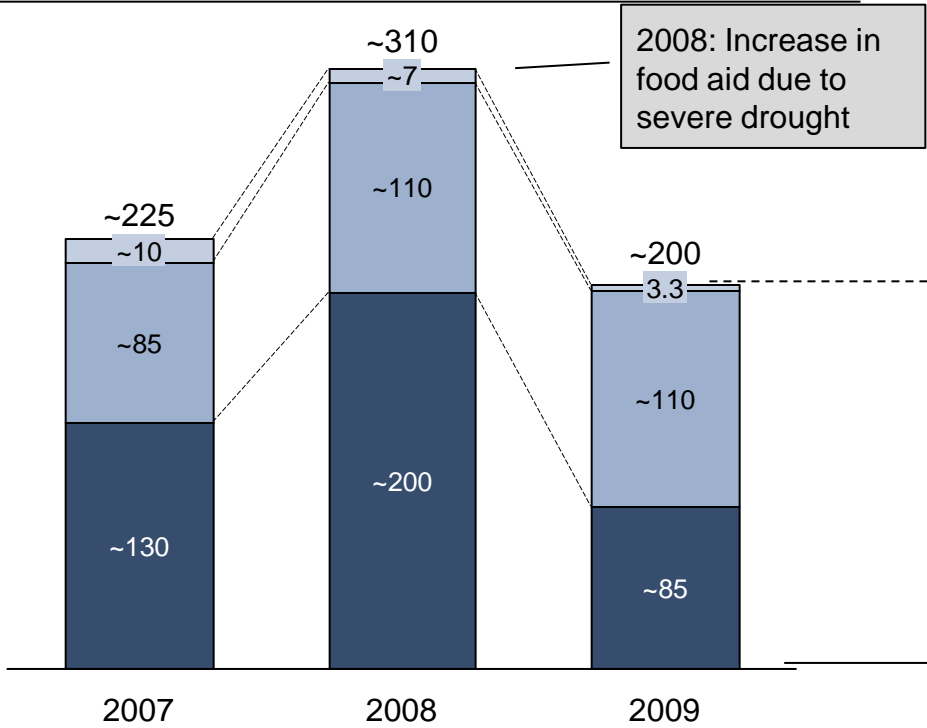
2008 agricultural exports (tons, millions)

