

# Supporting Indian Farms the Smart Way

*Rationalizing Subsidies and Investments for  
Faster, Inclusive and Sustainable Growth*

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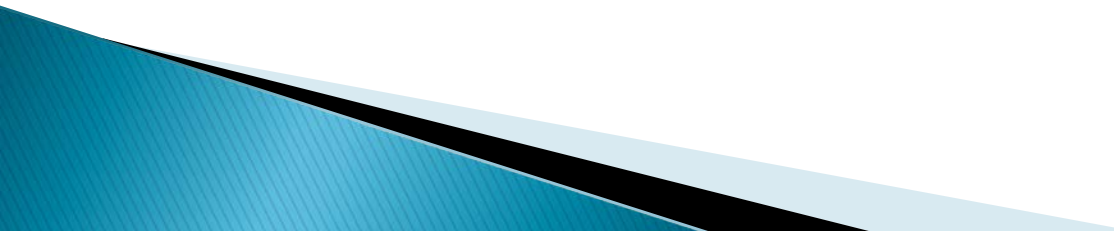
Presentation at Syngenta Foundation, Basel

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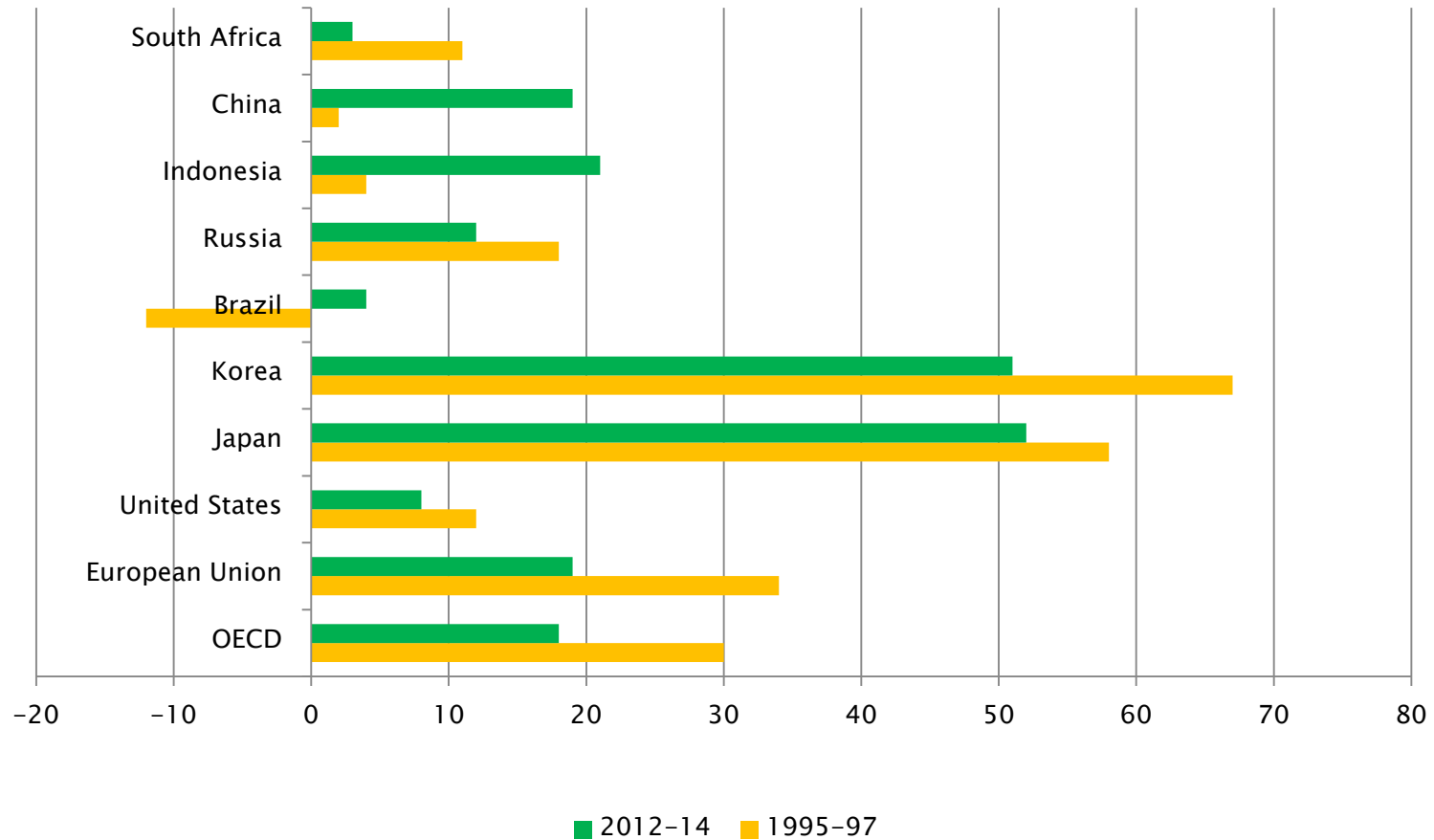
# What is this study about?

