

Agricultural Extension, the Private Sector, and the Value Chain

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Messages

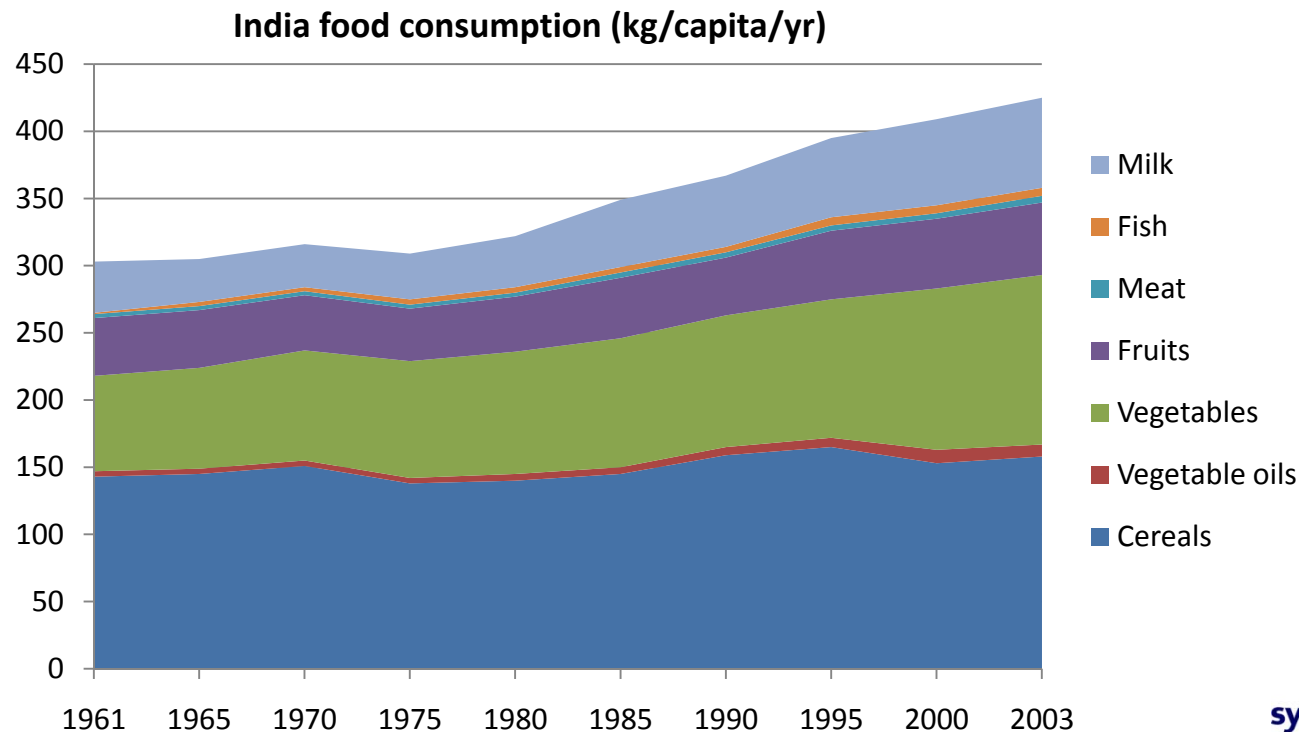
- Agriculture in Need of Re-Invention, Modernization.
- Extension Must Be Re-Invented, Too.
- Linear, Supply-Driven Methods of Extension Superseded.
- Demand-Led, Private and Public-Private Approaches the Way to Go.
- Think '*Market for Extension*' and – for pre-commercial small farmers – '*Mission-Driven Mixed Arrangements*'.

The big picture: Loss of dynamism in Indian agriculture (11th Plan)

- Share of agricultural GDP declining, but share and burden of employment high (> 55%).
- New technology for rain-fed areas slow in coming.
- ***Access to available technology and inputs uneven.***
- Institutions and incentives stale.
- Pressure on land and water unsustainable (agriculture; rest of economy; urbanization).
- Widening disparities: urban – rural; irrigated – rain-fed.
- Signs of agrarian distress.

