

Trend and future prospects of farm income in India

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India is an agrarian country. About 86 per cent of operational holdings are small and marginal (less than 2 hectares) and their number is increasing over time due to subdivision and fragmentation. Average size of operational holding in India is 1.3 hectares. Out of total cultivated area about 60 per cent area is still dependent on rainfall for irrigation.

The major share in the farm household income is income from farming. It has been reported in the NSSO Survey on the average monthly per capita income of farm household of Rs. 2115, 46 per cent (Rs. 969) is contributed by farming, 39 per cent (Rs. 819) by wage income, 11 per cent (Rs. 236) by non-farm business income and 4 per cent (Rs. 91) by income from animals (Prasadarao and Prakash, 2007). In the agriculturally advanced state Punjab, share of income from crops is 76.71 per cent followed by dairying 18.23 per cent, non-farm income 2.59 per cent and 2.47 per cent by other miscellaneous sources (Toor *et al.*, 2006 and Singh *et al.*, 2008).

Trends in farm income in India

The farm income in India is increasing over time. It can be seen from Table 1 that the farm business income from rice increased from Rs. 1748 in 1981-82 to Rs. 12472 in 2006-07. Similarly, farm business income from wheat has increased from Rs. 1872 in 1981-82 to Rs. 25590 in 2007-08. But if we examine their growth rates, the growth of farm business income for both rice and wheat has decelerated over the time. The growth rate of farm business income for rice declined to 1.15 per cent per annum during 1994-95 to 2006-07 from 2.56 per cent per annum during 1981-82 to 1992-93. Similarly, for wheat it declined from 3.67 per cent to 2.05 per cent per annum during the same period.

The perusal of Table 2 clearly reveals that growth rates pertaining to the growth of farm business income during the TE 1973-74 to TE

Table 1: Farm Business Income from rice and wheat cultivation in India (Rs./ha)

Year	Farm Business Income	
	Rice	Wheat
1981-82	1748	1872
1986-87	2526	2711
1991-92	5748	6443
1996-97	8551	11818
2001-02	9060	12127
2004-05	10277	12228
2005-06	10897	15086
2006-07	12472	20982
2007-08	-	25590
CGRs (per cent per annum)		
1981-82 to 1992-93	2.56	3.67
1994-95 to 2006-07	1.15	2.05

Source: Dev and Rao, (2010).

1983-84 were negative in the case of Karnataka and West Bengal. The growth rates of farm business income in respect of Karnataka, Orissa, U.P. and West Bengal were positive during TE 1983-84 to TE 1993-94 which turned negative during the TE 1993-94 to 2002-03 except Punjab and Tamil Nadu. But the rate growth has decelerated even in agriculturally advanced state like Punjab from 1.6 to 0.4 per cent per annum during the TE 1983-84 to TE 1993-94 and TE 1993-94 to 2002-03 (Table 2).

The perusal of Table 3 clearly shows that the level of income of the farmers is very low and does not even cover the consumption expenditure. In case of the medium and large farm households, the monthly per capita income was more compared to the monthly per capita consumption expenditure. In all other farm household categories, the expenditure was more than the monthly income. Even at the overall level, the expenditure was higher by Rs. 655 per month.

Due to low level of farm income, there is widespread rural distress and suicides. Around 40 per cent of the farmers do not like farming

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Table 2: Growth rates of farm business incomes from rice cultivation in the major rice cultivating crop, 1973-74 to 2002-03 (Per cent per annum)

State	TE 1973-74 to TE 1983-84	TE 1983-84 to TE 1993-94	TE 1993-94 to 2002-03
Karnataka	-4.7	1.8	-2.1
Orissa	-0.2	3.7	-4.5
Punjab	13.7	1.6	0.4
Tamil Nadu	4.8	NA	0.9
Uttar Pradesh	0.8	3.3	-2.1
West Bengal	-2.4	3.7	-8.0

Source: Surjit (2008) citing official reports of the Commission for Agricultural Costs and Prices in various years.

Table 3: Monthly per capita income and consumption by size-class of holdings, 2003

Size-Class (hectares)	Income (Rs.)	Consumption (Rs.)	Income - consumption
Near landless (< 0.01)	1380	2297	-917
Lower marginal (0.01-0.40)	1663	2390	-727
Upper marginal (0.41-1.00)	1809	2672	-863
Small (1.01-2.00)	2493	3148	-655
Semi-medium (2.01-4.00)	3589	3685	-96
Medium (4.01-10.00)	5681	4626	1055
Large (>10.00)	9667	6418	3249
All sizes	2115	2770	-655

Source: GOI (2005a)

and if given a choice would take up another career. Out of this 40 per cent, 27 per cent farmers considered that farming is not profitable, 8 per cent considered it risky, 2 per cent considered that it lack social status and 3 per cent quote other reasons such as shifting to city, going abroad, etc. (GOI, 2005).

