

Climate Change Mitigation - Potential of Agriculture



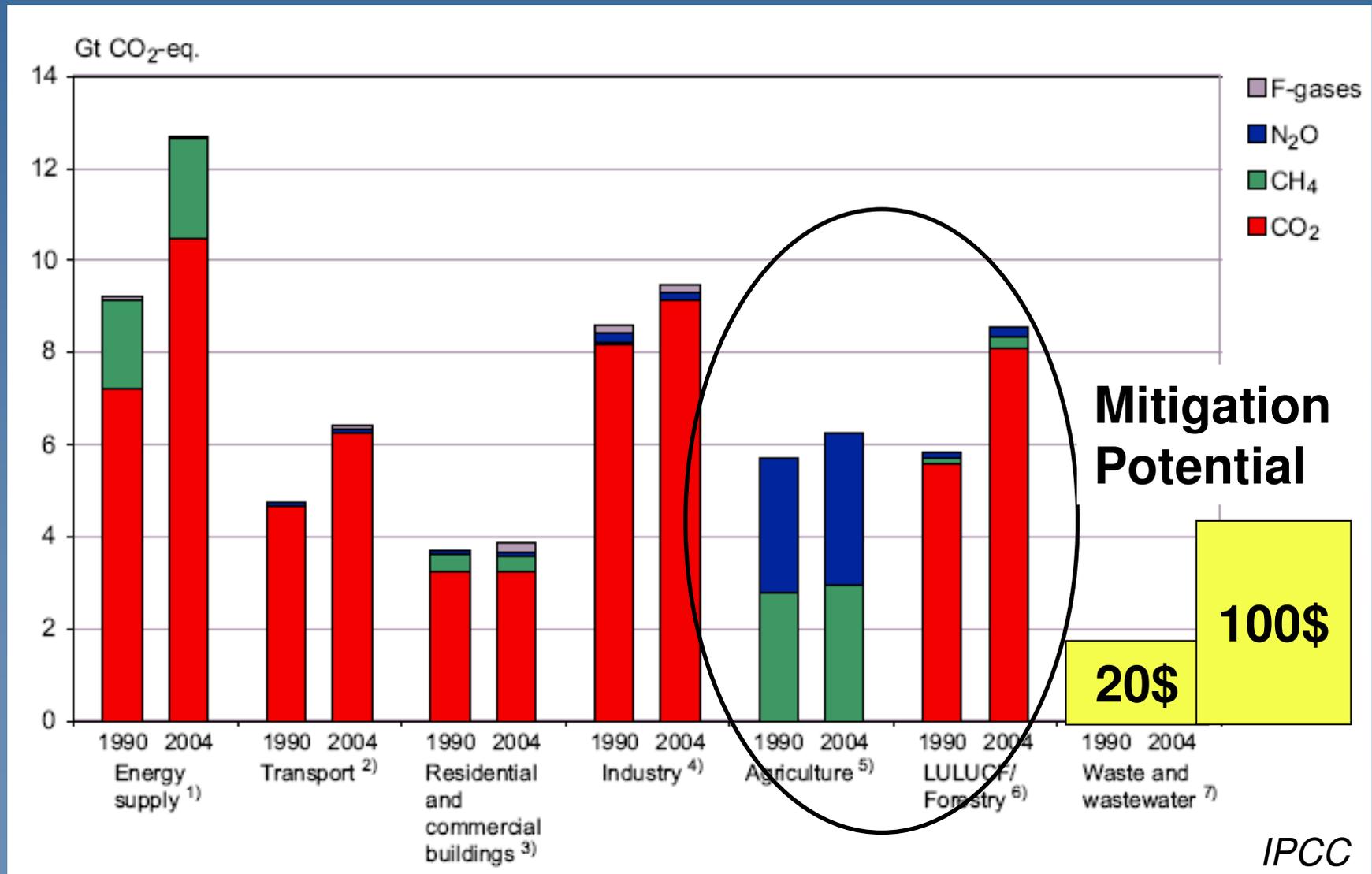
P. Holmgren FAO IFAD side event
COP14 3 Dec 2008

