Chapter – VIII

AGRICULTURE DEVELOPMENT AND FOOD SECURITY

8.1 Introduction

Manipur has a predominantly agricultural economy. Sustainable agriculture is an essential prerequisite for rural development in the state. Sustainability requires systems which are environmentally sound, economically feasible and socially acceptable. Among the many factors that influence the sustainability of agricultural systems, institutional support and development and dissemination technologies are particularly important.

8.2 Agriculture's Share in Income and Employment

The share of agriculture in the state's income declined from 45 per cent in 1980-81 to 28per cent in 2004-05. Compared to the all India trend, this is a far more steep fall since the share of the primary sector in the state fell from 49 in 1980-81 to 29 per cent in 2003-04 as against 38 to 25 per cent at the all-India level.

Table 8.1: Activity-Wise Proportion Of Manipur' Net State Domestic Product At Factor Cost At Current Prices (Per Cent)

Sector	1980-81	1985-86	1990-91	1995-96	2000-01	2001-02	2002-03	2003-04(P)	2004-05(P)
I. Primary Sector:	49.10	46.19	44.77	36.80	35.06	31.74	32.09	30.85	28.68
Agriculture	45.55	42.61	40.49	31.10	29.81	26.92	27.20	26.20	24.33
Forestry and Logging	2.38	2.27	1.66	2.50	2.22	1.98	1.96	1.85	1.72
Fisheries	1.17	1.31	2.62	3.10	3.03	2.84	2.93	2.80	2.63
Mining and Quarrying	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
II. Secondary Sector	7.65	12.43	12.52	16.20	14.65	17.06	16.84	19.19	20.38
III. Tertiary Sector	43.25	41.38	42.71	47.00	50.29	51.20	51.07	49.96	50.94

Note: 1. Figures from the year 1993-94 present the New Series with 1993-94 base.
2. Figures up to the year 1992-93 represent the Old Series with 1980-81 base.
P: Provisional Estimates.
Source: DES and SAM 2005, p. 112-113

This massive decline in the contribution of agriculture (including livestock) to NSDP is very disturbing, since it has not been accompanied by a matching fall in the workforce dependent on agriculture.

As per Census 2001 data, 57.37 per cent of the state's working population comprised cultivators and agricultural labourers. The figure for the five hill districts was as high as 76 per cent whereas for the four valley districts, it was 43.2 per cent. The highest percentage was for Senapati district at 83.5 per cent whereas the lowest was for Imphal West at 30.2 per cent (See table 8.2). In the past two decades, the proportion of the rural population in the total population has gone up from 73.58 per cent to 76.12 per cent, further increasing the pressure on agricultural land.

Only 6.73 per cent of the total geographical area of the state is classified as agricultural land due to the hilly terrain. The four valley districts, which cover only 10.02 per cent of the total geographical area (TGA), include 73.18 per cent of the state's total agricultural land. The five hill districts, which account for 90 per cent of the TGA, contribute only 26.82 per cent of the state's agricultural land (see table 8.4).

Table 8.2: Distribution of Agricultural Workers Over The Districts of Manipur 2001.

Districts	Total population	Total working population	Cultivation and Agri. laborers
Senapati	378583	189263 (49.99)	158049 (83.51)
Tamenglong	111859	52033 (46.52)	41437 (79.63)
Churachandpur	225609	99262 (44)	65509 (66)
Chandel	116338	53856 (46.29)	36995 (68.69)
Ukhrul	140620	66596 (47.36)	48788 (73.26)
Thoubal	366934	181518 (49.47)	111596 (61.48)
Bishnupur	207814	91298 (43.93)	43153 (47.27)
Imphal-E	395860	158675 (40.08)	54574 (34.39)
Imphal-W	444451	177077 (39.84)	53586 (30.26)
Manipur	2388068	1069578 (44.79)	613687 (57.38)
India	1025251059	402512190 (39.26)	235076012 (58.4)

Figures in parentheses are percent of total population & total working population respectively.
Source: Census of India 2001, Directorate of Census Operations, Manipur

Table 8.3: Sector-Wise Break-Up Of Gross State Domestic Product At Factor Cost At Current Prices

	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04 (P)	2004-05 (P)
Manipur										
I. Primary Sector	33.62	33.83	35.08	33.86	30.09	31.94	29.49	29.64	29.48	27.56
II. Secondary Sector	19.62	19.85	19.26	19.97	21.86	19.29	20.11	20.25	19.77	20.59
III. Tertiary Sector	46.76	46.32	45.66	46.17	48.06	48.77	50.40	50.11	50.74	51.85
IV. Grand Total (I+II+III)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
V. Population ('00)	20451	20909	21371	21835	22301	22768	23238	23712	24202	24696
VI. Per Capita Income (Rs.)	7956	9079	10097	11130	12538	12825	14391	14683	15135	16336
All-India										
I. Primary Sector	30.59	30.87	29.02	28.86	27.37	26.25	26.28	24.16	24.41	22.97
II. Secondary Sector	25.47	25.45	25.19	24.56	24.30	24.90	24.41	23.64	23.51	23.81
III. Tertiary Sector	43.94	43.68	45.78	46.58	48.33	48.85	49.30	52.20	52.08	53.22
IV. Grand Total (I+II+III)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
V. Population ('000)	9280913	9459577	9638718	9818297	10007290	10193635	10370808	10534527	10711962	10900000
VI. Per Capita Income (Rs.)	9693	10255	10547	11028	11475	11977	12439	19484	20781	21960