Reasons for slow growth of farm income:

There are various reasons for slow growth of farm income in India such as decline in the growth of production as well as productivity from mid 1990s for almost all the crops, excessive dependence of a large section of the population on agriculture and neglect of agriculture sector in plan resource allocation which has led to a decline of public sector investment in irrigation and other related infrastructure and research and extension.

As we know major portion of farm household income comes from cultivation of crops, Table 4 shows growth of production and productivity of crops in India over time. Over the 50 years before independence the food grain output grew at a meagre 0.1 per cent per annum rate. In the period following independence, agricultural growth in

Table 4: Compound growth rate of index numbers of production and yield of major crops in India, 1949-50 to 2005-06 (Per cent/annum)

Period	Food grains	Non- food grains	All crops
Area			
1949-50 to 1964-65	1.4	2.5	1.6
1967-68 to 1980-81	0.4	1.1	0.5
1981-82 to 1991-92	-0.3	1.7	0.5
1992-93 to 2005-06	-0.39	0.31	0.35
Yield			
1949-50 to 1964-65	1.4	0.9	1.3
1967-68 to 1980-81	1.9	1.3	1.7
1981-82 to 1991-92	3.2	2.6	2.9
1992-93 to 2005-06	0.84	0.73	1.02
Production			
1949-50 to 1964-65	2.9	3.5	3.1
1967-68 to 1980-81	2.2	2.4	2.3
1981-82 to 1991-92	2.9	4.3	3.4
1992-93 to 2005-06	0.64	1.26	1.15

India began to pick up. It can be seen from the Table 5 that the index of agricultural production grew by 3.1 per cent per annum due to rapid expansion in the area under cultivation during 1949-50 to 1964-65. However, it fell to 2.3 per cent during 1967-68 to 1980-81. It again recovered to 3.4 per cent during 1981-82 to 1991-92 under the effect of Green Revolution. But, during the period of 1990s and 2000s, the growth rate of index of agricultural production fell to 1.15 per cent per annum.

Table 5: Comparative yield of selected crops in various countries 2007 (kg/ha)

Country	Paddy	Wheat	Maize	Groundnut
India	3303	2704	2440	1433
China	6422	4608	5151	2858
Japan	6511	NA	NA	2262
Indonesia	4705	NA	3660	1195
Canada	NA	2322	8511	NA
Vietnam	4981	NA	NA	1986

Source: Agriculture Statistics at a Glance, 2009 and www.faostat.fao.org

Table 6: State wise average yield of selected crops in India (2008-09) (kg/ha)

State	Rice	State	Wheat	State	Maize
Punjab	4022	Punjab	4450	AP	4670
AP	3274	Haryana	4268	TN	4055
Haryana	2726	Rajasthan	3047	WB	3425
WB	2646	UP	3002	Punjab	3404
TN	2510	WB	2600	Karnataka	2827
Karnataka	2481	Gujarat	2400	Bihar	2500
UP	2171	Bihar	2050	Maharashtra	2283
Rajasthan	1807	MP	1723	HP	2267
Assam	1720	HP	1553	Haryana	2128
Gujarat	1699	Orissa	1507	Orissa	2015
Bihar	1610	Maharashtra	1451	Rajasthan	1736
HP	1525	Assam	1154	UP	1499
Orissa	1520	Karnataka	903	Gujarat	1481
Maharashtra	1506	AP	769	MP	1361
MP	927	TN	-	Assam	737
All India	2186	All India	2891	All India	2355

Source: Agriculture Statistics at a Glance (2009), Ministry of Agriculture, GOI.

There is large gap between the yields of major crops in India and other countries like China, Japan, Indonesia, Canada etc.

It is clear from Table 5 that in case of crops like paddy, wheat, maize and groundnut, which are grown on about 45 per cent of the gross cultivated area in India, the yields are quite low as compared to that of China, Japan, Indonesia, etc.

Even inter-state variation in the yields is very high. The perusal of Table 6 reveals that in the case of rice yields is very high in states like Punjab, Haryana, Andhra Pradesh as compared to that of Bihar, Orissa, Maharashtra, etc. Similarly, in wheat again yield is very high in Punjab, Haryana and very low in Assam, Karnataka etc. Similar is the case of maize. In around 9-10 states, the yields for all these crops are less than the all India average yields.

