

GROWTH IN FARM INCOMES AND FUTURE PROSPECTS

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IMPORTANCE AND RECENT CONCERNS

- **Farm income and farm employment**
- **Widespread rural distress, suicides**
- **Farmers perception about farming**
Not Liking: 40%
(Given a choice would take up other career)
- **Reasons for Not liking farming:**
 - **Not profitable: 27%**
 - **Risky: 8%**
 - **Lack social status: 2%**
 - **Other reasons: 3%**
- **This perception may put food security under threat?**

IMPORTANCE OF FARM INCOME IN INDIAN CONTEXT		
Share in national income and employment		
Year	NDP at current price	Employment
1950-51	58.2	69.4
1960-61	48.0	69.5
1970-71	47.9	67.8
1980-81	38.8	60.5
1990-91	33.2	59.0
2000-01	25.5	58.4
2003-04	24.0	58.4

NEED FOR PRAGMATIC POLICIES FOR RAISING FARM INCOME

Per capita income and share of agriculture in economy's output

Country	GNI/Capita	Share of agri
	US \$ 2002	in GDP 2003
Nepal	230	39.2
India	470	22.4
Sri Lanka	850	15.7
China	960	14.6
Thailand	2000	9.8
South Korea	9930	3.2

FARM INCOME IN DEVELOPMENT PROCESS

- **Decline in share under two situations:**
 - a. Slow, no or negative growth in agriculture
 - b. Agriculture output grows rapidly but non agriculture output grows more rapidly
- **Only (b) leads to socio economic transformation**
- **How to achieve (b)**
- **Resources for agriculture**
 - Public investments in research and infrastructure
 - Favourable price incentives to farmers

FARM INCOME: THE CONCEPT

- Defined in various ways
 - No standard or single measure.
- **Reasons**
- **No series on farm income at national and state level**
- **Proxies:**
 - Value added or GDP/SDP
 - Terms of trade
 - Farm income from crop(s), livestock?
- **MSP based on cost C_2**

FARM INCOME AND FARMERS INCOME

- **Argument about subsistence farming**
- **Size constraint for commercial production exaggerated**

NET FARM INCOME AS A FACTOR IN CROP PATTERN AND RESOURCE ALLOCATION

- **Resource Allocation and farm income depends on price and non price factors**
- **Argument about subsistence farming**
- **Size compulsion for commercial production**

**MARKETED SURPLUS OF VARIOUS AGRICULTURAL
COMMODITIES AS % OF PRODUCTION, 2001/02**

Rice	63.5
Wheat	73.3
Maize	51.6
Jowar	54.0
Bajra	56.9
Arhar	77.2
Gram	81.3
Lentil	89.9
Groundnut	68.4
Rapeseed/m	76.5
Soyabean	95.8
Sunflower	61.2
Sugarcane	91.8
Cotton	86.9
Jute	100.0
Onion	100.0
Potato	91.1

**FACTORS AFFECTING
FARM INCOME**

- **Price Factor: Output and input, wages**
- **Non Price Factors**
 - Technology
 - Infrastructure
 - Institutional arrangements
 - Institutions
 - Regulation

AGRICULTURAL RESEARCH AND EXTENSION

Particular	Agriculture research and education		Agricultural extension	
	1981-83	1999-01	1981-83	1999-01
Annual public expenditure Rs. Million at 2001 prices	7808	17695	2169	6548
Public expenditure as % of GDP agriculture	0.36	0.42	0.10	0.17
Share of Central government	47.6	49.5	4.6	7.6
Share of State governments	52.4	50.5	95.4	92.4

EXTENSION AND R&D

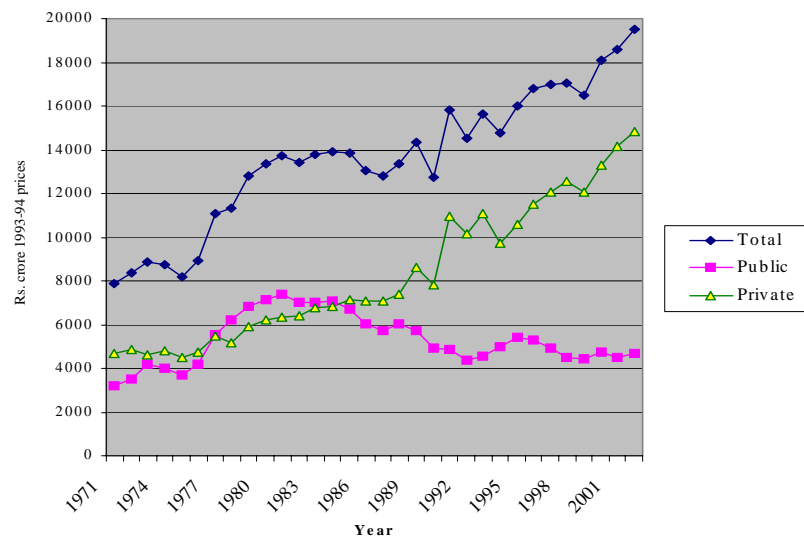
- Public extension not a major source for information on modern technology
- Farmers accessing modern technology: 40.4%