Note: (P): Provisional Estimates
Source: SAM 2005 (p. 108-109), ES 2005-06, p. S-2 & S-5

Due to the swelling population, urbanisation and the development process, there is hardly any scope to expand agriculture area in the valley districts. The arable land being is limited[1] in Manipur and this, combined with a relatively large farming community, makes for small and marginal holdings and hence mostly subsistence farming. The average size of operational holdings in 1990-91 was 1.23 ha. Marginal and small farmers constituted 83.10 per cent of the total and the average size of their operational holdings was 0.89 ha.

[1] Total agricultural land of the state is just 6.74 per cent of its total geographical area.

Table 8.4: Distribution of Agricultural Land Over The Districts of Manipur For The Year 1989-90 (In Hectares).

District	Area	Agri. Land	Water logged area converted to new agri. land	Total agri. land	% of agri. land to total area.
Valley					
Thoubal	51400	21496.50	1470.50	22967.00	44.68
Bishnupur	49600	26138.60	NA	26138.60	52.70
Imphal*	122800	60616.80	267.60	60884.40	49.58
Total	223800 (10.02)	108251.90	1738.10	109990.00 (73.18)	49.15
Hill					
Senapati	327100	11101.82	NA	11101.82	3.39
Tamenglong	439100	6907.89	NA	6907.89	1.58
Churchandpur	457000	9675.02	NA	9675.02	2.12
Chandel	331300	6192.82	NA	6192.82	1.87
Ukhrul	454400	6442.92	NA	6442.92	1.42
Total	2008900 (89.98)	40320.47	NA	40320.47 (26.82)	2.00
Manipur	2232700 (100)	148572.62	1738.10	150310.72	6.73

*Combined figure of Imphal-East & Imphal-West.
Source: MRSAC.

The annual growth in area sown for the period 1982-1992 was 1.43 per cent whereas the annual growth rate in population for the same period was 2.93 per cent. During the decade 1991-2001, the net area sown had, in fact, declined whereas the population had grown at an annual rate of 3 per cent. As a result of this asymmetric growth in area sown and population, the state is facing an increasing deficit in cereal production.

8.3 Types Of Cultivation

In the plains/valleys 'settled or permanent' cultivation is practiced while in the hills 'shifting' cultivation is practiced. The productivity level in the plains is far higher than at the national level. The hills produced only one third of the state's total production in most years. Of the total area under rice about 15 per cent was under jhum cultivation during 1991-92, which increased to around 30 per cent in 2004-05.

Table 8.5: Area, Production And Yield Of Rice By Type Of Cultivation

Year	Area under Rice ('000 hectares)					Production ('000 MT)		Yield (kgs./hectares)	
	Valley	Hill			Manipur Total				
	Permanent	Permanent	Jhum			Valley	Hill	Manipur	All-India
1985-86	98.20	41.20	25.20	(15.30)	164.60	228.60	104.40	2020	
1990-91	101.30	32.30	23.80	(15.10)	157.40	192.30	81.90	1742	1740
1993-94	93.00	42.30	26.60	(16.40)	161.90	233.80	115.00	2155	1888
1999-00	89.20	27.30	40.50	(25.80)	157.10	237.20	127.80	2324	1986
2000-01	89.00	28.20	39.80	(25.30)	157.00	249.80	132.00	2432	1961
2001-02	91.00	29.20	42.50	(26.10)	162.60	249.40	137.90	2382	2086
2002-03	80.38	29.55	43.18	(28.20)	153.11	NA	NA	2192	1744
2003-04	80.78	35.26	41.79	(26.48)	157.83	226.95	154.29	2416	2077
2004-05	100.00	30.78	44.70	(25.35)	176.31	284.73	151.20	2473	2026

Note: Figures in parenthesis indicates percentage of Jhum area to total area cultivated under rice.
Source: RCES (various issues), ES 2005-06, p. S-18 & SAM 2005 p.147 & 150-151

Table 8.6: Estimated Area Under Rice, Cereals and Total Crops in Manipur (in '000 ha).

Year	Rice	Yield of rice (kg/ha)	Cereals	All crops*	Per cent of Rice to Cereals	Per cent of Rice to all crops
1990-91	157.41	1741.76	162.02	202.33	97.20	77.80
1994-95	163.93	2186.97	168.40	211.62	97.30	77.50
1999-00	157.05	2323.97	161.39	207.64	97.30	75.60
2003-04	157.83	2415.51	160.17	225.34	98.54	70.04
2004-05	176.31	2472.52	179.53	NA	98.21	NA
Mean	162.51	2228.15	166.30	211.73	97.71	75.24

*All crops comprise cereals, pulses, oilseeds, cotton, sugarcane and other miscellaneous crops.
Source: SHM 1981-2002, RCES 1993-2003 & SAM 2005, p. 147-148

Table 8.7: Production of Rice, Cereals and Foodgrains in Manipur (in '000 Tonnes)