Message 1

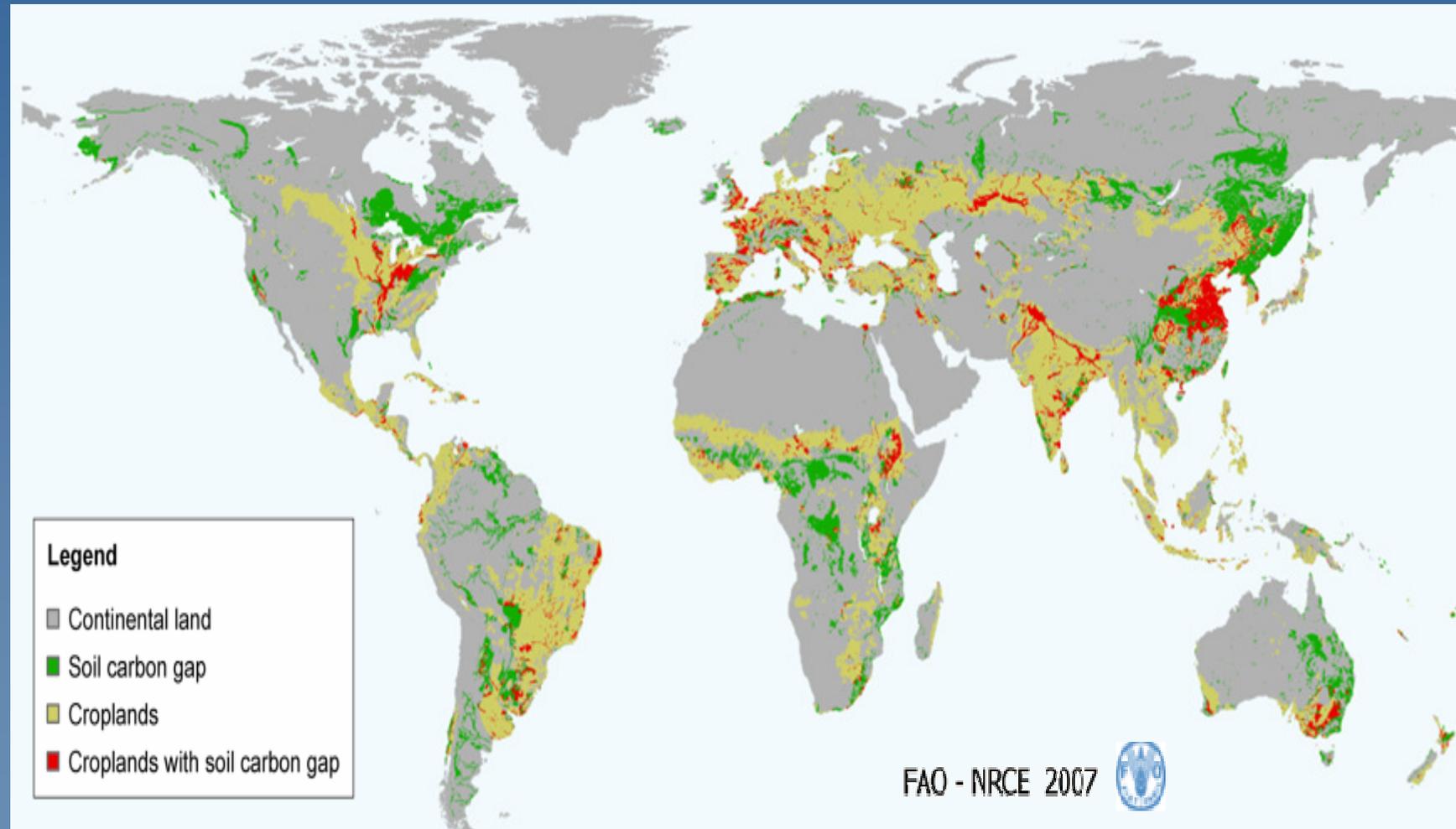
**Agriculture is key
for mitigation**

P. Holmgren FAO IFAD side event
COP14 3 Dec 2008

Emissions by Sector and GHG



Where can soil C be sequestered in croplands?



