Changing Structure of Rural Economy of India: Implications for Employment and Growth

Ramesh Chand

NITI Aayog

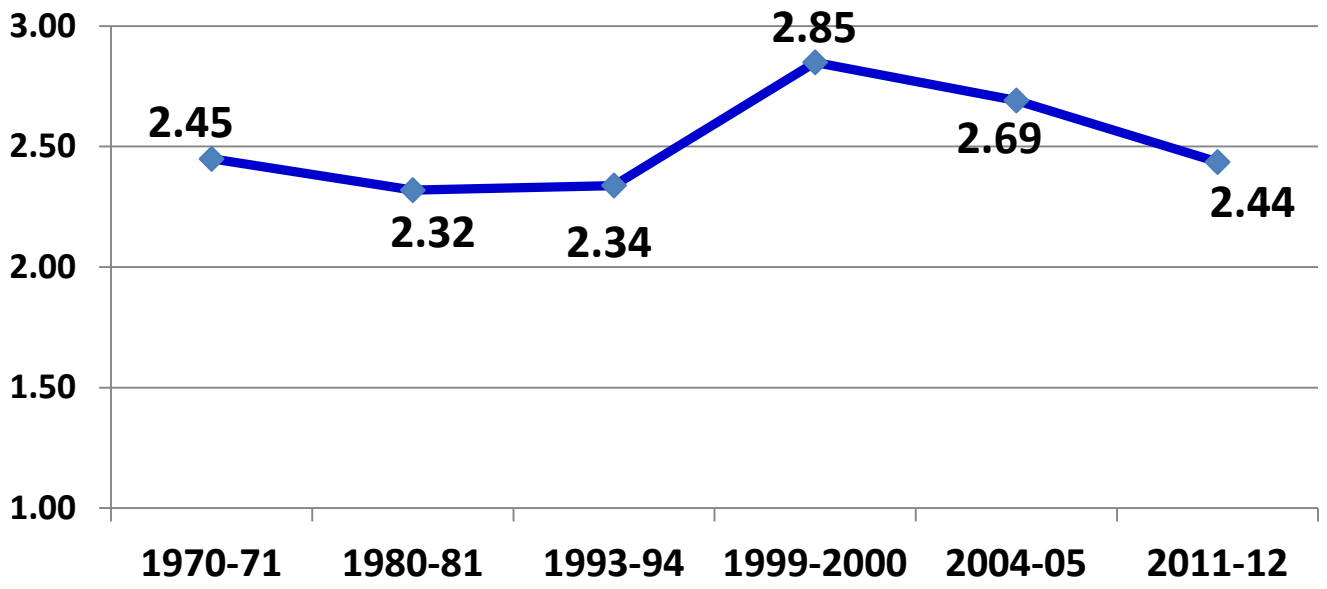
Views and interpretations presented are personal

Background

- Indian society and economy have two distinct categories - rural and urban
- Importance of rural in India 2011-12
  - Population share: 66%
  - Workforce share: 71%
  - Share in National Income: 46%
  - Population share 2050: 50% (Projected)
- Rural India lagged behind urban India and the gap has widened after economic reforms 1991
- Raised serious concerns and criticism of planning
- Led to recognition of "Inclusive growth" in 12th Plan to *"Sabka Saath, Sabka Vikaas"* New Vision of NDA
- Gap in literature: Economic studies on rural India focused on employment, gender, agriculture. No in-depth study on "rural economy" beyond agriculture.

Rural – Urban Disparities

Ratio of Per Capita Urban –Rural Income



Annual growth rate in NDP

Period	Rural	Urban	Total
1970-71 to 1993-94	3.90	5.48	4.55
1993-94 to 2011-12	6.35	8.21	7.26

Issues Addressed in this Study

1. **Contribution of rural areas in national output and employment since the year 1970-71**
   - **Aggregate level**
   - **Sub sector level: Agriculture, manufacturing, construction, services …**
2. **Long term changes in sectoral composition of rural output and employment**
3. **Growth and composition of rural output and employment**
4. **Factors underlying mismatch between output and employment growth rates**
5. **Disparity in worker productivity:**
   - **Rural and urban,**
   - **Cultivators and non-farm in rural areas,**
   - **Agricultural labours and others**
6. **Strategies for pro-employment growth**

Data Sources and Period

- **Sector wise NSDP Rural and Urban at current prices**
  - **CSO NAS Special Statements**
  - **1970-71, 1980-81, 1993-94, 2004-05 and 2011-12.**
- **Sector wise rural and urban employment**
  - **NSSO round on Employment and Unemployment 1972-73, 1983, 1993-94, 2004-05 and 2011-12**
- **Three phases**
  - **1970-71 to 1993-94 (termed pre-reform period),**
  - **1993-94 to 2004-05 (termed post-reform period)**
  - **2004-05 to 2011-12 (termed period of economic acceleration)**

