

IS MEASURING ACCESS ENOUGH?

THE IMPACT OF CONFLICT ON FOOD ACCESS AND FOOD SECURITY IN AFGHANISTAN

OVERVIEW

Decades of drought and recurring conflicts have rendered Afghanistan one of the most food insecure countries in the world. Food security in Afghanistan has been described as a problem of “access to food,” a function of food production and its affordability for individuals.¹ Food security, in general, is defined as a multi-faceted concept; a lag product of factors such as politics, climate, livelihoods, among others, which can have profound implications for poverty, health, nutrition, and civil security.

In 2008, commodity prices for staple crops spiked, exacerbating food insecurity in countries already facing precarious circumstances. In Afghanistan, the jump in prices was of particular concern given the strain of ongoing conflict on livelihoods, distribution networks, markets and production. The existing literature demonstrates that conflict can aggravate food insecurity and vice versa.² This analysis describes two comparisons 1) Whether a simple aggregation of food access is related to food security outcomes and 2) whether conflict is correlated with either indicator of food security.

METHODOLOGY

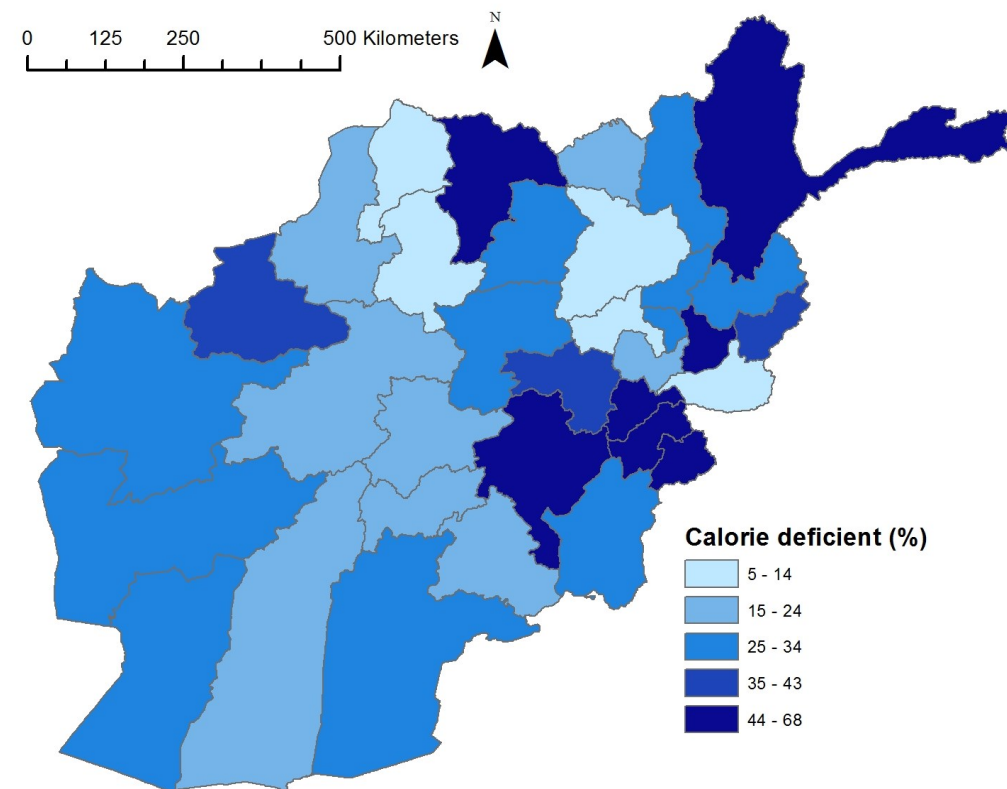
FOOD ACCESS

Data on provincial wheat production, prices and distance from roads in 2007/2008 was used to construct a model of food access. Wheat production and price data was made available through FAO statistics and distance from roads data from Afghanistan’s National Risk and Vulnerability Assessment (NRVA) Survey conducted in 2007/2008. Wheat is the major staple crop in Afghanistan, and 70% of total crop area is cultivated with wheat, making it a good indicator of overall food cultivation.³ Production values were divided by provincial populations to create a production per capita estimate. These three factors were reclassified on a scale of 0 – 100, where 100 is equal to poor outcomes (low wheat production, high food price or greater distances from roads). Finally, the three indicators were combined to create a “Food Access” map.

