

# Study of Nutritional Status in Bamyan, Afghanistan: Malnutrition and Its Underlying Causes

Ayoub – July 2019-Present

# Background

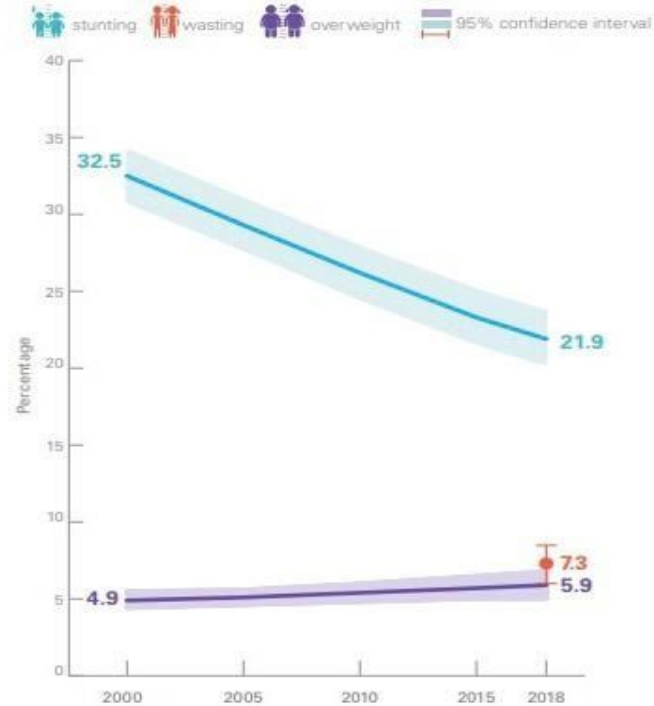
## Nutrition

- ❑ World Health Organization reports that undernutrition endangers millions of lives around the world.
- ❑ Factors such as social class, natural hazards, economic policy and gender inequality lead to short- and long-term undernourishment.
- ❑ Wasting (disproportionally thin relative to her/his age)
- ❑ Stunting (disproportionally short for her/his age)

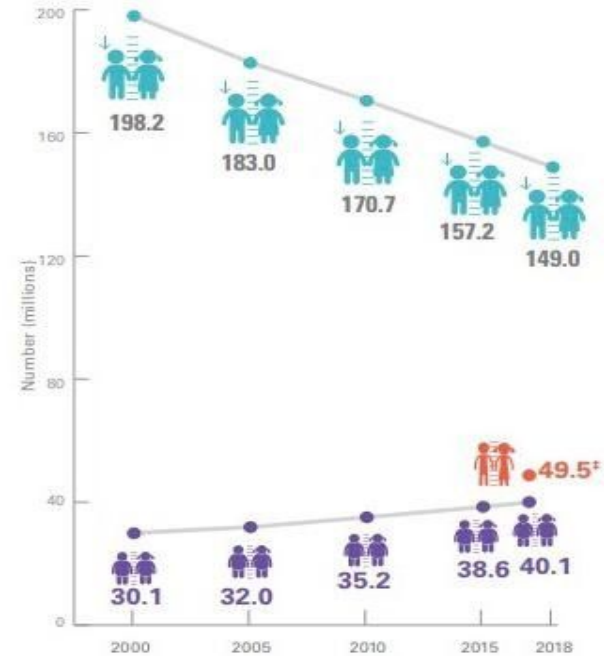
# GLOBAL OVERVIEW



**Malnutrition rates remain alarming: stunting is declining too slowly while wasting still impacts the lives of far too many young children**



Percentage of stunted, overweight and wasted children under 5, global, 2000–2018

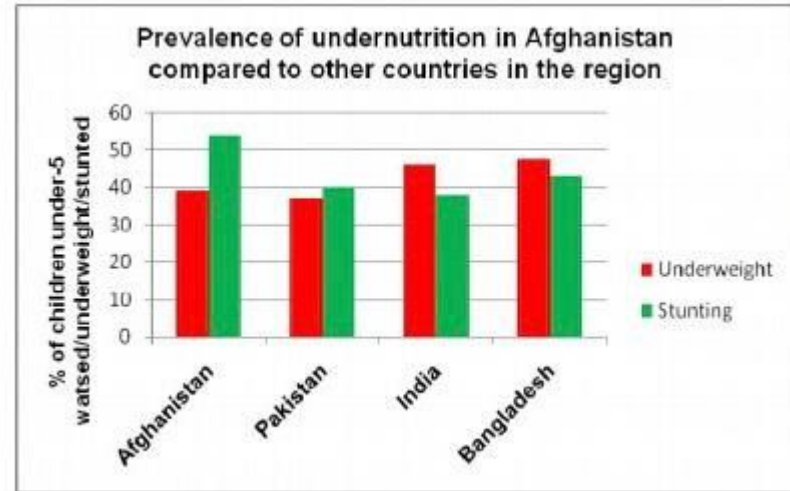


Number (millions) of stunted, overweight and wasted children under 5, global, 2000–2018

