Food Security:
The Need for Multilateral Action

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What Is Food Security and Why for the G20?
Food Security: What is it?

- **Food availability:** The availability of *sufficient quantities* of food of appropriate quality.

- **Food access:** Access by individuals to *adequate resources* for acquiring a nutritious diet;

- **Utilization:** Utilization of food through *adequate diet, clean water, sanitation and health* care to reach a state of nutritional well-being where all physiological needs are met;

- **Stability:** To be food secure, a population, household or individual must have access to *adequate food at all times.*
Why for the G20?

- **Hunger & Poverty Millennium Development Goal**
  - As many as 1 billion people are likely to remain in extreme poverty by 2015 with severe consequences for hunger.

- **Food insecurity is necessary for widespread buy-in to belief in the mutual benefit of growth**
  - At least 33 countries experienced serious social unrest linked to soaring food prices in the first half of 2008.
  - In Africa, countries that have fallen into food insecurity for reasons other than conflict have been shown to be much more prone to civil war.
  - Food security may not be enough to produce social stability but its increasing absence is likely to prevent stability.
Economic losses span generations

- Prolonged inadequacies in food consumption result in higher **malnutrition** leading to lower productivity and lasting high risk aversion.

- Households compromise on dietary diversity (abandoning nutrient-rich food in favor of cheap sources of calories) and **cut back spending on health and education** during crisis.

- Effects of infant malnutrition in first 2 years lasts a whole generation or more
  - Stunting and wasting
  - Reduced cognitive ability for life
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Oct 2007-Dec 2008 Price Spikes

Global market grain prices (nominal $/ton) 2002-2008

Real fertilizer prices, 1960-2008*

Index in constant 2000 $s relative to MUV

Energy Prices

* 2008 is January-June average
The food price crisis in 2008 increased undernourishment by 63 million people and the economic downturn in 2009 contributed 41 million more undernourished people than if the crisis had not taken place (Tiwari & Zaman, 2010).

The recent food and financial crises are threatening the development of almost an entire generation of children (~250 million infants and the unborn)—178 million children currently permanently affected from early malnutrition (de Pee et al. 2009).
The fiscal cost of dealing with food crises

Distribution (%) of safety nets in 118 countries during 2008 food crisis

Source: Data based on responses from 118 country teams

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Last Time, the World Responded But Then Grew Complacent
The Green Revolution

A major global push on agricultural growth after 1975

- By 1980 Asian countries were spending about 14 percent of their total public budget on agriculture
- The share of ODA to agriculture increased from 10 percent in 1975 to 18 percent by 1979, which translated into a more than doubling in real US$s.
- Donor coordination in this area was effective in providing leadership to partners (CGIAR)

Result: significant global agricultural productivity growth translated to developing countries

- Agricultural GDP growth per capita averaged 0.4% annually from 1980 to early 2000s
- But developing countries emerging now had much higher rates, and Africa and other low investors much lower
The Green Revolution (cont.)

- Better technologies – more use of improved crop varieties, fertilizer, irrigation
  - Share of area planted to improved crop varieties increased in Asia from 10% in 1970 to 80% by 2000.
  - Fertilizer use more than doubled
  - Irrigated areas continued to expand and by 2000 accounted for about 40% of cropped area in South Asia and 30% of cropped area in East Asia

- Better policies – less ‘plundering of agriculture’
  - Overall net agricultural taxation declined from 28 to 10% in agriculture-dominated countries from early 1980s to early 2000s, and from 15 to 4% in much of Asia over the same period.
World grain real prices declined, while stocks increased 1974-2000
Resulting complacency led to under-investment in food

Decline in public spending on agriculture as a share of total public spending (%)

<table>
<thead>
<tr>
<th>Country Type</th>
<th>1980</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture-based</td>
<td>6.9</td>
<td>4.0</td>
</tr>
<tr>
<td>Transforming countries</td>
<td>14.3</td>
<td>7.0</td>
</tr>
<tr>
<td>Urbanized countries</td>
<td>8.1</td>
<td>2.7</td>
</tr>
</tbody>
</table>

Decline in share and level of ODA to agriculture

- ODA to agriculture (billion 2004 US$)
- Share (% of agriculture to total ODA)

2004 $
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Sowing the Seeds for Trouble as the World Gradually Changed
Sea changes in global cereals markets 2001-2009

- Grain stock levels declined from 2000, leaving markets vulnerable to shocks
- Excess liquidity seeking diversification from financial assets into commodities and new grain demands added to usual shocks
- World grain prices rose gently from 2002 then dramatically in late 2007
- Countries attempted to insulate their markets, increasing world prices further
- Confidence in markets eroded adding panic
Destocking from 2000

The graph shows the stock-to-use ratio, consumption, and production over time from 1987/88 to 2009/10. The stock-to-use ratio is depicted in green, consumption in blue, and production in red. The ratio and consumption generally decrease, while production increases.
Biofuels demand was added...

