



# OASIS@Berkeley

ORGANIZING TO ADVANCE SOLUTIONS IN THE SAHEL

**Bixby Center**  
for Population, Health & Sustainability

COLLEGE OF  
**Natural Resources**



**AFIDEP**  
African Institute for  
Development Policy



**OASIS@Berkeley**  
ORGANIZING TO ADVANCE SOLUTIONS IN THE SAHEL

**AFIDEP**  
African Institute for  
Development Policy

# Population Growth, Climate Change, and Sustainable Development in Africa: The Case of the Sahel

**Eliya Msiyaphazi Zulu, PhD**  
African Institute for Development Policy

**September 21, 2012**

SEPTEMBER 2012

# POPULATION DYNAMICS, CLIMATE CHANGE, AND SUSTAINABLE DEVELOPMENT IN AFRICA

Clive Mutunga  
*Population Action International (PAI),  
Washington D.C., USA*

Eliya Zulu  
*African Institute for Development Policy  
(AFIDEP), Nairobi, Kenya*

Roger-Mark De Souza  
*Population Action International (PAI),  
Washington D.C., USA*

Population Action  
INTERNATIONAL  
HEALTHY FAMILIES · HEALTHY PLANET

**AFIDEP**

African Institute for Development Policy  
Bridging Development Research, Policy and Practice

# Sustainable Development

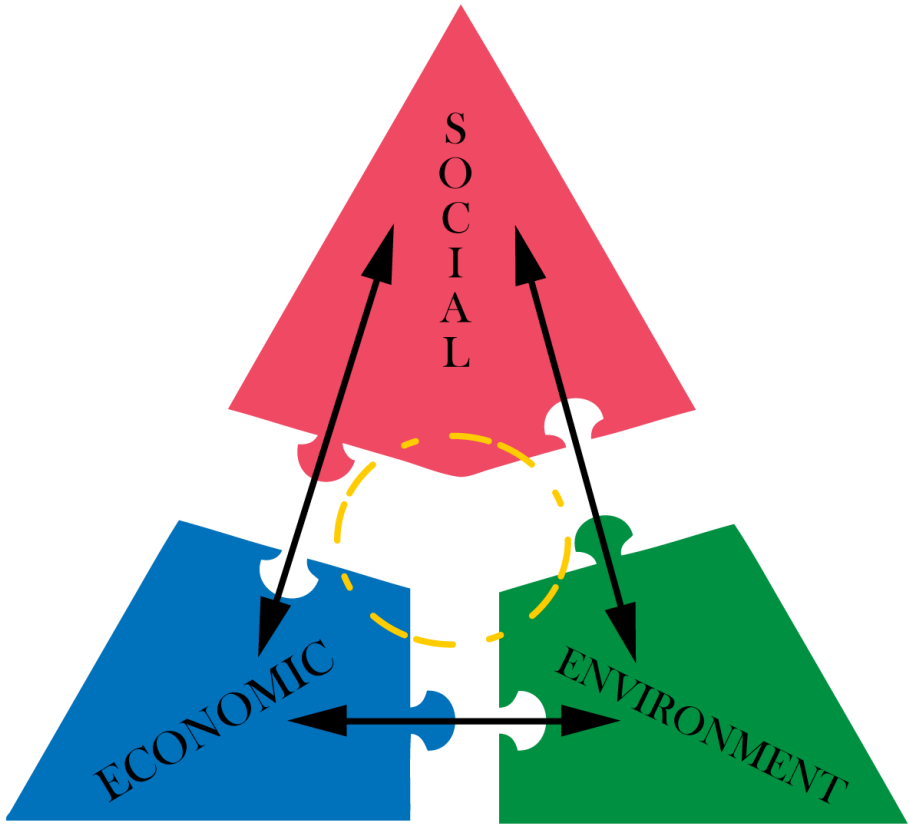


OASIS  
@Berkeley

“Development that meets the needs of the present without compromising the ability of future generations to meet their own needs”

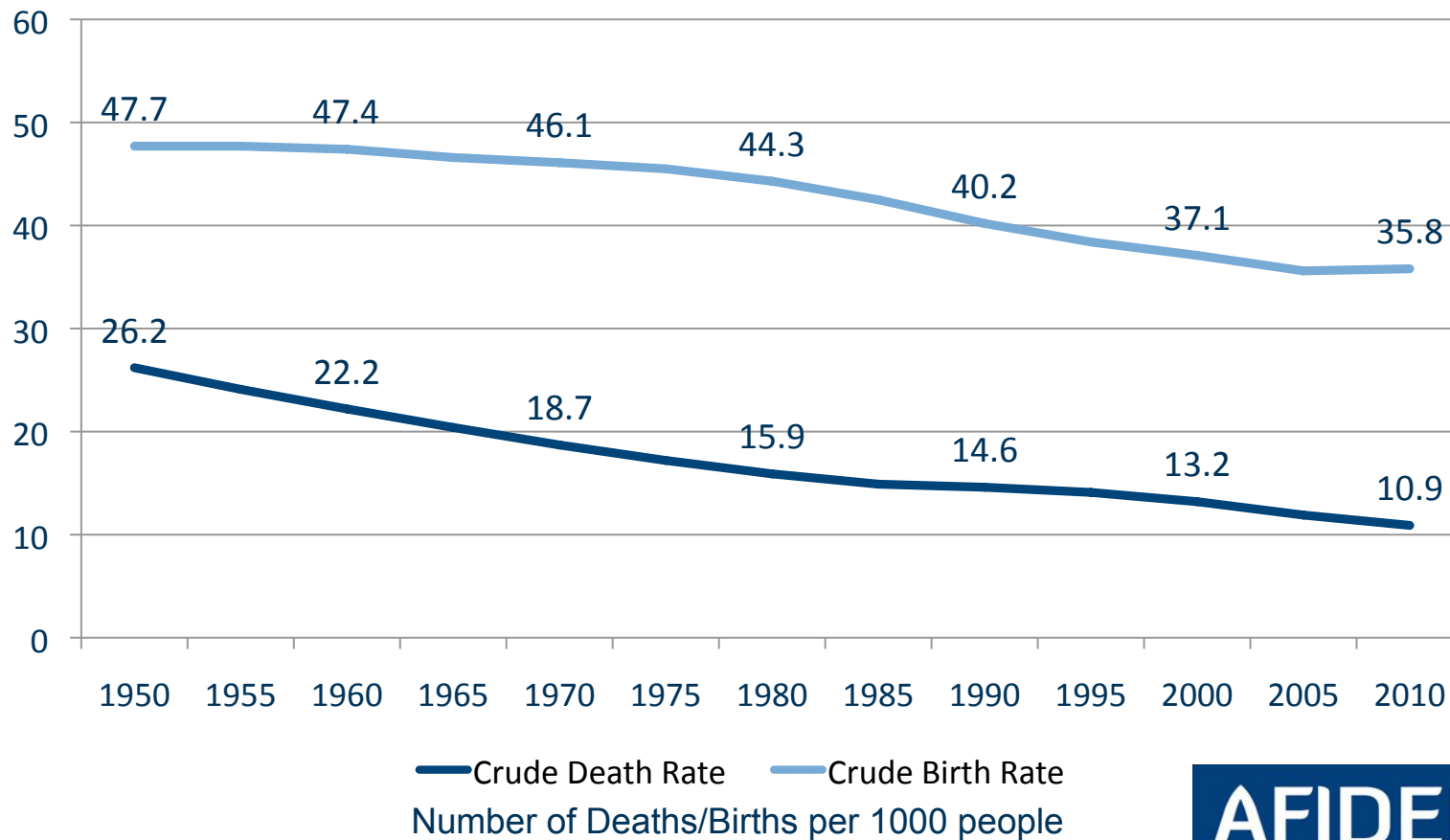
United Nations (1987) – “Our Common Future”