Year	Rice	Cereals	Food grains	% of Rice to Cereals	% of Rice to foodgrains
1995-96	338.05	345.10	347.58	98.00	97.30
1996-97	367.28	390.69	393.31	94.00	93.40
1997-98	351.67	364.76	368.02	96.40	95.60
1998-99	382.19	392.28	395.06	97.40	96.70
1999-00	364.98	375.69	378.92	97.10	96.30
2000-01	381.73	392.59	395.75	97.20	96.50
2001-02	387.26	397.35	400.39	97.50	96.70
2002-03	335.67	343.94	347.07 (P)	97.60	96.70
2003-04	381.24	388.77	NA	98.06	NA
2004-05	435.93	444.83	NA	98.00	NA
Mean	372.60	383.60	378.26	97.13	96.15

Source: DES & SAM 2005, p. 147

Table 8.8: Settled Land Vs Jhum Land Under Rice in The Hill Districts of Manipur (In 000 Ha.)

Year	Settled	Jhum	Ratio of settled to jhum
1985-86	41.22	28.33	1.45
1990-91	32.26	23.81	1.35
1995-96	27.62	29.79	0.93
2000-01	28.17	39.79	0.71
2001-02	29.15	42.47	0.69
2002-03	29.55	43.18	0.68
2003-04	35.26	41.79	0.84
2004-05	30.78	44.70	0.69

Source: DES & SAM 2005, p.150

The ratio of settled to jhum cultivation in the hills has worsened, which is a very disturbing trend.

8.4 Jhum Cultivation And Land Ownership In The Hills

It may be recalled that the reforms introduced by the colonial administration were motivated by the desire to collect more revenue. It legitimized the rights of the Chief over the land, and as a result in many places the village land became the private property of the Chief. The traditional ownership of and access to the common people was thus curtailed. (See Chapter-VI)

Due to lack of secure usufructary or ownership rights, there is little incentive for the cultivators to improve the land, while the Chief does not have any land improvement programme either.

Constraints To Settled Agriculture

A progressive programme for the transformation of the existing land-use under shifting cultivation to terrace or permanent cultivation has frequently been mooted. One view is that the termination of Chiefdom would perhaps be the right step in this direction. Attempts at

changing the land system under bureaucratic initiative sometimes result in neo-feudalism in the tribal areas'.[3] The Report on the Development of Tribal Areas, states: 'Sometimes progressive measures like those of land reforms, have adversely affected the tribal communities because those laws did not take into account the special situation in the tribal areas ... All transfer of land from tribal to non-tribal should be prohibited and prohibited effectively. Where no such laws exists suitable law should be enacted immediately'.[4] However, the system of individual ownership was considered, 'progressive', by the Committee, which recommended 'individualization' of communal ownership in the Northeast for the sake of 'progress': 'From the point of view of development there are two important changes which are required. The widespread nature of community rights in land has led to the difficulties in individual development. The incentive to undertake improvements and increase productivity has been blunted, as an individual does not know how long the land will be in his possession. Permanent rights over settled land area are increasingly being recognized and the movement from community to individual ownership has begun. However, the individual needs to be given a legal right of the land.'[5] (See Chapter-XVIII).

There is a need for (a) serious reconsideration of the prevailing system and (b) finding mechanisms to overcome the disincentive to invest or improve productivity without necessarily adopting a blanket shift to private 'individual ownership'. Credit and other types of financial assistance including technical assistance, would be more easily forthcoming if land is available as collateral. The Banking system must be encouraged to accept common and clan property as collateral.

An appropriate reorganisation of the institutional framework is required where economic and technical progress can be achieved through state support to communally owned property. A clan could be an ultimate legal entity.

8.5 Production, Cropping Pattern And Productivity

Cropping patterns in Manipur are determined mainly by ecological factors like rainfall, slope and soil conditions. Paddy is by far the most important crop of Manipur followed by maize and different types of millets, pulses and beans, mustard and sesamum, sugarcane, cotton, mesta, yams and sweet potatoes, chillies, ginger, turmeric, pineapple and many other kinds, of fruits and vegetables. The choice of crops to be grown by each family, particularly in the hills, is determined according to their own consumption needs.

Even as the area under foodgrains declined significantly in relative and absolute terms between the mid 1970s and the mid-1990s (from about 95 per cent of cropped area to about 80 per cent of total cropped area); the production did not on account of yield improvement in the valley districts.

[3] B.K. Roy Burman, 'Rural Development in 7th Plan: A Restatement of the Issues', *Mainstream* Vol.-XXIV, No.32 (New Delhi April 1986) p-22.
[4] Government. of India, Planning Commission, 'Report on Development of Tribal Areas', National Committee on the Development of Backward Areas, June 1981, p-53.
[5] ibid.