Indian food consumption up ...

- Income growth in the non-agricultural sector and changes in lifestyle and tastes are causing:
 - the direct consumption of food grains to stagnate,
 - the consumption of high-value items to soar.



Source: FAOSTAT

... even as food production growth slows down

Growth rate in output of various sectors at 1993-94 prices (%)

Period	Crop sector	Livestock	Fruits and Vegetables	Non-horticultural crops	Cereals
1980-81 to 1989-90	2.71	4.84	2.42	2.77	3.15
1990-91 to 1996-97	3.22	4.12	5.92	2.59	2.23
1996-97 to 2004-05	0.79	3.67	3.28	0.05	0.02

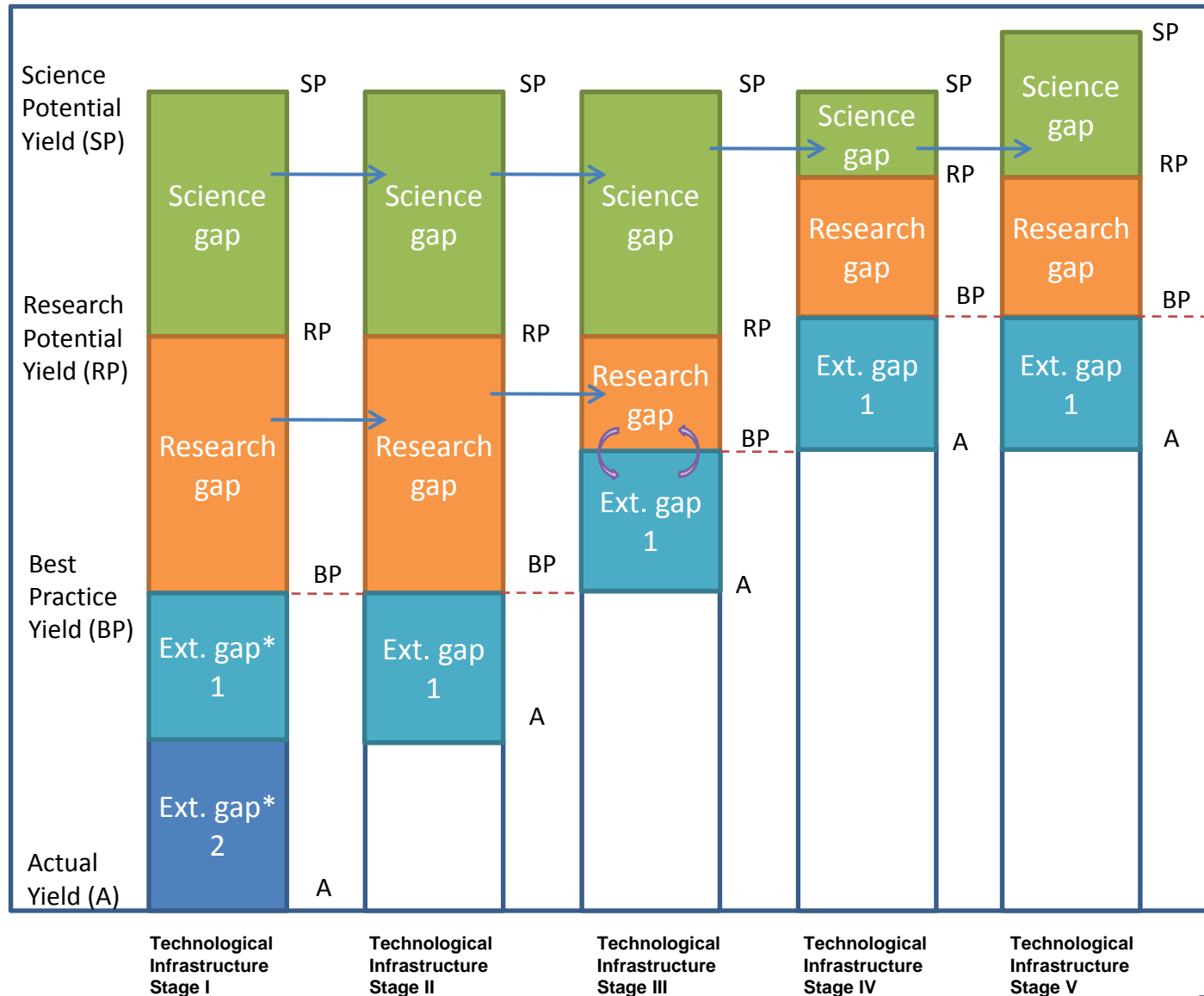
Source: NAAS news, vol. 8 No. 3, 2008

- Deceleration in all sectors, including high-value ones where growth would be expected to be rising.
- Food growth (1.2%) < population growth (1.7%). “Food security needs a stronger production response” (11th Plan).
- Key proximate determinants of food and agriculture growth:
 - Size of yield gap
 - Investment (public, private)
 - Diversification
 - Sector’s terms of trade

Extension co-determines.

Shape returns to investment in extension.

Extension and research can help reduce the differential between actual and potential yield ...