- ▶ How can India support its farms & farmers in a way that leads to:
  - efficient use of scarce resources;
  - that is equitable and sustainable, both financially and environmentally; and
  - yet lead to faster agri-growth and faster alleviation of rural poverty.
- ▶ In doing so, can India draw some lessons from experience of OECD countries or emerging economies, especially China, where agriculture is dominated by smallholders?

# Outline of Presentation

- ▶ How OECD and some selected emerging economies support their agriculture (PSEs)
  - ▶ Issues in Indian agri-input sectors; and level and structure of Input subsidies and investments
  - ▶ Marginal Returns on Investment and Input subsidies in Indian agriculture
  - ▶ Some Policy lessons, and way forward for India
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# Producer Support Estimates for selected countries (per cent of gross farm receipts)

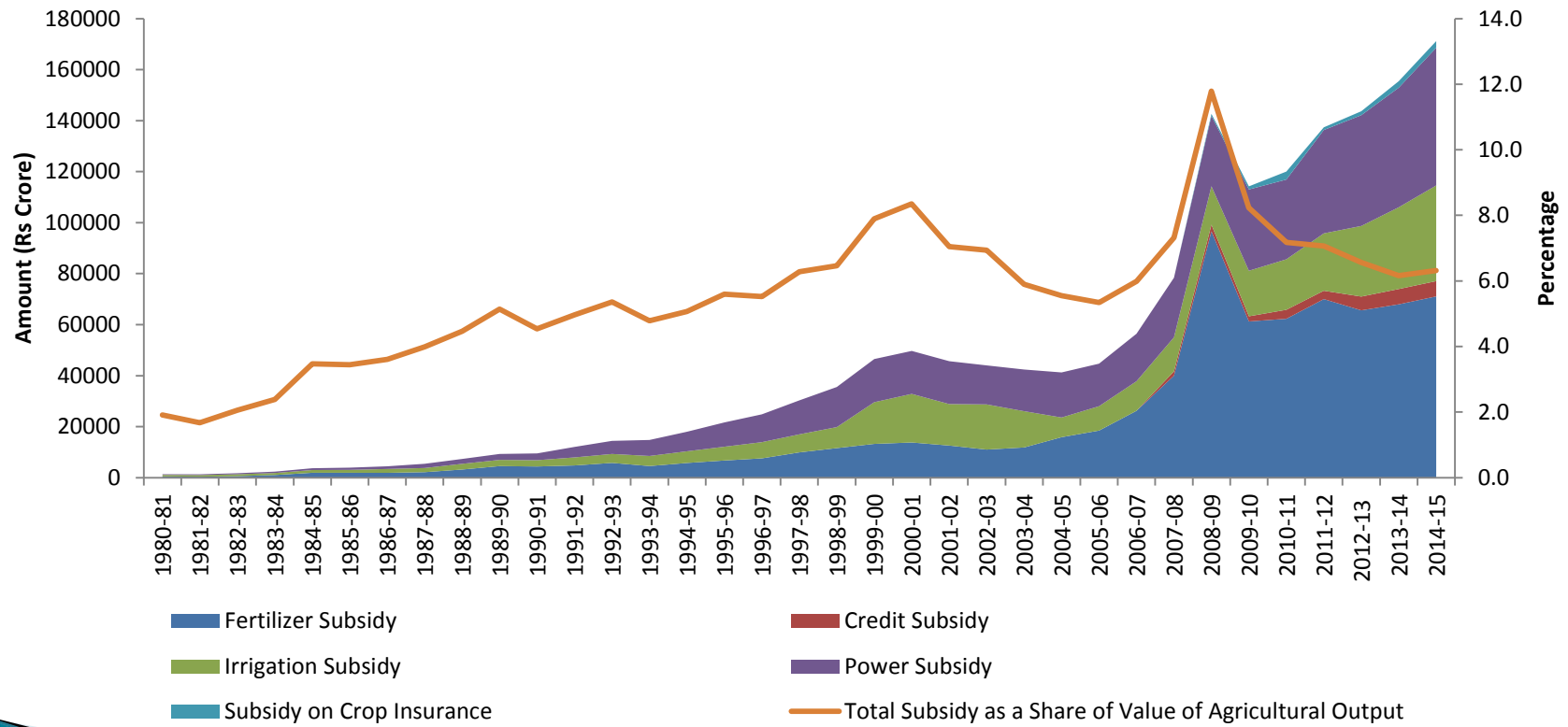


Source: OECD (2015), Agricultural Policy Monitoring and Evaluation

# Highlights of PSE indicators...

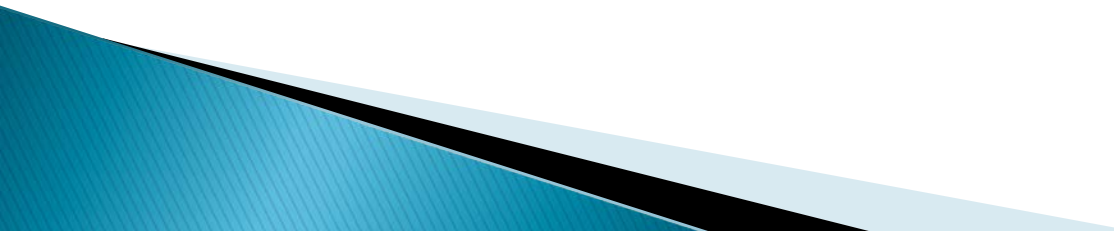
- ▶ High level of support in OECD countries (fallen from 30% in 1995–97 to 17% by 2012–14)
  - ▶ Major instrument of policy support has been output prices
