

India's Food Security Strategy and its Impact on the Food Surplus State of Punjab

**Veena Goel
Sr.Economist (Mktg)
Punjab Agriculture University
Ludhiana**

Study answers the questions.

- What is food security?
- What has been the size and nature of poverty in India and across regions?
- Has the enhanced staples' production succeeded in mitigating food security?
- What has been its impact upon the cropping pattern in the surplus agrarian state of Punjab?

Food Security

- Meaning: According to WFS food security is a situation that exists when 'all people at all times have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life' (FAO, 1996).
- Dimensions
 - Individual Food Adequacy/Security (IFA/IFS) refers to 'adequate and nutritious food to maintain a healthy life... without undue risk of losing such access'.
 - Household Food Adequacy/Security (HFA/HFS) - necessary for IFA/IFS but not sufficient because food may be distributed disproportionately among household members
 - National Food Security (NFS) – refers to a nation's capacity to ensure HFS/IFS without undue departure from other policy goals.
 - **May be sought by increasing national staples self sufficiency (NSSS), capacity to pay for staple imports or stocks (FAO, 2000).**
- Nature: can be short term e.g. a famine from crop failure or long term under nutrition i.e. chronic.
 - Chronic poverty estimates - 300 and 422 million (nearly half in South Asia and one-third in India)
 - Diets of most of the chronically hungry people lack 100 to 400 kcals per day, experience multiple deprivations over a long period.

Country Status

- At the time of independence - country faced twin nutritional problems
 - Threat of famine and acute starvation - lack of national and regional food security systems
 - Chronic under nutrition - low dietary intakes because of lack of purchasing power among the poorer segments of population.
- Planning Commission has defined poverty line in terms of monthly per capita consumption expenditure (MPCE) at 1973-74 prices corresponding to a calorie intake of 2400 and 2100 for the rural and urban areas
- Most commonly used poverty index is the 'Head Count Ratio' (HCR) - proportion of total population below the poverty line.

Poverty Estimates in India

Year	Poverty Lines (Rs.)		Poor (Millions)			Poverty Ratios (%)		
	Rural	Urban	Rural	Urban	Comb	Rural	Urban	Comb
1973-74	49.63	56.96	261.00	60.00	321.00	56.40	49.00	NA
1977-78	60.60	69.90	264.00	65.00	329.00	53.10	45.20	51.30
1983-84	101.80	117.50	251.96	70.94	322.90	45.65	40.79	48.40
1987-88	131.80	152.10	232.00	75.00	307.00	39.10	38.20	38.86
1993-94	205.84	281.35	244.03	76.34	320.37	37.27	32.36	36.00
1999-00	327.60	454.11	193.24	67.01	260.27	27.09	23.62	26.10
2004-05	356.30	538.60	220.92	80.80	301.72	28.30	25.70	27.50
			170.30	68.20	238.50	21.80*	21.70*	21.80*
2006-07**	NA	NA	170.50	49.60	220.10	21.10	15.10	NA

Net Availability of Food grains (per capita grams/day) in India

Year	Food grains	Cereals Share in Food grains (%)	Wheat & Rice Share in Cereals	Gram Share in Pulses
1951	394.90	84.63	67.21	37.07
1956	430.70	83.68	69.15	41.25
1961	468.70	85.28	70.10	43.77
1966	408.10	88.19	71.49	37.97
1971	468.80	89.08	70.93	39.06
1976	424.30	88.10	71.35	40.00
1981	454.80	91.75	78.46	35.73
1986	453.40	91.60	78.83	33.86
1991	510.10	91.84	82.92	32.21
1996	475.20	93.12	85.97	34.56
2001	416.20	92.79	84.49	26.67
2006	445.30	92.70	85.34	32.92
2007(P)	439.30	93.31	86.09	40.48