# Population dynamics within sustainable development framework



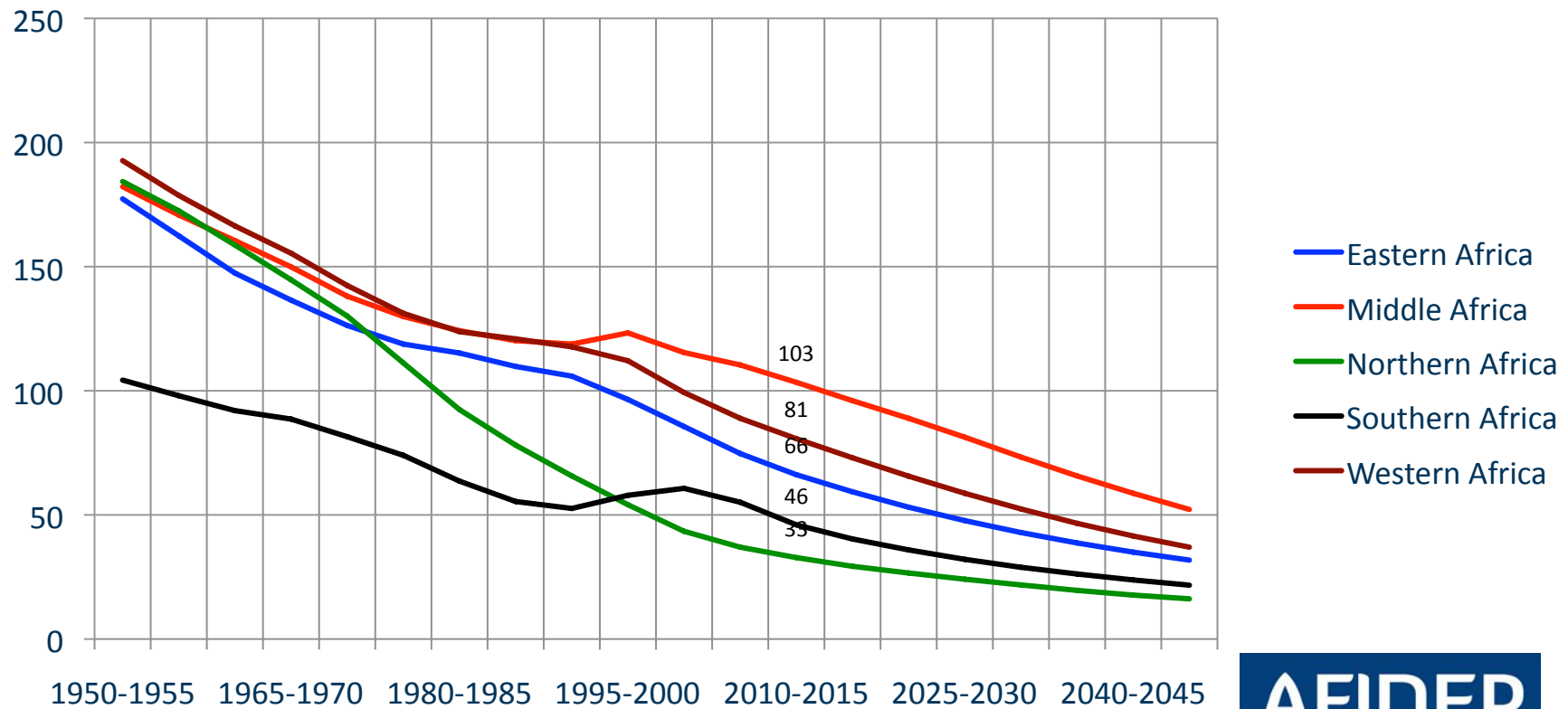
Population dynamics including population size, growth, distribution, density, age structure, migration and urbanization

