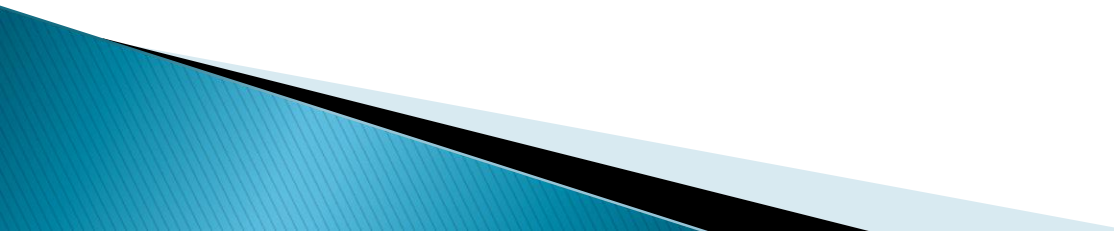


# **Fertilizer subsidies: What do we know from international experience?**

William Foster

# A brief summary

- ▶ The rationales for fertilizer subsidies – what do we know after many decades of experience?
  - ▶ Some illustrative cases.
  - ▶ Some broad recommendations: A checklist and some problems to anticipate before implementing subsidies.
- 

# From various experiments around the world, what are the rationales for fertilizer subsidies?

1. Macro: “Under-production” of food, high prices.
2. Micro: poor farm management.
3. Shallow fertilizer markets: scale, logistics and learning.
4. Aid to poor, small-scale, risk-averse farmers.

## Contras:

input subsidies distort resource use,  
fiscally costly,  
often outlive their initial purpose,  
captured by interest groups,  
fertilizers have environmental impacts.

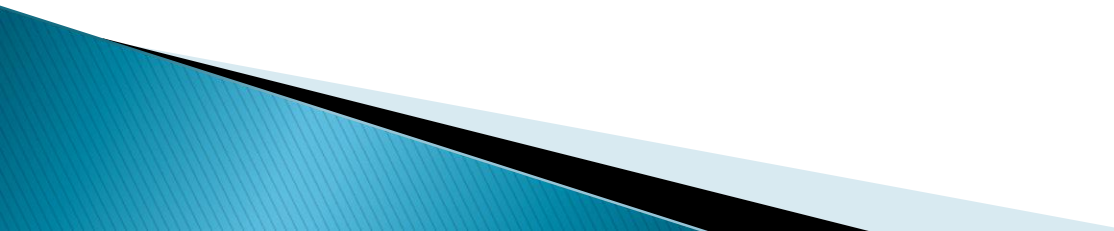
# 1. Under-production of food.

- ▶ Subsidies could offset deficiencies in production system, increasing food supplies, lowering prices.
  - ▶ Strategic considerations: food security.
- 

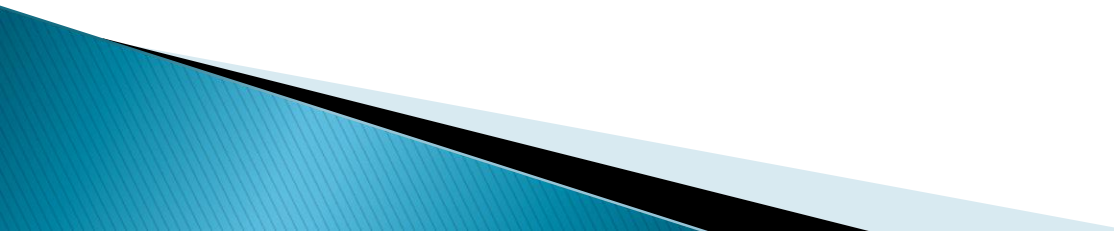
## 2. Subsidies to address poor farm management

- Efficiency gains by improving decision making.
- Are farmers stupid? Distortions to incentives?
- Doubts about farmers' abilities? Better investments: training and extension.

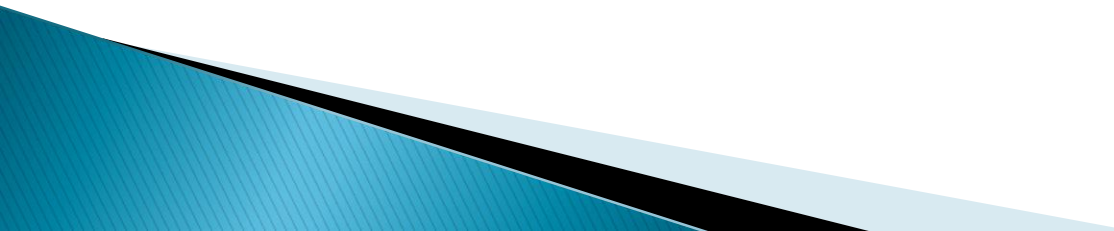
### 3. Shallow markets: scale, logistics and learning.

