Agriculture, Food Security & Inclusiveness : Challenges

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Why is Agriculture Critical?

- Food Security: To feed 1.2 billion plus population, that is likely to cross China's population by 2030-35

- Economic Access to food: An average Indian household still spends almost half of its expenditure on food; with increasing levels of income, **demand for F&V, meat etc. to increase.**

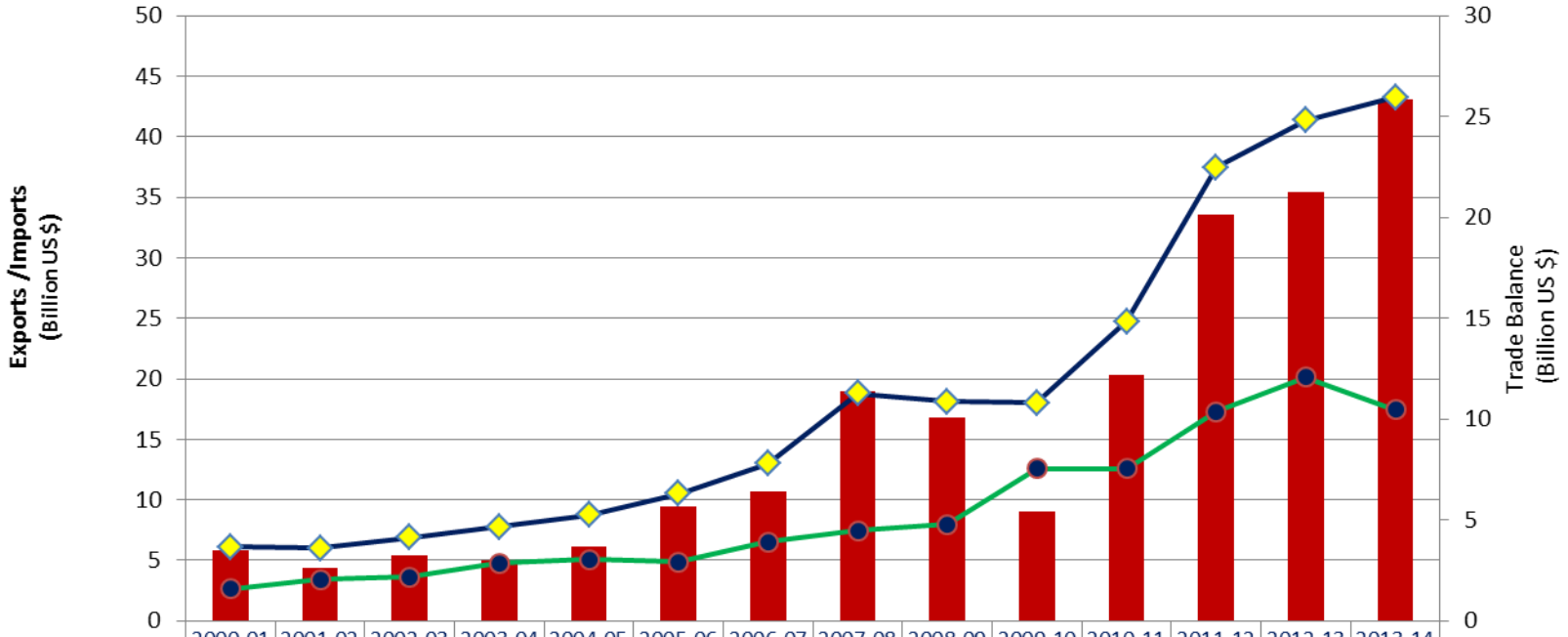
- Inclusiveness: Almost half of India's work-force still engaged in agriculture; question of livelihood

- Although its contribution to overall GDP has come down from about 35% in 1981 to 18% in 2012, **yet its impact on poverty is high**

Performance of Agriculture : An Aerial View

- Foodgrains production : an all-time high at 265 MT in 2013-14;
- As per WTO, India's share in total agri-products increased from 0.8% in 1990 to 2.6% in 2013;
- Agri-exports were US $43 billion against agri-imports of US $17 billion, a net trade surplus of US $26 billion;
- India's 'revealed comparative advantage' in agriculture, as measured by the Balassa Index, is 1.6 against that of manufacturing at 0.98, indicating clearly that Indian agriculture is much more competitive globally than our manufacturing sector.

Competitiveness: Agri-Trade



	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Agri-Trade Balance	3.5	2.6	3.3	3.0	3.7	5.7	6.4	11.4	10.1	5.4	12.2	20.2	21.2	25.8
Agri-Exports	6.1	6.0	6.9	7.8	8.8	10.5	13.0	18.8	18.1	18.0	24.7	37.5	41.4	43.28
Agri-Imports	2.6	3.4	3.6	4.8	5.1	4.9	6.5	7.4	8.0	12.6	12.6	17.3	20.1	17.46