So, the large gap between the domestic and world yields and even within the states of India reflect that there is immense scope for increasing productivity, provided appropriate steps are taken. Excessive dependence of a large section of the population on agriculture is another cause of low level of farm income in India. The perusal of Table 7 shows that at 1999-2000 prices, share of agriculture in GDP was 17 per cent in 2008-09 which came down from 42 per cent in 1972-73, whereas during the same period share of agriculture in employment declined from 74 per cent to 52 per cent only. In other words, we can say that still 52 per cent population is sharing only 17 per cent income.

Public sector investment is very important for

Table 7: Share of agriculture in GDP and employment

Year	Share of agriculture in GDP at 1999-2000 prices (%)	Share of agriculture in employment (%)
1972-73	42.00	73.94
1983-84	36.76	68.27
1993-94	30.01	63.88
1999-00	24.99	60.24
2004-05	20.22	56.47
2007-08	17.8	NA
2008-09	17.0	52.1

Source: Bhalla, 2008 and Economic Survey of India 2009-10.

increasing income of farmers, especially for small and marginal farmers. A perusal of Table 8 shows that at 1999-2000 prices, public sector investment in agriculture in India

Table 8: Gross capital formation (Investment) in agriculture (Rupees Crore, 1999-2000 prices)

Year	Total	Public sector	Private sector
1980-81	27450	12521	14929
1985-86	22855	10509	12346
1990-91	35573	7882	27691
1995-96	24585	8731	15854
2000-01	38735	7155	31580
2003-04	45132	9374	35758
2004-05	48576	10267	38309
2005-06	54857	10587	44270
2006-07	62422	10961	51461
2007-08	71311	11396	59415

Source: Balakrishnan *et al.* (2008) and Economic Survey of India, 2009.

has declined over the time upto 2001. It was Rs. 12521 crore in 1980-81, which declined to Rs. 7155 crore during 2000-01. After that, it has shown recovery and again increased to Rs. 11396 crore in 2007-08. This is a positive sign for the growth of agriculture and should continue in future.

It is also confirmed from Table 9. It can be seen from the Table 9 that the public sector investment as share of agriculture GDP began to decline from early 1980s and continued to decline in 1990s upto 2001. After that, there has been some improvement. In 2007-08 the share increased to 4.0 per cent. But it was still lower than the 1980s share.

Table 9: Gross capital formation (GCF) in agriculture as a share of GDP from agriculture, India, 1980-81 to 2006-07, (in per cent)

Period-Year	GCF in agriculture as a share of agricultural GDP		
	Public sector	Private sector	Total GCF
1980-81 to 1984-85	5.0	5.5	10.5
1985-86 to 1989-90	3.5	5.2	8.7
1990-91 to 1994-95	2.4	5.9	8.4
1995-96 to 1999-00	2.0	5.9	7.9
2000-01	1.8	8.4	10.2
2001-02	2.0	10.0	12.0
2002-03	2.0	10.7	12.7
2003-04	2.3	8.8	11.1
2004-05	2.7	9.3	12.0
2005-06	3.1	9.8	12.9
2006-07	3.5	10.3	13.8
2007-08	4.0	10.2	14.2

Source: GOI (2008) and Dev (2009).

Similar is the case of public sector investment on research and extension. The growth rate of public sector investment in research and education declined from 6.3 per cent per annum during 1980s to 4.8 per cent per annum during 1990s and 2000s. Similarly, in the case of extension and training the growth rate declined from 7.0 per cent to 2.0 per cent per annum during the same period (Table 10).

Future prospects of farm income in India:

Productivity and hence farm income can be increased by increasing the use of productivity enhancing inputs such as fertilizers, improved seeds, pesticide etc.

Table 10: Growth in real public expenditure on agricultural research and extension, in percent per annum

Period	Growth rate of public expenditure in	
	Research and education	Extension and training
1960s	6.5	10.7
1970s	9.5	-0.1
1980s	6.3	7.0
1990-2005	4.8	2.0

Source: Balakrishnan *et al.* (2008)

in the states where their use is less. Similarly, diversification, processing moving workforce out of agriculture and increasing managerial ability of farmers by providing trainings, the income of the farmers can be increased.

On an average 75.7 per cent farmers in *Kharif* and 54.2 per cent farmers in *Rabi* use fertilizers. Similarly, around 46.3 per cent farmers in *Kharif* and 34.3 per cent farmers in *Rabi* use improved seeds. Similar is the case of pesticide use (Table 11).

