Vulnerability: Drought

Case studies:

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Characteristics: Areal Extent

US

- 2012-2013
- January 3 2012
- July 3 2012
- April 9 2013

Ethiopia

- March 2008-April 2009
- 2009
**Characteristics: Frequency**

- **US**
  - Dust Bowl (1930s)
  - Droughts of the 1950s
  - Droughts of the 1970s

- **Ethiopia**
  - Increased frequency of droughts in eastern Africa over the past 20 years

Not as frequent as Ethiopian droughts, but of larger severity

**Horn of Africa**
### Characteristics: Magnitude

<table>
<thead>
<tr>
<th>US</th>
<th>Ethiopia</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 54.6% of the states experienced drought by the end of June 2012, reaching its highest percentage since 1956</td>
<td>• Precipitation levels fell under 30% of the average in 1995-2010</td>
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<tr>
<td>• Covered much larger area compared to past droughts, but more concentrated in severity</td>
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<td>Characteristics: Speed of Onset</td>
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<tr>
<td>US</td>
<td>Ethiopia</td>
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</tbody>
</table>
Wealth

More wealth = less vulnerability

US
GDP: $15,653 trillion
per capita: $49,800
below poverty line: 15.1%
Labor Force: farming
    forestry fishing (0.7%),
    manufacture extract
    transport craft (20.3%),
    technical professional
    (37.3%), office (24.2%),
    services (17.6%)

Ethiopia
GDP: $103.1 billion
per capita: $513
below poverty line: 29.2%
Labor Force: agriculture
    (85%), industry (5%),
    services (10%)

Lower Vulnerability
because of better
    economy and higher
    income
Education

Higher education = less vulnerability

US

School life expectancy:
• Male (15)
• Female (17)

Literacy rate
• Total: 99.9%
• Male: 99.9%
• Female: 99.9%

Education Expenditure
• 5.4% of GDP

Ethiopia

School life expectancy:
• Male (9)
• Female (8)

Literacy rate
• Total: 42.7%
• Male: 50.3%
• Female: 35.1%

Education Expenditure
• 4.7% of GDP

Higher School life expectancy and literacy rate = Less vulnerable
## Health

**Health expenditure**

<table>
<thead>
<tr>
<th>Country</th>
<th>Health Expenditure</th>
<th>Children under the age of 5 underweight</th>
<th>Infant Mortality Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>17.9% of GDP</td>
<td>1.3%</td>
<td>6 deaths per 1000 births</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>4.9% of GDP</td>
<td>29.2%</td>
<td>60.9 deaths per 1000 births</td>
</tr>
</tbody>
</table>

Better health facilities, less children underweight, lower infant mortality rate = lower vulnerability

Better health care = less vulnerability
Demographics

Very differentiated

Ethiopia
- 80 million in population
- Average family size of 6-7
- 41.5% of population aged between 0-14
- Very youthful population
- Urban population is 17% of the total population

USA
- Urbanized, while 82% residing in cities and suburbs
- 3rd populous country in the world (more than 300 million)
- Stationary population structure, and many are still in their active age (low dependency)
Ethiopia: Ethnic Variations

Ethnic inequality = higher vulnerability

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>% of Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oromo</td>
<td>40</td>
</tr>
<tr>
<td>Amahara</td>
<td>25</td>
</tr>
<tr>
<td>Tigray</td>
<td>7</td>
</tr>
</tbody>
</table>

Certain ethnic groups were considered more important than the others.

Limited opportunities: lack of education, political involvement, manifestation of cultural...
USA: Ethnic Variations

Low vulnerability from ethnicity

Most affected areas: Colorado, Kansas, Oklahoma, Nebraska, Arkansas, Missouri, Illinois, Kentucky, Indiana, Georgia

Inequality between ethnicities is very low

Receive equal opportunities

Low vulnerability from ethnicity
Overall Evaluation

USA

- Only the first year of drought
- Less time needed for recovery

Ethiopia

- Caught in a deadly cycle of death and famine
- Around US$176 million was donated in international aid - not enough