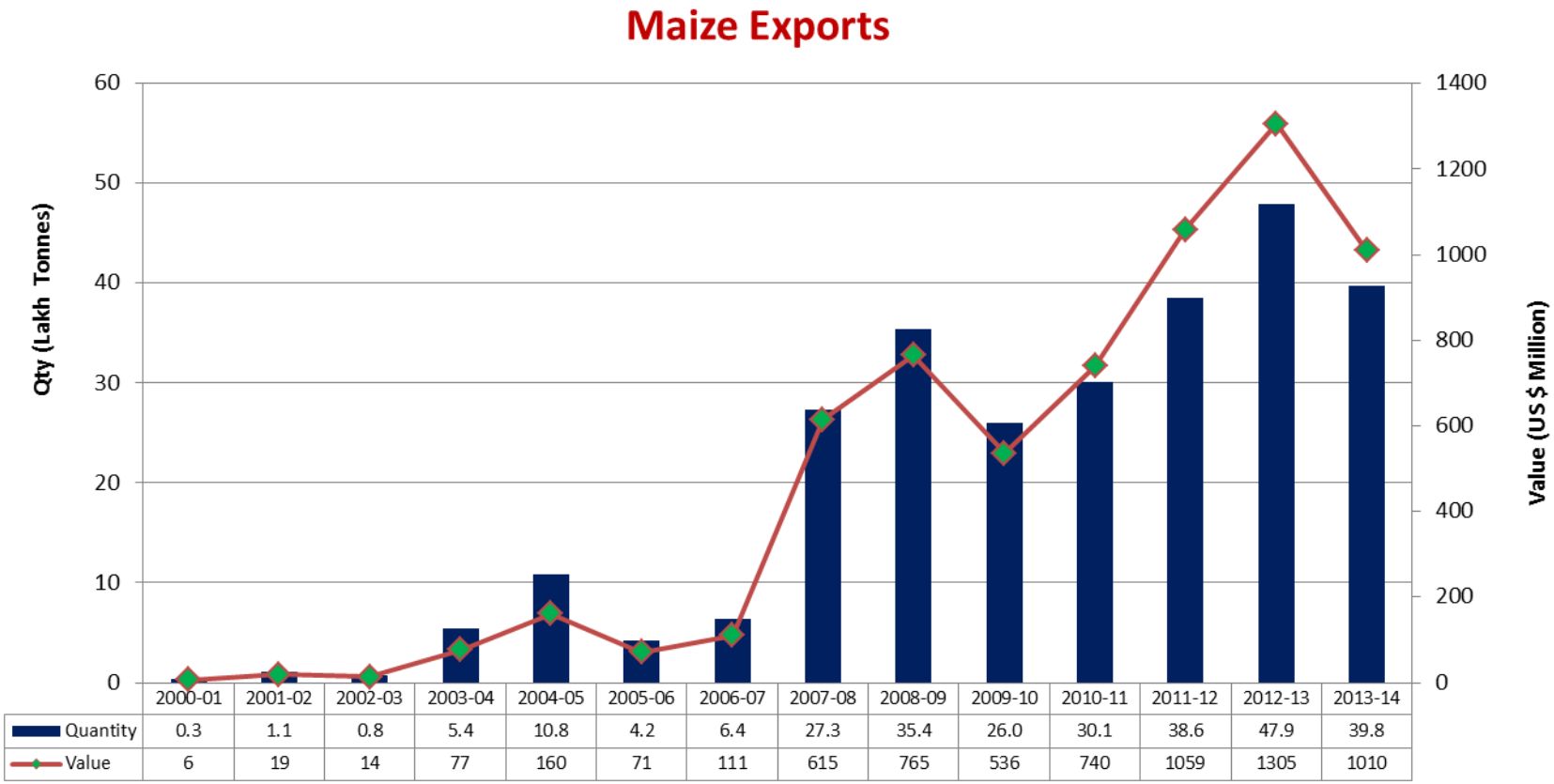
- Net trade surplus of US$ 26 billion is quite impressive
- India's 'revealed comparative advantage', as measured by the Balassa Index, is 1.6 against that of manufacturing at 0.98.

Rice Exports

	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Export Quantity	15.34	22.09	50.57	34.12	47.78	40.88	47.48	64.70	24.88	21.56	24.71	71.76	101.48	109.02
Export Value $ billion	0.64	0.67	1.22	0.91	1.51	1.41	1.56	2.93	2.45	2.37	2.54	4.94	6.22	7.79

- **India is the largest exporter of rice, over 10 million tonnes, valued at of US$ 7.8 billion;**
- **ban on export of non-basmati rice for 4 years until Sept, 2011 explains low exports during 2008-09 to 2010-11;**
- **India, short of water, implicitly exporting 38 billion cu m of virtual water.**