Source data : SOFA 2007 P. Holmgren FAO IFAD side event
COP14 3 Dec 2009
FAO – NRCE from GLC2000 Land cover, GAEZ 2002

Message 2

Farmers are at the centre

**2 billion farmers
manage natural resources
mainly for food production**

Agricultural area =
38% of all land (5 billion ha)

31% under
crops

69% pastures
& meadows

Message 3

Mechanisms for mitigation must reach small farmers and rural communities

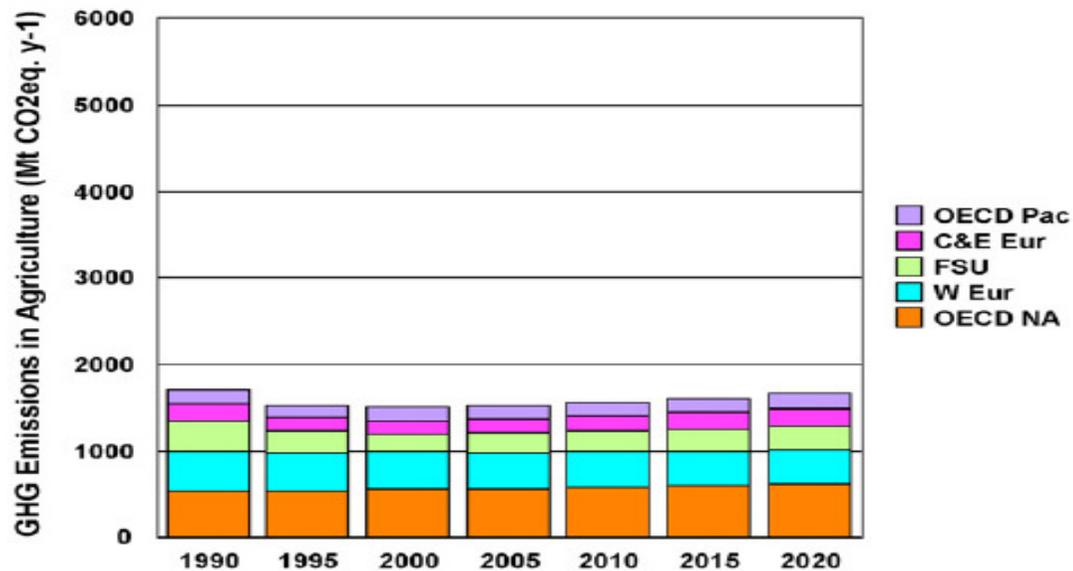
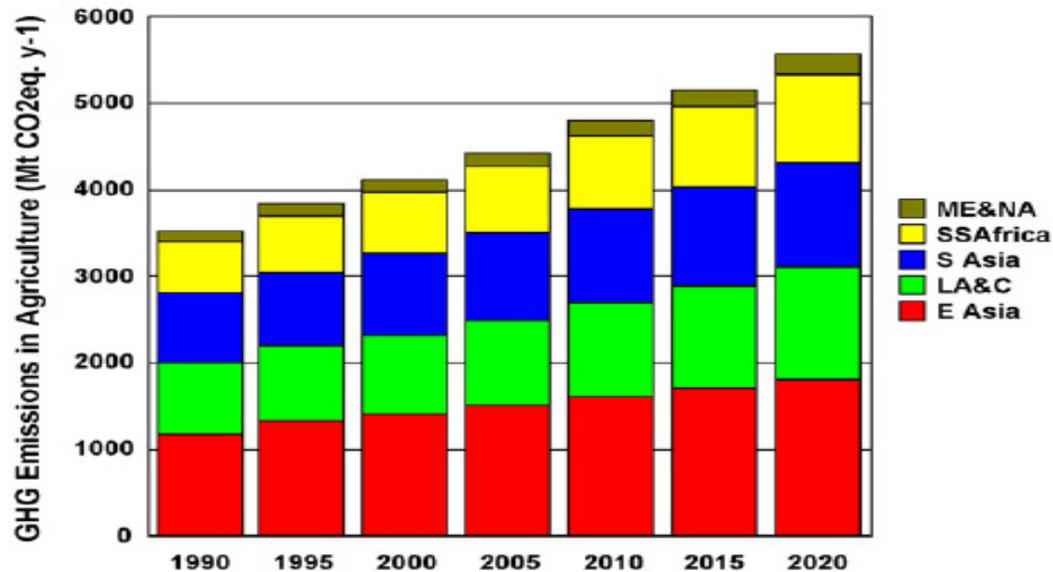
Small farmers contribute to mitigation, adaptation, food security and environmental services

2.8 billion people live in absolute poverty on less than 2 US\$/day

75 % of them live in rural areas

Financial, technology transfer and capacity building mechanisms are required

Emissions increase in developing countries



Adapted from US
EPA 2006
and Smith 2006

Challenge 1

Improved agricultural practices

- ▶ Energy efficiency
- ▶ Efficient soil fertility management
- ▶ Efficient water management
- ▶ Efficient use of biodiversity
- ▶ Carbon sequestration

