• Disaster Risk Reduction
• Climate Change
• Adaptation
• Sustainability
• Resilience
• Work within the School
DRIVE FOR DISASTER RISK REDUCTION

• Increase of disaster events globally and increasing disaster costs.
• Social, political, cultural, economic and environmental implications.
• Recognition that prevention is better than response (HFA, 2005).
HYOGO FRAMEWORK FOR DISASTER RISK REDUCTION

1. Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.

2. Identify, assess and monitor disaster risks and enhance early warning.

3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels.
HYOGO FRAMEWORK FOR DISASTER RISK REDUCTION

4. Reduce the underlying risk factors.
5. Strengthen disaster preparedness for effective response at all levels.
CLIMATE CHANGE — CHALLENGE

• Accelerated Climate Change and increasing variability is a great single threat to sustainable development and MDGs.

• International goal of maintaining average global temperature rise below 2 Celsius is very unlikely due to lack of international commitment to an agreed Greenhouse Gas concentration level and a mitigation timetable to achieve that target.
**Climate Change — Challenge**

- International action unlikely before 2020 – possibility of some regional agreements; e.g.: EU but growing energy demand means that Greenhouse Gas emissions will continue to rise.

- Increasing extremes, more problematic than average change in precipitation of temperature.
Delivering Adaptation

• Historic and ongoing loading of Greenhouse Gases into the atmosphere means that change is built-in (and will continue to be) into the climate system. We will have to adapt.

• Adaptation will mean long term adjustment to new average global mean temperature and to extreme events as the climate system adjusts.
DELIVERING ADAPTATION

• There will be winners and losers (but more losers). In general it will be easier for wealthier countries to adapt than poorer ones.

• Adaptation will need to be purposeful – this will require iterative risk assessments Linked to ongoing actions. Adaptation actions will need at local, regional and national levels. Delivery will need to collaborative.
## Schools of Sustainability

<table>
<thead>
<tr>
<th>Subject matter</th>
<th>Ecological sustainability</th>
<th>Sustainable growth</th>
<th>Sustainable development</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major concerns</strong></td>
<td>Ecosystems and biosphere</td>
<td>Economy, markets and prices</td>
<td>People’s livelihoods, economy, society</td>
</tr>
<tr>
<td><strong>Major disciplines, theoretical base</strong></td>
<td>Natural sciences, biology, ecology</td>
<td>Neo-classical and new institutional economics, new political economy, rational choice theory</td>
<td>Agricultural and social sciences: “old” and some “new” economics, anthropology, ethnology</td>
</tr>
<tr>
<td><strong>Basic world view</strong></td>
<td>Equilibrium focused, nature centred</td>
<td>Equilibrium focused, anthropocentrist</td>
<td>Basically evolution focused, anthropocentrist</td>
</tr>
<tr>
<td><strong>Major concerns with respect to quantification of sustainability</strong></td>
<td>Rates of population growth, environmental degradation, loss of biodiversity, deserts, pollution, etc</td>
<td>Rates of growth of income or consumption based on national accounts, market-valued flows of goods and services</td>
<td>Specific and aggregate social indicators, case studies of livelihoods, coping and conflict solving strategies</td>
</tr>
<tr>
<td><strong>Major policy prescriptions</strong></td>
<td>Protect nature, educate people</td>
<td>Develop markets and internalise externalities</td>
<td>Empower people, develop institutions</td>
</tr>
<tr>
<td><strong>Major goals</strong></td>
<td>Ecological viability</td>
<td>Economic efficiency</td>
<td>Social efficiency, justice</td>
</tr>
</tbody>
</table>

Source: Adapted from Hatzius, T, 1996, Institute of Development Studies Working Paper 48
Mapping Sustainable Development

- Equality
- Transformation
- Reform
- Increasing Socio-Economic Justice Concerns
- Status Quo
- Inequality

Sustainable Development Debate
- Indigenous Movements
- Mainstream Environment Groups
- Ecological Modernisers
- OECD

Increasing Environmental Concerns
- Little Environmental Concern
- Techno Centred
- Eco Centred

Source: Adapted from Paper 2: 41

Ecological Modernisers
Resilience

- Resilience is usually defined as the ability to recover from disruptive events.
- Has become an important part of the disaster management discourse as it implies greater self-reliance.
- Now expressed as bounce-forward ability.
- Resilience can be viewed as transformative.
# Resilience Matrix

<table>
<thead>
<tr>
<th>Subject Matter</th>
<th>Ecological Resilience</th>
<th>Conventional Economics</th>
<th>Socio-economic Resilience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Concern</td>
<td>Ecosystem</td>
<td>Market Efficiency</td>
<td>Livelihoods</td>
</tr>
<tr>
<td>Major Goal</td>
<td>Ecological Viability</td>
<td>Profit</td>
<td>Social Justice</td>
</tr>
<tr>
<td>Major Academic Base</td>
<td>Biology</td>
<td>Business Schools</td>
<td>Political Economy</td>
</tr>
<tr>
<td>World View</td>
<td>Equilibrium</td>
<td>Market Equilibrium</td>
<td>Evolution</td>
</tr>
<tr>
<td>Research Approach</td>
<td>Neutral</td>
<td>Neutrality</td>
<td>Explicit Values</td>
</tr>
<tr>
<td>Major Advantages</td>
<td>Diversity</td>
<td>Dominant Ideology</td>
<td>Equity</td>
</tr>
<tr>
<td>Major Flaws</td>
<td>No Disequilibrium</td>
<td>No disequilibrium is</td>
<td>Little Formal Theory</td>
</tr>
<tr>
<td></td>
<td>Design</td>
<td>assumed</td>
<td></td>
</tr>
<tr>
<td>Policy Prescription</td>
<td>Protect Nature/Institutions</td>
<td>Encourage Competition</td>
<td>Empower People</td>
</tr>
<tr>
<td>Policy Delivery</td>
<td>Top Down</td>
<td>Top Down</td>
<td>Bottom Up</td>
</tr>
<tr>
<td>Policy Presentation</td>
<td>Bounce Back Ability</td>
<td>Restoration of Status Quo</td>
<td>Bounce Forward Ability</td>
</tr>
</tbody>
</table>
Mapping Resilience

Equality

Transformation

Reform

Increasing Socio-Economic Justice Concerns

Status Quo

Inequality

Resilience Debate

Indigenous Movements

Mainstream Environment Groups

Forth World Movements

Eco Centred

Techno Centred

Concerns Over Increasing Risk

Little Environmental Concern

UNFCCC

OECD

UNDP

Friends of Earth

Greenpeace

World Bank

Hyogo

Ecological Modernisers

Oxfam

World Bank

UNFCCC

OECD

UNDP

Friends of Earth

Greenpeace

Hyogo

Ecological Modernisers

Oxfam

Little Environmental Concern

Techno Centred

Eco Centred
THANK YOU