Table 11: Percentage farmers using modern inputs in India (in per cent)

Input	<i>Kharif</i>	<i>Rabi</i>
Fertilizer	75.7	54.2
Improved seed	46.3	34.3
Pesticides	46.4	30.8

Source: GOI (2005) Some aspects of farming (Report No. 496)

It is clear from Table 12 that in the countries like Japan, China, France, etc., where the fertilizer use is high, the yield of major crops like paddy, wheat, maize is also on higher side.

Seed replacement:

Seed replacement is also one of the major factors

Table 12: Consumption of fertilizers and productivity of crops, 2005-06

Country	Fertilizer consumption NPK (kg/ha)	Yield (kg/ha)		
		Paddy	Wheat	Maize
India	108	3303	2704	2440
Punjab	184	4022	4450	3404
Japan	363	6511	-	-
China	289	6422	4608	5151
France	210	-	6256	9491
Pakistan	146	3301	2716	3427
Bangladesh	198	4012	1847	-
UK	305	-	7225	-

Source: Fertilizer Association of India, N. Delhi and Agricultural Statistics at a Glance, 2009.

on which the productivity of crops depends. Only 30 per cent farmers replace seed every year. Around 38 per cent farmers are such those replace seeds after 3 or more years (Table 13). This is one of the major reasons of lower yield. There is need to educate the farmers regarding benefits of seed replacement.

Table 13: Pattern of seed replacement in India

Period of seed replacement	Per cent
Every year	30
Every alternate year	32
After every three years	21
After every four years or more	17

Source: Prasadarao and Prakash, (2007) and www.seednet.gov.in

Diversification also helps in increasing the farm income. It can be seen from Table 14 that the share of food grains in gross cultivated area is 63.75 per cent while the share in value of output is 39.58 per cent. On the other hand, the share of other crops like fruits and vegetables and other cash crops in gross cultivated area is 17.03 per cent while their share in value of output is 39.58 per cent. So, by increasing area under these crops, the farmers can increase their income.

Table 14: Scope for crop diversification

Crop group	1970-71	1980-81	1990-91	2000-01
Share in gross cultivated area (%)				
Food grains	74.97	73.39	68.81	63.75
Oilseeds	10.04	10.2	13.0	12.37
Sugarcane	6.17	6.08	5.99	6.85
Others (F and V and Other cash crops)	8.82	10.33	12.2	17.03
Share in value of output of crop sector (%)				
Food grains	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

Source: Presentation of Ramesh Chand (2009) available at www.faidelhi.org

In a study conducted in Assam, the authors found that net returns of all farm categories can be increased by diversification (Table 15). The results revealed that income of the marginal farmers has increased by 127.29 per cent of the existing plan. The corresponding figures for small, medium and large farmers were estimated to be 54.60, 24.75 and 17.30 per cent, respectively.

The perusal of Table 16 shows the level of processing

Table 15: Increase in farm income through diversification in Nagaon district of Assam

Farm Category	Net returns (Rs.) from		Percentage increase
	Existing farm plan	Optimal plan (Diversification)	
Marginal (> 1 ha)	12048	27384	127.29
Small (1-2 ha)	22755	35181	54.60
Medium (2-3 ha)	36944	46089	24.75
Large (> 3 ha)	60947	71495	17.30

Source: Hazarika *et al.* (2002)

Table 16: Level of processing (per cent)

Country	Fruits and vegetables	Milk
India	1.3	27
USA	80	70
China	27	15
EU countries	33	75

Source: Presentation of Prasad (2009) available at www.faidelhi.org

in India. In the case of fruits and vegetables, which are perishable, only 1.3 per cent of the total produce is processed. The level of processing in the case of fruits and vegetables was 80, 27 and 33 per cent in USA, China and EU countries.

The perusal of Table 16 shows level of processing in India. In the case of fruits and vegetables which are perishable, only 1.3 per cent of the total produce is processed. The level of processing in the case of fruits and vegetables was 80, 27 and 33 per cent in USA, China and EU countries.

If the number of processing units will increase, the farmers will get better value for their produce and hence their income will increase due to increased competition.

Conclusion:

The findings of the study revealed that level of income of farm household in India is low and does not cover even consumption expenditure and major contribution in the farm household income is of income from crops. The rate of growth of farm income is declining over time in India. Productivity level of crops in India is lower than that of developed countries. Public investment in agriculture in India is declining over time. The Government should focus more on agriculture sector. Productivity and hence income of farmers can be increased by motivating them to increase the use of modern inputs at the optimal level. Moreover, diversification can also help in increasing farm income due to reduced risk. More opportunities should be created in the non-farm sector, so that potential work force engaged in agriculture and allied sector may be shifted to

these sectors. The Research and extension activities should be re-oriented keeping in mind the problems of small and marginal farmers.

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