- Nuts
- Meats & Dairy
- Fruits
- Vegetable
- Wheat
- Other Cereal

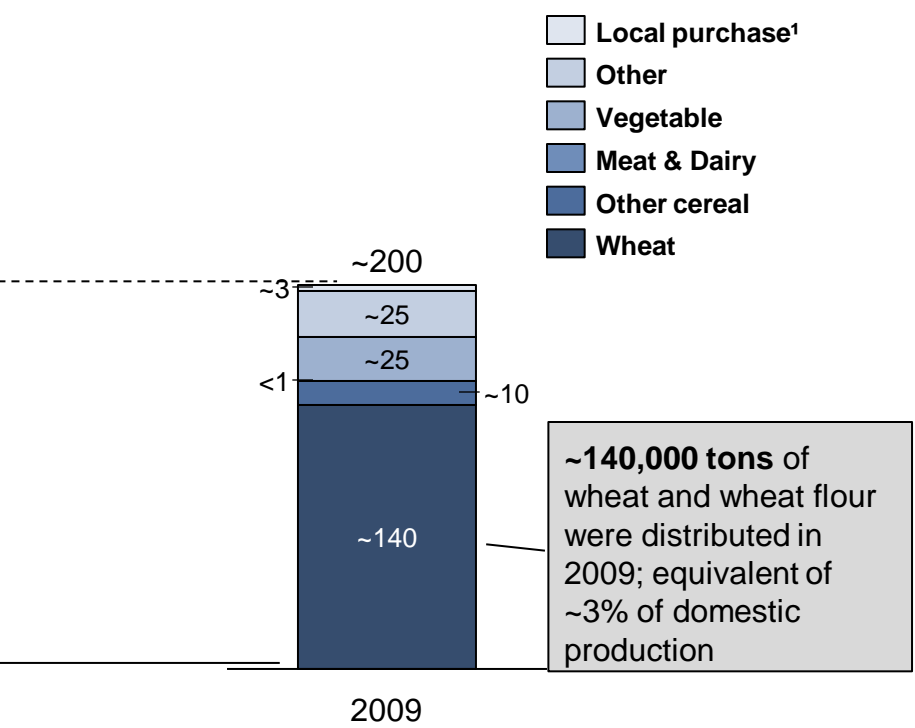


# Afghan food aid

**Overall food aid to Afghanistan**  
(tons, thousands)



**Food categories for food aid**  
(tons, thousands)



Local purchase      Direct transfer  
Triangular purchase

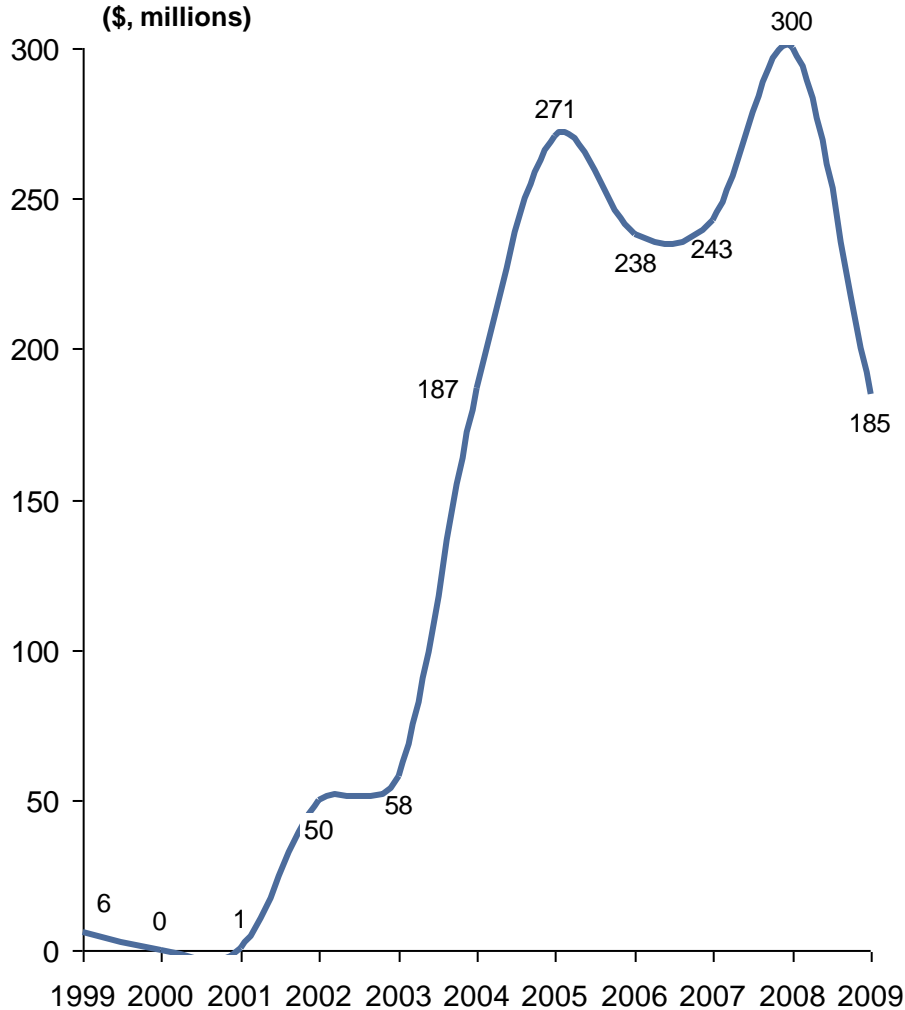


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# Afghan foreign direct investment