- ▶ Perhaps most convincing argument.
  - ▶ Temporary subsidies compensate high costs of small markets and absence of scale economies.
  - ▶ Small markets, like remote markets, are not *per se* a problem, merely a physical fact.
  - ▶ A problem of “the chicken or the egg” ?
- 

# Farmers' experience with new production methods

- ▶ Enhancing a local demand could be addressed by input price rebates and by private and government extension work.
  - ▶ Barriers to entrepreneurial risk-taking and to extension: A role for subsidies.
  - ▶ Nevertheless, subsidies to promote farmers' learning-by-doing would be temporary and targeted.
- 

## 4. Target aid to poor farmers

- ▶ Subsidies could support disadvantaged farmers.
  - ▶ Subsidies could cushion price shocks.
  - ▶ Bonus: subsidies might possibly promote experimentation and learning-by-doing.
  - ▶ Redistributive policy, transferring taxpayer resources to disadvantaged farmers, but should be compared to other, more-cost-effective methods.
- 

# Some illustrative cases

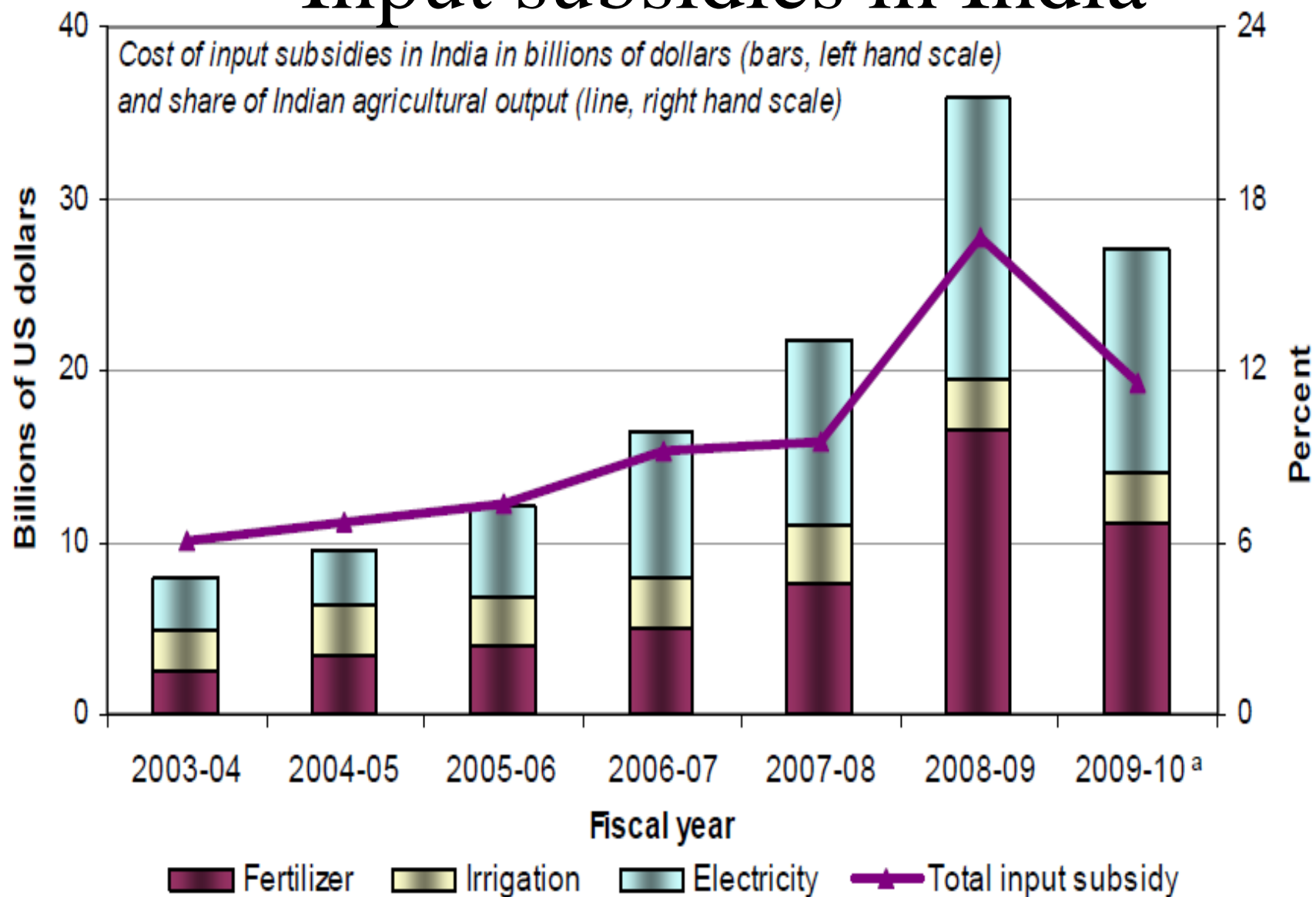
- ▶ India
- ▶ Sri Lanka
- ▶ Indonesia
- ▶ Chile
- ▶ Africa

First a comment: Developed countries do not directly subsidize fertilizer use: distorting, inefficient, and unjustified to remedy market failures. And there are negative environmental externalities to encourage fertilizer “overuse.”