Table 8.9: Percentage Area Under Different Crops In Manipur							
Year	Cereals	Pulses	Oilseeds	Sugarcane	Cotton	Others	Total Cropped Area in '000 Hect
1975-76	91.80	2.90	2.10	1.20	NA	2.00	NA
1980-81	84.90	2.00	2.40	1.00	0.10	9.70	233.84
1985-86	81.70	3.20	2.50	1.10	0.30	11.20	208.42
1990-91	80.10	4.60	1.30	0.90	0.10	13.00	202.33
1991-92	82.02	2.64	1.33	0.75	0.08	13.16	200.31
1992-93	79.09	2.76	1.50	0.75	0.07	13.55	194.69
1993-94	79.77	2.40	1.56	0.55	0.08	14.93	206.33
1994-95	79.58	2.73	1.76	0.60	0.09	15.24	211.62
1995-96	76.10	2.90	1.70	0.70	0.10	18.60	180.64
1996-97	79.10	2.60	1.40	0.60	0.00	16.50	217.93
1997-98	79.00	3.40	1.00	0.20	0.00	16.40	207.39
1998-99	78.60	2.70	1.00	0.30	0.00	17.30	216.14
1999-00	77.70	3.30	1.40	0.30	0.00	17.30	207.64
2000-01	77.46	2.97	1.55	0.35	0.03	17.64	208.70
2001-02	77.55	2.76	0.77	0.30	0.04	18.58	216.16
2002-03	73.58	3.88	1.13	0.15	NA	21.26	208.09
2003-04	69.40	2.94	0.36	0.15	NA	27.15	227.42
2004-05	176.31*	NA	NA	NA	NA	NA	176.31*

Note: *: Area in 000 hectares, NA: Not Available; Source: DES (various issues) & SAM 2005, p. 158.

(i) Input Use

The consumption of fertilizers per hectare has increased substantively in the valley districts, doubling between 1995 and 2002. The figures for Thoubal and Bishnupur exceeded the Indian average of 106 kg per hectare. The growth rate slowed down after 1999-2000, possibly on account of higher fertilizer prices.

Figure 8G.1: Total Kharif & Rabi Consumption of Fertilisers Per Unit Area (kgs/hectare)

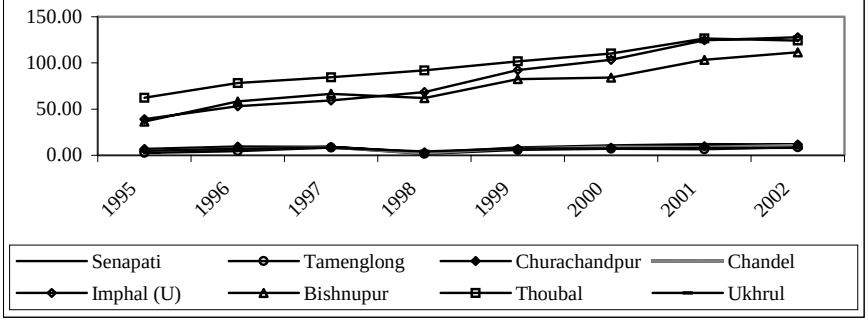


Table 8.10: Consumption of Chemical fertilizers in Manipur (in tonnes)				
Year	Nitrogenous	Phosphatic	Potassic	Total
1981-82	2848	412	72	3332
1984-85	3196	504	58	3758
1990-91	5560	2401	254	8215
1994-95	7516	900	138	8554
1999-2000	14952	2511	1209	18672
2000-2001	18410	1329	2300	22039
2001-2002	18625	1127	2308	22060
2002-2003	21911	1716	2802	26429
2003-2004	22700	3182	1395	27277

Source: SAM 2004 (p. 132)

Table 8.11: District-wise percentage of consumption of Chemical fertilizers to total consumption

District/State	2000-2001	2001-2002	2002-2003	2003-2004
Senapati	2.09	2.34	2.28	2.35
Tamenglong	0.87	1.28	1.25	1.55
Churachandpur	1.28	1.66	1.79	1.74
Chandel	0.98	1.43	1.15	1.10
Ukhrul	1.21	1.43	1.24	1.66
Hill Total	*6.43*	*8.14*	*7.71*	*8.40*
Imphal East	20.90	20.68	21.26	21.45
Imphal West	22.60	22.32	22.36	22.91
Bishnupur	18.00	18.21	19.60	21.14
Thoubal	32.07	30.65	29.07	26.10
Valley Total	*93.57*	*91.86*	*92.29*	*91.60*
Manipur	*100.00*	*100.00*	*100.00*	*100.00*

Source: SAM 2004 (p.133-134)

Table 8.12: Districtwise Area Under H.Y.V. Paddy In Thousand Hectares

District/State	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05
	7.13	6.65	2.16	2.99	5.80	3.15	3.33	5.09
Senapati	(30.25)	(28.36)	(8.81)	(12.87)	(24.29)	(13.38)	(12.82)	(21.11)
	0.18	0.96	1.07	NA	0.15	0.60	1.87	0.23
Tamenglong	(1.93)	(10.26)	(11.22)	NA	(1.41)	(8.05)	(18.57)	(2.70)
	3.50	0.13	1.78	NA	NA	2.42	3.55	0.76
Churachandpur	(24.67)	(0.95)	(12.96)	NA	NA	(10.58)	(17.68)	(3.61)
	4.24	4.16	2.79	3.38	3.86	2.54	5.11	6.62
Chandel	(60.14)	(66.67)	(45.22)	(35.92)	(43.76)	(45.28)	(70.58)	(80.44)
	NA	NA	NA	NA	2.31	NA	NA	NA
Ukhrul	NA	NA	NA	NA	(15.93)	NA	NA	NA
	17.32	26.41	21.11	28.41	29.01	4.19	6.18	20.06
Imphal East	(65.26)	(79.48)	(62.73)	(91.15)	(92.48)	(16.22)	(24.63)	(66.40)
	7.61	15.49	12.67	15.41	14.43	2.14	1.63	22.45
Imphal West	(47.50)	(82.70)	(81.95)	(99.12)	(87.56)	(10.58)	(9.54)	(97.06)
	13.62	14.18	12.37	9.14	8.25	15.05	16.47	21.14
Bishnupur	(76.86)	(80.52)	(67.37)	(48.98)	(43.38)	(88.27)	(100.00)	(97.24)
	18.23	22.97	18.07	17.64	22.35	17.27	22.14	24.97
Thoubal	(64.78)	(80.99)	(83.00)	(75.61)	(92.82)	(100.00)	(100.00)	(96.97)
	71.83	90.95	72.02	76.97	86.16	47.36	60.28	101.32
Manipur	(45.49)	(54.50)	(45.86)	(49.23)	(53.00)	(30.93)	(38.19)	(57.47)