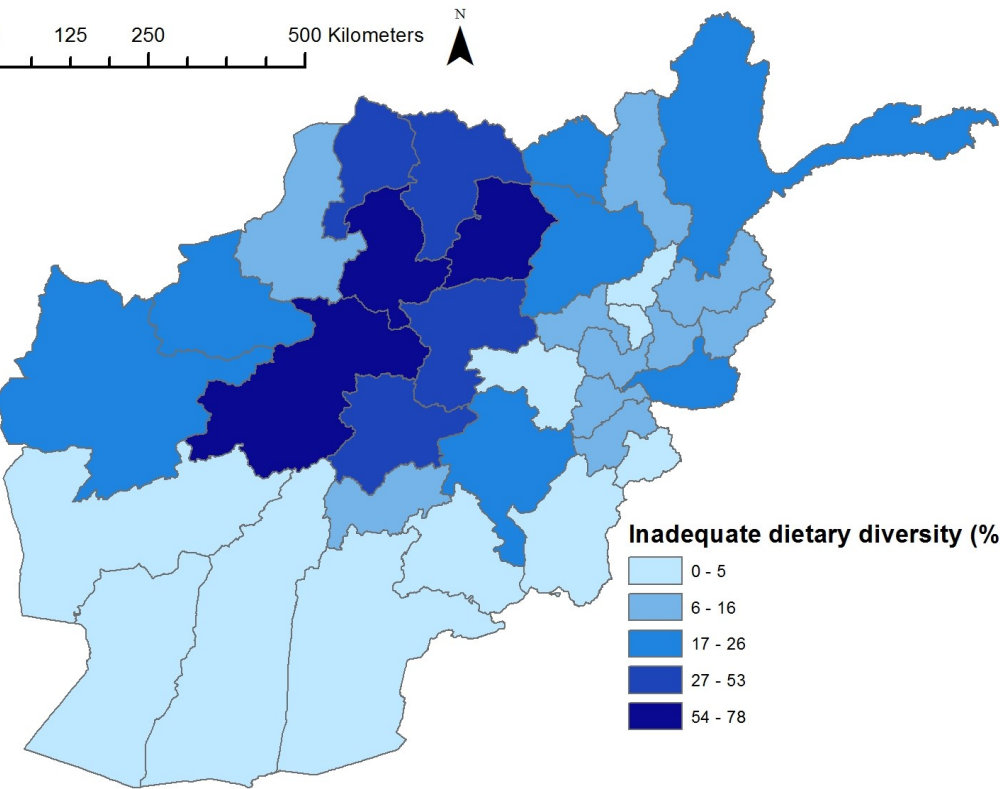
OVERALL FOOD SECURITY

Data on calorie deficiency and inadequate dietary diversity from the 2007/2008 NRVA were already classified as percentages on scale of 0 – 100, where 100 is equal to poor outcomes (poor caloric intake, inadequate dietary diversity). These indicators were combined to create a “Food Security Outcomes” map.

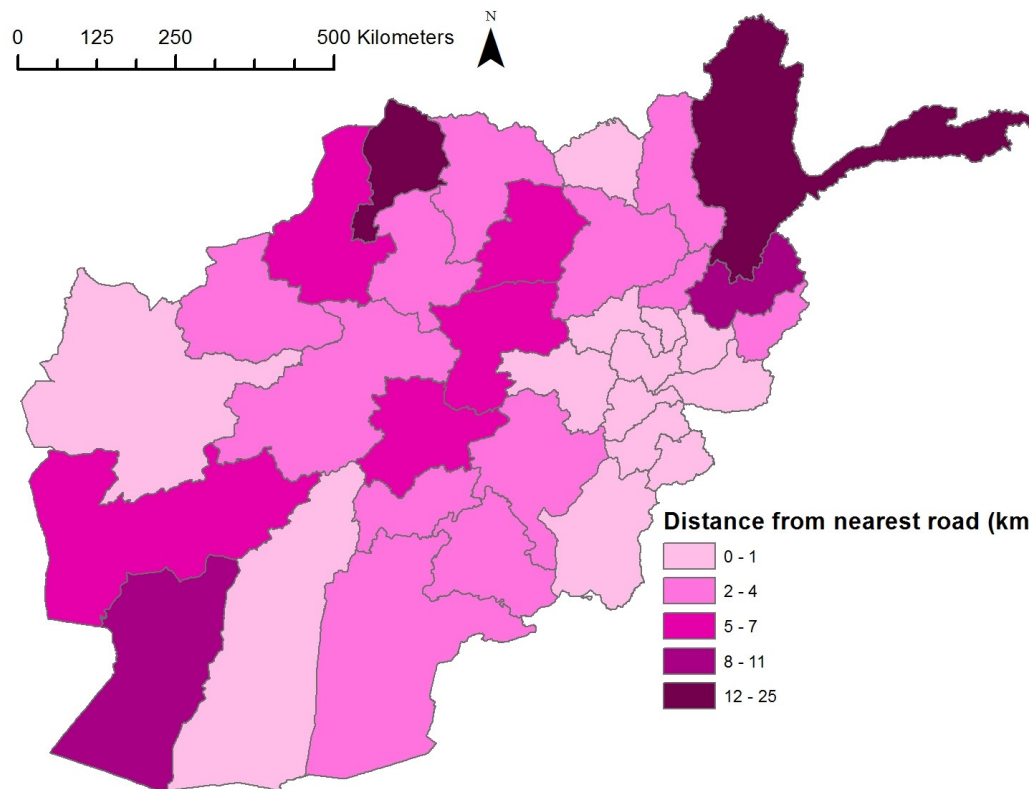
CALORIE DEFICIENCY: % OF THE POPULATION WHOSE DAILY CALORIC INTAKE IS LESS THAN 2100 CALORIES



