THE AGRARIAN ECONOMY OF MANIPUR AND TRENDS IN THE PRODUCTION AND CONSUMPTION OF FOODGRAINS 1970-71 TO 1997-98

Dissertation submitted to Jawaharlal Nehru University in partial fulfilment of the requirements for the award of the degree of

MASTER OF PHILOSOPHY

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2000

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21 July 2000

CERTIFICATE

Certified that the dissertation entitled "**THE AGRARIAN ECONOMY OF MANIPUR AND TRENDS IN THE PRODUCTION AND CONSUMPTION OF FOODGRAINS 1970-71 TO 1997-98**" submitted by **MS. S.CHINNGAIHLIAN** in partial fulfillment for the award of degree of MASTER OF PHILOSOPHY of Jawaharlal Nehru University is a bonafide work to the best to of our knowledge. This work has not been published or submitted to any other degree of this or any other university.

We recommend that this dissertation be placed before the examiners for evaluation.

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Dedicated to

my late

sister-in-law

Mrs. S. Thianboi

CONTENTS

ACKNOWLEDGEMENT

This dissertation was prepared under the kind guidance and supervision of Prof. Prabhat Patnaik. In the absence of the insights I received every time I discussed my theme with him, I could not have completed this. True, many more ideas he suggested in the course of my discussions with him could not be properly probed and incorporated on account of mainly the time constraints. I express my sincere gratitude and deep indebtedness to Prof. Prabhat Patnaik for his help and guidance I received from him throughout my course of study.

I am indebted to Dr. M. Raghavam Director, Commission for Agricultural Costs and Prices who helped me to access some of the data that I have used in the dissertation as also for his invaluable suggestions in the process of this work. I would also like to express my gratitude to his family members for allowing me to sit in their house and copy down the data from his possession. I am also indebted to his staff in the Commission for Agricultural Costs and Prices for their help.

My parents and family members have always been an immense source of inspiration and moral support for any academic work I pursued.

I will remember with utmost sincerity the help and encouragement that I received from my friends, especially Lam Khan Piang, Rameng, Tashi, Nikim, Ginlallian, Nandan and Sarah.

I also acknowledge the co-operation of the staff of the library of Jawaharlal Nehru University, National Institute of Public Finance and Policy, Central Statistical Organisation, Teen Murti and the Planning Commission during my research work for this dissertation.

Last but not the least, I sincerely, thank the Kristian Tuailai Pawl, Delhi and Mr. M.T. Muanding Guite for meticulously and efficiently typing my dissertation within the time constraints.

"I give all praise to my God who leadeth me this far".

(S.CHINNGAIHLIAN)

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INTRODUCTION

The work "The Agrarian Economy of Manipur and Trends in the Production and Consumption of foodgrains 1970-71 to 1997-98" is an attempt to understand the problem of Manipur agriculture with a view to focusing on the impact of the crisis in production and living standard of the people. The fact is that very little work has been done on any aspects of the Manipur economy which has remained neglected over the years. The leak of an informed and coherent overview of the development performance and prospects of the area leads to serious constraints on the formulation of appropriate policies and programmes for planning for future development. This part of India (and the North-East as a whole) has been neglected for a long time, a great deal of work has yet to be done.

Structurally, Manipur is one of the least developed states of India. Since the introduction of planning in India in 1951-52, till today, the state has been virtually left untouched so far as industrialization goes. The main reasons could be lack of necessary infrastructure such as roads, railways, other communications, power, skilled manpower and so on. Besides these, the remoteness of the state from market and sources of non-agricultural raw materials from the rest of the country, worsens the problem. Thus, in the virtual

absence of industry of any kind, Manipur has remained backward with a predominantly agricultural economy. The only industry that is worth mentioning is the household industry, particularly handloom industry (which is the most developed industry), where only female workers are employed. The State Domestic Product moves in tune with the agricultural production performance which again depends on the vagaries of nature.

The physical structure of the region determines the nature and potentiality of resource base, population and settlement structure and the type of the economy. Since the state is predominantly hilly, agriculture is limited largely to the valley plain which constitutes only less than one-tenth of the state's total area with two-thirds of the population concentrated in it. This uneven distribution of physical land structure suitable for agriculture and human settlements is conducive for uneven development of the region and this tends to accentuate the disparity between the Hills and the Plains. In the hills the primitive "slash and burn" method of cultivation called "jhuming" is practised. This has caused erosion and destruction of forest trees. Forest-based industry and horticulture which have enough scope in the hills are not introduced on modern lines. The valley is fertile and suitable for cultivation with yields comparable to the all-India average. But, though there is enough scope for increasing productivity, here also its full potentiality is still untapped

due to lack of proper irrigation system and modern inputs. There is, in short, a great deal of room for the development of agriculture through the adoption of modern inputs and cultivation practices.

For an agrarian economy like Manipur, to usher in any development work it is essential to know its physical characteristics and agricultural practices which are the main determinants of production and life-style of the people. The first chapter, therefore, gives an account of the various physical features and types of cultivation practices in the state, the problems and constraints therein associated with it. To have a deeper insight into the prevailing agricultural conditions of the state, the second chapter, deals with the broad trends in foodgrains production and productivity. The third chapter deals with the impact of the agricultural crisis on the living standard of the people, their consumption pattern and the changes over-time. Finally, the conclusion gives suggestions and an overall assessment based on the preceding chapter.

The study is mainly based on primary data published by the Central and the State governments, especially the second and third chapters. For secondary sources articles in journals and periodicals related to the topic are extensively utilized due to the paucity of books published on the state.