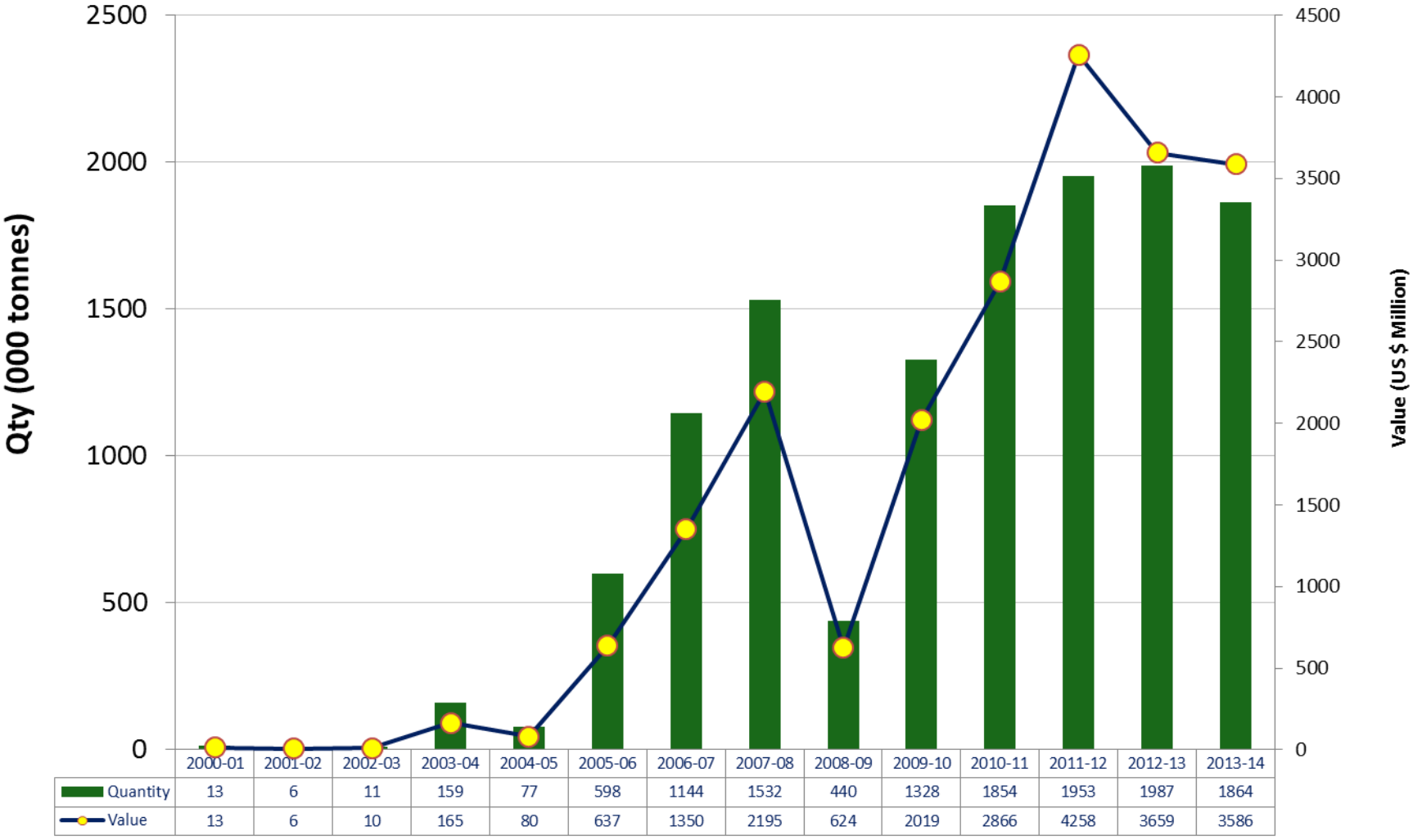
Maize Exports



	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Quantity	0.3	1.1	0.8	5.4	10.8	4.2	6.4	27.3	35.4	26.0	30.1	38.6	47.9	39.8
Value	6	19	14	77	160	71	111	615	765	536	740	1059	1305	1010

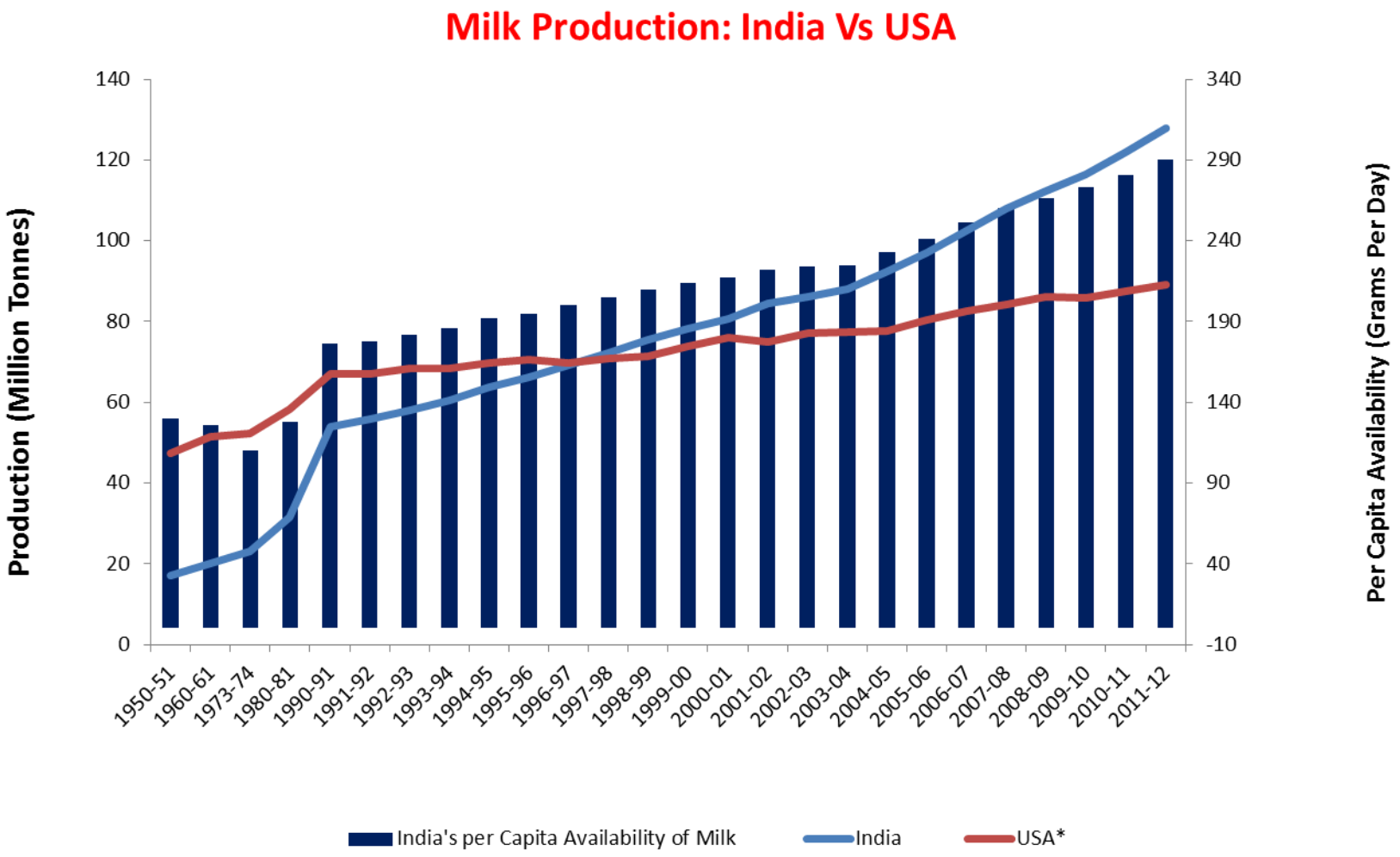
- Exports of maize increased substantially from 2007-08; In value terms, it increased from US $ 0.006 billion in 2000-01 to US $ 1.31 billion in 2012-13 before falling to US$ 1 billion.
- Exports boosted by increase in its yield, especially after 2006-07;
- Higher levels of yield owe it to single cross hybrid (SCH) varieties, introduced in 2005;