Sources	%
– Other prog. Farmers	16.7
– Input dealers	13.1
– Radio	13.0
– Television	9.3
– Newspapers	7.0
– Extension workers	5.7
– All govt. agencies	(13.0)
– NGOs/pvt. Agencies	0.6

EXTENSION AND R&D

- **Closer coordination needed**
- **Public extension not a major source for information on modern technology**
 - **Focus needs to shift**
 - **Private extension**

Fig 1: Gross Fixed Capital Formation in Agriculture at 1993-94 prices: 1970-71 to 2001-02

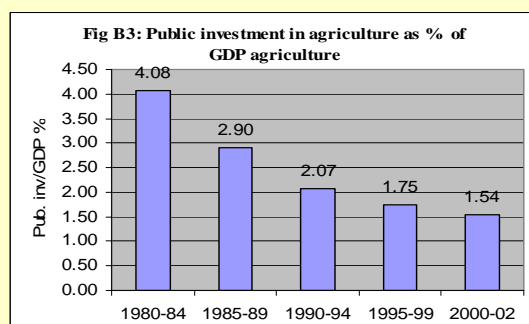
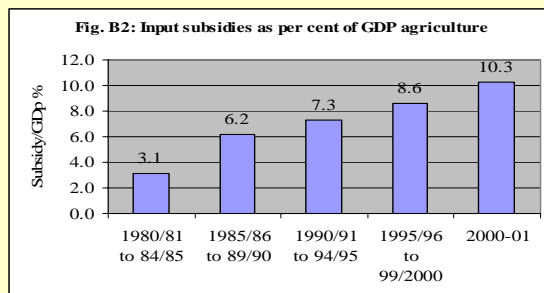


INPUT SUPPORT MEASURES

Subsidies in Indian agriculture						
Period	Total subsidies		Subsidies as share of GDP agri	Share of different inputs in total subsidy at current price%		
	Rs. Billion/year			Fertilizer	Power	Irrigation
	Current price	1993-94 prices				
1980/81 to 84/85	20.8	54.6	3.1	42.9	30.4	26.7
1985/86 to 89/90	68.7	122.9	6.2	40.0	35.4	24.6
1990/91 to 94/95	157.5	171.8	7.3	31.3	48.3	20.5
1995/96 to 99/2000	339.5	236.1	8.6	28.8	57.3	13.9
2000-01	481.1	294.4	10.3	28.7	59.9	11.4

RURAL PUBLIC SERVICES INFRASTRUCTURE

Public investments in agriculture at 1993-94 prices		
Period	Public investment	Pub investment as
	Rs. Billion	% of GDP agri
1980-84	70.3	4.1
1985-89	56.8	2.9
1990-94	48.4	2.1
1995-99	47.9	1.8
2000-02	45.7	1.5



TRENDS IN FARM INCOME IN INDIA

Growth rates (%) in output, input and farm income measured by value added in agriculture since 1950/51 at 1993/94 prices

Period	Output	Input	Farm income
Pre green revolution			
1950/51 to 1964/65	2.51	2.00	2.62
Green revolution period			
1965/66 to 1979/80	2.80	3.14	2.72
Wider technology dissemination			
1980/81 to 1994/95	3.22	2.64	3.38
Post reforms			
1995/96 to 2003/04	1.69	1.84	1.65