## The big gap between birth and death rates has persisted in Africa, resulting in high population growth rates



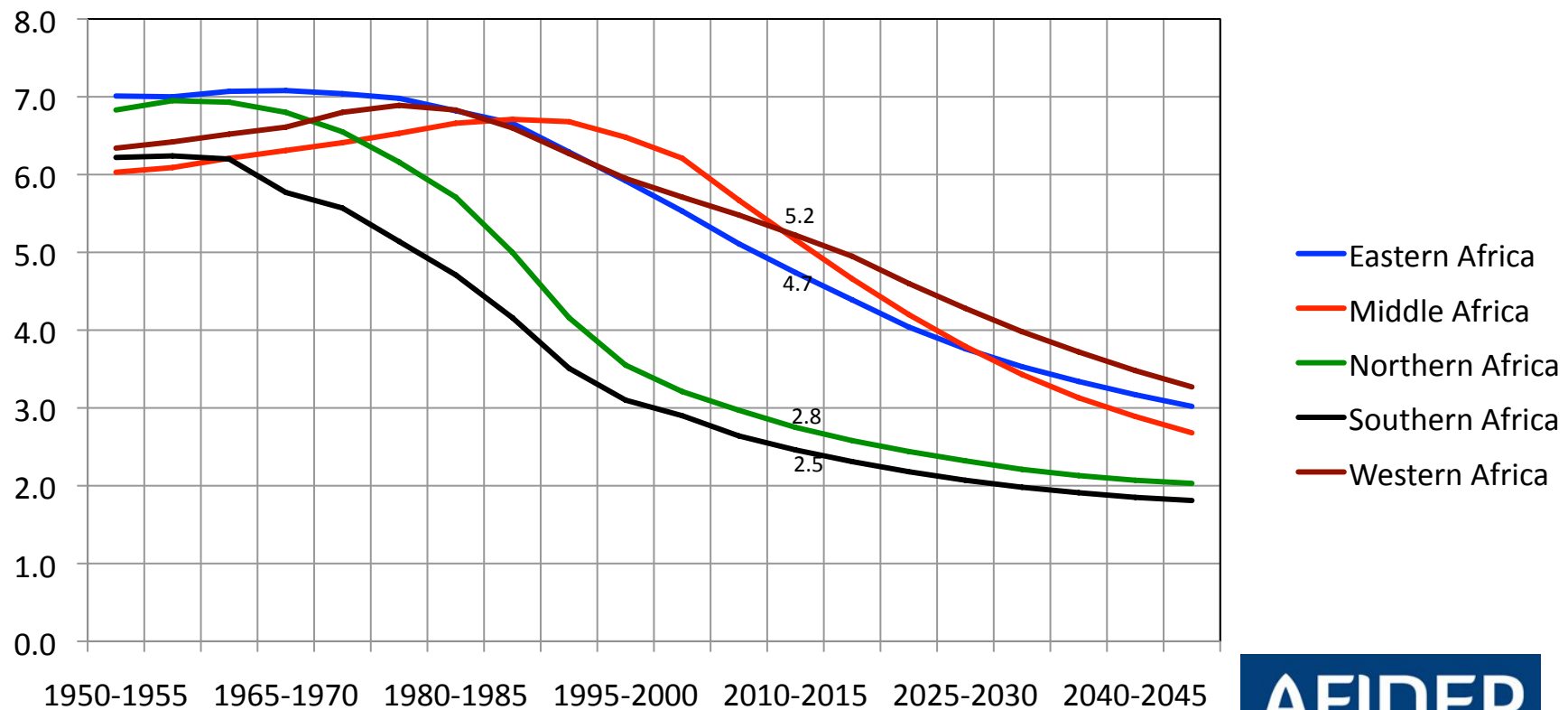
## Child mortality rates have steadily declined in Africa since the 1960s

Number of Deaths before Age 1 per 1000 births



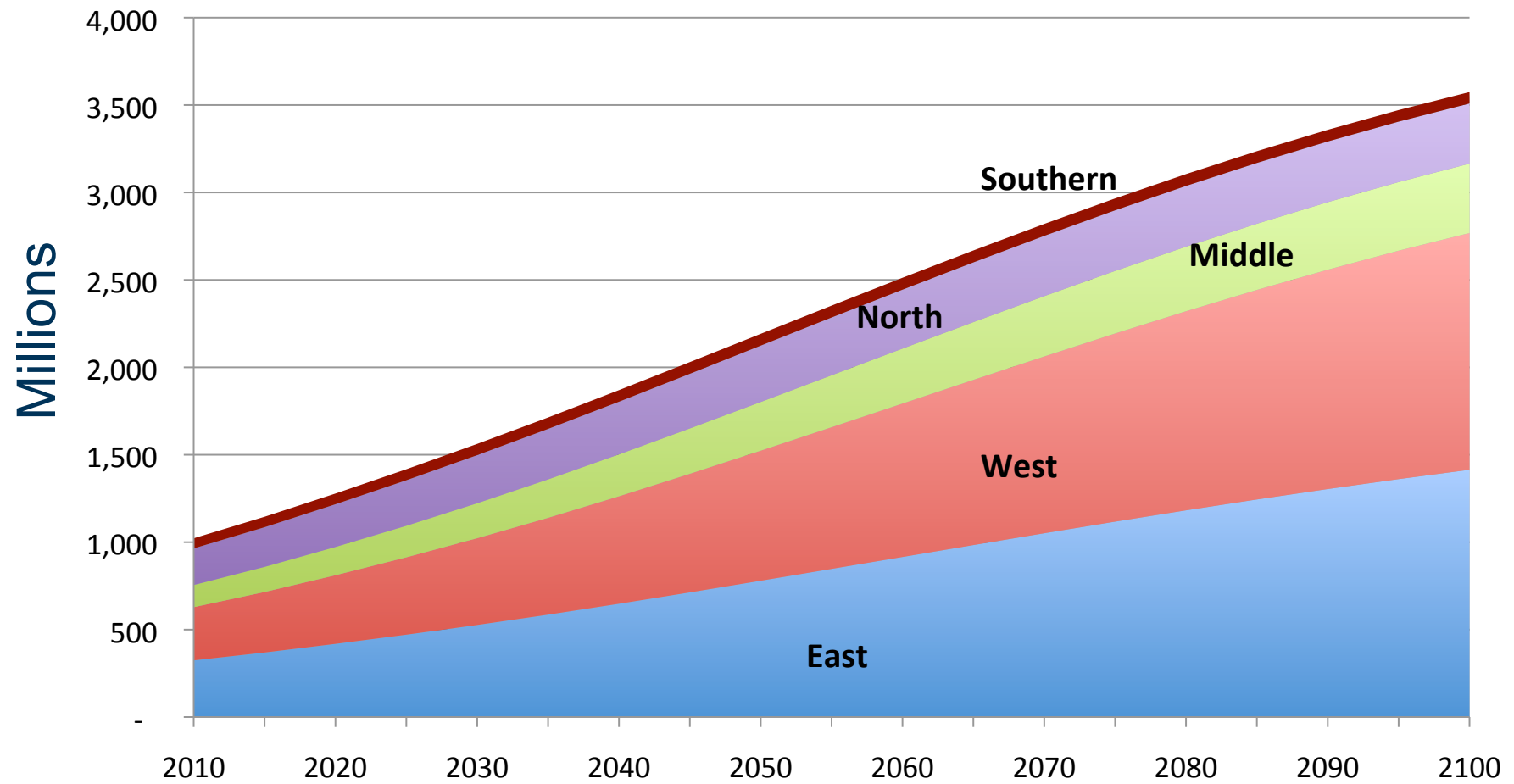
## Fertility Rates have declined slowly in East, West and Middle Africa

Average Number of Children per Woman (TFR)