  - ▶ Role of income policy (non–conditional on production) in supporting their farmers has been increasing
  - ▶ PSE of China and Indonesia has increased significantly, almost to 20 percent of value of farm receipt
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# Structure and trends in input subsidies in Indian agriculture



Source: Calculated and constructed using the data in National Accounts Statistics, CSO; Expenditure Budget, GoI; Power division, Planning Commission

# Fertiliser Sector in India

- ▶ Increasing amount of fertiliser subsidy—questions regarding its financial sustainability, around Rs 71000 crore in FY 15
  - ▶ Stagnant Production and Increasing Import Dependency
  - ▶ Low urea prices has led to imbalanced use of soil nutrients
  - ▶ Soil degradation and deficiency of secondary macronutrients and micronutrients in soil.
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# Policy Options

## Some Steps Taken

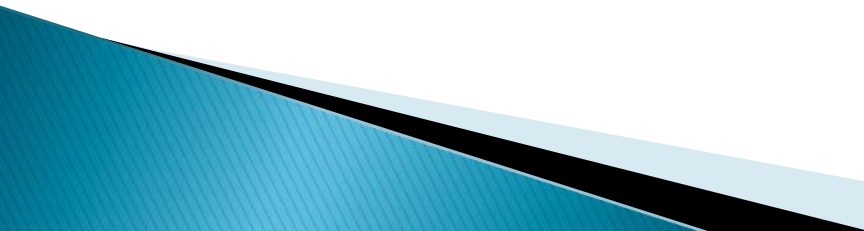
- ▶ **Pooling of Gas Prices**
  - Expected savings in subsidy: Rs. 1550 crore
- ▶ **Making it mandatory to produce Neem-coated urea**
  - Expected savings in subsidy: Rs. 6500 crore
- ▶ **Announcing New Urea Policy and Soil Health Cards**
  - Expected subsidy saving:  
Direct Subsidy: Rs. 2618 crore  
Indirect Subsidy: Rs. 2211 crore