Cotton Exports

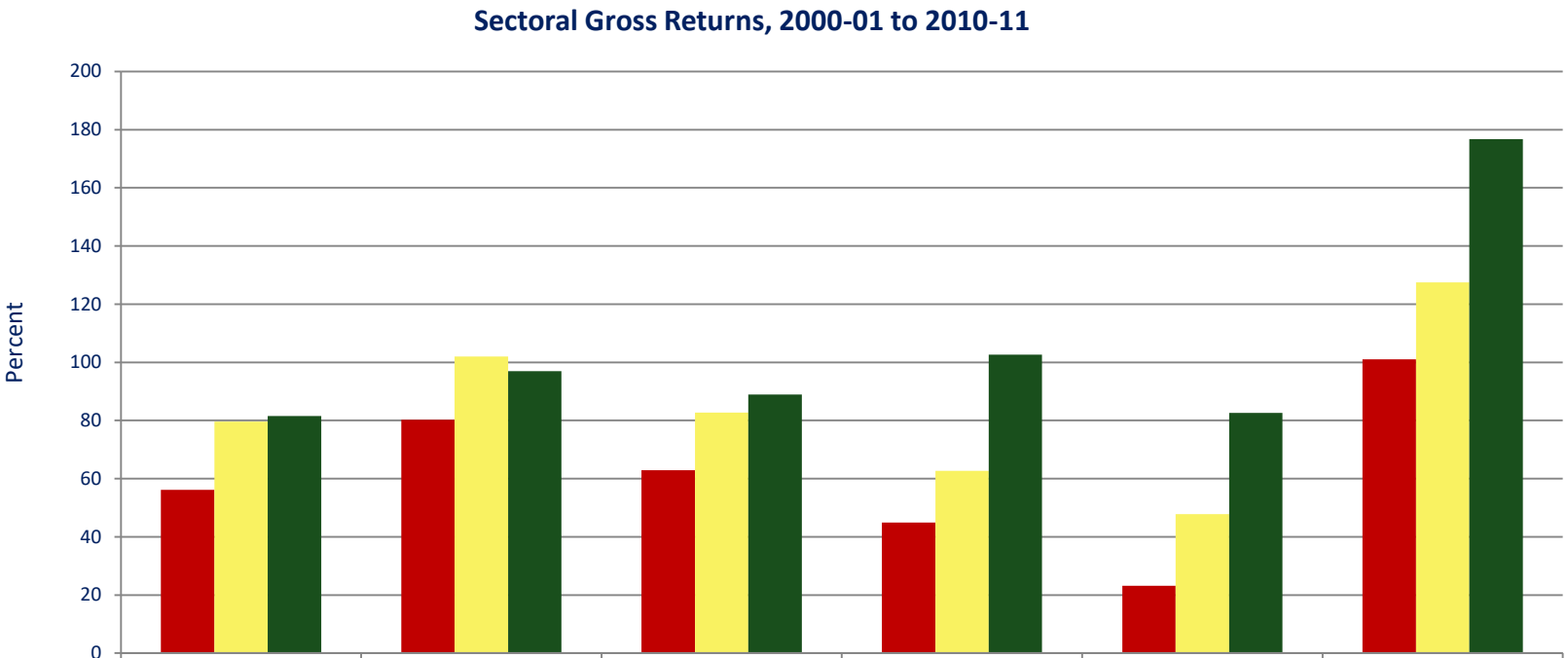


	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Quantity	13	6	11	159	77	598	1144	1532	440	1328	1854	1953	1987	1864
Value	13	6	10	165	80	637	1350	2195	624	2019	2866	4258	3659	3586

Indians Love Milk



Profitability : Sectoral Gross Returns, 2000-01 to 2010-11



	Cereals	Pulses	Oilseeds	Cotton	Jute	Sugarcane
%GR (t1 period)	56	80	63	45	23	101
%GR (t2 period)	80	102	83	63	48	128
%GR (t3 period)	81	97	89	103	83	177

- **Profitability (GR as % of A2+FL cost) have been improving over 3 periods in time, except in pulses;**
- **Sugarcane and cotton stand out.**

Profitability : 2000-01 to 2010-11

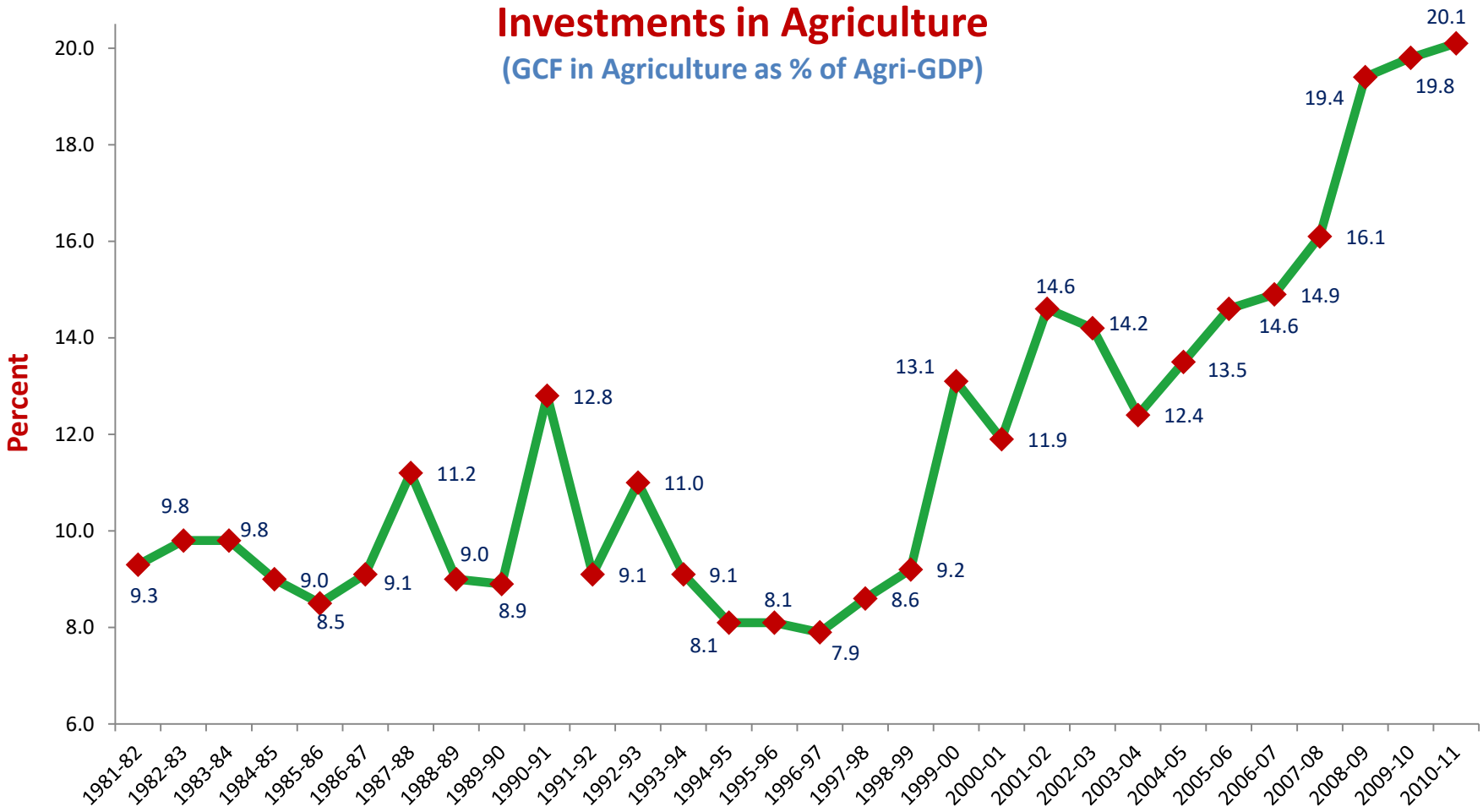
- **Profitability of cereals, which occupy the largest area (around 100 million hectares) and engage the largest number of farmers, improved from 56% to 81% over the two periods, 2000-01 to 2003-04 and 2008-09 to 2010-11;**