# Afghanistan

## Problem Statement

- The world bank's National Nutrition Survey in Afghanistan (2004-2005) reported 54% of children below age five chronically undernourished and 39% underweight with their body mass under 18.5.



(World Bank 2004-2005)

# Challenge I

## Lack of Diversity in diet

The staple crop – wheat, diminishes the diversity of food sources. Households with food insecurity, heavily rely on cheap calories consisting 75% wheat and other cereals.

### Typical food in rural Afghanistan

Halva



Bread

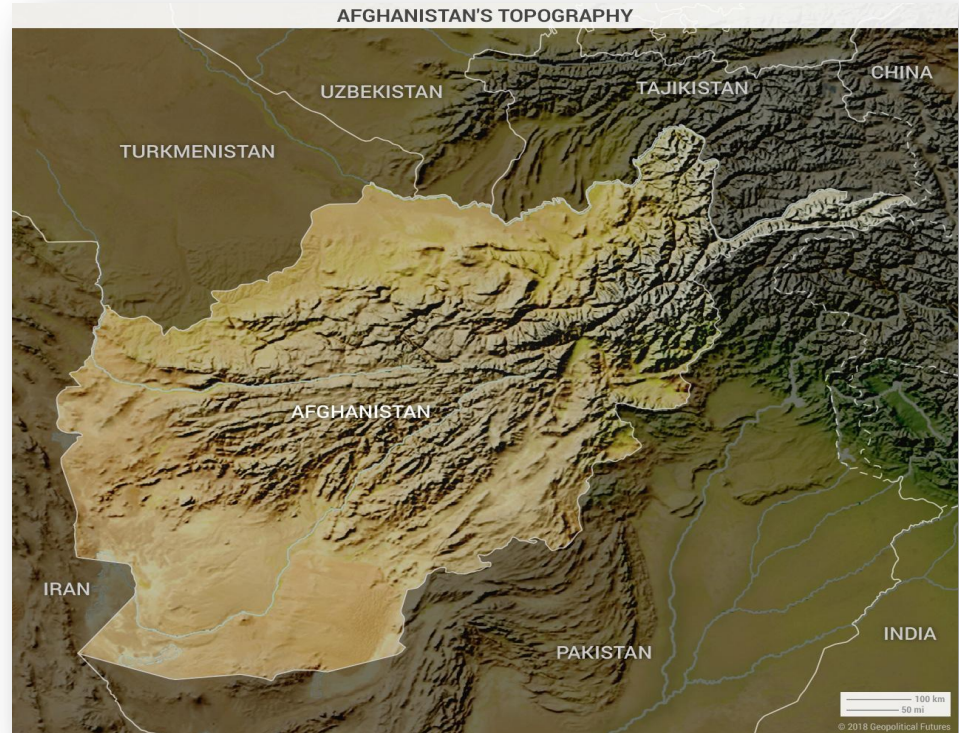


# Challenge II

## Accessibility

The mountainous geography of Afghanistan makes it difficult for the health providers to bring aid.

The Baba Mountain Range Reaches The Greatest Height: 5,142 M



Geopolitical Future 2019



# Challenge II

## Dominance of Male over the Resources

The typical activities of Afghan women are weaving, embroidery, weaving carpets, and rendering chickens. Such activities kept female population away from participating in large scale farm labor.



# Research Site

## Bamiyan Province

- Central Highland
- Hazara ethnic group
- Mountainous
- Agricultural Products:  
Wheat, barely (40%),  
potato (46%), fruits (2%)  
and fodder (11%)





# Hypothesis I

## Women's Engagement in Agriculture

- If women's lack of engagement in agricultural production is decreasing their access to resources, then I would expect to see those women with less engagement outside their homes to lack more nutrients.