## Some Suggested Measures

- ▶ Moving towards income policy from price policy: Direct cash transfer to the farmers
- ▶ Prioritizing digitization of land records
- ▶ Propagating New Technologies like “fertigation”
- ▶ Deregulate fertiliser sector
- ▶ Tie-up with Gulf Countries to Set up Plants



# Irrigation and power sector in India

- ▶ Net Irrigated Area over past decade—only 46% of Net Sown Area
  - ▶ Insufficient cost recovery—Gross receipts from MMI projects is only 21% of working expenses;
  - ▶ Increasing gap between irrigation potential created and utilized
  - ▶ Unfinished Ongoing Projects—337 spillover projects in twelfth plan
  - ▶ High cost of constructing major and medium irrigation projects
  - ▶ Low power rates leading to excessive exploitation of groundwater
  - ▶ Huge Commercial Losses to SEBs
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# Recent Developments in Policy

## In Irrigation Sector

PMKSY was announced in 2014


- ▶ Four Programme Components:
  - AIBP
  - PMKSY (har khet ko pani)
  - PMKSY (per drop more crop)
  - PMKSY (IWMP)
- ▶ Aims at decentralized state level planning and execution

## In Power sector

DDUGJY was announced in 2015

- ▶ Three parts:
  - Separation of agriculture and non-agriculture feeders
  - Strengthening and augmentation of sub-transmission & distribution (ST&D) infrastructure in rural areas
  - Rural electrification for completion of the targets laid down under RGGVY
- ▶ Implementation period: rest of the 12<sup>th</sup> and 13<sup>th</sup> plans
- ▶ Estimated Outlay: Rs. 76000 crore (including budgetary support of Rs. 63000 crore from Gol)

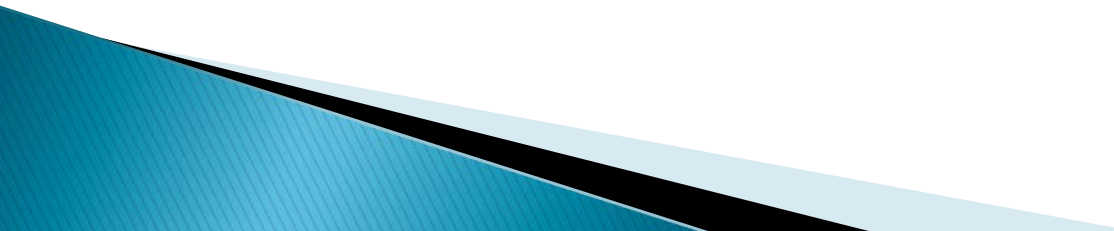
# Policy Options

- Pricing Reform
  - Direct benefits transfer
  - Explore solar power as third crop with facility of putting excess power into the grid
  - Privatize transmission and distribution of surface water from canals/ tanks to fields
  - Encourage drip irrigation for increase in water–use efficiency
  - Incentivize optimal extraction of groundwater
    - Rewarding farmers per unit of power saved
  - Ensuring timely and adequate power supply
  - Using tamper–proof meters and electric timers to monitor consumption
  - Strengthening ground water monitoring network and upgradation of technology
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# Credit Subsidy in Indian Agriculture

- ▶ Interest subsidy introduced in 2006–07 on short term credit to farmers (7% and 4%)
  - ▶ High share of non-institutional credit– 44 percent of outstanding debt among cultivator households in 2013 (AIDIS)
  - ▶ Large diversion to non-agri uses (Short-term credit overshooting input costs–110 per cent in FY2014)
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# Policy Options

- ▶ Discontinue interest subsidy on short term credit and concentrate efforts to improve reach to credit
  - ▶ Consider incentives for long term credit to stimulate private capital formation
  - ▶ Phase out interest subvention scheme and moving towards universal crop insurance (RBI Committee on Medium Term Path on Financial Inclusion)
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# Crop Insurance in India