In fact, in various developed countries fertilizer is taxed.



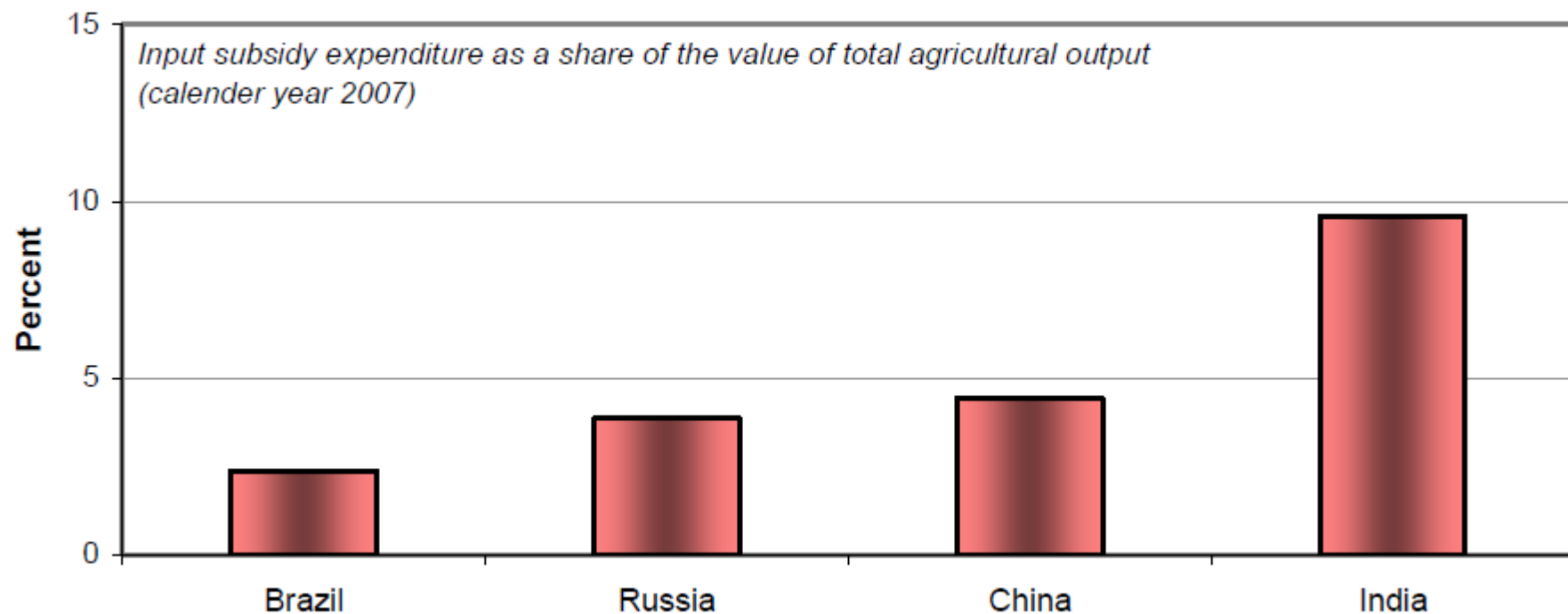
# Input subsidies in India



<sup>a</sup> Preliminary, some data from 2008-09 used in calculation

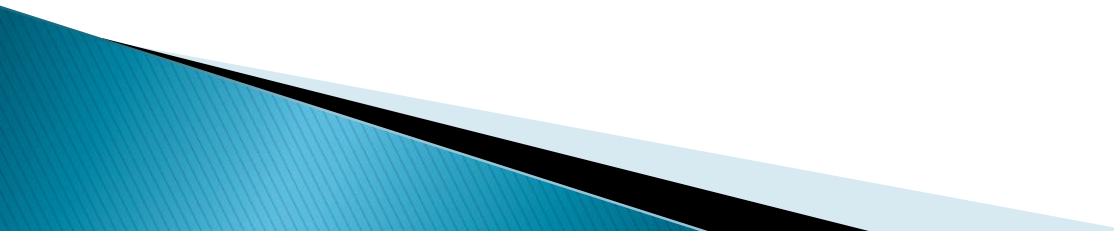
Source: USITC Executive Briefings on Trade

India: Agricultural sector consumes proportionately more input subsidies than other emerging economies.