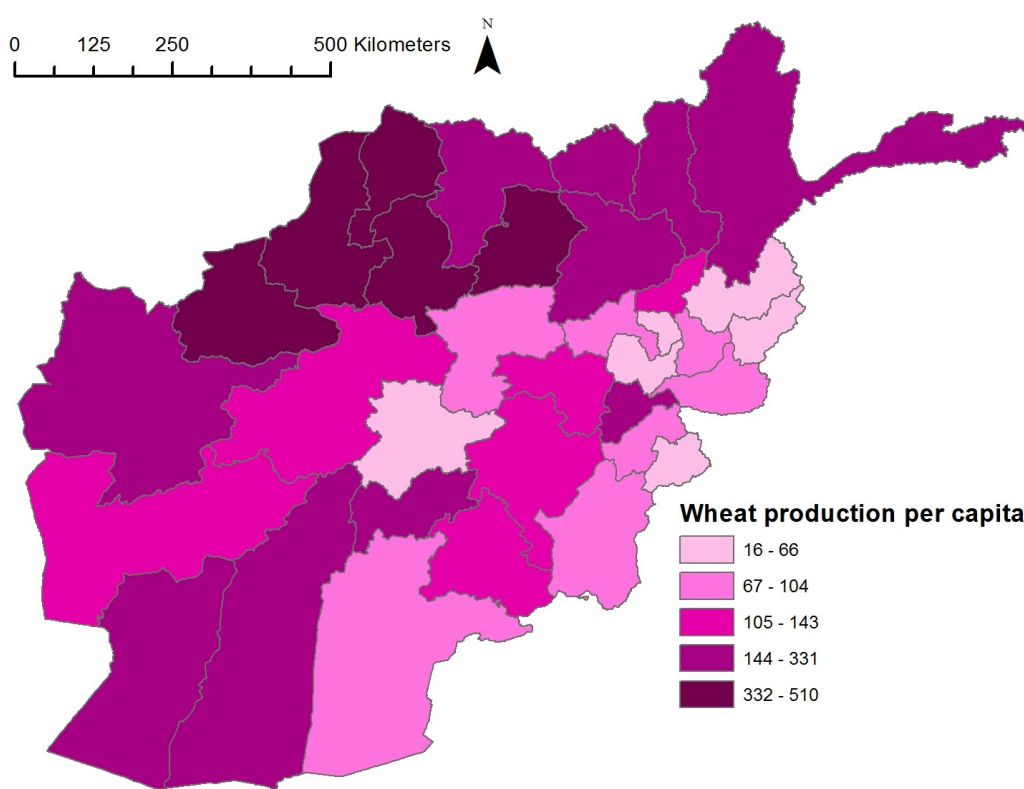
INADEQUATE DIETARY DIVERSITY: % OF THE POPULATION WHOSE FOOD CONSUMPTION SCORES ARE 42 AND BELOW ON A FOOD CONSUMPTION RECORD