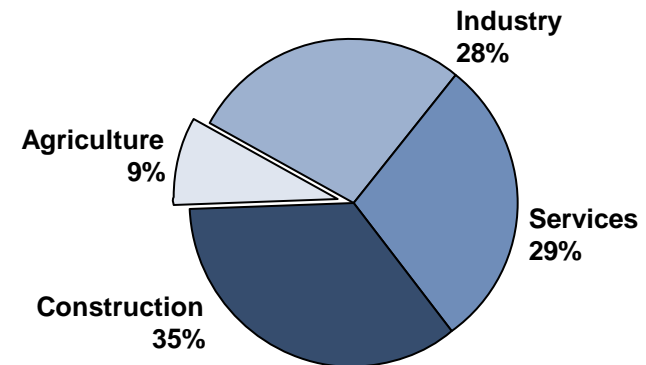
**Afghanistan inward FDI 1999-2009<sup>1</sup>**



**Representative MNC investments**

- Transport and logistics (DHL)
- Food processing (Coca Cola)
- Banking (Standard Chartered Bank, National Bank of Pakistan, Habib Bank Ltd., and National Bank of Punjab)
- Tourism (Hyatt Hotels and Serena Hotels)
- Manufacturing and trade (Toyota Motors and Alcatel Trade International)