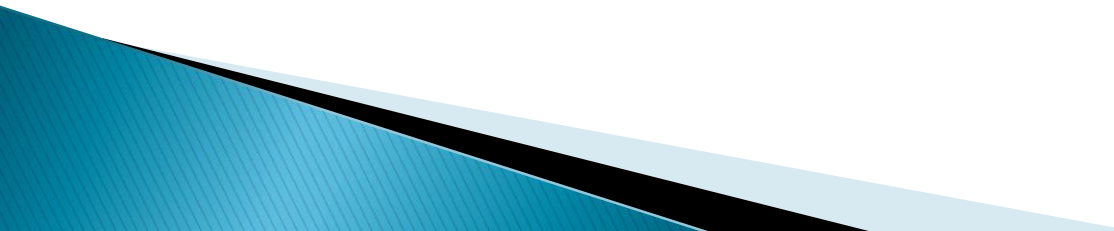


2007, India's input subsidies were almost 10% of total farm *output* value. Less than 5% in Brazil, Russia, and China.

# Indian politicians are struggling to get out of a subsidy trap.

- ▶ Subsidy “effective rate” rose from 41% of the fertilizer costs in 2003-04 to 67% in 2009-10.
  - ▶ Political pressure to keep nominal fertilizer prices stable.
  - ▶ Fall in real (inflation-adjusted) prices paid by farmers. Real costs for fertilizer production increased.
  - ▶ And many poor farmers now rely on subsidies.
- 

# **But the 2013-2014 fertilizer policy aims to reduce subsidies.**

- ▶ Phosphorus and potassium subsidies to be reduced by about 15% compared to last year.
  - ▶ But Ministry of Fertilizer try to ensure that manufacturers pass through world price declines to reduce retail prices to farmers.
  - ▶ Still beholden to farmer political pressure.
- 

# India's policy is in transition

- ▶ Initially part of the “Green Revolution,” now a fiscal and efficiency problem.
- ▶ Incentives skewed NPK ratios. New emphasis on nutrient balance.
- ▶ Classic price control outcome: export smuggling.
- ▶ Perhaps outlived its usefulness.
- ▶ Perhaps has stunted private market developments.

# Sri Lanka

- ▶ Subsidized fertilizer for more than 4 decades.
- ▶ Did encourage switch from traditional to high-yielding varieties more responsive to fertilizers.
- ▶ Very costly: recent calls for reform.
- ▶ Costs 1.4 to 2.4 rupees to give farmer just 1.
- ▶ Diverts resources from public goods
  - roads, education, health, and research, etc.

*Table 1: Expenditures on the Fertilizer Subsidy and Total Government Expenditures, 1998–2009*

Year	Expenditures on fertilizer subsidy		Total government expenditures		Expenditures on fertilizer subsidy as a % of total expenditures
	Rs. million	US\$ million	Rs. million	US\$ million	
1998	2,152	33.32	268,179	4,151.83	0.80
1999	1,390	19.75	279,159	3,965.77	0.50
2000	1,733	22.87	335,823	4,431.72	0.52
2001	3,650	40.84	386,518	4,325.27	0.94
2002	2,448	25.59	402,989	4,212.64	0.61
2003	2,191	22.70	417,671	4,327.26	0.52
2004	3,572	35.30	476,905	4,713.04	0.75
2005	6,846	68.12	584,783	5,818.79	1.17
2006	11,867	114.15	713,646	6,864.47	1.66
2007	11,000	99.44	841,604	7,607.84	1.31
2008	26,450	243.62	996,126	9,174.76	2.66
2009	26,935	233.96	1,201,927	10,440.07	2.24

Source: Central Bank of Sri Lanka (various years).

# Who Is Benefiting from Fertilizer Subsidies in Indonesia?

- ▶ Important part of agricultural development strategy.
- ▶ Formal goals: to increase farm productivity and food security, and to promote optimal input allocations.
- ▶ Multiple objectives, one instrument: farmer welfare, poverty alleviation, price stabilization, rice self sufficiency.
- ▶ Over half of government agricultural spending goes to seed, credit, fertilizer, and rice subsidies.
- ▶ Fertilizer subsidy was nearly two times the budget for the Ministry of Agriculture.