- **In the case of cotton, from 45% to 108% during corresponding periods;**

- **The rising profitability in Indian agriculture has been triggered by better pricing, including MSP in response to rising global prices of agri-products, rising productivity in several crops.**

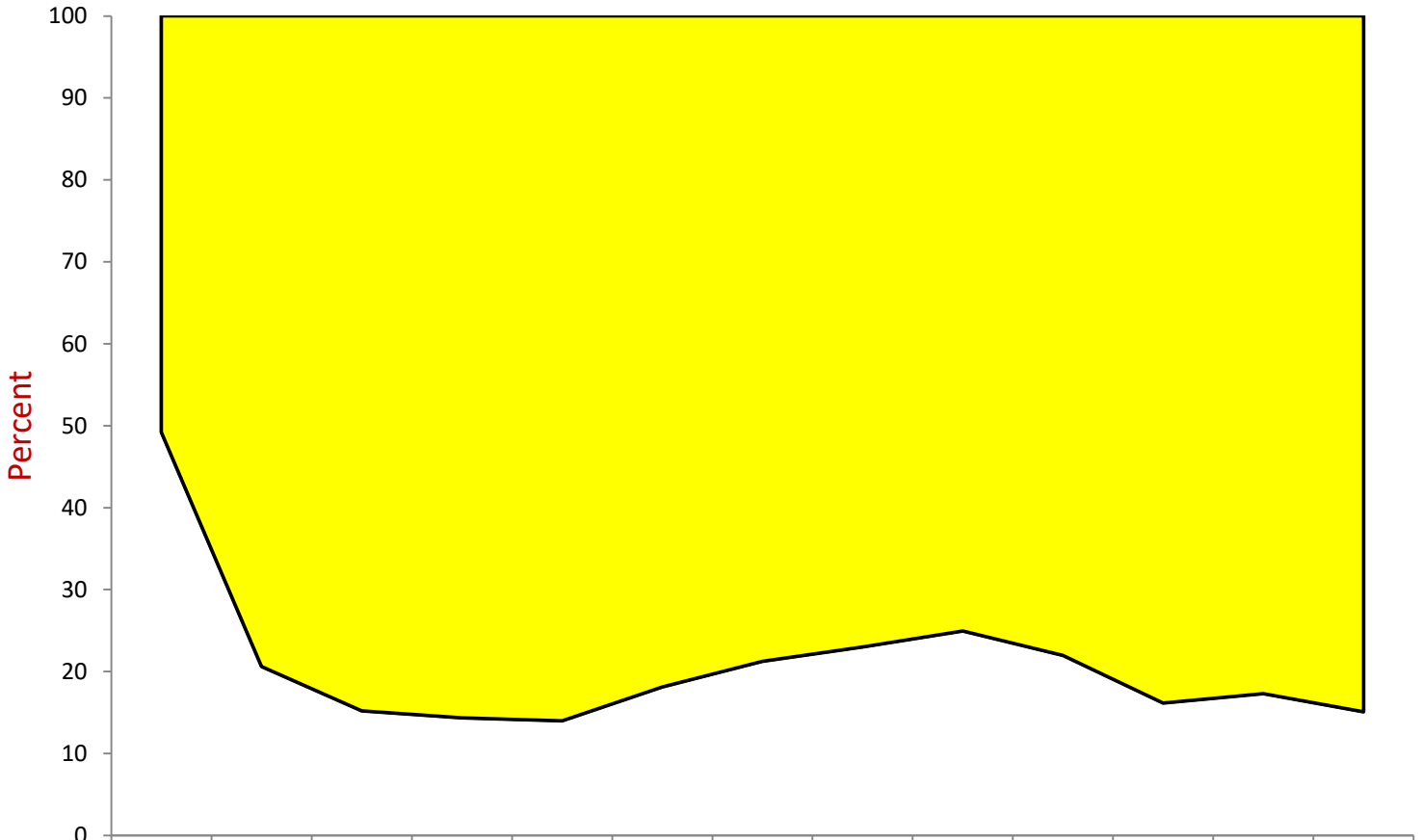
- **Better profitability, in turn, has also led to rising investments in agriculture, particularly from the private sector. And this has been a fundamental transformation in Indian agriculture.**