Adapted from Evenson (2001)

* The extension gap is the difference between best practice (BP) and actual (A) yields.

... and the economic impact of extension can be high ...

Internal Rate of Return (IRR) estimates (%)

	Number of IRRs reported	Percent distribution						Approx. median IRR
		0-20	21-40	41-60	61-80	81-100	100+	
<i>Extension</i>								
Farm observations	16	.56	0	.06	.06	.25	.06	18
Aggregate observations	29	.24	.14	.07	0	.27	.27	80
Combined research and extension	36	.14	.42	.28	.03	.08	.16	37
<i>By region</i>								
OECD	19	.11	.31	.16	0	.11	.16	50
Asia	21	.24	.19	.19	.14	.09	.14	47
Latin America	23	.13	.26	.34	.08	.08	.09	46
Africa	10	.40	.30	.20	.10	0	0	27
All extension	81	.26	.23	.16	.03	.19	.13	41
<i>Applied research</i>								
Project evaluation	121	.25	.31	.14	.18	.06	.07	40
Statistical	254	.14	.20	.23	.12	.10	.20	50
Aggregate programs	126	.16	.27	.29	.10	.09	.09	45
All applied research	375	.18	.23	.20	.14	.08	.16	49

Source: Evenson R. E., 2001. Economic Impacts of Agricultural Research and Extension, Handbook of Agricultural Economics, Vol 1.

... if problems are addressed ...