**Total private investment by sector 2003-2009<sup>2</sup>**

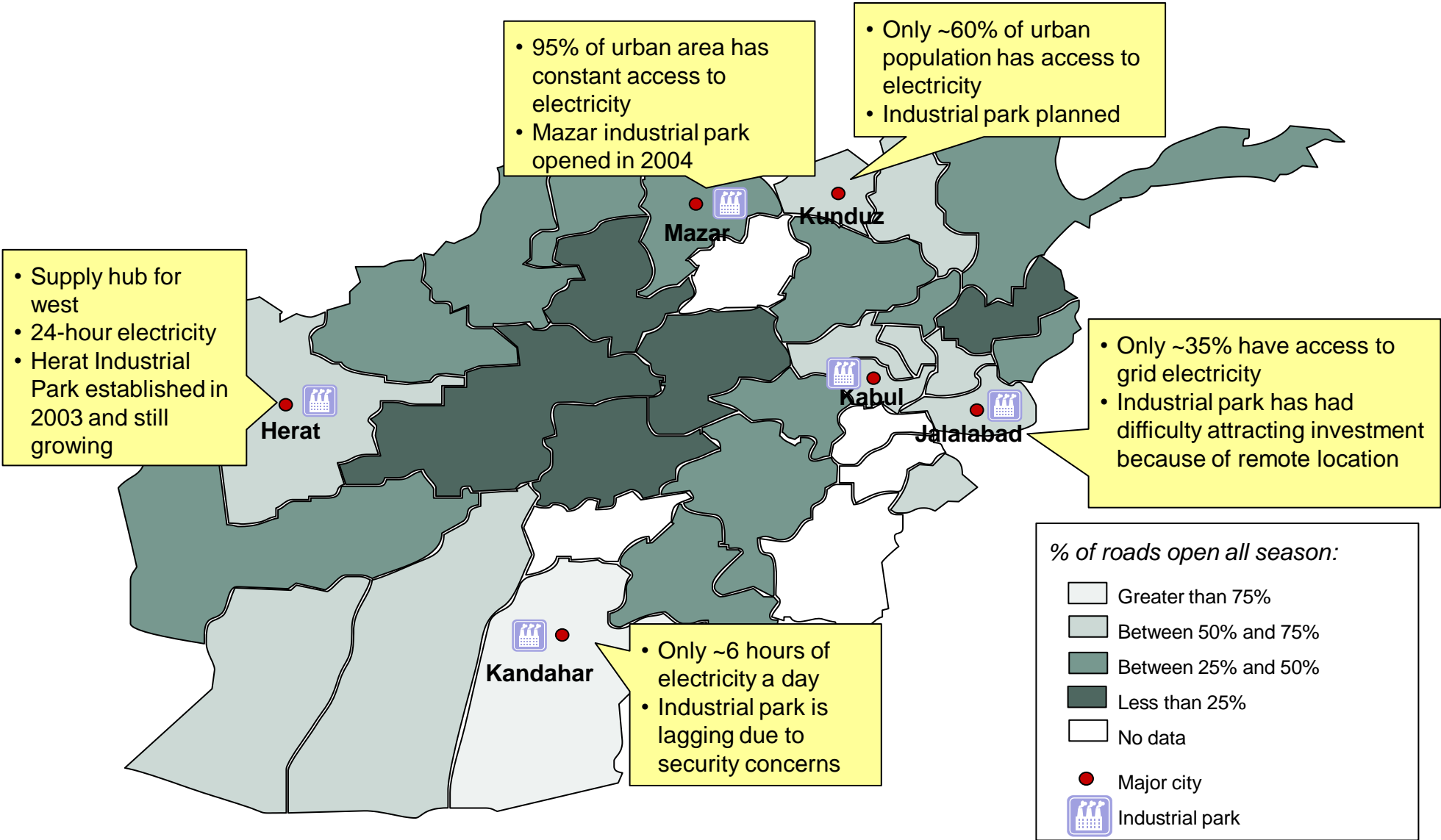


1- Foreign direct investment (FDI) is defined as an investment involving a lasting commercial interest in and control by a resident entity in one economy of an enterprise resident in a different economy

2- Represents both foreign and domestic sources including contractors of the UN, USAID, foreign NGOs or other donor agencies.

Source: UNCTAD, "Investment Horizons: Afghanistan" April 2005, AISA Annual Report (2008)

# Overview of Afghan infrastructure installments



## Afghan business environment indicators

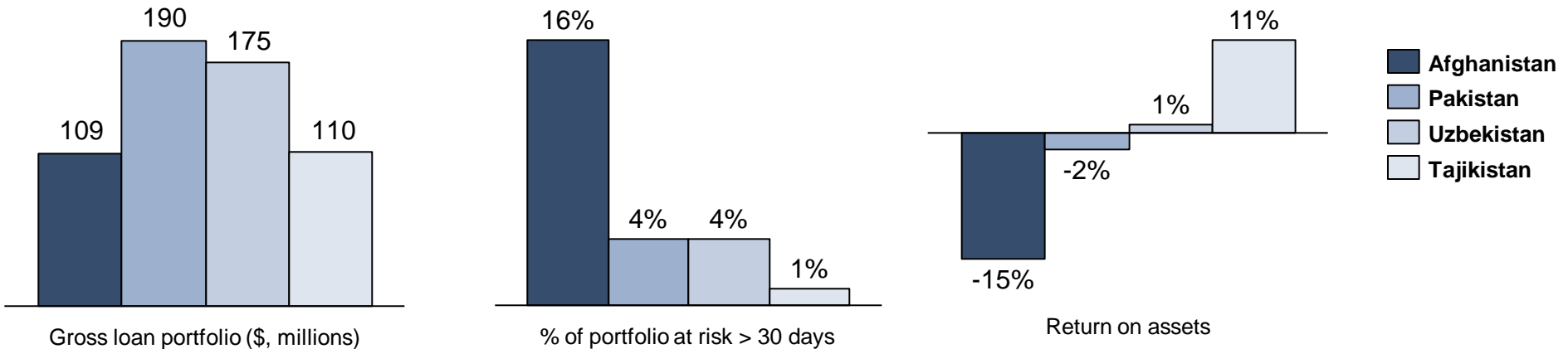
Category	Ranking	Sample Indicator(s)	Afghanistan	Regional average
Starting a business	25	Number of procedures	4	7.1
Paying taxes	53	Payments (no. per year)	8	31.1
		Total tax rate (% profit)	36.4	39.9
Getting credit	128	Depth of credit information (0-6)	0	2.1
Enforcing contracts	162	Time (days)	1,642	1,059
Registering property	170	Time (days)	250	99.8
Protecting investors	183	Strength of investor protection index (0-10)	1.0	5.0
Trading across borders	183	Time to export (days)	74	32.3
		Cost to export (\$/container)	\$3,865	\$1,512
Closing a business	183	N/A	N/A	N/A