I. Rural Share in NDP and Workforce %

Year	NDP	Work-force	NDP-workforce share
1970-71	62.4	84.1*	21.7
1980-81	58.9	80.8#	21.9
1993-94	54.3	77.8	23.5
2004-05	48.1	74.6	26.5
2011-12	46.9	70.9	24.0

* Refer to the year 1972-73
\# refer to the year 1983

- Indian economy became increasingly urban and overtook rural economy around 2000.
- Call it a healthy trend.
- But the urban workforce share increased very slowly. 16 to 29% in 40 years.
- The gap in rural share in employment and income widened.

Rural Share in Output and Employment across Sectors... 1

Year	Agriculture		Non-agri.	
	NDP	Emp.	NDP	Emp.
1970-71	96.2	96.8	32.4	47.3
2004-05	94.1	96.1	36.7	47.2
2011-12	95.1	95.9	35.3	48.7

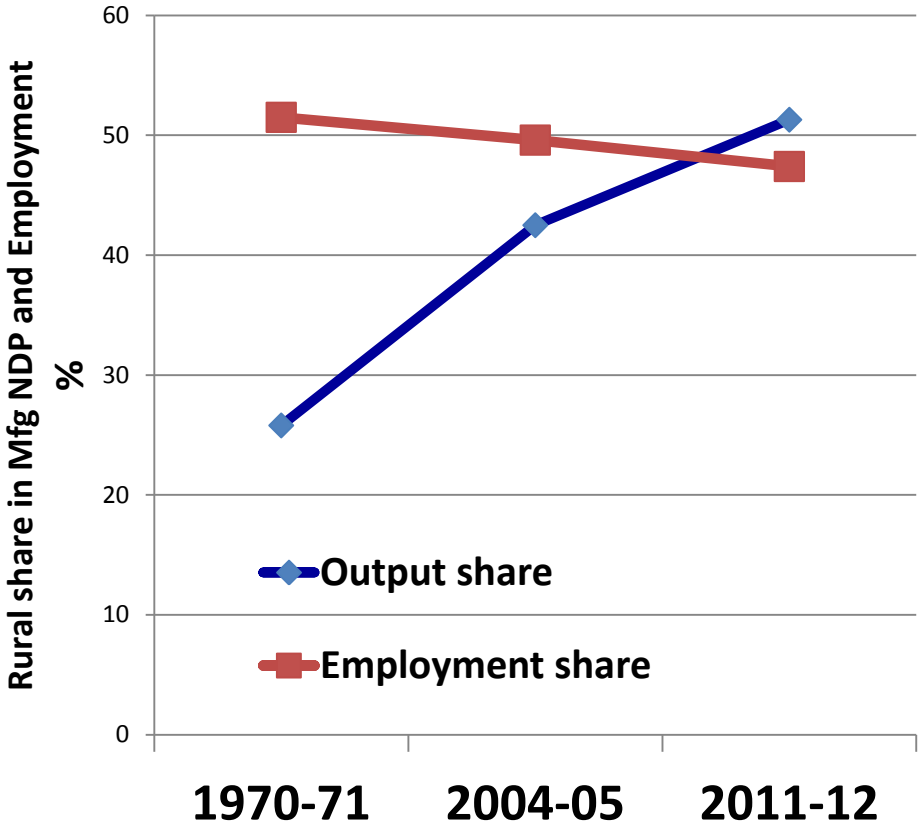
- Agri.: Around 95% output and employment in rural areas
- Non agri: One third NDP and 49% jobs in rural areas
- Rural share in non-agri NDP increased till 2004-05 without any change in employment share.
- Agri remained rural activity but rural did not remain agricultural (slide 12).

Rural Share in Output and Employment across Sectors…2

Year	Manufacturing		Construction		Services	
	NDP	Emp.	NDP	Emp.	NDP	Emp
1970-71	25.8	51.5	43.2	64.6	32.8	42.1
2004-05	42.5	49.6	45.5	64.4	32.7	41.9
2011-12	51.3	47.4	48.7	74.6	25.9	39.6

- Increase in rural share in non agri NDP driven by mfg., of late joined by construction
- Till 2004-05 services neither favoured nor discriminated rural areas. Then heavily turned favourable for urban areas.
- During 2011-12 more than half of mfg. produced in rural India – from 1/4th in 1970-71
- In sharp contrast to output, rural share in mfg. jobs fell!