# Lessons from Indonesia: Largest farmers gain the most.

Figure 3.5 Distribution of urea subsidy spending by quintiles of land size, 2003

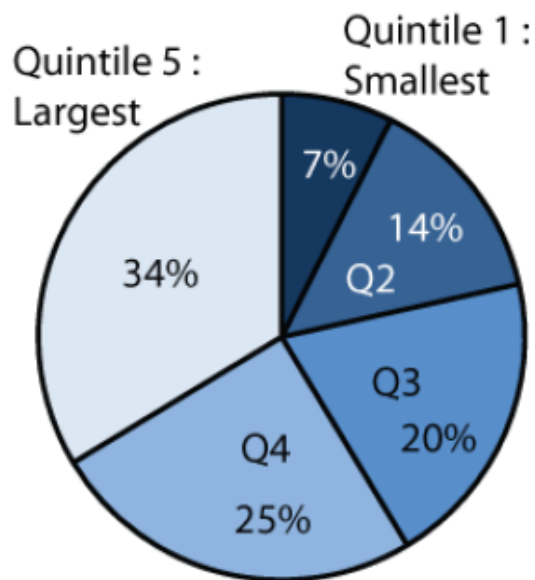
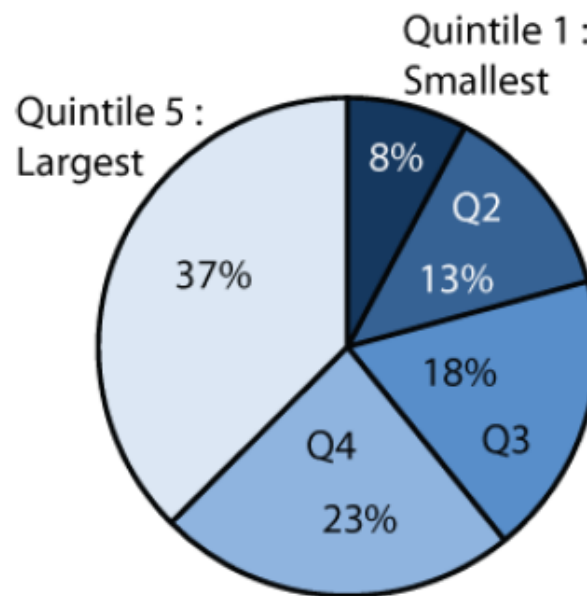


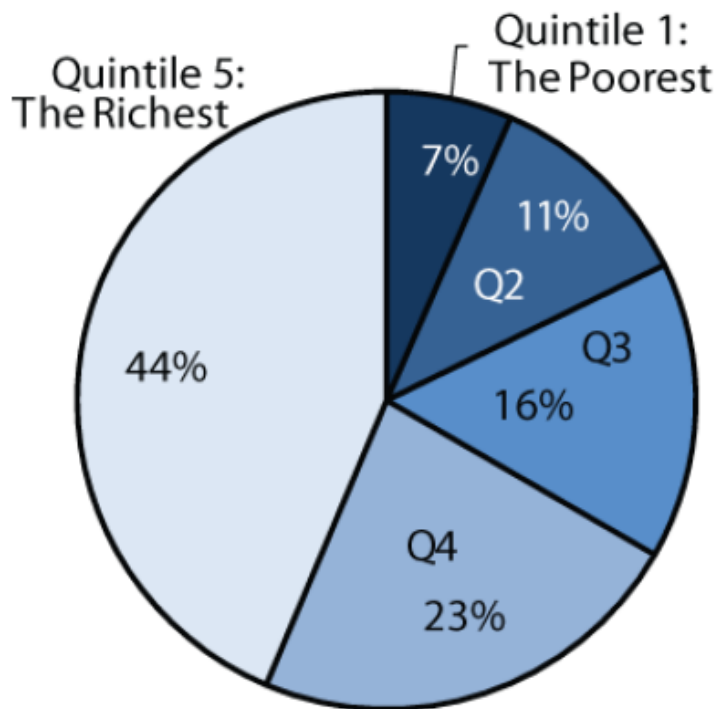
Figure 3.6 Distribution of urea subsidy spending by quintiles of land size, 2007