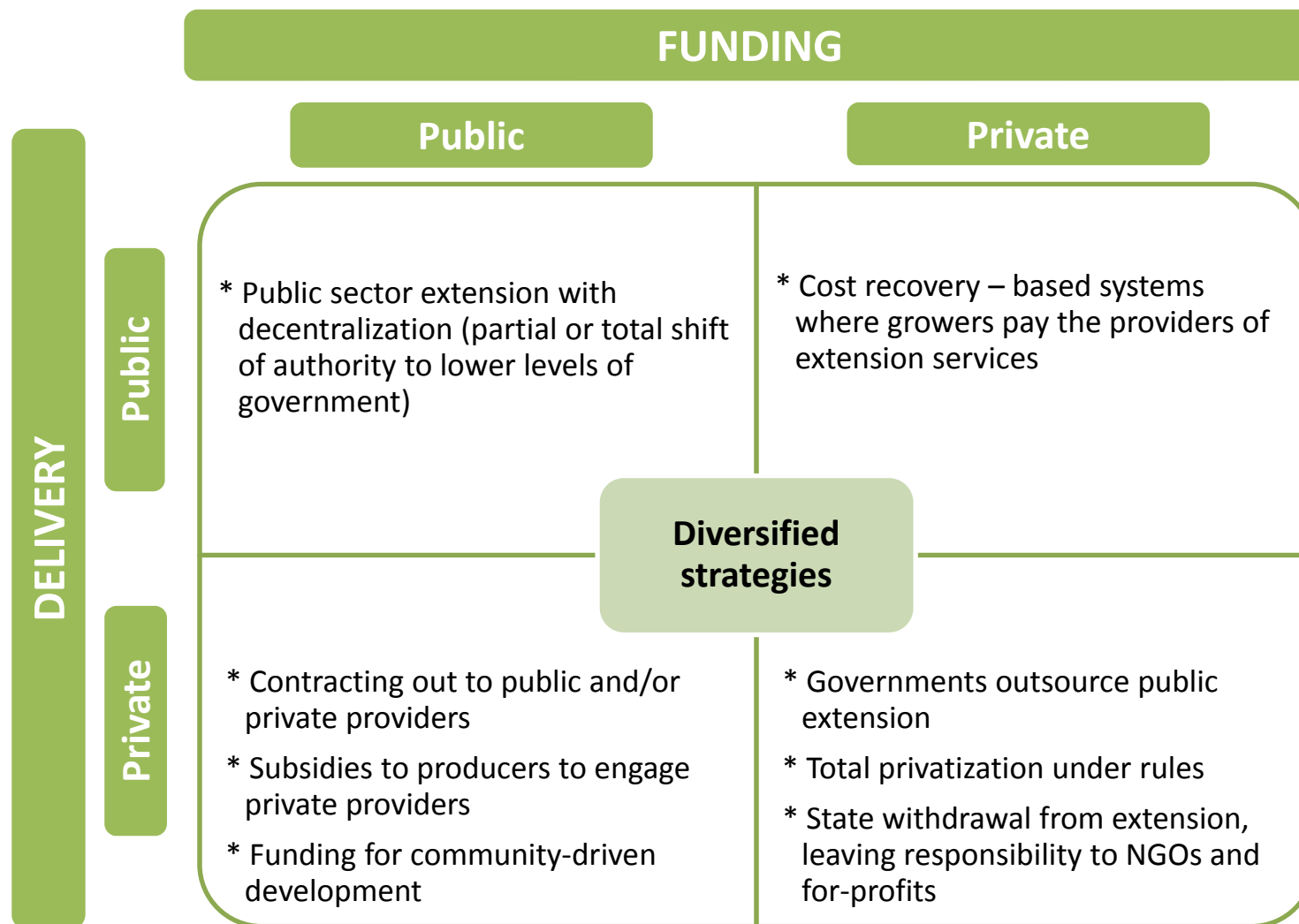
- Experience suggests that agricultural advisory services can play an important role in raising farm productivity and promoting other goals, such as linking farmers to markets.
- Unfortunately, attribution and specification problems, as well as data limitations, have limited the scope and credibility of evaluative and econometric work.
- And, linear and public sector-led approaches have run into trouble:
 - Scale and complexity too great.
 - One-size-fits-all presumption.
 - Accountability deficits.
 - Lack of political commitment.
 - Financial un-sustainability.



- In India, public extension has weakened since the early 1990s.
- The challenge since then has been to get it right in ways capable of reaching most farmers. Demand-driven, setting-specific, multi-partner methods are probably what's needed. ATMA an example.