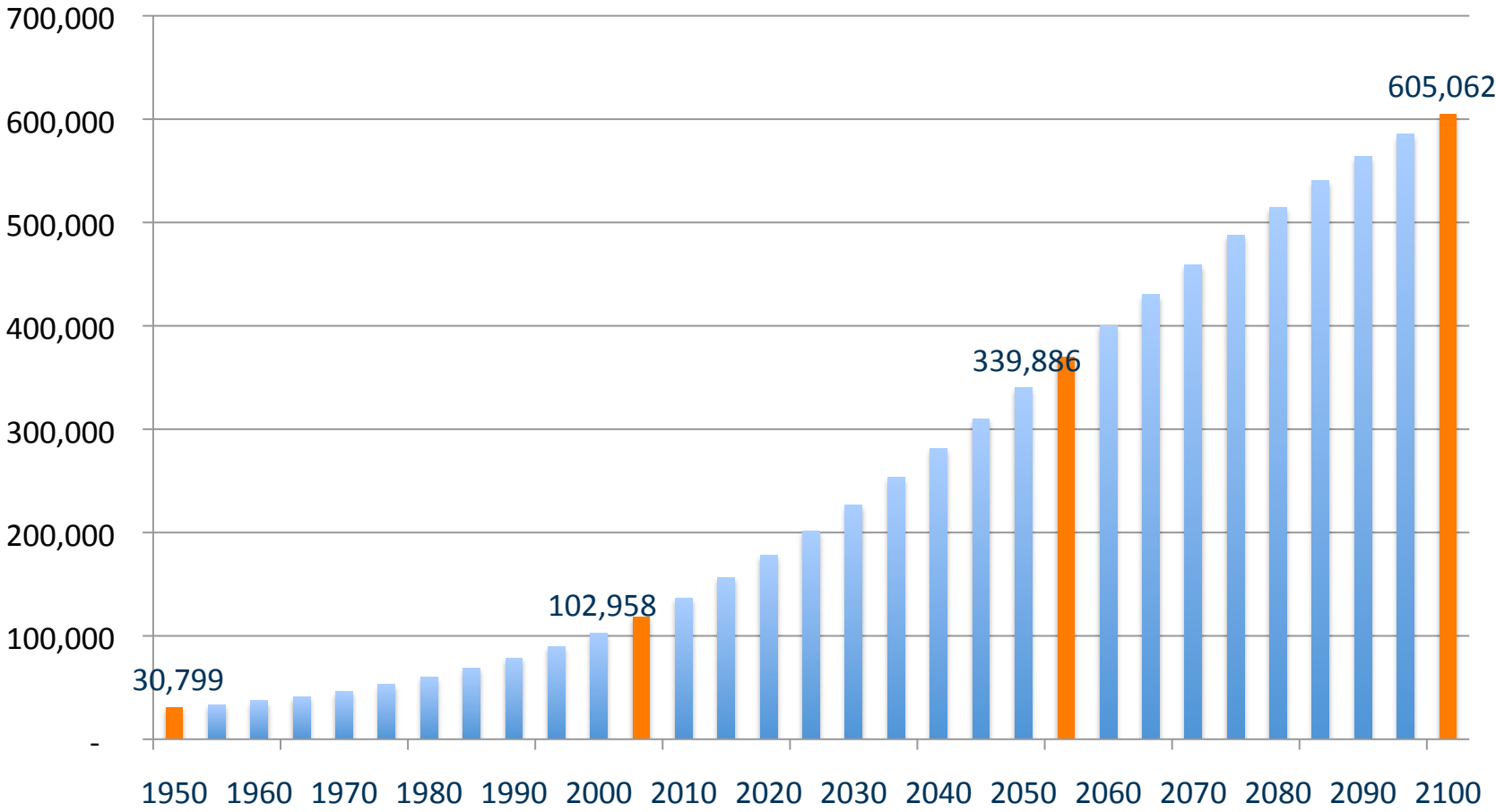


## Population growth will mostly be driven by East and West Africa due to High Fertility in these Regions



Source: United Nations Population Division

# Past & Projected Population Growth in the Sahel ('000)



(Countries: Benin, Burkina Faso, CAR, Chad, Eritrea, Mali, Mauritania, Niger, Senegal Sudan)

Source: United Nations Population Division

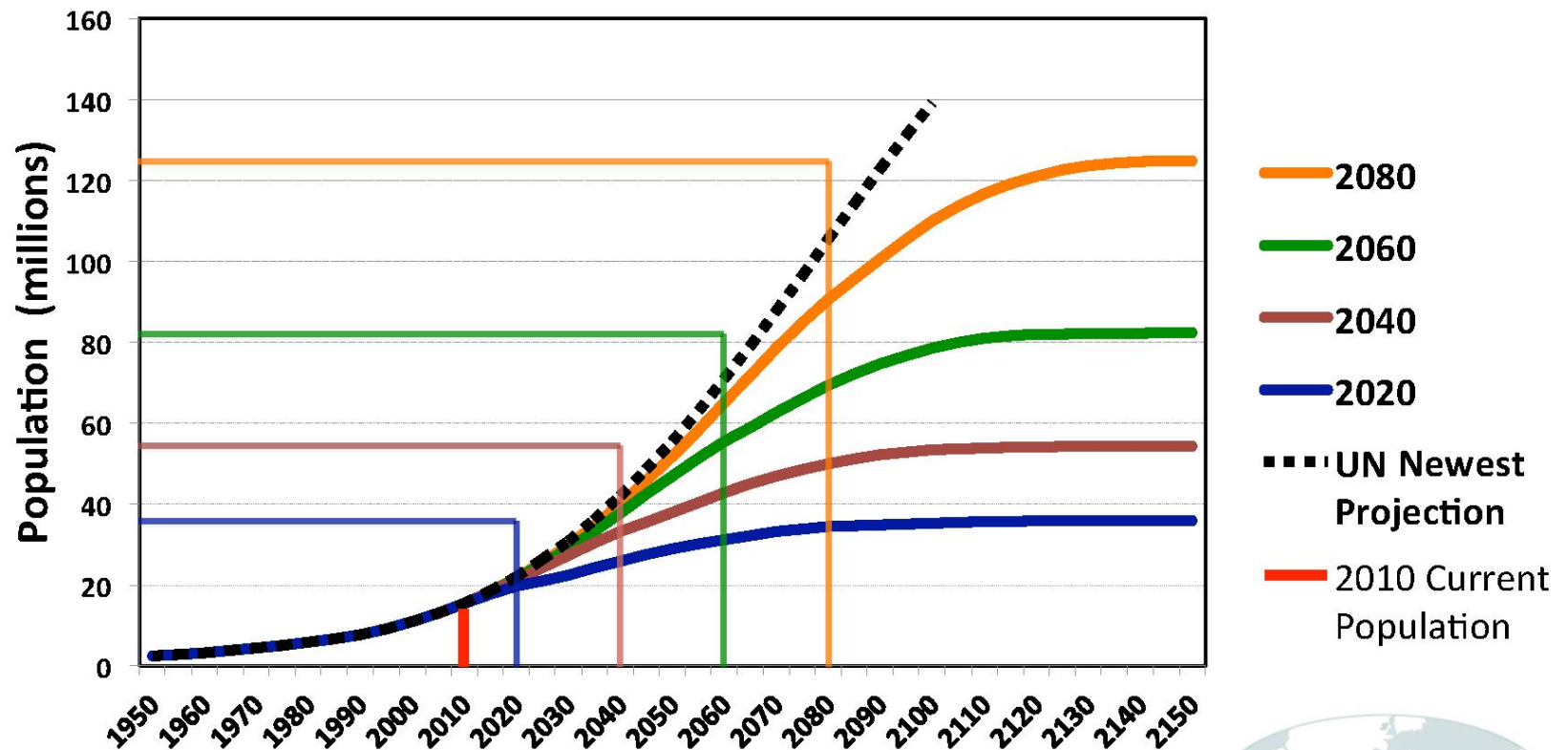
## Past and Projected Population Growth in Sahel Countries