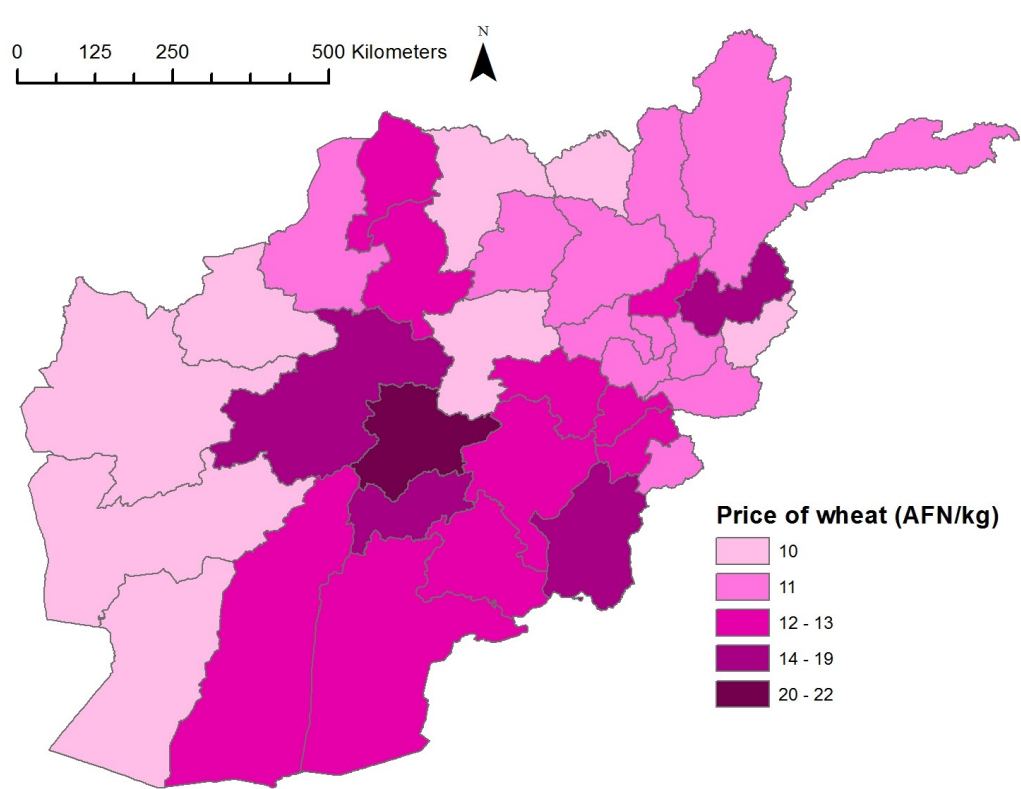
AVERAGE DISTANCE TO NEAREST DRIVABLE ROAD: THE AVERAGE DISTANCE IN KILOMETERS FROM A TYPICAL HOUSEHOLD TO THE NEAREST DIRT OR PAVED ROAD