... and the right models are appointed

Blueprints do not exist; mixed arrangements likely to be needed

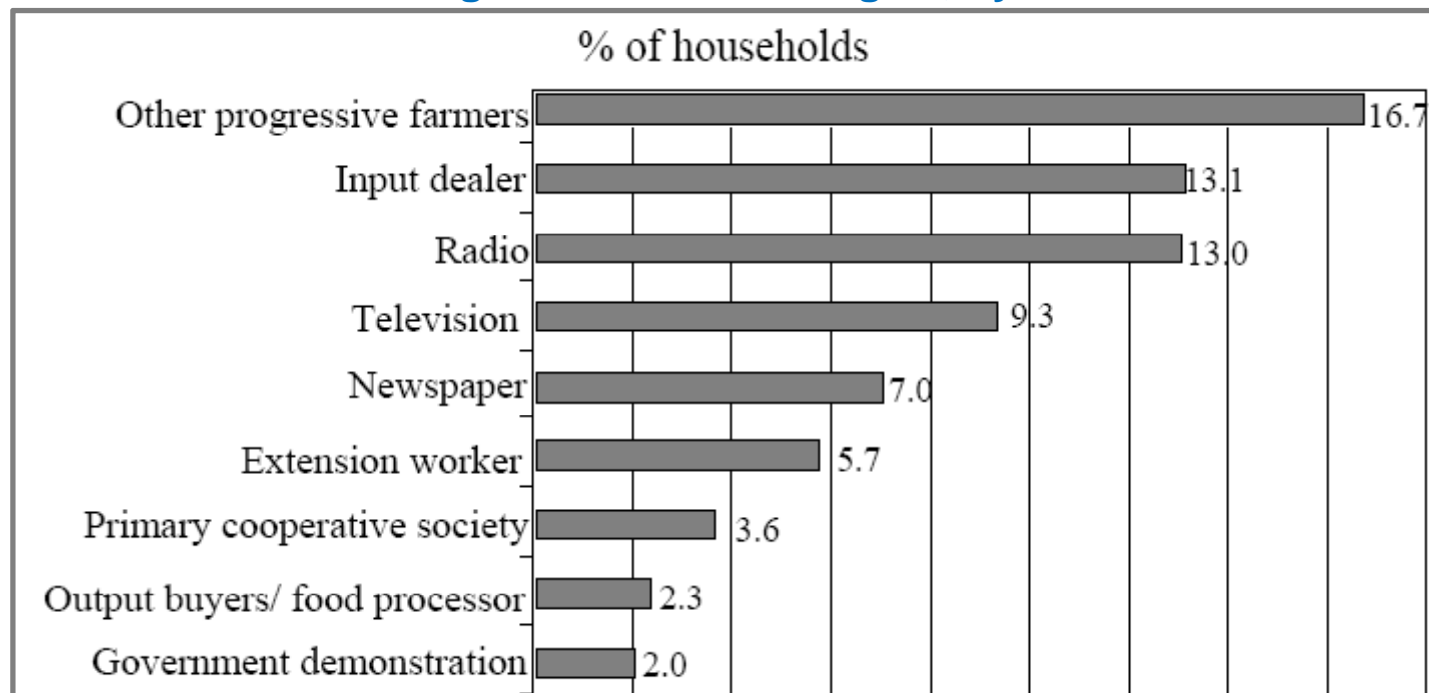


Source: Adapted from FAO, 2003

The breakthrough question in India: How to reduce the yield differential on 90m small farms?

- About 40% of farmers are accessing information according to NSSO. Of these, most get it from input dealers – directly or via progressive farmers. Mass media are an important source, for simple messages. The quality of the information is usually seen as “good”. The adoption rate of recommendations sourced from dealers and progressive farms exceeds 80%.
- How, then, to consolidate this advance and reach the remaining 60%?