<b>Country</b>	<b>1950</b>	<b>2010</b>	<b>2050</b>	<b>2100</b>
Benin	2.3	8.9	21.7	36.8
Burkina Faso	4.3	16.5	46.7	96.4
Mali	4.6	15.4	42.1	80.5
Mauritania	0.7	3.5	7.1	10.4
CAR	1.3	4.4	8.4	11.0
Chad	2.4	11.2	27.3	43.6
Niger	2.5	15.5	55.4	139.2
Senegal	2.4	12.4	28.6	44.1
Sudan	9.2	43.6	91.0	127.6
Eritria	1.1	5.3	11.6	15.5

*Source: United Nations Population Division*

The year in which a country reaches replacement level fertility has a major impact on its ultimate population size.

## Niger



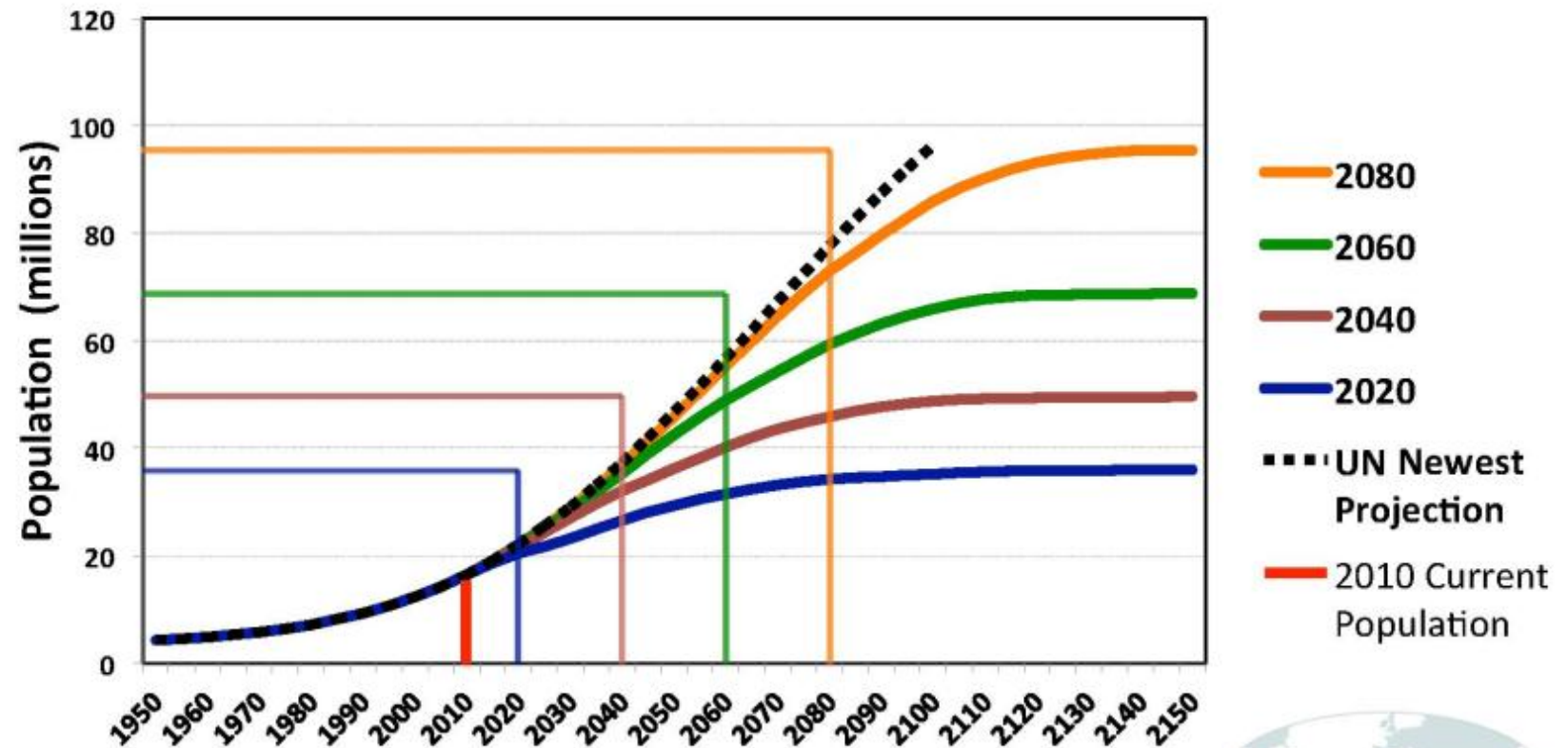
Total fertility rate: **7.4**

Unmet need for family planning: **16%**



The year in which a country reaches replacement level fertility has a major impact on its ultimate population size.