Rural share in Manufacturing NDP and Employment %



- Manufacturing production moving to rural areas
- Mfg Jobs moving or staying in urban areas

II. Expansion in Rural Economy in 40 Years: 1971 to 2012

Year	NDP at current prices (Rs. Billion)	NDP at 2004-05 prices (Rs. Billion)	Employment (million persons)
1971/73	229	3199	191
2011-12	34167	21107	336
CAGR %	12.98	4.71	1.46

Growth Rates (CAGR) in Output and Employment in Rural India…1

Period	Agri.	Mfg	Construction	Services	Non-agri	Total
Net Domestic Product (at constant prices)						
1971-94	2.57	5.18	3.94	6.10	5.70	3.72
1994-05	1.87	8.38	7.92	8.55	7.93	5.06
2005-12	4.27	15.87	11.49	3.48	9.21	7.45
Employment (usual status)						
1973-94	1.72	3.55	4.82	4.51	4.22	2.16
1994-05	0.74	2.79	8.32	3.25	3.70	1.45
2005-12	-2.04	0.67	12.09	1.35	3.65	-0.28

- The pattern of sectoral growth reveals the nature of transition in rural economy
- Reform effect: Slowdown in agril. growth; acceleration in Non-agri sectors

Growth Rates (CAGR) in Output and Employment in Rural India…2

- First time labour in agriculture declined
- Mfg.: Output growth accelerated, employment gr decelerated!
- After 2004-05: spectacular growth in mfg., impressive in construction and agri, but sharp deceleration in services
- Construction: Employment gr higher than output throughout. Output boom led to job boom. Highly labour intensive.
- Almost jobless growth in mfg. Female emp fell after 2005
- Total rural: output growth accelerated, jobs slowed down and then shrunk
- Employment insensitive rural growth → rural distress

III. Structural Changes in Rural Economy

Sectoral share in NDP and employment: 1971 to 2012 %

Year	Agriculture	Manufacturing	Construction	Services
Share in rural NDP (at current prices)				
1970-71	72.4	5.9	3.5	17.1
1993-94	57.0	8.2	4.6	26.8
2004-05	38.9	11.5	7.8	37.3
2011-12	39.2	18.4	10.5	27.0
Share in rural employment				
1972-73	85.5	5.3	1.4	7.3
1993-94	78.4	7.0	2.4	11.4
2004-05	72.6	8.1	4.9	13.9
2011-12	64.1	8.6	10.7	15.5

Note: Shares do not sum up to 100 due to exclusion of some minor sectors

- Sizable diversification towards non-farm sectors. No more agri
- 61% rural income from non-farm activities, shared by 36%
- Majority still employed in agriculture
- Services after 2004-05.

Reasons behind Post 2004-05 Changes in Rural Employment

Changes in population and economically active persons

(Million)

Particulars	Male		Female		Persons	
	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12
1. Population	401	432	379	410	780	842
2. LFPR (%)	56	55	33	25	45	41
3. Labourforce	223	239	126	104	349	342
4.Workforce	219	235	124	102	343	336
4.1Agriculture	146	139	103	76	249	216
4.1.1Cultivators	93	92	67	49	160	141
4.1.2 Agril. labour	53	48	37	27	89	75
4.2 Non-farm	73	95	21	26	94	121

- Rural employment fell after 2004-5 despite 7.45 % growth in output
- Decline in labourforce and workforce. Same.
- Big decline in (LFPR) of female population: 33% to 25%: Across all types of households but highest among labour households
- In agri labour households even male withdrew from work-force

Why Female of Poor Households Preferred to Stay Back at Home

- **Education accounted for 1/3rd reduction in female labour-force and 100% in case of male.**
- **A large number of female, withdrawn from labour-force, confined themselves to domestic activities.**

Possible Reasons:

- **Increase in reservation wage and non-availability of suitable work at that wage rate,**
- **Manufacturing jobs away from house**
- **Lack of skill to get well paid non-farm job, and**
- **Rising tension between labour and employer in agriculture due to changing social relationship between labour and land owning class (Chand and Srivastava 2014).**

Sub-sector wise changes in employment (usual status) in manufacturing and services sectors