**Sources of demand:**
- Economic growth
- Population growth
- Biofuels (support = $0.38-$0.49 per liter of petroleum equivalent for ethanol)
Other demand uncertainty:

- Demand for commodity options as an asset class has increased dramatically.
- In only 5 years, from 2003 to 2008, investment in index funds tied to commodities has grown twenty-fold from $13 billion to $260 billion.
- Presently only 0.5% of futures contracts for HRW Wheat on CBOT result in physical deliveries.
- Between 1998 and 2008, the share of long interest (that benefits when prices rise) in commodities held by financial investors has grown from 1/4 to 2/3 of the agricultural commodity market.
Supply uncertainty: declining yield growth and climate change

- Grain yield annual growth of 3% per annum in Green Revolution has fallen to 1% now, less than demand.
- 5 key African food crops have 95% probability of yield declines in 2050 that exceed 7%, due to climate change and a 5% probability that they will exceed 27%.
Supply uncertainty: Land and water constraints

Acute water scarcity for 2.7 billion people

The agricultural land limit has been reached in most places except parts of Africa and Central Asia

Population living in areas of absolute water scarcity

Arable and Permanent Cropland per capita of Agricultural Population
Hunger and its effects still widespread

- The incidence of hunger increased to 1.09 billion in 2009, a number higher than any time since 1970 (FAO).
- More than 1/4 of children under five are underweight in developing countries.
- Severe to moderate stunting affects more than 1/3 of children under five—more than 140 million children in South Asia and sub-Saharan Africa alone.
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Yet There is Widespread Technical Consensus on What to Do
**Invest more**

- Financing gap is large but manageable
  - Additional needed public investment to meet the MDG of halving poverty by 2015 is estimated to be US$14 billion annually for all developing countries; US$3.8 to US$4.8 billion for Sub-Saharan Africa (IFPRI)

- Investment returns to systematic agricultural research and extension have been high – across all regions
  - In the developing world have averaged 43% IRR and are high across all regions (IFPRI)

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Based on studies carried out from 1953 to 1997. Number of observations in parenthesis. Source: Alston and others 2000
Invest better: raise productivity growth

Reverse the decline in crop yield growth rates

- Better use existing technology
- Improve water management
- Strengthen tenure security and land markets
- Invest in technology generation
Invest better: reduce costs in food marketing and trade

Ethiopia: Wholesale maize prices in Addis Ababa relative to import and export parity

- Expand infrastructure
- Strengthen producer organizations
- Continue support for the Doha trade round, strengthen regional trade
- Improve access to finance
Invest in better food access and nutrition

- Long-term solutions must involve greater exposure of poor to increasingly volatile food markets, thus safety nets essential to market-led growth.
- Handling shocks requires rapid scale-up of existing safety net programs that can be expensive to maintain when not needed.
- Direct transfers such as targeted cash transfers, food stamps, in-kind food distribution and employment in public works programs.
- Direct intervention with health and nutrition supplementation programs necessary.
- Proper targeting is crucial from the point of view of efficiency as well as equity, but requires institutional infrastructure in place.
Promote effectiveness of investments via country-leadership and coordination

Actions going forward should follow the Rome Principles (2009) in wake of L’Aquila pledges, following the Paris Declaration (2005) and the Accra Agenda (2008)

- Invest in country-owned plans
- Foster strategic coordination between national, regional and global level
- Twin-track of direct action for the most vulnerable and a medium to long term programs to eliminate root causes,
- Adapt and use the multilateral system
- Accountability through multi-year plans and programs and results assessment
Increase predictability: Global Agriculture and Food Security Program (GAFSP)

- A multilateral approach requested by G20, in the spirit of discussions under UN-HLTF
- Addresses fact that growing success in donor coordination and alignment at country level in planning (such as CAADP in Africa)...
- Is not always matched by similar progress in ability to coordinate funding to support these plans because of rigidities in how aid is traditionally allocated and programmed
- A <US1$ billion pilot funded by Canada, Korea, Spain, USA, and Gates that is scalable