[The figures in parentheses are percentage of HYV to total area under rice].
Source: SAM 2005(p.152-153)

The percentage of total area under HYV and improved paddy peaked in the mid nineties, after which it fluctuated, declining massively after 2001-02, to pick up again in 2004-05.

Table 8.13: Percentage Of Area Under High Yield And Improved Varieties Of Paddy To Total Area Under Paddy, 1995-96 To 2002-2003			
Year	Hill	Valley	State
1994-95	13.33	54.76	37.68
1995-96	12.07	59.02	39.04
1996-97	18.65	84.86	54.11
1997-98	21.66	64.22	45.49
1998-99	17.26	80.72	54.50
1999-00	11.50	71.96	45.86
2000-01	9.37	79.66	49.24
2001-02	16.92	81.41	53.00
2002-03	11.98	48.08	30.93
2003-04	17.99	57.46	38.19
2004-05	16.83	87.89	57.47

Source: For 1994-95, ES, 1999-2000, p.43. ; for 1995-2003, ES2003-2004, P. 77 & SAM 2005, p. 152-153.

(ii) Production And Productivity

The production of foodgrains has increased at a slow pace, largely on account of its increase in the Imphal East and West districts. Production remained stagnant in the remaining districts.

Figure 8G.2: Area and Production of Foodgrains (Area in '000 hect, Production in '000 tonnes)

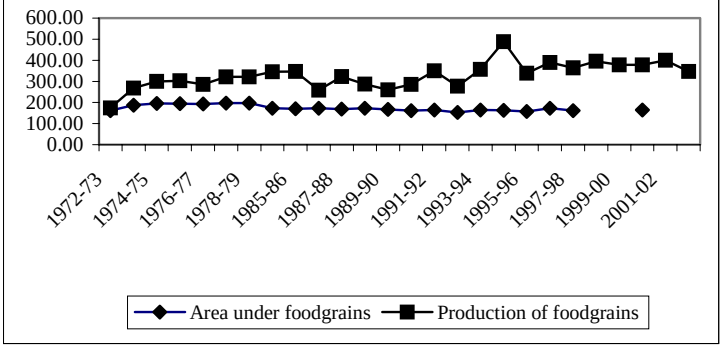


Figure 8G.3: Production of Foodgrains in '000 tonnes

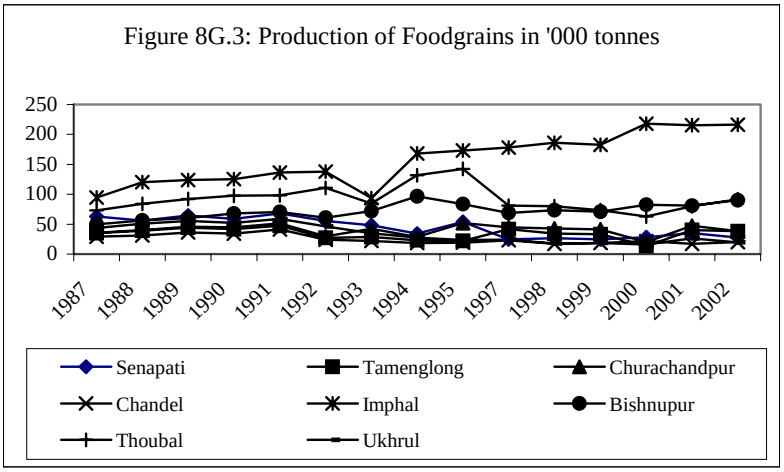


Figure 8G.4: Area and Production of Rice, Manipur (Area in '000 hect and Production in '000 tonnes)