Percentage of farm households accessing information on modern agricultural technologies, by source



Proposal: A multi-actor extension system along the value chain (1)



Market solution 1: Input suppliers

- **Examples:**
 - The crop science industry
 - Rural businesses like Hariyali Kisaan Bazaar; Godrej Agrovvet Ltd; etc.
- **Extension advanced through networks involving:**
 - Distributors
 - Retailers
 - NGOs, technical personnel
 - Lead farmers
 - Farmer organizations
 - Women's groups
 - Advertisement (mass media, internet)
- **Input suppliers increasingly understand that they sell not products, but effects. This necessarily requires knowledge transfer (intangibles) to go along with the sale of products. Market share a function of the quality and extent of knowledge transfer.**
- **Potential concerns:**
 - Advice may be limited to the product(s) sold
 - Stewardship and training regarding application may not be guaranteed
 - Limited incentive to reach out to remote and marginal farms

Proposal: A multi-actor extension system along the value chain (2)



Market solution 2: Buyers of produce

- **Examples:**
 - Processors (mills, canners) and exporters
 - Supermarkets
 - Businesses like Mother Dairy Fruits and Vegetables Ltd; Nestle India Ltd; Hindustan Lever Ltd; etc.
- **Extension advanced through networks involving:**
 - Collectors
 - Traders/middlemen
 - Processors/millers
 - Food and beverage manufacturers
 - Packaging firms
 - Food retailers
- **Buyers of output are increasingly organizing themselves vertically, noting the need for extension. Contract farming holds promise in this respect, but the experience is relatively young and sometimes controversial.**
- **Potential concerns:**
 - Only provide support to specific crops
 - Food quality and safety issues
 - Contract enforcement
 - Dispute settlement

Scaling up to the other 60%: An example of extension for household food security and production for the market

Third sector – driven solution for pre-commercial farmers: the example of vegetables for inclusive growth



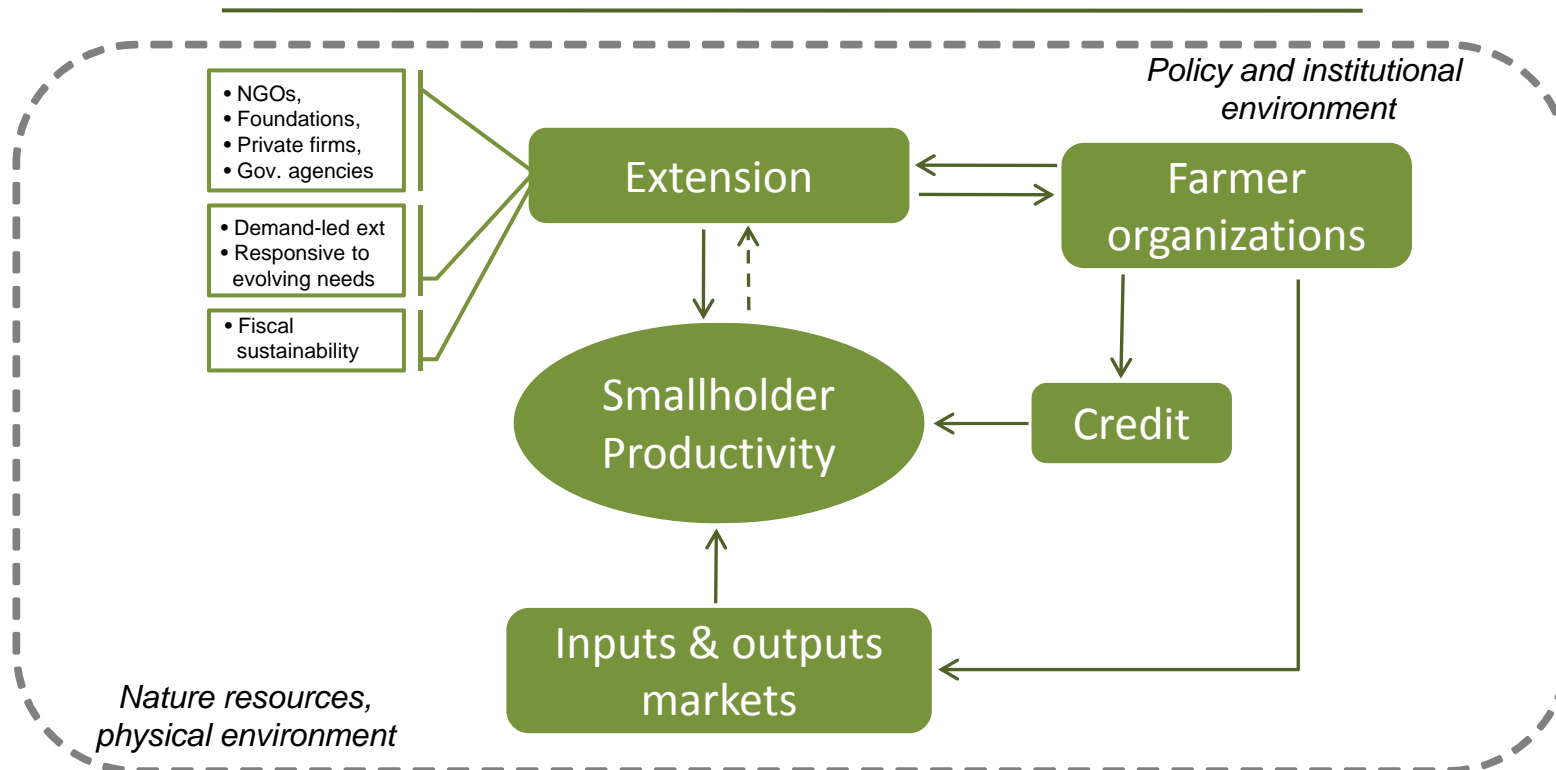
Vegetables are a big opportunity for smallholders in the dynamic Indian economy, if the extension challenge can be resolved