Investments in Agriculture



Increasing Investments in Agriculture (GCF in agriculture as % of agri-GDP) provides hope for the future

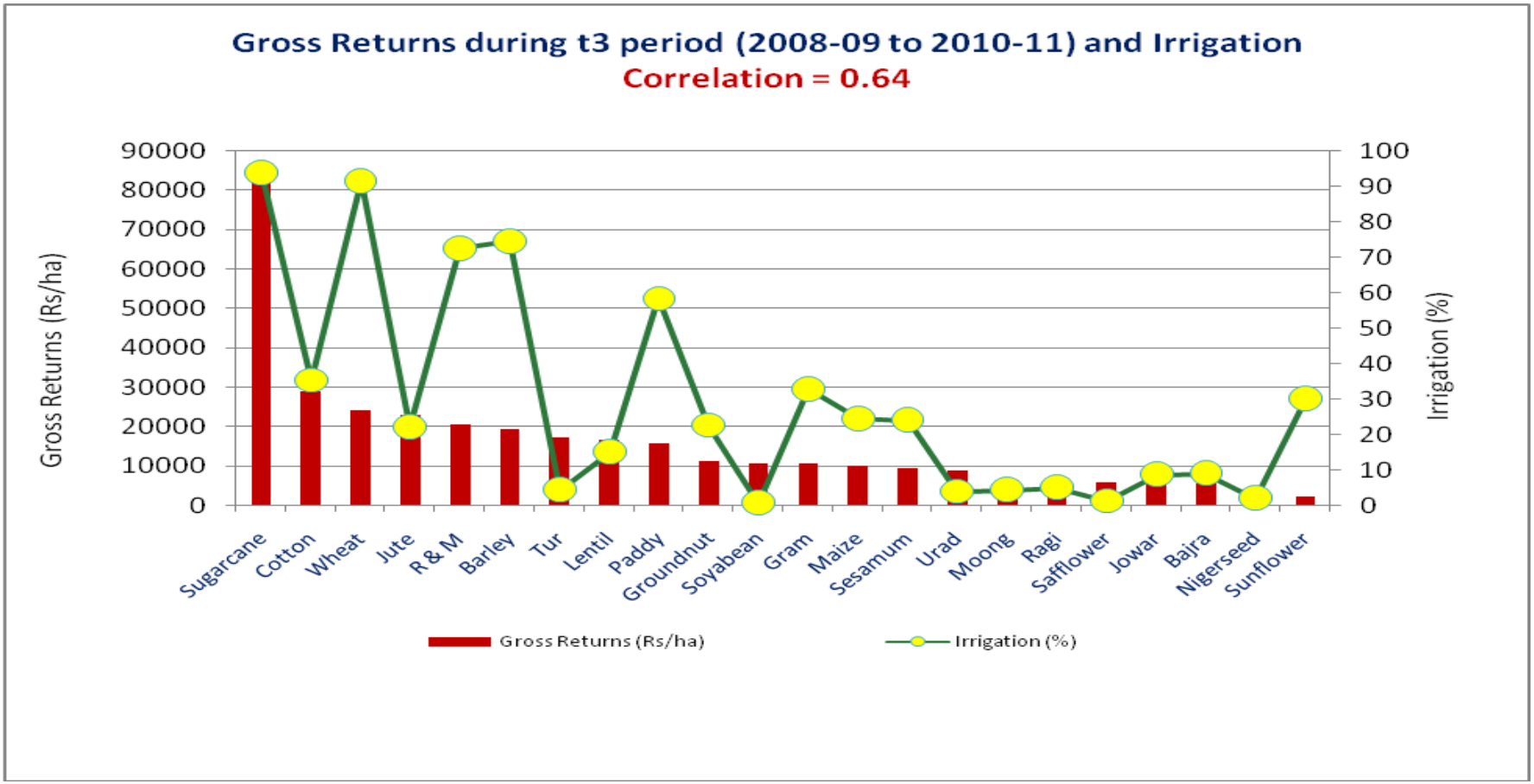
Private & Public Sectors' Shares in Agri-Investment



	1980–81	1990–91	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11
Private	51	79	85	86	86	82	79	77	75	78	84	83	85
Public	49	21	15	14	14	18	21	23	25	22	16	17	15