Indicators of particular interest for agribusinesses

**Developing agribusinesses will be challenging, particularly if they are export-oriented**

# Afghan private sector access to finance (microfinance)

## Overview of microfinance in Afghanistan



*MFI's portfolios are relatively small and only reach about ~10% of the farming population...*

*...and those that are, face serious repayment issues from their clients...*

*...which combined with high asset costs (due to security), impacts MFIs' sustainability*

## Key challenges to increasing access to microfinance

- **Lack of local players:** The majority of microfinance institutions are international which limits capacity building and sustainability of the sector
- **Perception of agriculture as a risky investment:** Agriculture is regarded by existing local players as an unstable investment due to rapidly shifting weather patterns and yields
- **Insecure environment:** Successful microfinance models leverage face-to-face contacts which is not possible in Afghanistan
- **Weak banking system:** Money transfers are difficult as banking infrastructure rarely exists outside of urban areas

# Afghan private sector access to finance (SME finance)

## Overview of SME finance in Afghanistan

*Most SME lending is provided by the commercial banking sector which is young and still developing*

- Commercial banking deposits in Afghanistan have reached ~\$2-2.5bn since 2003<sup>1</sup>
- 17 commercial banks were licensed in Afghanistan between 2003 and 2009
- Commercial banks are active in 30 out of 34 provinces, with more than 250 branches across Afghanistan

*Outstanding SME credit is ~\$45m, representing less than 1% of market potential<sup>2</sup>*

- Commercial lending has reached nearly 80,000 businesses in Afghanistan since 2003, most of which are SMEs
- ~\$60m in loans were dispersed by commercial banks to SMEs between 2003 and 2009, compared to demand in Ghazni alone estimated at ~\$30m
- Greater than 50% of business owners report approaching friends, relatives and business partners for loans before private banks

## Key challenges to increasing access to finance for SMEs

- **Banks are reluctant to lend generally, but in particular to agricultural producers which they consider too risky:** Banks are more conservative than microfinance institutions due to deposit and regulatory requirements. As a result, ~80% of loan recipients are traders based in urban areas<sup>3</sup>
- **Limited human resource capacity to expand the financial services sector:** In conflict-affected countries that have experienced significant emigration and have limited educational opportunities, significant time and investment is required to build local capacity to manage and lead formal financial institutions

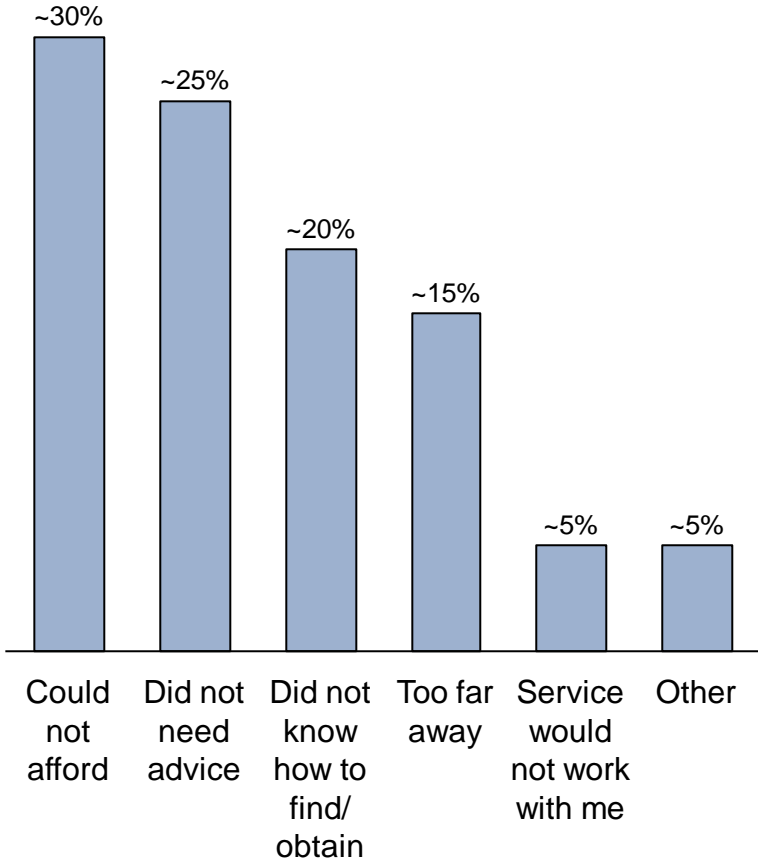
1. A series for banking laws passed in 2003 established the commercial banking sector which had been non-existent during the rule of the Taliban;