Sub-sectors	Employment: usual status (million)		CGR (%)	Share in total employment (%)	
	2004-05	2011-12		2004-05	2011-12
Wearing apparel	3.4	4.2	2.9	12.3	14.5
Tobacco products	3.4	3.6	0.8	12.3	12.5
Textile	4.5	3.6	-3.2	16.0	12.3
Non-metallic mineral products	3.4	3.6	0.8	12.3	12.5
Food products and Beverages	3.4	3.4	0.0	12.3	11.8
Machinery, metal products and transport equipments	2.1	3.0	5.7	7.4	10.4
Wood and wood products	4.1	2.8	-5.4	14.8	9.6
Furniture	1.7	1.5	-2.1	6.2	5.1
Chemical products	0.7	0.6	-2.6	2.5	2.0
Rubber and plastic products	0.3	0.4	1.1	1.2	1.3
Paper and printing, etc.	0.3	0.3	-0.3	1.2	1.2
Leather and related products	0.3	0.3	-1.8	1.2	1.0
Others	0.0	1.7	-	0.0	5.8
Manufacturing sector- Sub total	**27.6**	**29.0**	**0.67**	**100**	**100**
Wholesale and retail trade; repair of motor vehicles	18.5	18.8	0.3	38.9	36.0
Transport, storage and communication	8.6	10.0	2.3	18.0	19.2
Education	5.5	7.0	3.4	11.5	13.3
Hotel and restaurants	2.4	2.9	2.9	5.0	5.6
Public administration, defence and compulsory social security	2.7	2.7	-0.5	5.8	5.1
Health and social work	1.4	1.6	2.0	2.9	3.0
Financial intermediation	0.7	1.1	7.1	1.4	2.1
Others	7.8	8.2	0.7	16.4	15.7
Services sector: Sub-total	**47.6**	**52.3**	**1.4**	**100.0**	**100.0**

IV. Reasons for Low Employment Intensity in manufacturing sector

Distribution of workers (15-59 yrs) according to education status %

Per cent of rural workers Education level/type	Male		Female		Persons	
	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12
Secondary edu. & above	19.7	27.1	6.8	11.8	14.9	22.3
With technical education	1.7	1.6	0.7	0.7	1.3	1.3
With vocational training	14.2	15.4	13.0	12.7	13.8	14.6

- The lack of skills, technical knowledge and low education
- More than three-fourth of the rural workforce (15-59 years) were not qualified even up to secondary level in year 2011-12.
- Only 1.3% possessed technical education.
- Only 14.6% received vocational trainings
- Setting up of industries and improvement in infrastructure are not sufficient conditions for increasing employment in rural areas.
- These must be accompanied by the effective human resources development

Reasons for Low Employment Intensity in Services

- During 2004-05 and 2011-12, urban areas maintained growth in services sector output at 8.42%, but in rural areas it dropped to 3.48%.
- Composition of services also changed.
- Decline in output of some services - shift in the shopping preference of the rural households towards urban centres.
- The slow-down in output of services sector after 2004-05 caused deceleration in employment growth.
  - Out of 27 million new jobs created in rural non-farm sectors between 2004-05 and 2011-12 services constituted 15%.

V. Disparity in Worker Productivity

Ratio of per worker NDP at Current Prices

Year	CULT/ AGL	NFRW/ CULT	NFRW/ AGL	NFRW /FW	URBAN/ NFRW	URBAN /RURAL
1970-71	1.36	2.06	2.79	2.25	1.67	3.18
1993-94	2.43	2.10	5.12	2.74	1.51	3.01
2004-05	2.40	3.30	7.92	4.16	1.45	3.23
2011-12	2.27	2.23	5.06	2.76	1.64	2.78

CULT: Cultivator, AGL: Agricultural labour, NFRW: Non-farm rural worker, FW: Farm worker

- Order of per worker income:
- Urban worker> Rural NFW>Cultivator>Agri labour
- Disparities in CULT v/s AGL and NFRW v/s CULT and AGL higher in 2012 compared to 1971.
- After 2004-05, income of AGL and CULT increased faster than NFRW and URBAN
- AGL same disadvantage as CULTI with respect to NFRW
- Some decline in Urban –rural disparity after 2004-05.

VI. Conclusions and Strategic Options for Pro-employment Growth

- **Rural economy of India is no more dominated by agril income. Non- farm activities contributed 65% rural income in 2016-17**
- **Manufacturing is no more concentrated in Urban locations. More than half of it produced in rural areas**
- **These changes have not brought corresponding expansion in employment.**
- **Rural manufacturing followed more capital intensive production than urban manufacturing. Reasons are:**
  - **More paying jobs commute from urban areas**
  - **More dearth of skill in rural areas than urban**
  - **No link between rural industry and rural raw material**
  - **No rural specificity in type of industrial**