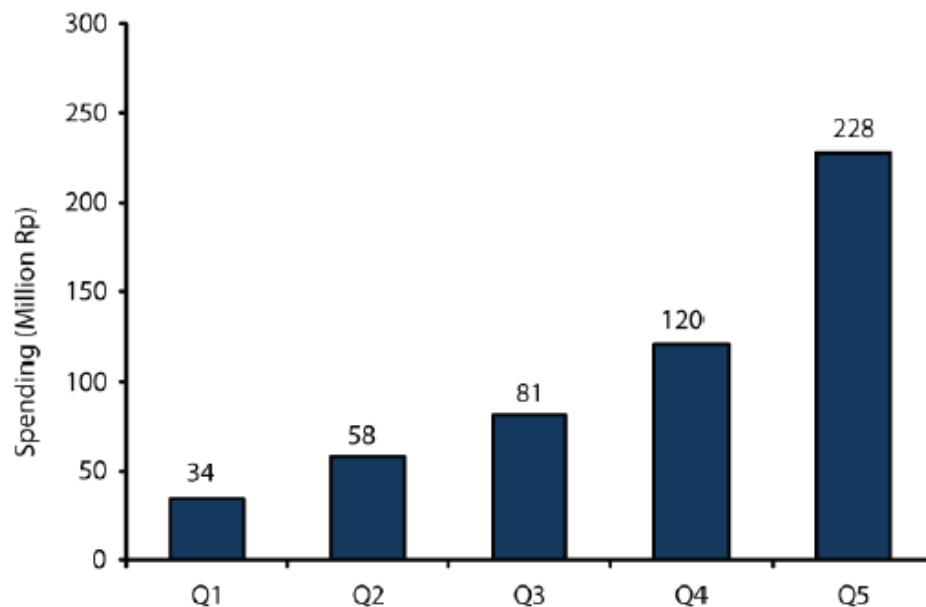
Source: World Bank staff calculations.

# Lessons from Indonesia: Richest farmers gain the most.

**Figure V.2. Distribution of urea subsidy spending, 2003**




**Figure V.3. Urea subsidy spending, 2003**

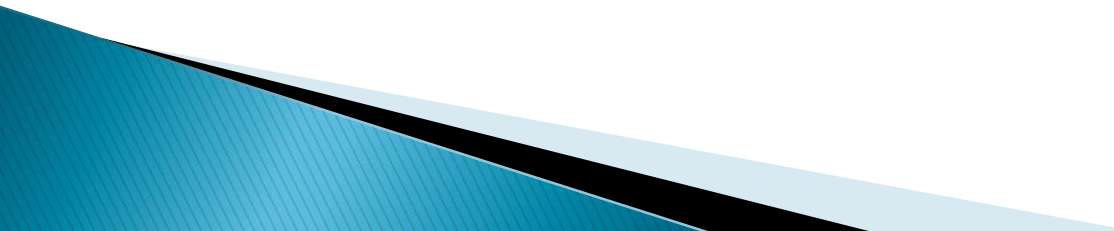


Source: World Bank staff calculations.

# Chile: A case of compensation

- ▶ Program to “compensate” for MERCOSUR.
  - ▶ Mainly aimed at phosphorus. But some extension and erosion control elements.
  - ▶ Targeted at wheat and pastures (meat, milk).
  - ▶ Government success in limiting costs: Farmers apply and compete over limited funds.
  - ▶ WTO compliant?
  - ▶ Call a subsidy on private goods something that sounds like a public good: Program for the Recuperation of Degraded Soils.
- 

# Check list: Can fertilizer subsidies help...

- ▶ To promote the market development?
  - ▶ To promote the adoption of new varieties, technologies and management methods
  - ▶ To reduce credit constraints?
  - ▶ To offset other government distortions in fertilizer markets, such as import restrictions, supply controls, taxes?
  - ▶ To reduce farm-related negative environmental externalities?
- 

# **Lessons from international experience: usually acknowledged but ignored in implementation.**

- ▶ What are the objectives
- ▶ How does the subsidy program fit into a broader agricultural and rural development strategy?
- ▶ Can the subsidy be targeted? If not, why not?
- ▶ Scale and exposure?

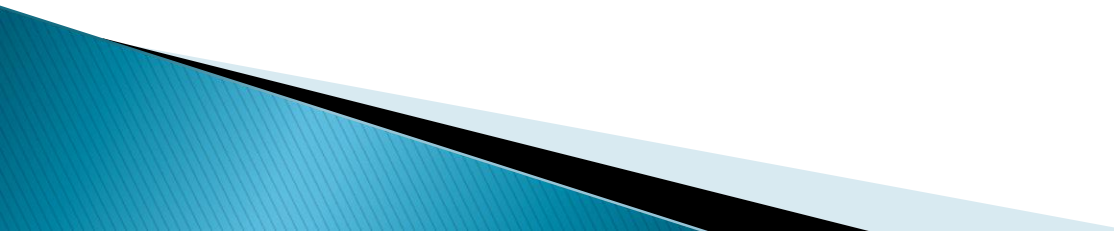
Adapted from Osorio et al., and Dorawar, et al. "Evaluation of the 2006/2007 Agricultural Input Subsidy Programme, Malawi." DFID, USAID.