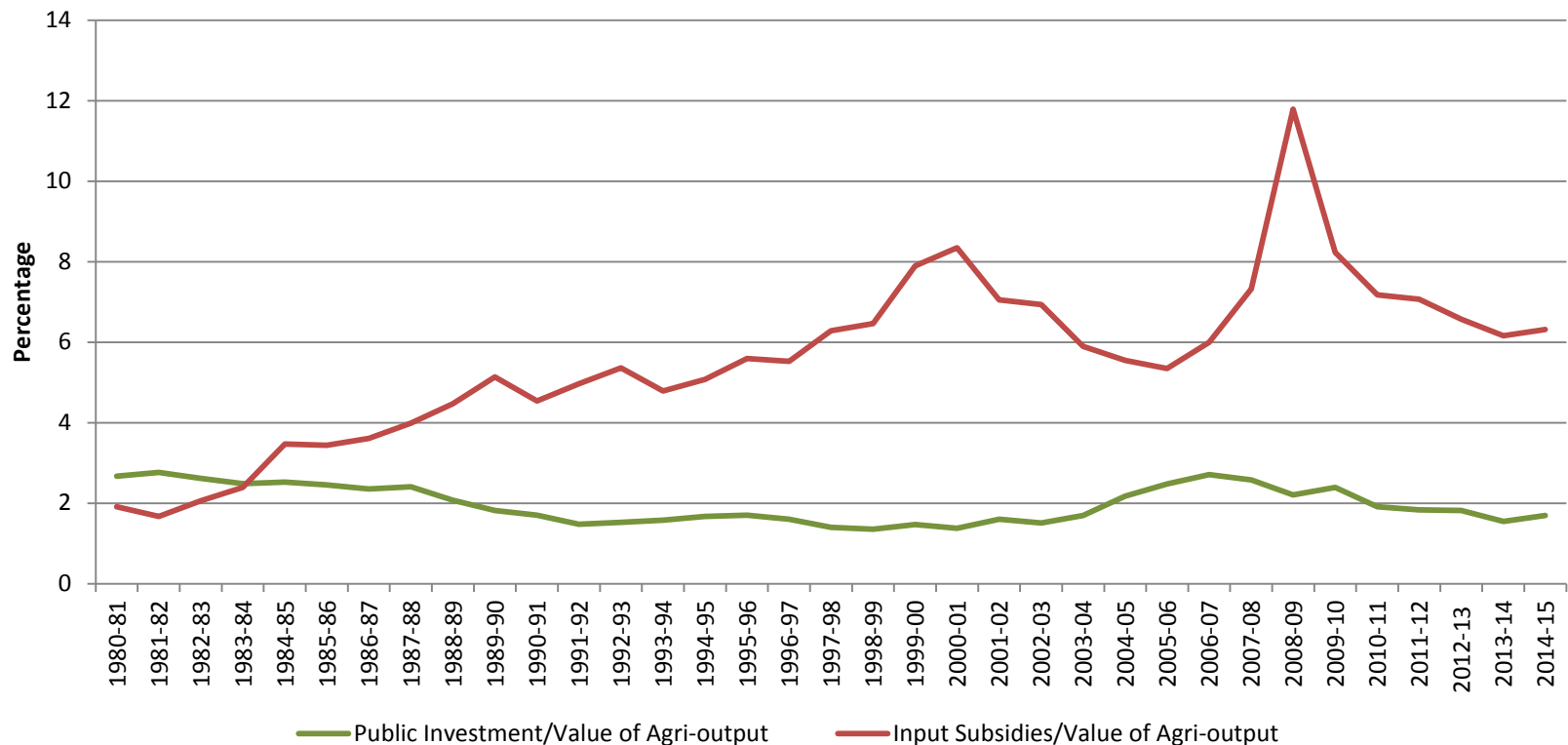
- ▶ *Pradhan Mantri Fasal Bima Yojna* –launched on April 1, 2016
- ▶ Addressed shortcomings of previous insurance schemes
- ▶ Premium rates for farmers fixed at 2% for Kharif season and 1.5 % for Rabi season
- ▶ High value of sum insured
- ▶ Use of mobile based technology with GPS
- ▶ Loss assessment procedure to be completed in 10 days and claim settlement in next 15 days
- ▶ Farmers to receive 80–90% subsidy
- ▶ Implementation not yet satisfactory....