Conclusions and Strategic Options for Pro-employment Growth

- **Services sector lost heavily to urban areas after 2004-05**
- **Construction sector most labour intensive non farm activity. Shows vibrancy in job and production**
- **The decline in female LFPR leading to defeminisation of rural labour and economic disempowerment of women. Need special attention.**
- **Rising per cent of women above 16 years going for education. Throw a more serious employment challenge for future.**
- **Convergence in worker productivity in farm and non farm rural jobs require shift of 84 million workers from agri to non agri activities. This amounts to about 70 per cent increase in the non-farm jobs in rural areas.**

Conclusions and Strategic Options for Pro-employment Growth

- **Mfg. such as wearing apparel, tobacco products, textile, non-metallic mineral products, and food products and beverages and MSME are better option, instead of conventional industries, for rural employment generation.**
- **Setting up of industries and infrastructure are the necessary but not sufficient conditions for increasing rural employment which require effective human resources development.**
- **In the wake of capital intensive production preferred by manufacturing sector and anticipated threats to jobs posed by emerging technological innovations, there is a need for a rethink on traditional approach of shifting workforce from agriculture to manufacturing and services.**

VI. Conclusions and Strategic Options for Pro-employment Growth

- **Need to explore possibilities of blue collar jobs in and around agriculture. This also looks desirable as withdrawal of labour from agriculture has already started affecting some farm activities and farmers income adversely and there is serious shortage of skilled workers in agriculture needed for specialised operations and adoption of modern technology.**
- **New farm models based on knowledge and skill based agriculture and post-harvest on farm value addition.**
- **PMKVY can play a major role in this by promoting and imparting skills required in modern agriculture, value addition and primary processing.**
- **Specific and separate planning for rural economy**
  - **Going beyond the mandate of Ministry of Rural Development and Ministry of Agriculture**

Part II

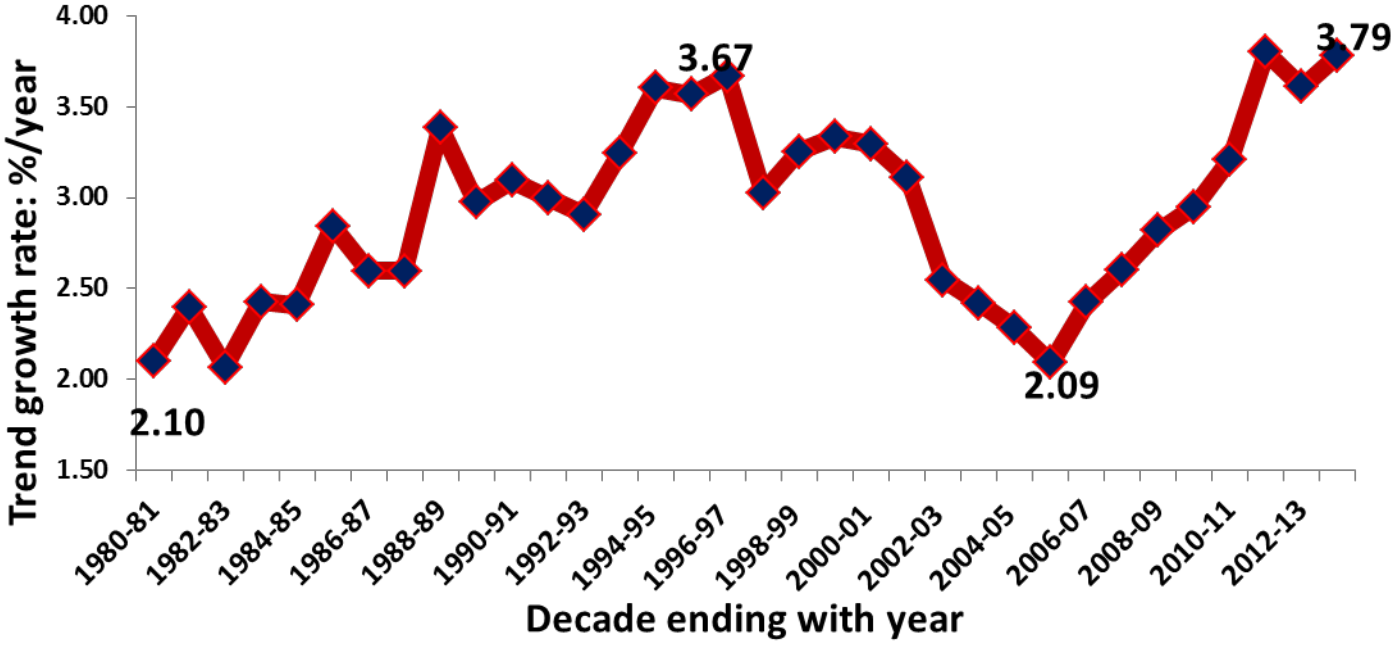
Strategic Options for Enhancing Agricultural Growth, Income and Employment