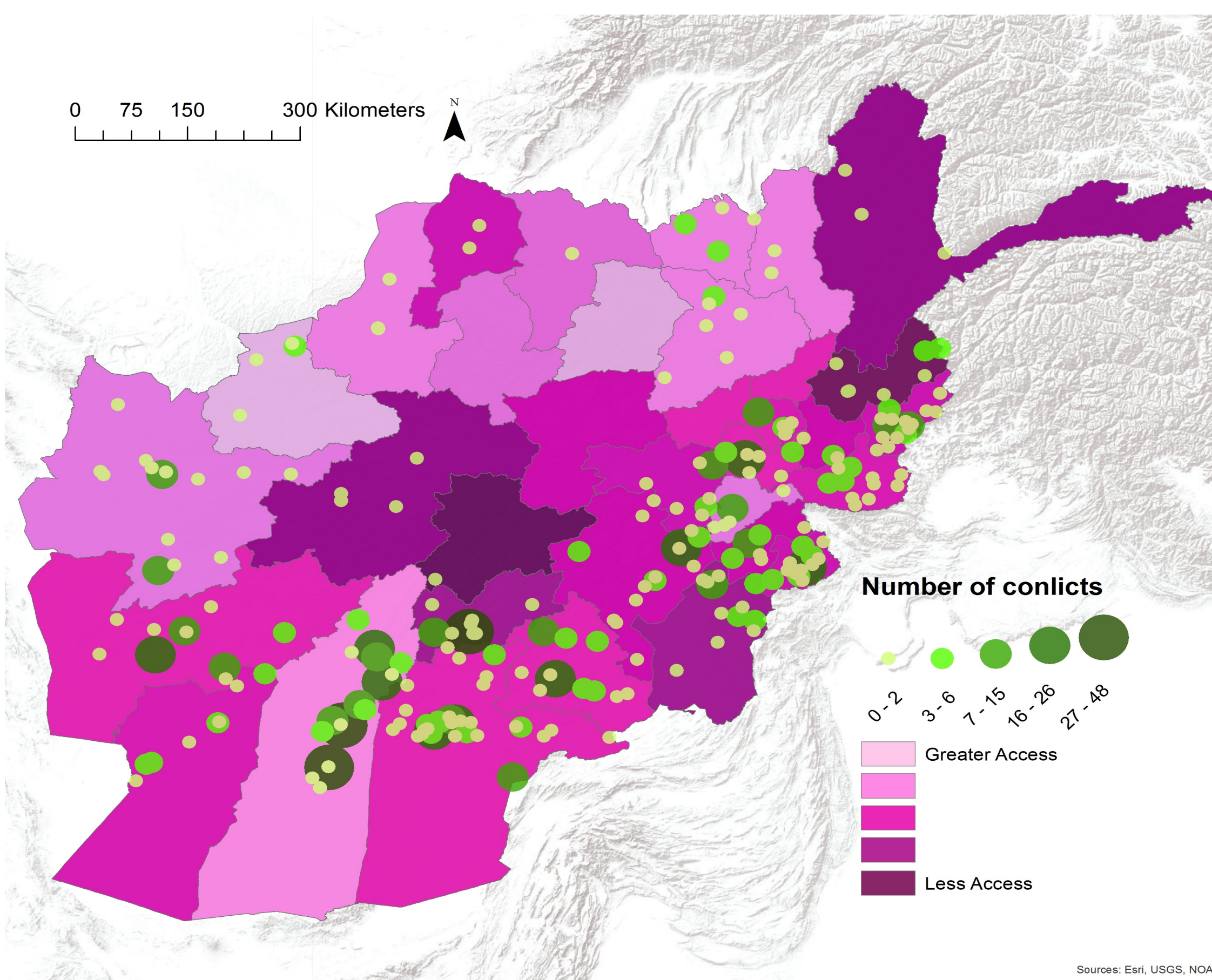
WHEAT PRODUCTION PER CAPITA: TONNES OF WHEAT PRODUCED IN EACH PROVINCE, NORMALIZED BY PROVINCIAL POPULATION