2. Outstanding SME credit estimates reported by USAID in 2010, likely based on 2009 levels; 3. Represents loan recipients from partners of the Microfinance Investment Support Facility for Afghanistan (MISFA)

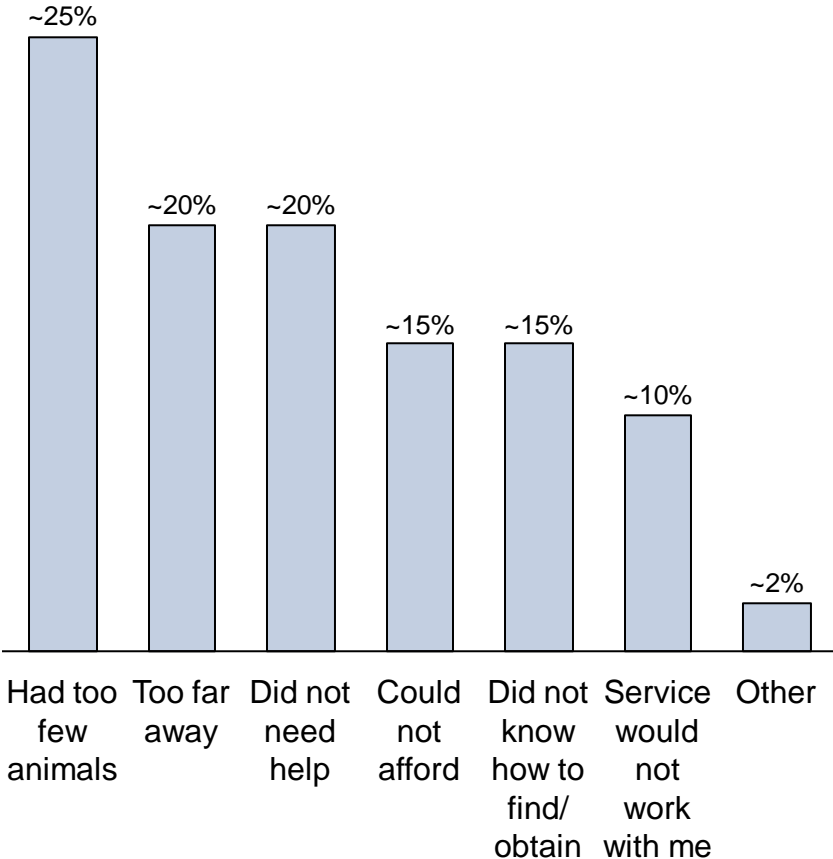
Source: USAID, "Agriculture, Rural Investment and Enterprise Strengthening (ARIES) Final Report" (2010); National Endowment for Democracy, "Afghan Business Attitudes on the Economy, Government, and Business Organizations 2009-2010 Survey" (2010); Flag International Afghanistan, "Small Business Assessment for Ghazni City" (2011)

# Afghan farmer extension survey

% of people who didn't use farming extension services because...



% of people who didn't use veterinary extension services because...



**Capacity building at the provincial level must address gaps in extension services**