Agriculture Challenges

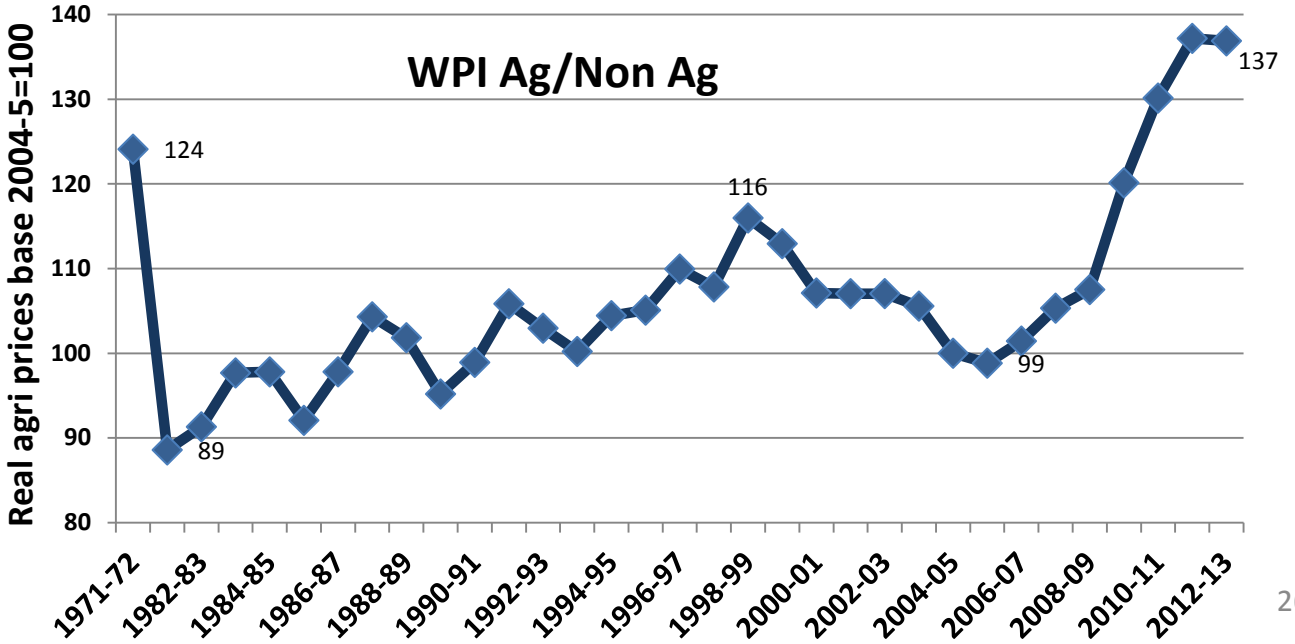
- Raising agricultural productivity
- Low farmers income
- Viability of small holders
- Attracting youth to agriculture: gainful employment
- Excessive and indiscriminate chemicalization
- Sustainability of land and water
- Serious policy distortions
- Subsidies rising, investments slowing

Price Led Growth

Growth driven by inflation



Growth rate in GDP ag move up and down with real agricultural prices



Some Diagnosis

- **Modern science and capital missing in agriculture**
- **Market and marketing remains traditional, fragmented, inefficient**
- **Institutional mechanism for small scale farming remain weak.**

- **Private Sector can play very important role in each of these areas.**

Raising Agricultural Productivity

- **Quality seed and plant propagation material**
  - **Very strong association between value (spending) on seed and productivity.**
  - **Very low SRR. Awareness and availability.**
  - **Seed bill hanging since 2004.**
  - **Public sector (NSC, SSC) decaying and private sector face regulatory restrictions.**
    - **Price control, margin control, patent protection**
  - **Subsidy on seed affecting quality**
- **Technology: agriculture decades behind many sectors in innovation- precision farming**
- **Crop productivity and aggregate productivity**
  - **Slow diversification towards HVC**