# Challenges remain...

- ▶ Increase Automatic Weather Stations and Rainfall Data Logger
  - AWS–25,000 & Rainfall Data Logger–170,000
  - Total Cost– Rs.300 crore to Rs 1400 crore (depending on parameter required) to cover entire country
- ▶ Use of technology like drones and satellites
- ▶ Need to increase sum insured as in many districts it is still lower than Scale of Finance (SoF)
- ▶ Early Settlement of Claims (in 2–4 days or max 2 weeks)
  - Digitized land records to be linked to Bank accounts and Aadhaar UID and mobile numbers;
  - Insufficient and inefficient CCEs

# Rise in input subsidies and fall in public investment in Indian agriculture

(As percentage of Value of Agri-Output)



**Source:** Calculated and constructed using the data in National Accounts Statistics, CSO; Expenditure Budget, GoI; Power division, Planning Commission



# Estimating marginal returns on Subsidies and investments: getting big bang for the buck

Empirical exercise was conducted to estimate the impact of subsidies versus public investments –somewhat akin to the work done earlier by Fan, Gulati and Thorat (2007)

## Objectives

- To understand the role of investments and subsidies in agricultural growth and poverty reduction; and quantify their marginal returns

## Data and methodology

- Based on secondary data from govt. sources
- Study period– 1991–2013 (cross section across major states)
- Use of simultaneous differential equation model

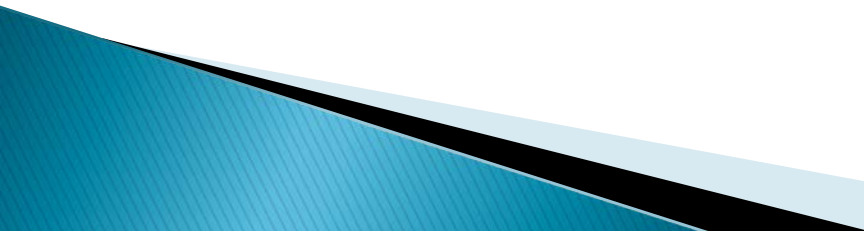
# Modeling relationships between investment, subsidies and growth and poverty

1.  $POVERTY = f1 (AWY, WAGE, NFE)$
2.  $AWY = f2 (FERT, ROADS, LITE, )$
3.  $WAGES = f3 (AWY, LITE)$
4.  $NFE = f4 (AWY, ROADS, MGNREGA)$
5.  $FERT = f5 (FERTS, IRRI, RDE, ELEC)$
6.  $IRRI = f6 (IRI, IRS)$
7.  $ELEC = f7 (POWS)$
8.  $ROADS = f8 (ROADI)$
9.  $LITE = f9 (EDUI)$

# Poverty and Growth Effects of Government Investments and Subsidies

Investment/subsidy	Decrease in number of poor per million Rs. spent	Returns in Rs. Per Rupee spent
Agri-R&D	-328	11.2
Roads	-130	1.10
Education	-42	0.97
Irrigation	-10	0.31
Power Subsidy	-23	0.79
Fertiliser subsidy	-26	0.88
Irrigation subsidy	n.s	n.s

In the light of these results and International best practices, What should Indian policy makers do?

- ▶ Shift priority from input subsidies to investments in agri-R&D and roads
  - ▶ Shift from price support to direct income support, and free up prices of inputs...
  - ▶ Invest in changing requirements of the modern agriculture, especially agri-R&D
  - ▶ Make use of JAM (Jan-Dhan accounts– Aadhar– Mobile) trinity and digitization of land records
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# Benefiting from Global agri-R&D

- ▶ One company spends more on agri-R&D than entire ICAR;
  - ▶ How can one benefit from global research?
  - ▶ Accessing new technologies...PPP
  - ▶ IPR issues, 'monopoly rents', Competition Commission...
  - ▶ New ways of thinking...
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