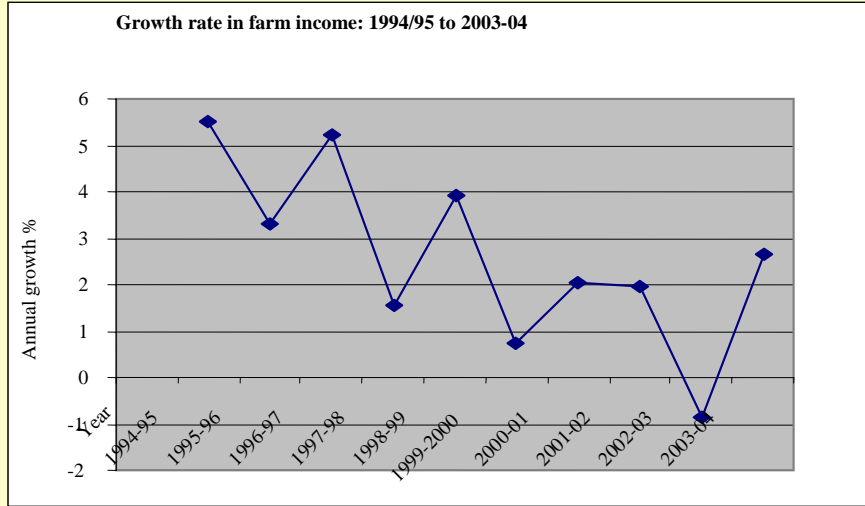
**LEVEL AND GROWTH IN PER WORKER
FARM INCOME AT 1993-94 PRICES**

Period	Agricultural income per worker Rs.	Growth rate in income in previous 10 years %/year
1969/70 to 1973/74	9049	
1979/80 to 1983/84	9699	0.696
1989/90 to 1993/94	10902	1.176
1999/00 to 2003/04	11223	0.291

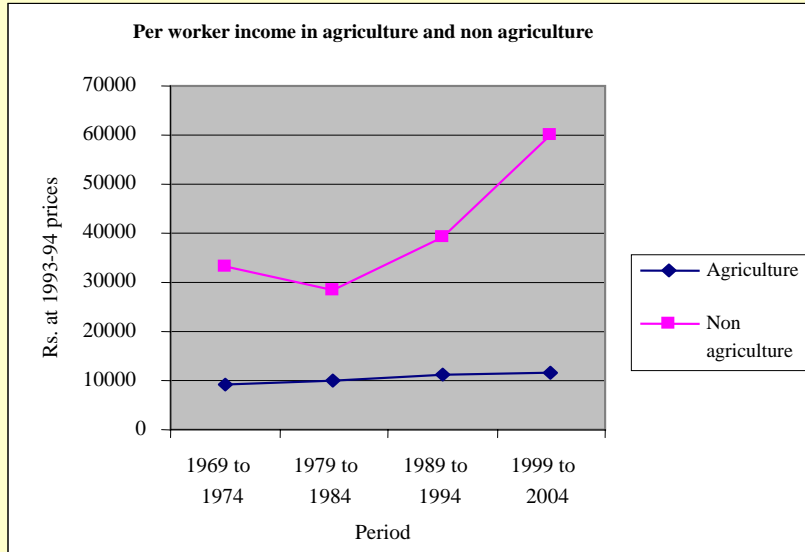
*Rate of growth in value of output, cost of production and farm business
income in crop production, deflated by CPIAL with 1993-94 base*

Year	Output/ha.	Cost A2 /ha	Farm income/ha.
1981-82	7588	3472	4115
1990-91	9491	3923	5568
1999-00	10344	4425	5919
Rate of growth:			
1981-82 to 1989-90	2.22	1.76	2.59
1990-91 to 1999-00	0.9	1.2	0.68

PRESENT STATUS OF FARM INCOME



PRESENT STATUS OF FARM INCOME



GOVERNMENT POLICIES IN THE PAST

- **Pre green revolution**
- **Green Revolution period (1965 to 1980)**
- **Shift in focus from non price to price factors**
- **Reforms, liberalization and globalization**

SOURCES OF GROWTH IN FARM INCOME

- **Use of productivity enhancing inputs**
 - **Fertilizer**
 - **Irrigation**
- **Diversification**
- **TFP (Total Factor Productivity)**
- **Improvement in terms of trade**
- **Moving workforce out of agriculture**