CO_2
 N_2O
 NH_4



Win-win practices

- Improved pasture management
- Improve agro-forestry systems
- Wise fertilizers management



Payment for Ecosystem Services



Herbicide use down by 60%

Degraded pasture down by 64%

Pastures with high tree density up by 130%

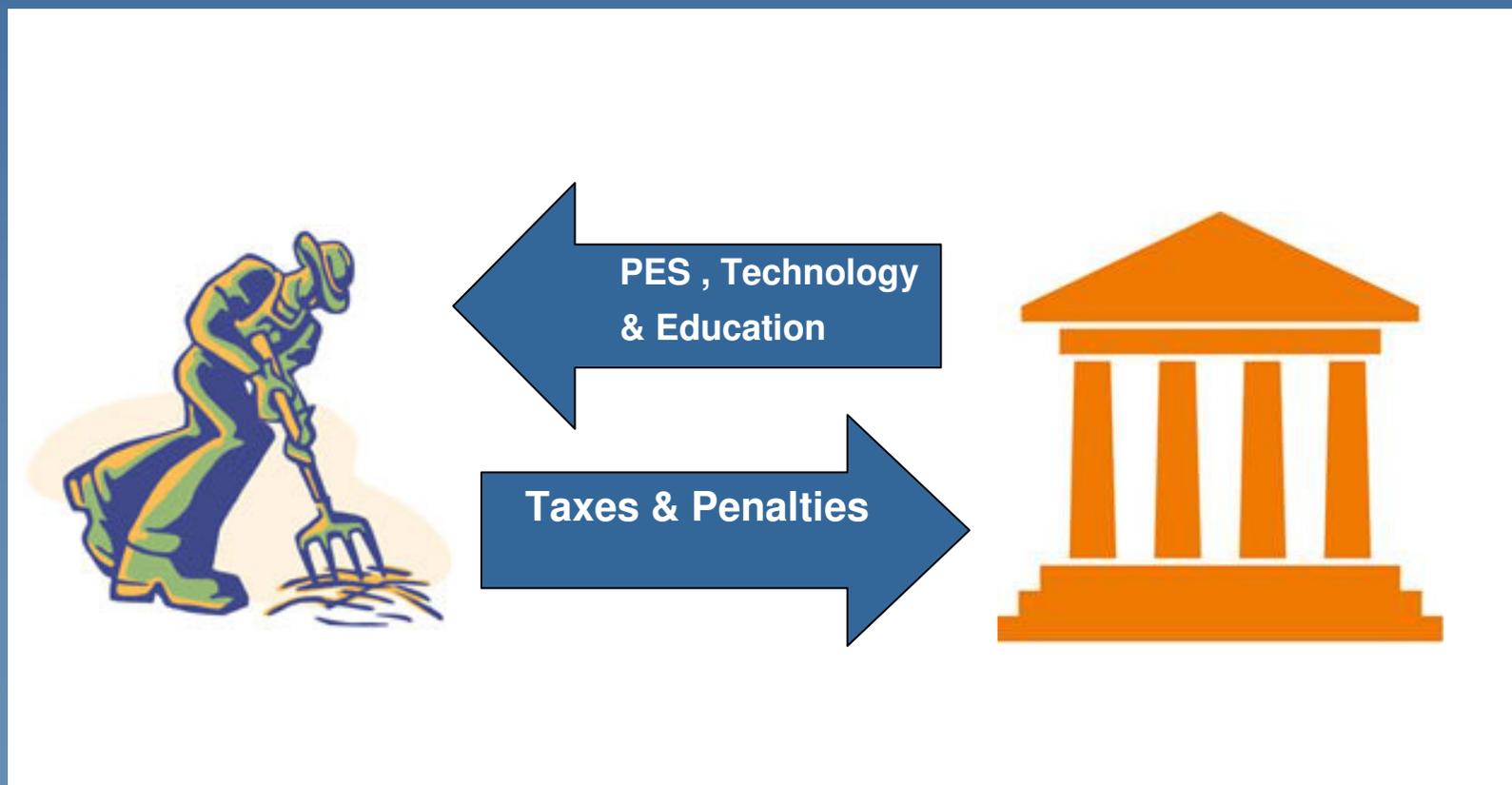
Fodder Bank up by 256%

Carbon sequestered up by 71%

Livelihood improved (Farm income up by 115%)