Procurement of Food grains in India

Year	Cereals	Rice	Wheat	Cereals	Rice	Wheat	Rice	Wheat
	Absolute (Million tones)			Change (%)			Shares (%)	
1980-81	12.21	5.61	6.60	---	---	---	45.95	54.05
1985-86	20.42	9.88	10.54	67.24	76.11	59.70	48.38	51.62
1990-91	20.42	12.67	7.75	0.00	28.24	-26.47	62.05	37.95
1995-96	18.21	10.05	8.16	-10.82	-20.68	5.29	55.19	44.81
1996-97	21.13	12.97	8.16	16.04	29.05	0.00	61.38	38.62
1997-98	24.89	15.59	9.30	17.81	20.23	13.96	62.64	37.36
1998-99	25.25	12.60	12.65	1.46	-19.19	36.09	49.90	50.10
1999-00	32.37	18.23	14.14	28.20	44.68	11.79	56.31	43.69
2000-01	37.64	21.28	16.36	16.26	16.75	15.63	56.54	43.46
2001-02	42.76	22.13	20.63	13.61	3.98	26.14	51.75	48.25
2002-03	35.48	16.42	19.05	-17.03	-25.79	-7.64	46.29	53.71
2003-04	38.63	22.83	15.80	8.89	39.01	-17.07	59.10	40.90
2004-05	41.48	24.68	16.80	7.38	8.13	6.29	59.51	40.49
2005-06	42.44	27.66	14.79	2.32	12.04	-11.97	65.16	34.84
2006-07	34.33	25.11	9.23	-19.11	-9.22	-37.6	73.13	26.87
2007-08	37.18	26.06	11.13	8.31	3.78	20.62	70.07	29.93
2008-09	NA	NA	22.23			99.72		

Shares (%) of Major States in Public Procurement

Year	Rice						Wheat			
	Punjab	AP	Chhatti	UP	Haryana	Comb	Punjab	Haryana	UP	Com
1980-81	45.12	12.43	---	10.48	11.98	80.01	41.96	17.00	22.68	81.64
1985-86	42.70	15.94	---	10.81	10.46	79.91	61.57	22.21	15.17	98.96
1990-91	38.05	26.32	---	10.84	8.39	83.60	71.49	23.66	4.75	99.90
1995-96	34.46	36.64	---	7.17	6.87	85.13	69.16	24.79	3.20	97.14
1996-97	32.77	34.89	---	7.02	9.29	83.97	69.16	24.79	3.20	97.15
1997-98	38.86	24.73	---	6.88	8.14	78.61	64.12	24.63	6.64	95.39
1998-99	34.96	40.63	---	6.89	2.38	84.86	48.58	24.96	16.92	90.46
1999-00	37.39	30.16	---	7.80	5.41	80.76	55.41	27.35	8.92	91.68
2000-01	32.72	33.71	4.03	5.52	6.96	82.94	57.62	27.50	9.45	94.57
2001-02	32.91	29.04	8.68	8.75	6.71	86.09	51.19	31.06	11.86	94.11
2002-03	48.34	16.05	7.86	8.28	8.07	88.60	51.85	30.90	11.07	93.82
2003-04	37.94	18.53	10.40	11.19	5.84	83.90	56.57	32.42	7.68	96.67
2004-05	36.89	15.82	11.49	12.04	6.73	82.97	55.02	30.46	10.37	95.85
2005-06	32.02	17.97	11.81	11.39	7.43	80.62	60.94	30.63	3.79	95.36
2006-07	31.18	21.22	11.41	10.07	7.08	80.96	75.29	24.16	0.53	99.98
2007-08	30.17	23.52	11.49	10.41	6.03	81.62	60.94	30.10	4.91	95.95
2008-09	---	---	---	---	---	---	44.71	23.54	12.99	81.24
Mean	35.51	25.52	9.65	8.85	6.67	82.99	57.80	27.88	8.33	94.02
CV	13.33	30.56	26.13	22.97	24.82	3.15	13.95	10.93	51.99	4.62