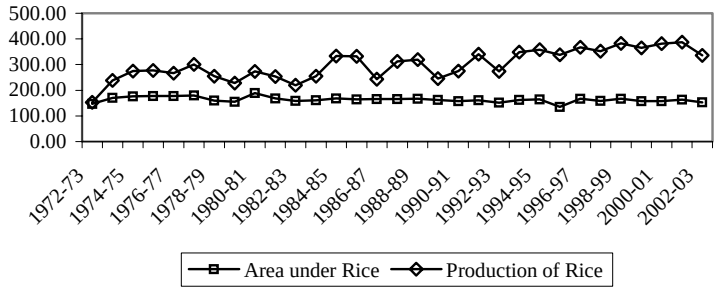
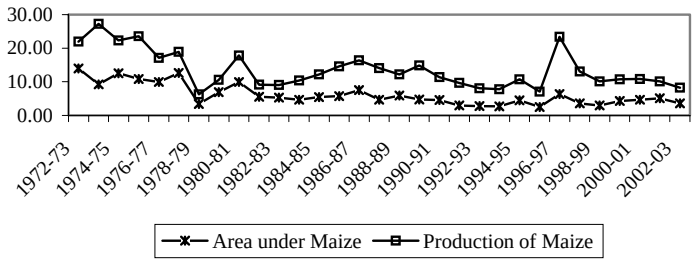


Figure 8G.5: Area and Production of Maize, Manipur (Area in '000 hect and Production in '000 tonnes)



Though the yields in the valley under permanent cultivation are above the all-India average for rice, areas with high jhum cultivation like Tamenglong and Chandel report very low yields, which are almost half of those in the valley.

Table 8.14: Yield Of Foodgrains, Rice And Maize In Manipur In Kg/Hect

Year	Foodgrains	Rice	Maize
1975-76	1560.00	1560.02	2172.19
1980-81	NA	1450.04	1794.15
1985-86	2038.00	2020.23	2548.78
1990-91	1763.00	1741.76	2472.83
1996-97	2265.00	2211.20	3669.28
2000-01	2304.90	2431.56	2325.48
2001-02	NA	2382.11	1994.07
2002-03	NA	2192.35	2336.16
2003-04	NA	2415.51	3217.95
2004-05	NA	2472.52	2763.98

Source: BSNR 1980 & 2002 , EC 2003, SHM 1981 & 2002, SAM 1992 & SAM 2005 p.147

Table 8.15: Yield Of Rice In Kilograms Per Hectare, Districtwise, Manipur

Districts	1994_95	1996-97	1998-99	2000_01	2001-02	2002-03	2003-04	2004-05
Senapati	1859.52	2034.79	2242.22	2291.43	2252.09	2039.54	2415.86	2234.34
Tamenglong	1017.94	1128.76	1239.32	1192.60	1235.90	1220.13	946.38	1069.25
Churachandpur	1639.85	1904.86	2050.44	1864.29	1895.50	2077.80	1910.36	1919.20
Chandel	1258.01	1313.48	1362.18	1241.23	1385.49	1057.04	1662.98	2277.04
Imphal E	NA	2305.20	2422.20	2811.68	2749.44	2210.61	2554.40	2968.88
Imphal W	NA	2687.26	2617.72	3235.66	3164.44	2914.48	3216.63	3092.95
Bishnupur	2856.42	2309.82	2604.77	2696.68	2702.94	2836.95	3341.83	2915.82
Thoubal	2497.84	2826.94	2595.90	2591.51	2474.67	2105.96	2388.44	2334.37
Ukhrul	1913.73	2038.44	1999.38	2409.46	2247.59	1834.21	2326.52	2142.86

Source: SHM 1981, 1985, 1992, 2000, 2002, RCES 1994, 1999, 2001, EC 2003, SAM 2004 p.137 & SAM 2005, p. 147

Table 8.16: Yield Of Maize In Kilograms Per Hectare, Districtwise, Manipur

Districts	1994_95	1996-97	1998-99	2000_01	2001-02	2002-03	2003-04	2004-05
Senapati	3534.48	4572.92	3690.91	2427.14	2581.97	2500.00	3560.81	2972.22
Tamenglong	1000.00	2666.67	NA	NA	NA	NA	NA	NA
Churachandpur	2475.00	2451.13	2444.44	2139.78	1516.95	NA	1173.91	1375.00
Chandel	1166.67	1333.33	1333.33	3214.29	3138.89	2976.74	3142.86	3107.14
Ukhrul	2376.81	3576.92	3900.00	2352.94	805.56	1122.81	3166.67	2634.33
Manipur	2867.65	3666.67	3408.78	2325.48	1994.07	2336.16	3217.95	2763.98

Source: SHM 1981-2002, RCES 1993-2003, SAM 2004, p. 137 & SAM 2005, p. 147

8.8 Food Security

The Food and Agricultural Organization (FAO) defined food security as a situation which "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." Self-sufficiency in foodgrains is an important requirement for food security, but in most cases it is not a sufficient condition. In the case of Manipur with a dispersed population living in remote, intractable and poorly connected terrains, local self-sufficiency is crucial for food security.