OPTIONS FOR RAISING FARM INCOME

Scope for Crop Diversification

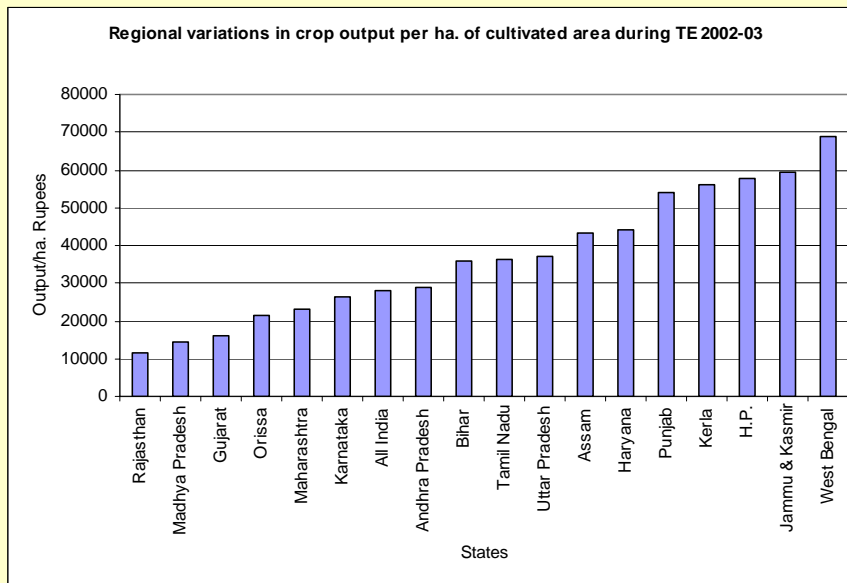
Crop group	1970-71	1980-81	1990-91	2000-01
Share in gross cultivated area %				
Foodgrain	74.97	73.39	68.81	63.75
Oilseeds	10.04	10.2	13	12.37
Sugarcane	6.17	6.08	5.99	6.85
Others	8.82	10.33	12.2	17.03
Share in value of output of crop sector %				
Foodgrain	49.2	44.2	41.61	43.69
Oilseeds	9.88	8.7	13.27	6.83
Sugarcane	9.19	11.28	10.08	9.9
Others	31.73	35.82	35.04	39.58
Fruits & veg	15.55	16.89	18.04	23.18

POTENTIAL OF OUTPUT GROWTH THROUGH DIVERSIFICATION FROM FOODGRAINS TO NON- FOODGRAINS

Particular	Period	Food- grains	Non foodgrain	Total
Productivity at 1993/94 prices	TE 2000/01	7744	21722	12656
Area share	TE 2000/01	64.9	35.1	100
Output increase due to				
1% area shift	TE 2000/01			
Rs./ha				140
Percent				1.1

INCREASE IN FARM INCOMES THROUGH INCRASE IN FERTILIZER

Particular	Quantity/value under different scena	
	Current	Techology degradation
Elasticity of output wrt fertilizer	0.318	0.159
Total fertiliser use: Million tonne	18.069	18.069
Crop output 2003/04: Million Rs.	4705950	4705950
Value of inputs	807760	807760
Value added output 2003/04 Million Rs.	3898190	3898190
Average implicit fertiliser price Rs./kg NPK	13.11	13.11
Incremental output due to 1% increase in fertilizer: Rs. Million	14965	7482
Incremental cost due to 1% increase in fertiliser: Million Rs.	2370	2369
Incremental value added due to increase in fertilizer: million Rs	12595	5114
Elasticity of farm income with respect to fertilizer	0.323	0.131
Change in farm income due to 10% change in fertili	3.231	1.312



LOOKING INTO FUTURE

Growth rate required in different sources to attain past and higher growth in farm output and income

	Annual growth rate needed for attaining output the growth rate	
	2.72 (Feasible)	4.00 (Higher side)
Source		
Fertiliser	2.53	4.35
Irrigation	1.95	1.95
Area shift from		
foodgrain %	0.44	0.5
Technology, TFP	0.62	0.72

SOME INDICATORS OF SCOPE TO INCREASE OUTPUT AND INCOMES

INCREASE IN USE OF MODERN INPUTS

Percentage farmers using modern inputs

Input	Kharif	Rabi
Fertiliser	75.7	54.2
Improved seed	46.3	34.3
Pesticides	46.4	30.8
Veterinary service	30.3	22.3

SUMMING UP

- **Present state of agriculture is very dismal**
 - Large number of farmers suicides
 - Rural/urban or Agri/non agri: India v/s Bharat
- **40% farmers prefer to quit farming**
- **Situation can be changed: Large potential**
 - State level action
- **Sources of growth**
 - Diversification: Foodgrain (65%) : 0.49%
 - Irrigation: 36%, can be raised to 65%
 - Fertiliser : 88Kg/hectare
 - Improved seeds: 40%
 - Right incentives
 - Value addition: Investments in food processing, FDI

NEED FOR CHANGE IN POLICY ENVIRONMENT

- **Right incentives: Change the skewed structure, context based**
- **Private sector participation**
 - Seed, production, marketing
- **Value addition: Investments in food processing, explore FDI**
- **Land lease market**
- **Clear policy on new and prospective technology: Role of NGOs**

THANK YOU