# **Lessons from international experience: usually acknowledged but ignored in implementation.**

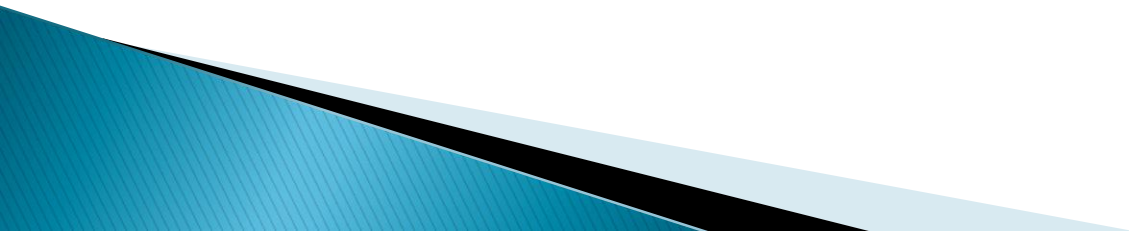
- ▶ What are the opportunities for “leakage”?
- ▶ Good evaluation is built into program design.
- ▶ What is the anticipated impact on the private sector?
- ▶ What is the exit strategy?
- ▶ Temporary should really mean temporary.

Adapted from Osorio et al., and Dorawar, et al. “Evaluation of the 2006/2007 Agricultural Input Subsidy Programme, Malawi.” DFID, USAID.

# **Input subsidies tend to live on and expand**

- ▶ Important interest groups enjoy focused benefits, but costs are spread widely.
  - ▶ Beneficiaries always have excuses against reform.
  - ▶ Consumers, manufacturers and land owners capture benefits.
  - ▶ Social objectives often rationalize production-related policy instruments.
  - ▶ Conveniently, subsidy schemes usually lack monitoring data and good evaluation methods.
- 

# Annex






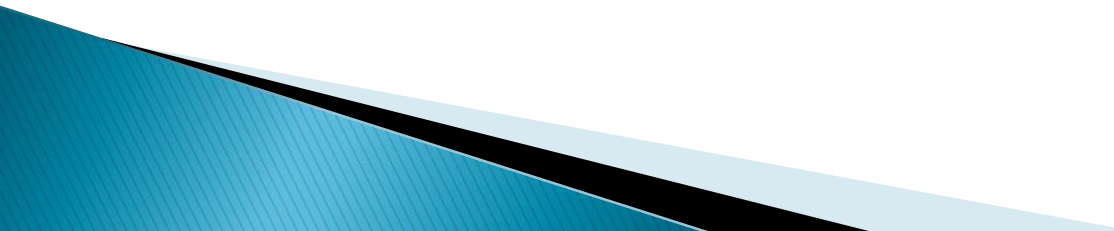
# Sri Lanka: the fiscal and political burden of the subsidy

- ▶ Importers restrict imports due to “liquidity problems” due to failure to reimburse accumulated subsidy payments.
- ▶ Sunday Times of Sri Lanka, 13 May 2013: The Finance Ministry wants focus only on “farmers who are in need of the subsidy.” “If targeting could save even one third of the fertilizer subsidy, this would reduce government expenditure by one per cent,” Finance Ministry sources said.
- ▶ ITN News, 29 Oct 2013: No curtailment of fertilizer subsidy: Deputy Minister S.M. Chandrasena has pointed out that the Government will not curtail the fertilizer subsidy given to the farmers. ...the President was granting this fertilizer subsidy to the farmers considering it an investment in the country, not an election pledge.