Table 8.17: Per Capita Availability Of Foodgrains From District's or State's Own Production In Kilograms

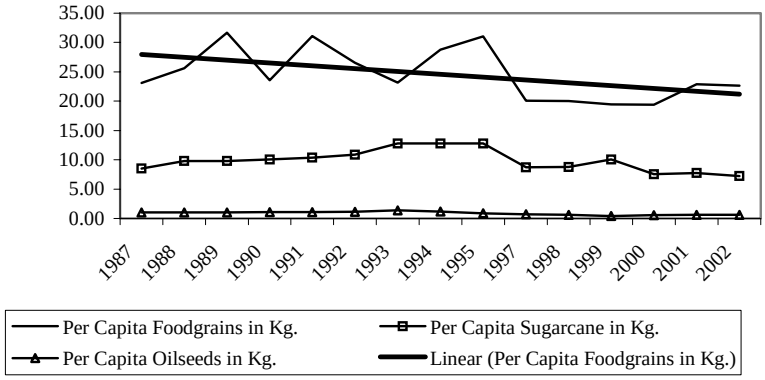
Districts/State	1987	1991	2002
Senapati	30.25	32.55	7.25
Tamenglong	40.95	54.58	34.38
Churachandpur	20.29	29.13	16.62
Chandel	40.91	57.74	16.49
Imphal (U)	13.29	19.16	25.95
Bishnupur	27.59	39.00	43.62
Thoubal	24.77	33.42	25.00
Ukhrul	40.11	54.01	14.04
Manipur	23.11	31.09	22.63

In this section we examine the proportion of the consumption that is met by production within Manipur. Agricultural production in the state has two components, viz., foodgrains and non-foodgrains, of which foodgrains account for almost 100 per cent of total agriculture production. Our study will be based on different National Sample Survey (NSS) consumer-expenditure surveys. A breakup of the monthly per capita expenditure (MPCE)[2] across

[2] MPCE: for a household, this is household consumer-expenditure over a period of 30 days divided by household size.

different items of consumption is presented for 19 groups besides MPCE on broad groups: food and non-food.

Figure 8G.6: Per Capita Foodgrains,Sugarcane,Oilseeds Availability in Kg. in Manipur



Data of the production of foodgrain in Manipur is obtained from the Directorate of Economics and Statistics (DES)[3], Government of India. For the comparable years of the NSS Rounds, the gross production so given was netted out for seed requirements, feed and wastage[4]. The number of sample villages (for rural areas) or blocks (for urban areas), households and persons in the different quinquennial NSS consumer-expenditure surveys on which our study is based are given in Table 8.21. Unfortunately, this break-up for the state is not available for the 55th Round (1999-2000).

Table 8.18: Number Of Sample Surveyed By The NSS In Manipur

Year (NSS Round)	RURAL			URBAN		
	Villages	Household	Persons	Villages	Household	Persons
Oct. 1972 to Sep. 1973 (27th)	158	782	4316	47	442	2448
July 1977 to June 1978 (32nd)	72	1060	5300	36	427	2203
Jan. 1983 to Dec. 1983 (38th)	120	1166	6529	60	578	3450
July 1987 to June 1988 (43rd)	59	589	3292	36	360	2252
July 1993 to June 1994 (50th)	100	1000	5465	70	699	3699

The sample population was used to estimate the weighted average consumption of cereals during the particular survey round. To calculate the average per capita consumption the weighted average of the respective sample populations was used. After estimating the weighted average of rural and urban consumption, the figures so obtained were multiplied with the mid-year population for the state during the relevant years to obtain the total consumption.

[3] Data is available from Area, Production and Yield of foodgrain as estimated by the Directorate.
[4] Net production has been taken as 92.4 per cent of the gross production for rice.

Table 8.19: Surplus/Deficit Of Production Of Rice In Manipur

Year (NSS Round)	Per capita consumption (kg.)		Mid-year population ('000)	Total Consumption ('000 tonnes)	Production ('000 tonnes)		Surplus (7-5)
	Per month (30 days)	Per year (365 days)			Gross	Net (92.4 % of gross)	
Oct. 1972 to Sep.1973 (27th)	17.2	208.70	1115	232.60	152.20	140.60	-92.00
July 1977 to June1978 (32nd)	17.20	208.80	1289	269.10	300.00	277.20	8.10
Jan. 1983 to Dec. 1983 (38th)	17.00	206.80	1511	312.50	255.10	235.70	-76.80
July 1987 to June 1988 (43rd)	16.10	195.50	1672	326.90	272.10	251.40	-75.50
July 1993 to June 1994 (50th)	15.10	183.10	1939	355.10	348.80	322.30	-32.80

Table 8.20: Surplus / Deficit Of Production Of Total Cereals In Manipur

Year (NSS Round)	Per capita consumption (kg.)		Mid-year population ('000)	Total Consumption ('000 tonnes)	Production ('000 tonnes)		Surplus (7-5)
	Per month (30 days)	Per year (365 days)			Gross	Net (92.4 % of gross)	
Oct. 1972 to Sep.1973 (27th)	17.60	214.00	1115.00	238.60	174.40	161.10	-77.50
July 1977 to June1978 (32nd)	17.30	210.60	1289.00	271.50	318.90	295.70	23.20
Jan. 1983 to Dec. 1983 (38th)	17.02	209.50	1511.00	316.60	268.10	247.70	-68.20
July 1987 to June 1988 (43rd)	16.30	198.50	1672.00	332.00	286.20	264.50	-67.60
July 1993 to June 1994 (50th)	15.60	189.60	1939.00	367.50	356.60	329.50	-38.00

(i) Production trend in Cereals

We can see, from the above data, that the rate of growth of production of rice could not keep pace with that of population during the period covered[5]. It may, be argued that the NSS survey years happened to be rather special ones — for example, the years 1972-73 and 1987-88 were very poor agricultural years while 1977-78 was an exceptionally good agricultural year. The magnitude and persistence of the deficit, however, suggests that this was not a result of such exceptional circumstances but reflected a structural phenomenon. Similarly, there was a deficit in the production of cereals[6] in all the available observed Rounds of NSS except for the 32nd Round (1977-78), though of a lesser magnitude than in the case of rice.