Challenge 2

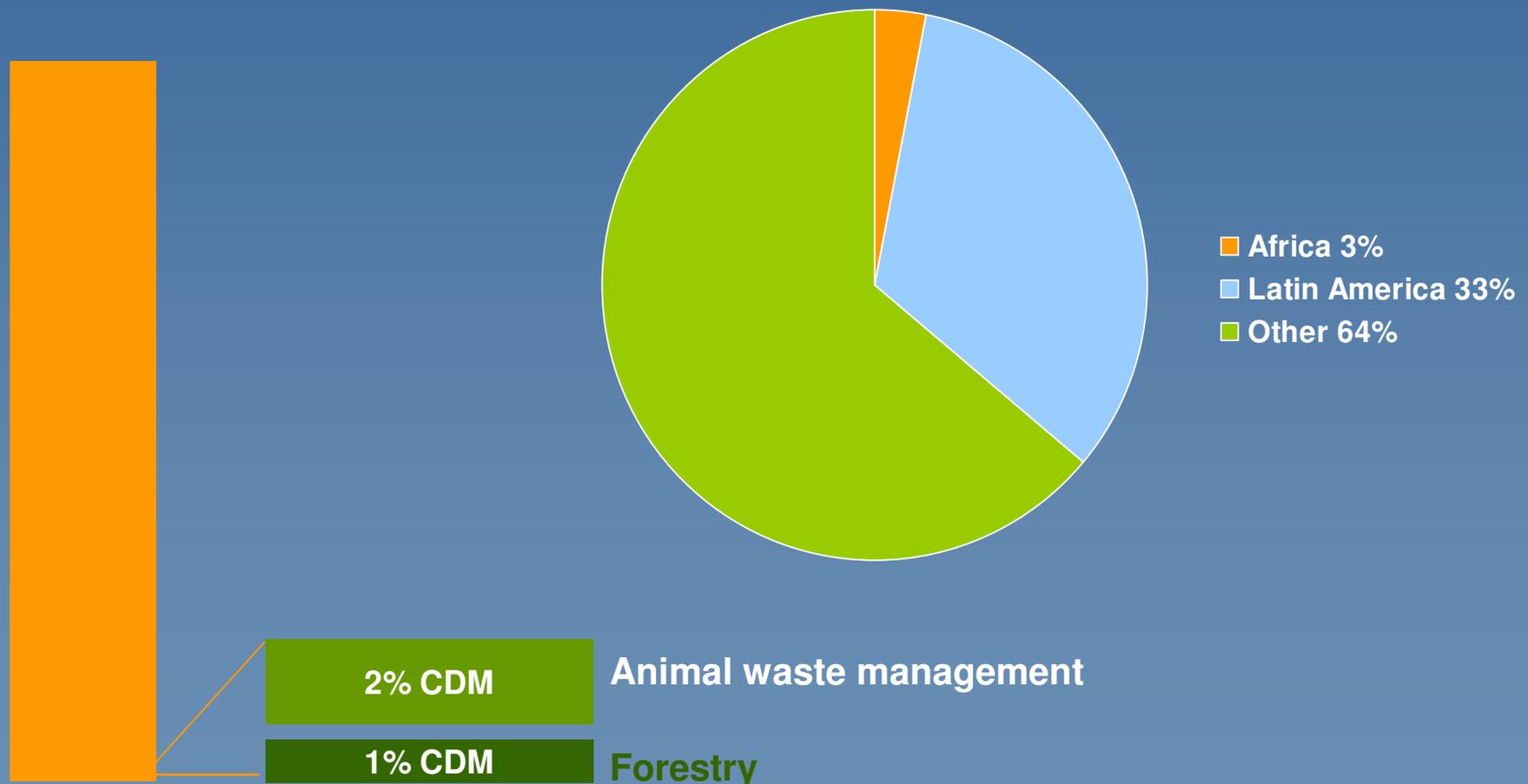
Finance and institutional mechanisms, incentives and disincentives



CDM has not impacted Agriculture

Cap & Trade
30 billion

CDM regional shares



P. Holmgren FAO IFAD side event
COP14 3 Dec 2008

MESSAGES

- **Agriculture is key for Mitigation**
- **Farmers are at the Centre**
- **Mechanisms for mitigation must reach small farmers and rural communities**

CHALLENGES

- **Improved agricultural practices**
- **Finance and institutional mechanisms , incentives and disincentives**

P. Holmgren FAO IFAD side event
COP14 3 Dec 2008