## Burkina Faso



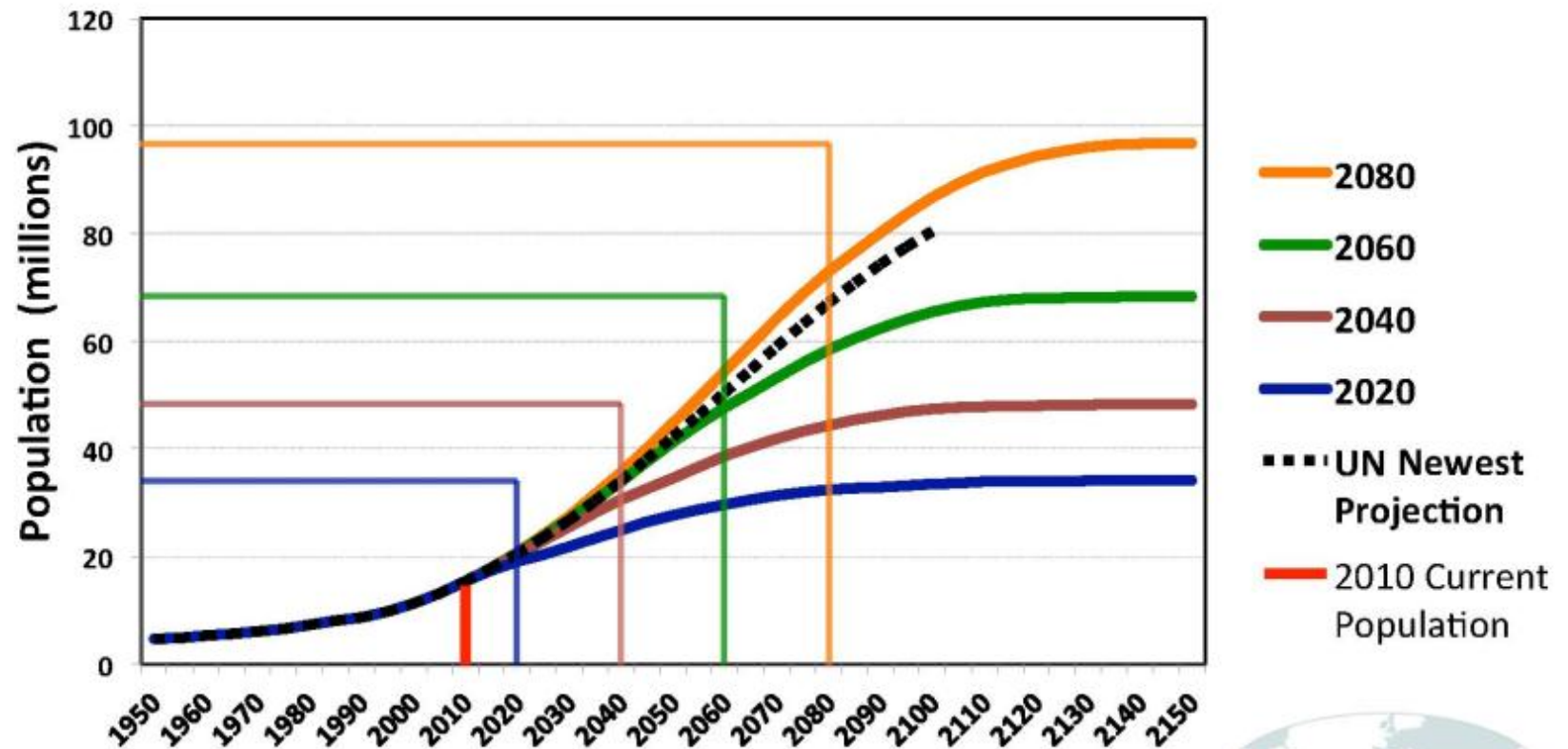
Total fertility rate: **6.0**

Unmet need for family planning: **29%**



The year in which a country reaches replacement level fertility has a major impact on its ultimate population size.

## Mali



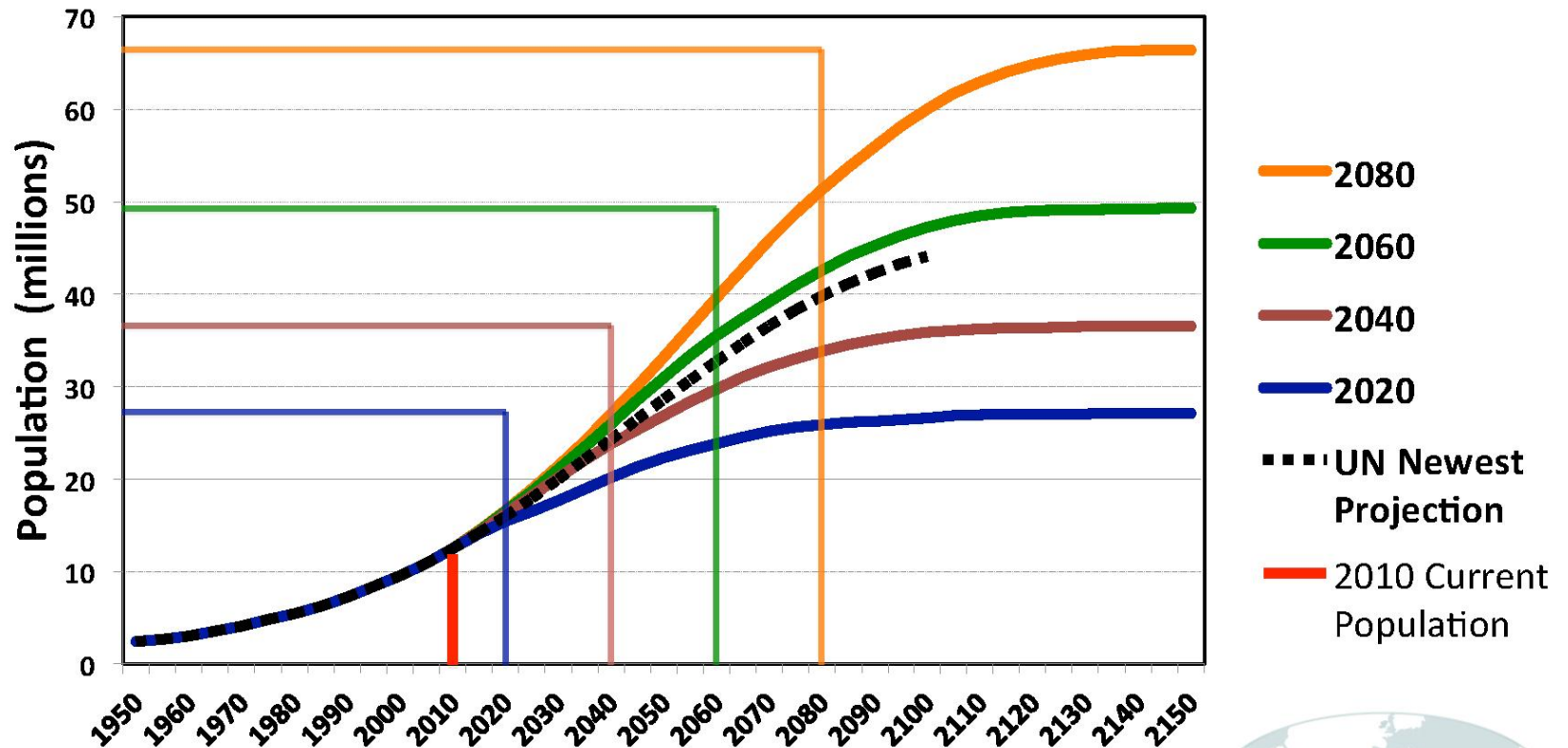
Total fertility rate: **6.6**

Unmet need for family planning: **29%**



The year in which a country reaches replacement level fertility has a major impact on its ultimate population size.