Highlights of project supported by Syngenta Foundation:

- New technologies and inputs for increased production of **vegetables** and **rice** through **dedicated extension services and marketing advice**.
- Strong production and income results.
- A program by Syngenta Foundation and Syngenta India, Inc. Run locally. 4 projects in 3 states. Qualified NGOs. A private-private partnership.
- A blueprint for expansion of this type of work.

Scaling up requires mission-driven mixed extension schemes that aim at self-sustaining work environments

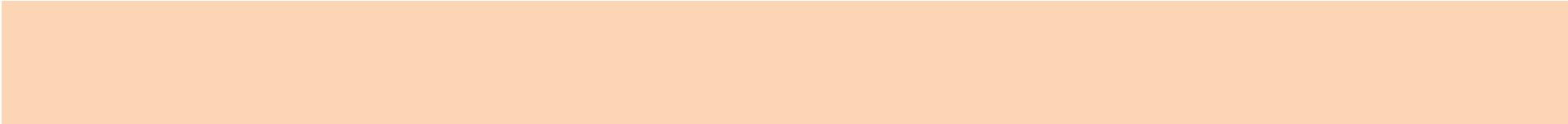
Essential elements of workable extension programs



- Pluralistic service providers
- Need- and demand-driven extension responsive to evolving demand
- Diversified extension services: technical advice, linking growers to inputs and output markets, NRM practices
- Ensuring financial sustainability
- Building accountability and trust between extension agents and farmers

Concluding thoughts

- Slide 10 attests to the important role of private sector-led extension in India already as of today: the input industry, the mass media, and the produce-buying industry. To this we should add the contributions of cell phones and IT, including, increasingly, telemedicine for crops! The presence of strong market demand (slides 4&5) suggests that there is major scope for expansion of the private sector's role in agricultural extension.
- What, then, of the public and the third sector's role (NGOs, Foundations)? It is to pioneer extension for 'pre-commercial' farmers with a view to enabling them to evolve into clients of the private sector, thereby creating a market for extension.
- In this process, let's beware: There are messages that don't require an actual system of extension. Like coca-cola, Bt cotton seems to spread without extension, as did (I'd argue) the Green Revolution inputs and technologies of old in favourable areas. Stuff that's evident will spread.
- Where actual extension is put in place (focusing on agronomic and marketing support), it must respond to farmers' real needs. One-size-fits-all is off. How many programs in the public and the third sector are equal to this challenge?



Thank you
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