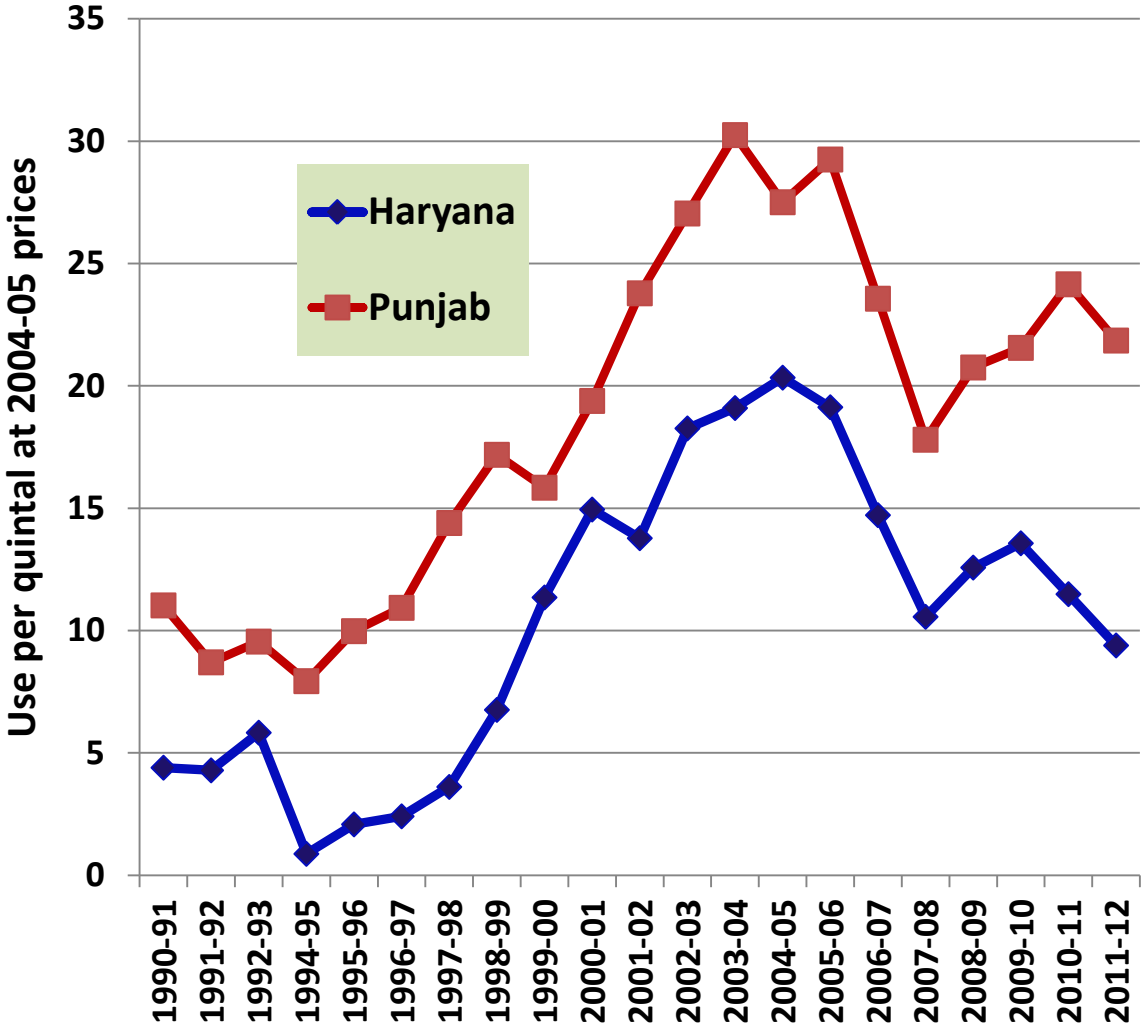
Involving Private Sector in all Stages of Agriculture to address Productivity, Profitability and Scale

- Extension, crop planning, input provisioning, modern knowledge, capital, marketing, storage, processing, value addition.
- Private sector – organised, corporates
- Share in agricultural investments:
  - Private (farmers): 80%; Public: 18%; Corporates: 2%
- Link sale of input to innovation
  - Role of Jain irrigation in banana revolution in India
  - Plant material supplied by Israeli COEs.
  - Selling seed with treatment. Inoculum, rhizobium
- Custom Hiring Centres. Whole Farm Solutions.

Expand Technology Sources

- **All big economic powers investing heavily on agri R&D. ChemChina (state owned Chemical Corpn) purchased Syngenta.**
- **India scene dominated by ICAR and SAUs. On decline. NARS drew from CGIAR. Hybrids dominated by private sector.**
- **Enhanced role of private sector.**
- **Liberalise lateral flow of technology.**
  - **International collaborations: Israel, Netherland. Pub and Pvt**
- **Involving advance CSIR labs and IITs for agri R&D**

Dangerous Trend in Use of Chemicals in Wheat Cultivation: Insecticides, Pesticides, Weedicides



- 1991 to 2005 use of chemicals per quintal tripled . Per hectare use increased 4.5 times.
- Then declined: how it is related to wheat varieties?
- Serious question on food safety.