Gross Cropped Area (million ha) across Crops during 2005-06

Crop	India					Punjab				
	1992-93		2005-06		Change	1992-93		2005-06		Change
	Abs	Share	Abs	Share	%	Abs	Share	Abs	Share	%
Rice	41.86	22.55	43.66	22.65	4.30	2.07	27.42	2.64	33.29	27.54
Wheat	24.64	13.27	26.58	13.79	7.87	3.28	43.44	3.47	43.76	5.79
Jowar	13.22	7.12	8.67	4.50	34.42	---	---	---	---	---
Bajra	10.85	5.85	9.66	5.01	10.97	0.01	0.13	0.01	0.13	0.00
Maize	6.09	3.28	7.71	4.00	26.60	0.19	2.52	0.15	1.89	-21.05
Others	2.96	1.59	3.32	1.72	12.16	0.05	0.66	0.003	0.04	-94.00
Coarse Cereals	25.14	13.54	29.35	15.22	16.75	---	---	0.02	0.25	---
Total Cereals	101.65	54.76	99.72	51.73	-1.90	5.59	74.04	6.29	79.32	12.52
Pulses	23.57	12.70	22.33	11.58	-5.26	0.10	1.32	0.03	0.38	-70.00
Food grains	125.22	67.46	122.05	63.31	-2.53	5.69	75.36	6.32	79.70	11.07
Sugar cane	3.93	2.12	4.65	2.41	18.32	0.11	1.46	0.08	1.01	-27.27
Spices	2.72	1.47	2.82	1.46	3.68	---	---	---	---	---
Fruits	2.84	1.53	3.89	2.02	36.97	---	---	---	---	---
Vegetables	4.17	2.25	5.43	2.82	30.22	---	---	---	---	---
Oil Seeds	26.75	14.41	30.92	16.04	15.59	0.19	2.52	0.08	1.01	-57.89
Food Crops	165.63	89.23	169.76	88.06	2.49	---	---	---	---	---
Total	185.62	100.00	192.78	100.00	3.86	7.55	100.00	7.93	100.00	5.03

Status of Operational Holdings in Punjab and India

	Marginal	Small	Semi-Medium	Medium	Large	Overall
Punjab						
Number ('000)	123	173	328	301	72	997
	12.34	17.35	32.90	30.19	7.22	100.00
Area ('000 ha)	78	242	876	1731	1096	4022
	1.94	6.02	21.78	43.04	27.25	100.00
Average Size (ha)	0.63	1.40	2.67	5.75	15.14	3.65
India						
Number ('000)	75409	22696	14020	6577	1228	119930
	62.88	18.92	11.69	5.48	1.02	100.00
Area ('000 ha)	29815	32144	38192	38215	21070	159436
	18.70	20.16	23.95	23.97	13.22	100.00
Average Size (ha)	0.24	1.42	2.39	4.42	13.16	1.33

Conclusions

- Poverty continues to persist high, predominantly rural in nature and varies across states.
- PDS constitutes a key element of a food security in the country. With the adoption of green revolution technology domestic production of the major cereals i.e. wheat and paddy has increased many fold thereafter PDS has come to rely upon internal procurement.
- A supportive conducive policy framework for major crops has tilted the cropping pattern in favor of these crops in the country. However, in the state of Punjab, a major contributory to the national pool for both these, it has been heavily slanted towards these crops.
- The state has been confronted with several environmental problems. Despite this, farmers continue to rely upon paddy cultivation and find it comparatively more remunerative.
- Factors such as small holding sizes, farmers' low educational levels and a lack of adequate market infrastructure for the alternative crops that add to their transaction costs discourage them to bring large-scale shifts in the cropping patterns.
- Study indicates that in the developing countries farmers' at their individual levels are unable to take bold initiatives to integrate their cropping patterns with the markets. This may threaten their own future security and add a new dimension to it.

Thanks