AVERAGE PRICE OF WHEAT: PROVINCIAL PRICE OF WHEAT IN AFGHANIS PER KILOGRAM



FOOD ACCESS



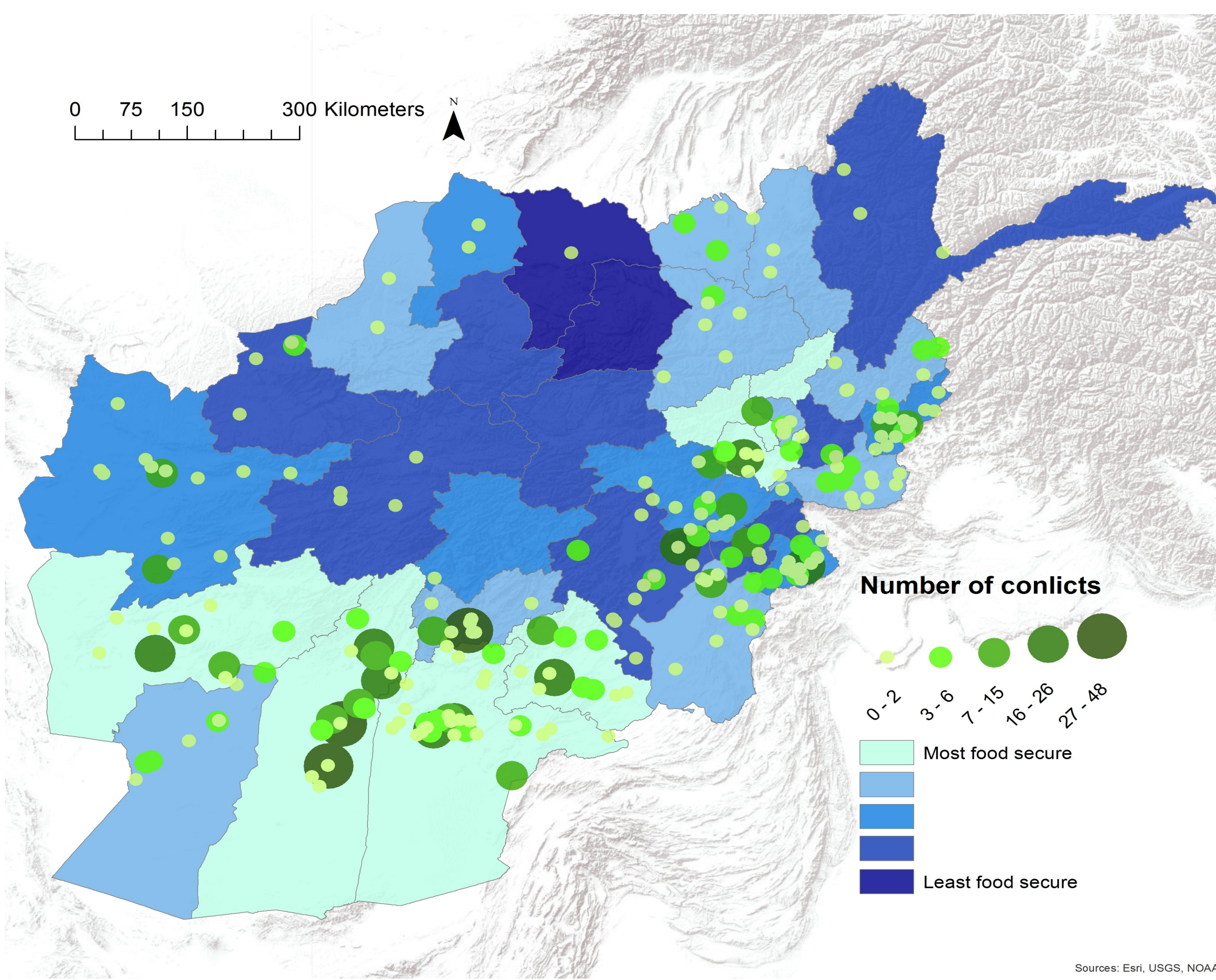
CONFLICT

Conflict data between September 2007-August 2008 (same time period as the NRVA survey) was used to create a points shapefile. The data were aggregated by each unique coordinate (latitude and longitude); 857 conflicts were consolidated in 245 points. These are represented as graduated symbols to convey the quantity of conflicts at each point.

RESULTS

A spatial comparison of food access and food security outcomes reveals some similarities between regions, but the relationship is imperfect. The regions that are most food insecure or most food inaccessible do not correspond between the maps. Overwhelmingly, for the food access map, access is most constrained in the Central Provinces and the Northeast. In comparison, food security outcomes are worst in the Northwest, with overlap with the Central provinces. Food

FOOD SECURITY OUTCOMES



security appears more closely related with the distance to roads than overall food access.

Conflict did not spatially correlate with either measure. In the food security outcomes map, conflict and food security appear to be negatively correlated; meaning that more nutritious households are actually in areas of greater conflict. While a greater incidence of conflict has a greater correlation with food access, this may be due to its larger correlation with wheat prices.

These results highlight the multidimensionality of both food security and conflict. They demonstrate why access to food may not fully predict food security and how conflict and food prices may have a relationship, but how these alone did not impact overall nutrition outcomes.



Cartographer: Nadira Saleh | Project Date: May 2013

Course: Fundamentals of GIS (Friedman School)

Projected Coordinate System: WGS_1984_Web_Mercator_Auxiliary_Sphere

Data Sources: 2007/2008 Conflict data from the Armed Conflict Location and Event Dataset | Wheat production and price from 2007/2008 taken from the Afghan Ministry of Agriculture, Irrigation and Livestock, made available through the FAO and the Civil Military Fusion Center | Dietary diversity, depth of calorie deficiency, road access from the Afghanistan National Risk Vulnerability Survey 2007/2008, made available through the World Bank | Afghanistan shapefile from the Tufts GIS Confluence (2006). Citations:

- 1) Viola, M., Najimi, F. K., & Bacon, B. (2007). *Afghanistan Food Security Conditions and Causes: A special report by the Famine Early Warning Afghanistan Food Security Conditions and Causes*. FEWS NET, USAID. Washington, D.C.
- 2) Souza, A. D., Jolliffe, D., Souza, A. D., & Jolliffe, D. (2012). Conflict, Food Price Shocks, and Food Insecurity: The Experience of Afghan Households. *IZA Discussion Papers*, (6621).
- 3) Chabot, P., & Dorosh, P. a. (2007). Wheat markets, food aid and food security in Afghanistan. *Food Policy*, 32(3), 334–353. doi:10.1016/j.foodpol.2006.07.002

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