How to reduce Use of Chemicals in Agriculture

- **Organic farming: Lot of emphasis and some policy support?**
- **Genetically engineered products:**
  - **Transgenic and Genome edited.**
- **Efficient use. Scientific diagnosis. Precision method. Sensor based applications.**
- **Close monitoring and enforcement of standards.**

Regulation, Institutions and Infrastructure

- **Model APMC Act (2003) and (2017).**
  - **Main thrust to remove restrictions on organised private sector to enhance their participation in trading and infra and promote value chains.**
- **Model Contract farming Act pending with DACFW for last nine months.**
- **ECA, Future Trading.**
- **Incentivising/pressuring states to adopt reforms**
- **WDRA – electronic receipt**
- **FPOs/FPC – income tax?**
- **Replicating dairy experience in horticulture**
- **Infrastructure for agriculture**
  - **e-NAM? Food processing (Sampada). Food waste.**

Attracting Youth to Agriculture

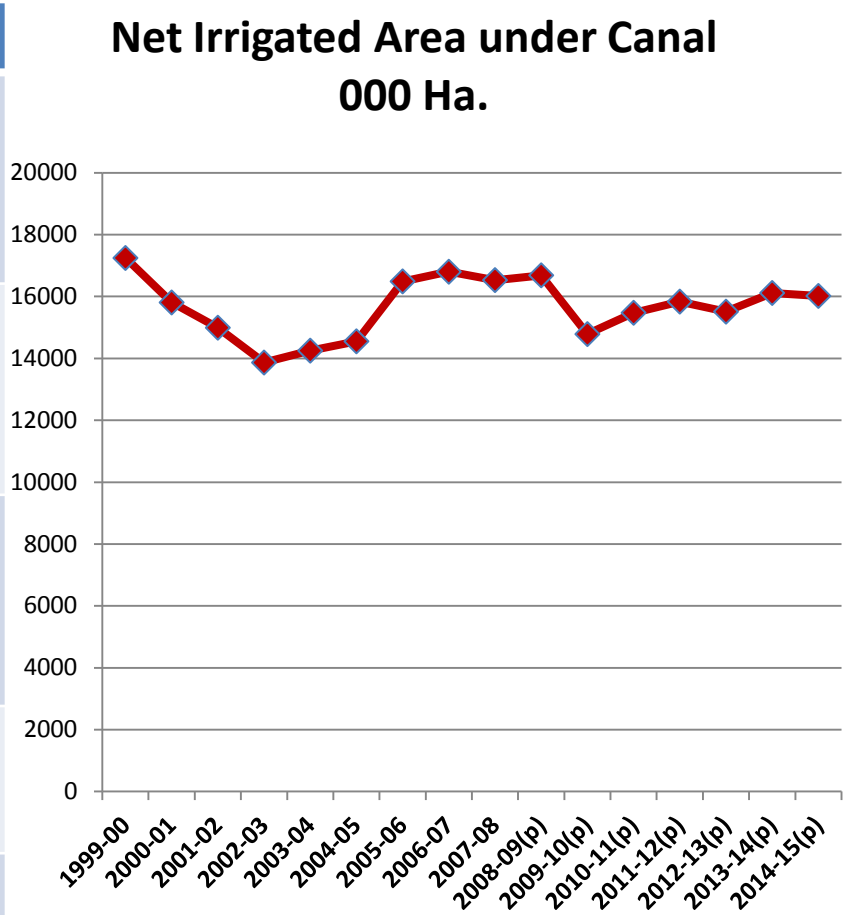
- **Making agricultural operations:**
  - **Less drudgery**
  - **More skilled**
  - **More paying**
- **Imparting agricultural skills along the line of modernisation of agriculture**
- **Post harvest on farm value addition**

Policy Distortions

- **Mismatch between Crop patterns and natural advantages: Input subsidies and price support**
- **Subsidy and investment**
- **Trade trends highly damaging for natural resources and fiscal resources**
  - **Big increase in export of resource intensive, environmentally adverse and fiscally taxing products**
  - **Big increase in import of environment friendly, less resource intensive products.**
- **Dangerous trends in support to farmers – paying of interest on loan by states, direct cash payments.**

Subsidies and Investments

Share of agricultural subsidies in total subsidies %	24.6
Share of agricultural and power subsidies to agri in total subsidies %	33.0
Share of agril and power subsidies in GDP agriculture 2014-15 %	8.60
Public investments in agri as % of GDP agri	2.24 (2014-15) 2.76 (2015-16)
Area under canal irrigation Mill hec	17.2 (1999-00) 16.0 (2014-15)



Public investments in agri remain low and outcome remain poor.

Thank you!