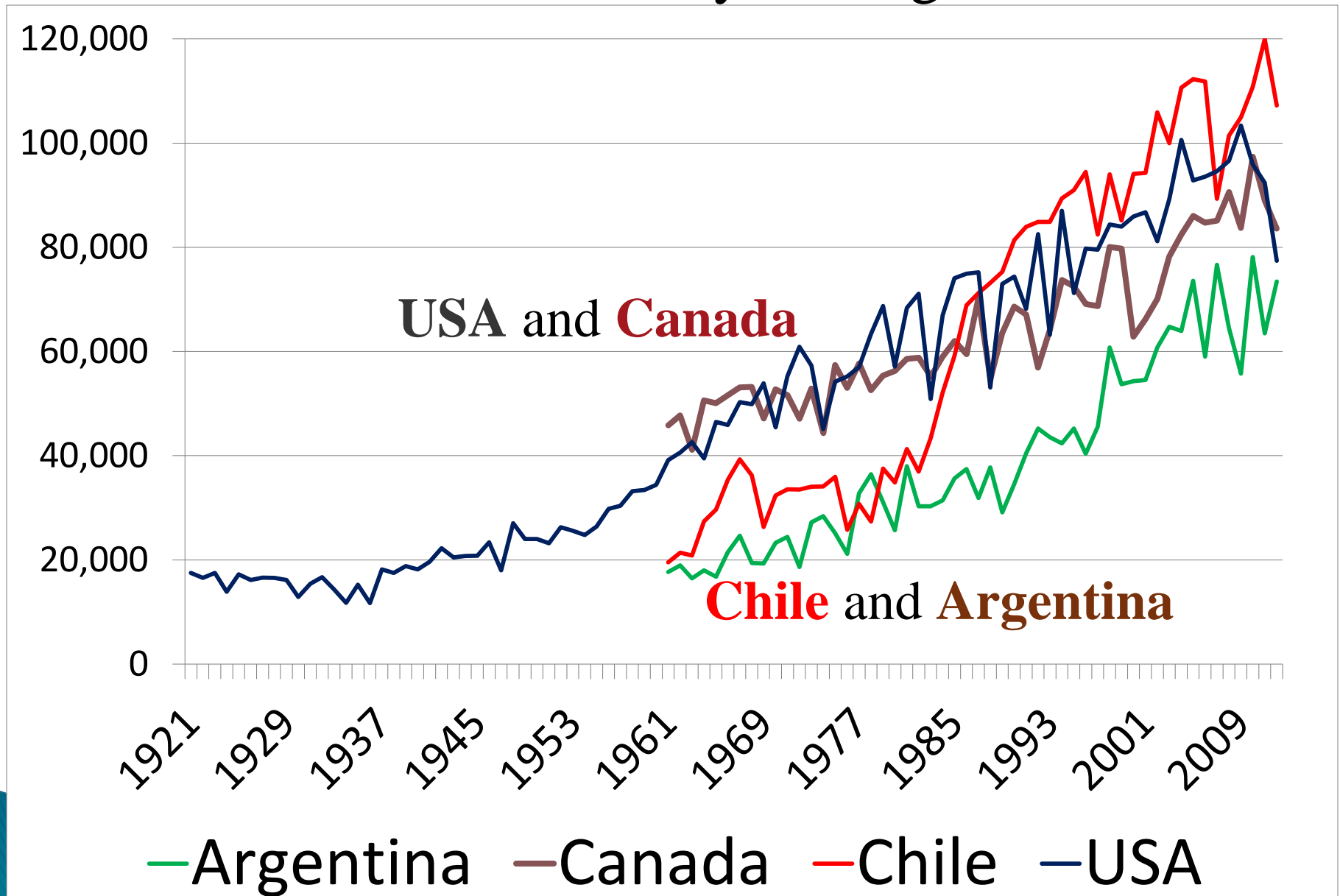
# Indonesia: Agriculture Minister Suggests No More Fertilizer Subsidy

- ▶ TUESDAY, 01 OCTOBER, 2013 | 09:12 WIB:  
TEMPO.CO, Central Lombok -
  - ▶ Agriculture Minister Suswono said farmers will profit more without fertilizer subsidies.
  - ▶ The minister is proposing for the fertilizer subsidy--given to SOE holding company, Pupuk Indonesia--to be stopped.
  - ▶ The money, he said, can be allocated for the construction of agricultural infrastructure such as irrigation facilities and roads.
- 

# Africa

- ▶ Universal, untargeted in West Africa: Burkina Faso, Senegal, Mali, Nigeria, Ghana.
  - ▶ Targeted in East and Southern Africa: Kenya, Malawi, Rwanda, Tanzania, Zambia.
  - ▶ Costly: US\$ 100–160 million/year and funded largely by national governments (50 to 100%).
  - ▶ Common and primary objective: to increase domestic food security.
  - ▶ Also to reduce poverty.
  - ▶ And to support development of input supply markets.
- 

# FAOSTAT: Maize yields hg/ha



# Pakistan Today, 26 July 2013:

## Fertilizer Raids

The National Accountability Bureau (NAB) started a fresh investigation into the import of fertiliser which had caused losses of billions of rupees to the national exchequer. According to reports, a NAB team raided the godowns of the National Fertilizer Marketing Ltd (NFML) at Phoolnagar and recovered 7,500 bags of imported fertiliser. Sources said that when weighed, every bag was short of 10 to 25 kilograms of fertiliser. Reports said that high officials of the NFML were also taken into custody by the NAB team for their involvement in black-marketing. The NAB and the FIA completed an investigation into billions of rupees in fertiliser subsidies during the previous government's tenure but the reports were pushed under the carpet on the instructions of higher-ups. Reports revealed that the NAB, on the instructions of higher-ups, had started the investigation afresh and that the raid at Phoolnagar was part of this investigation. The reports also stated that the imported fertiliser was smuggled into Afghanistan.

– See more at:

<http://www.pakistan-today.com.pk/2013/07/26/news/profit/7500-bags-of-imported-fertiliser-recovered-in-nabs-raid-at-phoolnagar->