# Hypothesis II

## Lack of Diversity in Diet

If people in Bamyan eat more diverse food, their families will be healthier. Growing variety of crops can increase sources of protein and vitamin in their diet

# Hypothesis III

## Increasing accessibility

If the lack access to health services is one of factors that impacts ,  
I expect rural families who are blocked by the harsh weather and  
have less access to transportation will appear more vulnerable to  
undernourishment

# Research Methodology

- Participant Observation
  - Qualitative Interview
  - Food Diary
  - Biological indicators
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# Participant Observation

- The participants will consist of both male, and female, primarily mothers, and children below age of five. I intend to examine their nutrition status relative to the aforementioned factors.
- I will alternate my stay with different household who are wealthy and poor in order to see both sides of the coin in one village.

Participant as an Observer



Observer as a Participant



(Sauro 2015)

# Qualitative Interview

- I will conduct structured interviews with the local villagers, officials, Department of Health and the Office of the Governor to learn about the location, seasonal weather, closest health centers/clinics/hospitals, means of transportation, land ownership, non-agricultural activities.



(Sauro 2015)



# Food Diary

- I will keep a food diary of myself during my research and will select a subset of my informants to record their diet on daily basis.



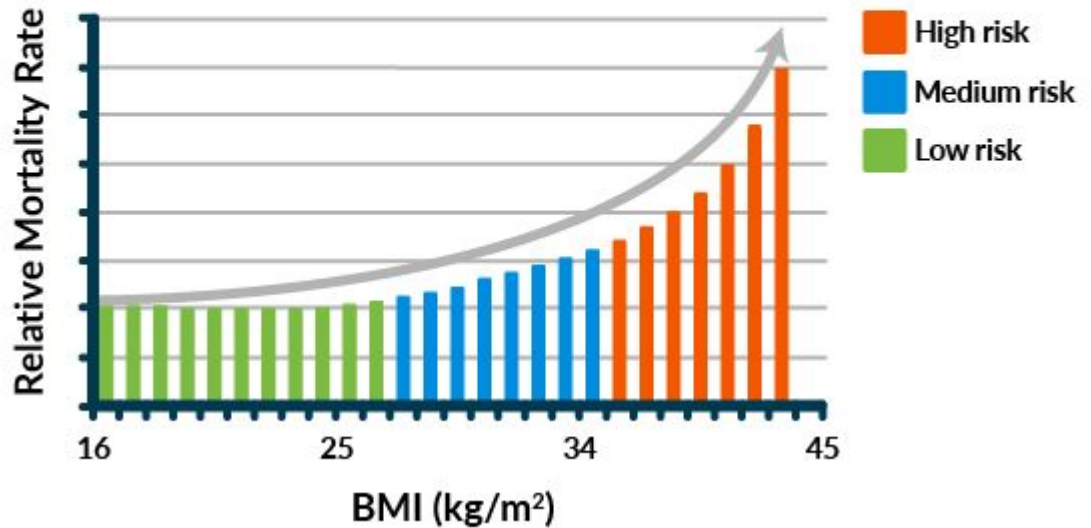
Food Diary 2013

# Biological indicators

- Weight-for-age
- Height-for-age
- Mid upper arm circumference
- Head circumference

## Body Mass Index vs. Mortality

Exponential Increase in Risk



# Significance

- Raise awareness
- Improve policies and programs
- Collect evidence

# Implementation Phase

- This past summer, I travelled to Bamiyan province of Afghanistan. After a long and dangerous ride into the mountains, I began by meeting the elders of two villages and landowners in each town. I then met with nine families that farm the land in each village. For each family, I purchased the following items, lentils, beans, three chickens, and a rooster.
- Adding lentils, beans, and eggs to the diets of local farmers provides them the folic acid and vitamin A their diet lack. In the absence of these vitamins, the women and children suffer from anemia, which is a prime cause for the maternal death and childhood malnutrition.
- My trip to Waras included several meetings with women and their husbands, individual visits to their households, interviews, participant observation, medical checkups for the women and their youngest child

# Implementation Phase

- I launched a 12-month nutrition project which started in July of 2019 to provide the beneficiaries (9 families) with vitamin-rich foods such as lentils, beans, and eggs.
- I collaborated with a local health clinic and performed physical examinations, measured their hemoglobin level, and calculated their Body Mass Index (BMI) that would serve as my baseline data.
- I with the financial help of Afghan Girls Financial Assistance Fund (AGFAF) have been providing each family with 7 kg of beans and lentils on a monthly basis and our help continues.
- The second phase of the project consist of planting beans and lentils in May 2020 which will make the participants independent of our help. In addition to beans and lentils, I distributed chickens and roosters to promote production and consumption of eggs regularly.
- The hatchery process has begun, and the participants will incubate the eggs until they hatch.