The gap between production and consumption has persisted since the 1970s through the 1990s, in spite of the fact that there has been a significant reduction in the per capita consumption of foodgrains in the state. It is argued in some quarters that during the 1990s, there was a shift in the consumption pattern from cereal to non-cereal high value items because of diversification in the diet induced by prosperity. Let us examine how far this is true for Manipur by taking three Rounds (the 27th, 38th and the 50th).

[5] Manipur has recorded a decennial population growth rate of 32.5 per cent during 1971-81 and 29.3 per cent during 1981-91.

[6] Total cereals include – rice, wheat, jowar, bajra, maize, barley, small millets and ragi.

Table 8.21: Estimated Requirement For Human Consumption Of Food-Grains In Manipur. ('000 Tonnes)									
	Production			Requirement			Short-fall		
Year	Cereals	Pulses	Foodgrains	Cereals	Pulses	Foodgrains	Cereals	Pulses	Foodgrains
1995-96	345.10	2.48	347.58	391.83	12.47	404.30	46.73	9.99	56.72
1996-97	390.69	2.62	393.31	401.00	12.76	413.76	10.31	10.14	20.45
1997-98	364.76	3.26	368.02	410.27	13.06	423.33	45.51	9.80	55.31
1998-99	392.28	2.78	395.06	419.65	13.36	433.01	27.37	10.58	37.95
1999-00	375.69	3.23	378.92	429.13	13.67	442.80	53.44	10.44	63.88
2000-01	392.59	3.16	395.75	438.70	13.96	452.66	46.11	10.80	56.91
2001-02	397.35	3.04	400.39	463.32	14.75	478.07	65.97	11.71	77.68
2002-03	343.94	3.13	347.07	475.85	15.15	491.00	131.91	12.02	143.93

Source: ESM 2003-2004, P. 72.

Here the items are given in value terms and in order to make it comparable we have converted the nominal consumption into real consumption by using the Implicit Price Deflator obtained from the state Domestic Product (SDP) at factor cost for the state of Manipur for the relevant years (Table8.22).

Table 8.22: Deflated Real Value Of Consumption Of Broad Groups Of Items Per Person For A Period Of 30 Days For Manipur (In Rs.)

Items	27th Round (1972-73)	38th Round (1983)	50th Round (1993-94)
A. Cereals	65.20	49.50	37.10
B. Non-cereals	23.30	33.20	27.30
C. Food total (A+B)	88.60	82.7 0	64.40
D. Non-food total	30.30	33.00	33.80
E. Total expenditure(C+D)	118.90	115.70	98.20

It is clear from Table 8.12 that there is a sharp rise in the real consumption of non-cereal items (in value terms) from Rs. 23.3 in 1972-73 to Rs. 33.2 in 1983, whereas the 1990s saw a decline in the value of both cereal and non-cereal consumption. The total expenditure in real terms declined throughout the period covered. Thus, the argument is not valid. On the contrary, there was a decline both in the quantity of cereal consumption and in the real value of total consumption.

Food self-sufficiency is often defined in terms of the satisfaction of the internal market demand, rather than of people's basic needs; and this is where the question of purchasing power and access to basic needs becomes very important in a poor state or country. It is quite possible that while the output per head rises its distribution becomes increasingly uneven, as a result of which we may end up with the same or even higher levels of poverty. This is precisely one of the major causes of food insecurity in Manipur. Indeed, many states in India that are food surplus are not necessarily food secure.

8.9 Recommendations

- A state-led, large-scale programme for the development of agricultural activities in the state is the need of the hour. In particular the following need emphasis:
    - Acceptance of community land as collateral for credit, etc.
    - Adequate banking network particularly in the hill areas for institutional finance and credit facilities.

- The electrification network should be expanded and lift irrigation schemes promoted.
- Strengthening marketing infrastructure and system
- Improved connectivity between the Growth Production Centres and the collection centres through the development of roads in the remote areas.
- Procurement at cost –covering minimum support prices to feed the P.D.S.
- Storage and transportation facilities for market oriented farm products.

- Dispersed network of food processing industries across the state
- The network of ration shops should be strengthened. All tribal and dalit households should be given food at BPL prices.

- The thrust in jhum areas should be on redevelopment, promotion of terracing and soil and water conservation through state support and subsidy. Land use planning should primarily promote food security in environmentally sustainable ways. (See Chapter-VI)

- Commercialization and the adoption of income maximizing methods of production are inevitably lead to the individualization of de facto land ownership. A blanket application of the Land Reforms Act is unacceptable to the hill people as they feel it ignores their tradition and rights. A Land Commission may be set up and recommend concrete remedies in order to protect the access of women and other weak sections to productive resources, land and forests.

- Checking the practice of money lending through the adoption of stringent measures as well as expansion of institutional credit on easy terms and simplification of procedures for sanctioning loans, etc.

- Emphasis should be placed on food security as a part of the poverty alleviation strategy. In order to provide food security and support the increase in rice cultivation in the Imphal valley, FCI procurement operations should be extended to hill areas and the PDS network should be strengthened.