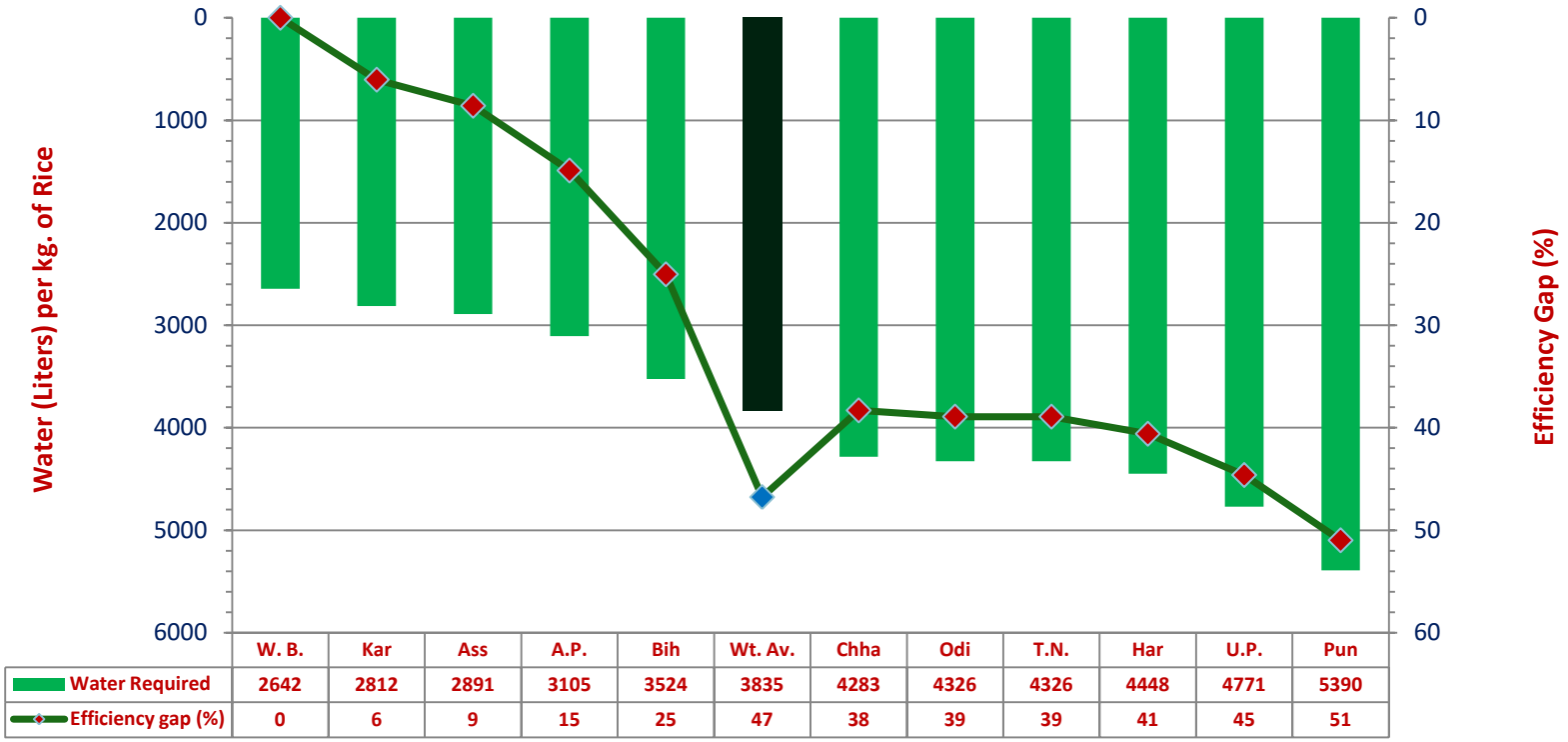
Increasingly private sector is the main driver of growth…

Drivers of Gross Returns



Aberrations: **Cotton and jute harvest high returns but their respective acreage under irrigation is low.**

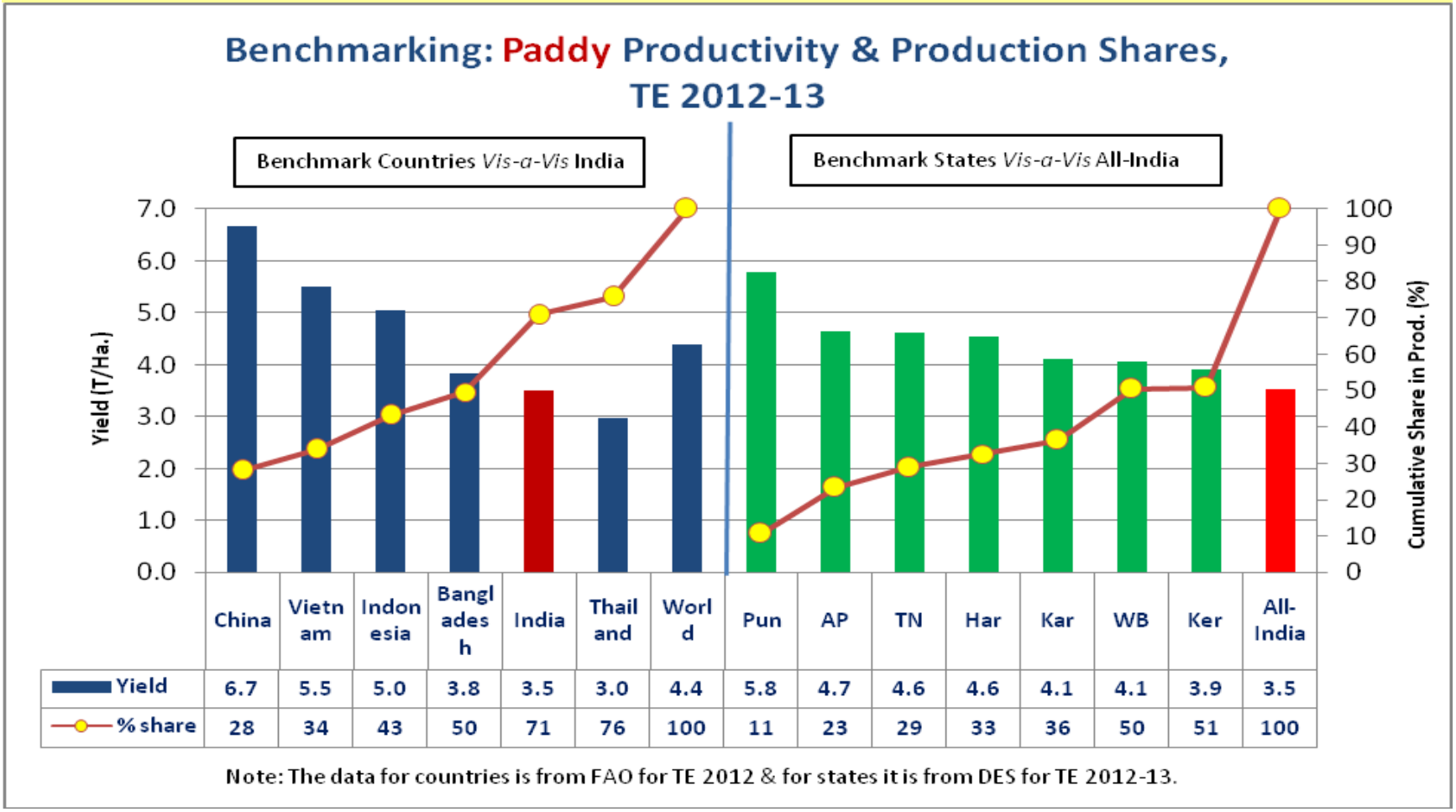
Water Productivity of Rice



	W. B.	Kar	Ass	A.P.	Bih	Wt. Av.	Chha	Odi	T.N.	Har	U.P.	Pun
Water Required	2642	2812	2891	3105	3524	3835	4283	4326	4326	4448	4771	5390
Efficiency gap (%)	0	6	9	15	25	47	38	39	39	41	45	51

- Gunter Grass, a Nobel laureate warned that the world is "**heading towards a situation when drinking water will cost more than gasoline**"
- Needs to sink into the consciousness of policymakers.

