AgMIP Coordinated Global and Regional Assessment of Climate Change Impacts on Food Security and Agriculture

Building Blocks and Challenges

economics panel: institutions

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1Austrian Institute of Economic Research, Vienna

Aspen, 16 Sept. 2015
Institutions & economics: overview
Institutions & economics: markets

price

cereal quantity
Institutions & economics: markets

price

cereal quantity
Institutions & economics: markets

price

cereal quantity
Institutions & economics: markets

demand = supply

price

cereal quantity
Institutions & economics:

**markets**: excellent for **private goods**

Sources: wikipedia

demand = supply

price

cereal quantity
Institutions & economics:

**markets:** excellent for private and many public **bads** (1912)

Sources: wikipedia
Institutions & economics: property rights & private contracts

Sources: www.snipview.com
Institutions & economics: property rights & private contracts

To illustrate Coase Theorem suppose the same railway is a railway that runs coal-burning steam locomotives through a farming area and caused fires in the crop fields at harvest time. The cost of each train run is $200. Suppose the cost farming area are as follows:

<table>
<thead>
<tr>
<th>Number of trains per day</th>
<th>Private</th>
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<tbody>
<tr>
<td>1</td>
<td></td>
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<tr>
<td>2</td>
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Institutions & economics:
common pool problem
Institutions & economics: common pool problem

access control  service team  consumers
Institutions & economics: common pool problem

access control service team

consumers

Sources Sinabell
Institutions & economics: common pool problem

access control

service team

consumers

Sources: NASA
Institutions & economics: common pool problem

Elinor Ostrom
Nobel laureate in economic sciences talks about managing common pool

Sources NASA, OECD,
Institutions & economics: common pool problem

HOW FARMER MANAGED IRRIGATION SYSTEMS BUILD SOCIAL CAPITAL TO OUTPERFORM AGENCY MANAGED SYSTEMS THAT RELY PRIMARILY ON PHYSICAL CAPITAL

Elinor Ostrom

Let me share with you some of the experiences I have had in studying irrigation systems in Nepal since

Sources NASA, OECD, http://www.fordfoundation.org
institutions at work: policies & markets & property rights & culture & ...
Institutions & economics: food markets

FIGURE 1.2. Price indices of individual food categories, 2004-09

cereal market in SE Asia

$P_{2008} = 2.5 \times P_{2005}$

Q: Nussbaumer, 2004
Institutions & economics: food markets

Q: Nussbaumer, 2004

Cereal market in Leipzig

$P_{1779} = 4 \times P_{1777}$
Institutions & economics: food markets & policies

<table>
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<th>Policy Instruments</th>
<th>Afghanistan</th>
<th>Bangladesh</th>
<th>India</th>
<th>Nepal</th>
<th>Pakistan</th>
<th>Sri Lanka</th>
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Q: Nussbaumer, 2004

rye market in Leipzig
P1779 = 4
P1777

cereal market in SE Asia
P2008 = 2.5
P2005
A number of simultaneous events explain the unusually high food-price inflation that took place during 2007-08. While supply constraints (in particular low levels of world cereal stocks) played a role, the main drivers were increases in demand (especially the rapid increase in the use of food crops to produce biofuels), speculation (large flows of speculative capital into agricultural commodity futures markets) and policy failures (especially export restrictions).