## Senegal



Total fertility rate: **4.9**

Unmet need for family planning: **31%**





# Effects of Rapid Population Growth



High child dependency ratios

Poor health and wellbeing outcomes for mothers and children

Depletion of natural resources such as forests

Fragmentation and overuse of agricultural land

Limited resources to invest in human capital development (education and health)

Undermines poverty alleviation efforts



# Key Climate Change Effects

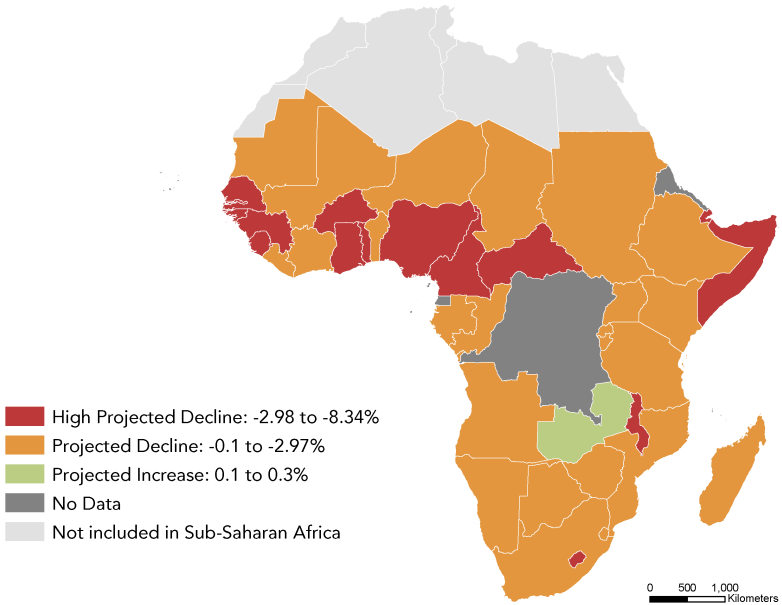


OASIS  
@Berkeley

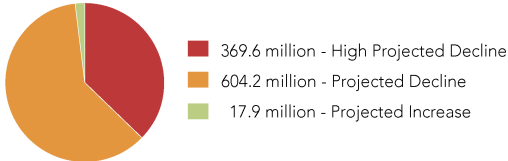
- Increased water scarcity
- Recurring flooding
- Recurring droughts
- Unpredictable start of rainfall
- Short rains & prolonged dry spells during rainy season
- Drying up of rivers and lakes
- Low fish supplies
- Excessive temperatures (heat waves)
- Landslides
- Frequent bush fires
- Increased prevalence of water borne diseases
- Low and unstable hydro-electric production

**AFIDEP**

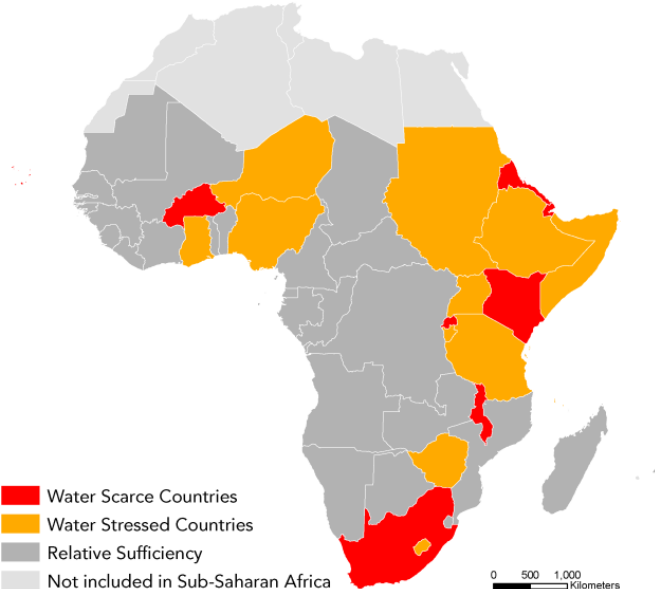
# Pop Growth, Climate & Agricultural production