Paddy: Gaps in Productivity



	China	Vietnam	Indonesia	Bangladesh	India	Thailand	World	Pun	AP	TN	Har	Kar	WB	Ker	All-India
Yield	6.7	5.5	5.0	3.8	3.5	3.0	4.4	5.8	4.7	4.6	4.6	4.1	4.1	3.9	3.5
% share	28	34	43	50	71	76	100	11	23	29	33	36	50	51	100

Note: The data for countries is from FAO for TE 2012 & for states it is from DES for TE 2012-13.

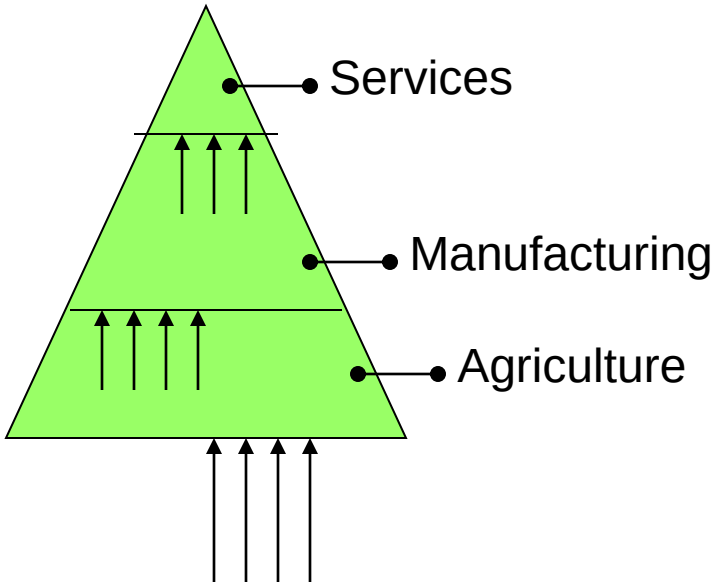
Efficiency gap in India's yield level of paddy w.r.t. to benchmark country is 48% while it is 39% w.r.t. to benchmark state.

Is this Enough?

- Indian agri-trade has reasonable surplus at US$ 26 billion;
- But more can be done;
- How? Here is a way…….

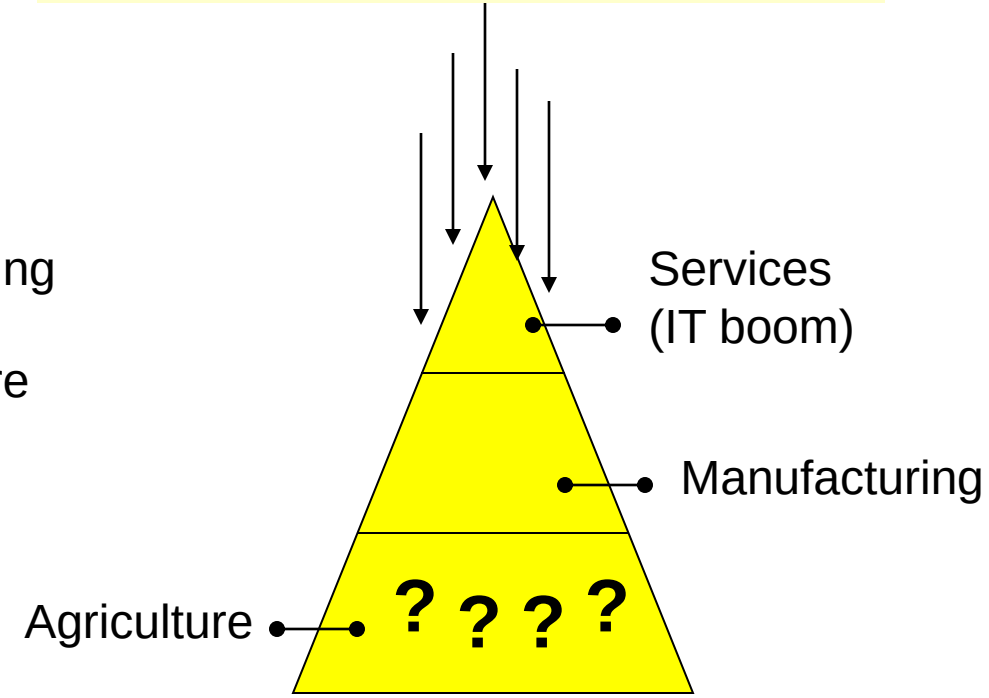
India : Top Down Approach *vs*
China: Bottom-Up Approach

China (The Dragon)



Firing from the Bottom

India (The Elephant) : Trickle Down



- **Impact: China halved poverty from 30 to 15% in six years (1978-84) while India could do so in 18 years from 45 to 22 % (1993-2011; Tendulkar poverty line) ;**
- **Trickle down works slow, Start with Agriculture**

What Makes it Work : Three 'I'

- **Incentives**: It relates to

i. Getting the markets right;

ii. Getting the prices right;

- **Investments** :

i. right incentives can unleash farmers spirits and invite private investment

ii. Rural roads, power supply for irrigation, agri-R&D

- **Institutions** :

i. > 80% farms being low, create structures to enable adoption of modern technology

ii. Freeing of land lease market

iii. Free Movement of agri-commodities across the country;

iv. Uniform & low taxation

- **Productivity**: Land and Water
- **Competitiveness** : Benchmarking

Thanks
for
Your kind
Attention