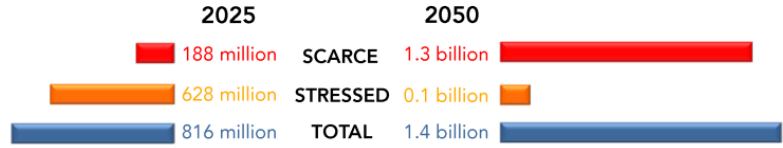
PROJECTED POPULATION BY CATEGORY



# Population growth and water stress and scarcity



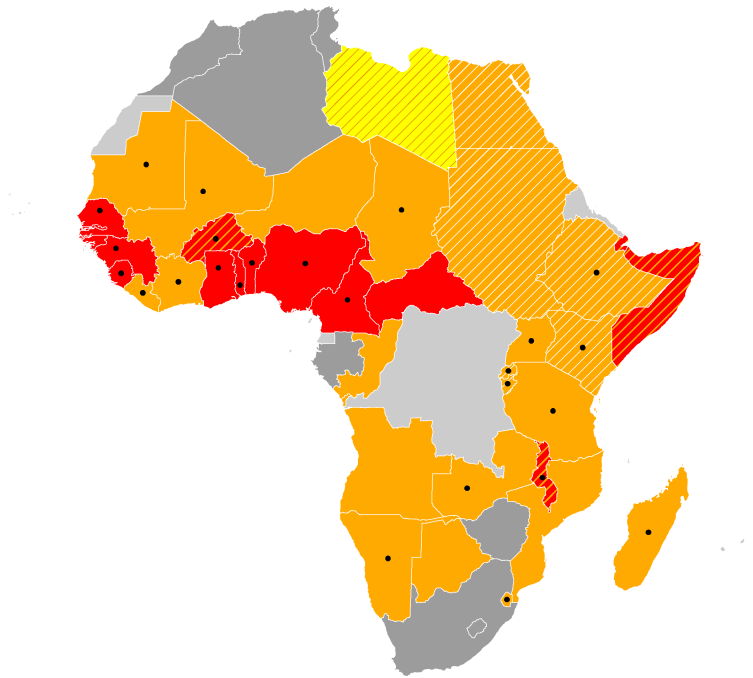
PROJECTED POPULATION LIVING IN WATER STRESSED OR SCARCE COUNTRIES



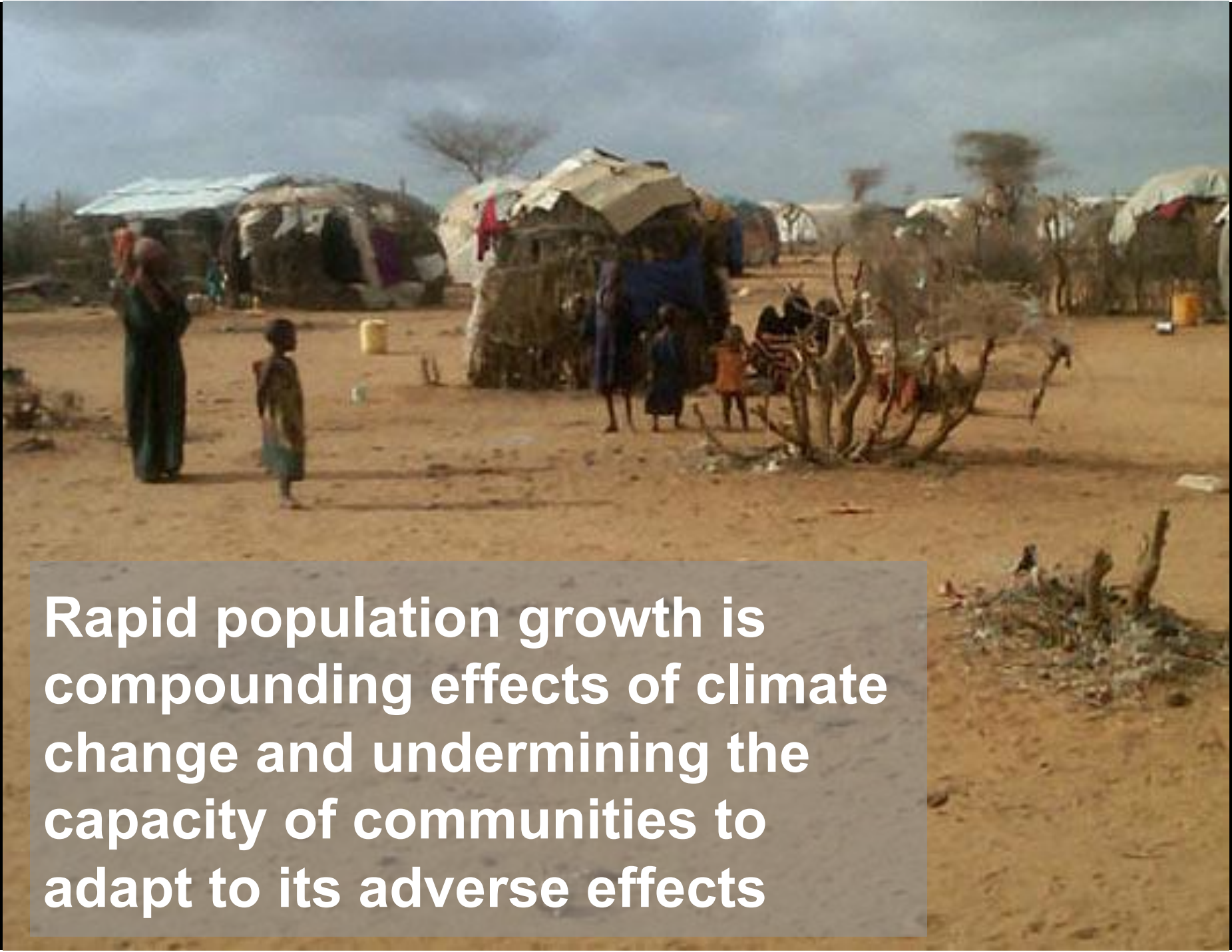
# Population growth and climate change resilience



# Population growth and climate change hotspots



- High Population Growth Rates and High Declines in Agricultural Production
- High Population Growth Rates and Low Resilience to Climate Change
- Countries Experiencing All Three Variables
  - High Percentage of Women with Unmet Need for Family Planning
- Plus Current Water Stress or Scarcity
- Plus Current Water Stress or Scarcity
- No Data for One or More Variables



**Rapid population growth is compounding effects of climate change and undermining the capacity of communities to adapt to its adverse effects**

**How well are population policies and programs IN AFRICA REACTING TO AND ADDRESSING THESE LINKED CHALLENGES?**

**AFIDEP**

A stylized map of Malawi is centered on the page, rendered in two shades of blue against an orange background. The map shows the country's outline, including its major geographical features like Lake Malawi and Lake Chilwa.

# POPULATION DYNAMICS, CLIMATE CHANGE, AND SUSTAINABLE DEVELOPMENT IN MALAWI

Report for the Launch and Consultative Meeting with  
Stakeholders, 13th September 2012, Lilongwe, Malawi

Eliya Zulu, James Ciera, Nyokabi Musila, Eunice William  
(African Institute for Development Policy, Nairobi, Kenya)

Clive Mutunga and Roger-Mark De Souza  
(Population Action International, Washington D.C., USA)

September 2012



# Policy Environment Assessments



- Rapid population growth cited as one of the main barriers to economic development and environmental preservation in virtually all population policies, economic plans, and environmental policies in Kenya and Malawi
  - But limited political leadership and financial resources to family planning and other population programs
- Climate Change increasingly becoming a priority issue – policies being developed, and Ministry of Environment and Climate Change Management set up in Malawi
  - Climate change sectors recognizing key role of population growth, but leave family planning promotion and provision to the Ministry of Health

**AFIDEP**

# Policy Environment Assessments



- There is limited integration of population dynamics and climate change issues at policy and programme levels, with activities in each area being implemented in silos

# Key Barriers to Integrated Approaches



1. Weak political will to prioritize population issues and climate change, especially the population side
2. Fragmentation of population and climate change policies
3. Weak coordination of programs addressing the two issues

**AFIDEP**

# Key Barriers to Integrated Approaches



4. Limited local and international financial resources
5. Weak local technical capacity in design, implementation and of integrated programs
6. Weak local capacity in generation and use of research evidence to guide policy formulation and program design

**AFIDEP**

# Presenting the Malawi Report to the Vice President & the Minister of Environment and Climate Change Management





# Thank You

[www.afidep.org](http://www.afidep.org)

[info@afidep.org](mailto:info@afidep.org)

[eliya.zulu@afidep.org](mailto:eliya.zulu@afidep.org)

**AFIDEP**