CHAPTER-I

AGRICULTURE IN MANIPUR: A BRIEF INTRODUCTION WITH SPECIAL REFERENCE TO THE HILL REGIONS

1.0: INTRODUCTION:

Manipur is a predominantly hilly state falling under the agro-climatic zone of the Eastern Himalayan Region. The zone is characterised by diverse agro-climatic and geographical conditions. The climate ranges from tropical in the plains to alpine in the hills.[1] It is almost rectangular in shape with a precious little valley in the center encircled by mountain ranges on all sides. This valley called the 'rice-bowl' of the state has an area of about 1834 sq. kms. that constitute only about 8.2 per cent of the total area of the state, but about 65 per cent of the state's population is concentrated in it. Forest covers an area of 15,154 sq.kms. which forms 68 per cent of the total geographical area of the state. Consequently, the valley is one of the most thickly populated areas in the country with a density of 530 persons per sq.km. and the hills one of the most sparsely populated with a density of 32 persons per sq. Km. The

[1] *Agro-Climatic Regional Planning - District Level: ARPU Working Paper No.7 (March, 1993).*

average density of the state is 82 persons as against the all-India average of 274 persons per sq.km. according to 1991 census.

The state's population of 18,37,149 persons in 31 towns and 2,212 villages accounts for 0.22% of the country's population according to 1991 census. The distribution of population between the valley and hill regions is very much unbalanced with 65% of people living in the valley areas and 35% thinly dispersed in the five hill districts (as shown in Appendix table 1.1)

There are a disproportionate number of towns and villages in the valley compared with the hills, with the valley region containing only two. In contrast, however, the valley has a total of only 479 villages while there are 1,733 villages in the hill areas. The Meiteis are mostly found to reside in the valley. The Manipuri Muslims are, like the Meiteis, valley dwellers. The Scheduled Castes account for 2.02% of the state population and are found in isolated pockets of the valley. The Scheduled Tribes live mostly in the hill constituting 34.41% of the population.

Manipur has three distinct regions, viz. the Manipur hills, the Manipur valley and the Barak plain, which cover roughly 91%, 8% and 1% of the states area respectively. Manipur has only 8 districts that were divided into 5 hill districts, namely, Senapati, Tamenglong, Churachandpur, Chandel and Ukhrul; and 3 plain districts, namely, Imphal, Bishnupur and Thoubal.

In this chapter, we are interested in studying the agricultural aspects of Manipur and the different types of cultivation practice in the Hills and the valleys. As is clear from the above brief introduction of the physical structure of the region, the state is predominantly hilly. Even though, there is no complete and regular land utilisation survey in the hill regions, we will put special emphasis on the hill region.

1.1: DIFFERENT TYPES OF CULTIVATION IN MANIPUR:

Agriculture is the dominant sector and plays a very crucial role for the development of the economy. It occupies a dominant place in the economy of Manipur and is not only the main source of livelihood of the majority of the population, but also a tradition and way of life enjoying the pride of place in the economic and social life. A study of the sectional contribution of the Net State Domestic Product (NSDP) at current prices of Manipur shows that the contribution of agricultural sector is substantial, accounting for 36% of the total SDP in 1993-94. Agricultural economy in the state is so important that the estimates of SDP fluctuates from year to year according to the success or failure of crops which again depend almost entirely on the capricious rainfalls, etc. Also, from the viewpoint of employment and income, agriculture plays a very crucial role in the state's economy.

Before going into the mode of cultivation practices in the state we will see the nature of Operational holdings in Manipur. This classification is applicable only in areas where permanent cultivation is practiced, especially in the valley. To classify the holdings the following five broad size classes are used:

Category	Size Class
Marginal	below 1 hectare
Small	between 1 to 2 hectares
Semi-small	between 2 to 4 hectares
Medium	between 4 to 10 hectares
Large	10 hectares and above

Based on the above classification, according to the Agricultural Census 1990-91, area under operational holdings in 1990-91 in Manipur is 175 thousand hectares that constituted 7.8% of the state total geographical area. The numbers of marginal, small, semi-medium and medium operational holdings, in percentage, are 48.6%, 34.5%, 14.8% and 2.1% respectively. Distributions of area operated in Manipur under the same category are 21.7%, 38.3%, 31.4% and 8.6% respectively. The number of operational holdings and area operated under large category is negligible. Further, the size classes of semi-medium and large constitute only 17.18% of the total operational holdings and together they hold 40% of land as per the agricultural census of 1990-91. A clear trend of differentiation among the peasantry is thus visible in Manipuri agrarian sector. The census input data also clearly shows low mechanisation and modernization

is taking pace at a higher rate in the larger farms. Capitalist farming is emerging in the state though at a slow pace.

Manipur's physiography has two distinct divisions--the Hills, constituting 90% of the total area, and the Valley. The nature and mode of cultivation practice differs between the two regions. The nature of cultivation in the hills is called "jhuming" or "shifting" cultivation. In the plains "settled or permanent form of cultivation is practised. Modernization and mechanization of agriculture have hardly touched the hills. As such the valley constitutes the "rice bowl" of the state. The productivity level in the valley is far higher than the national levels and one district has reached the levels of productivity achieved in advanced states like Punjab. For policy purposes there is thus the vital need to focus upon the Hill-Valley differentials.

Table 1.1: Estimated Area and Production of Rice in Manipur, 1993-94.

District	Area ('000 hectare)	Yield (Kg./hect.)	Production ('000 MT)	Percentage of Area under Jhum
(1)	(2)	(3)	(4)	(5)
Imphal	42.77	2381.81	101.87	-
Bishnupur	17.83	2856.42	50.93	-
Thoubal	32.42	2497.8	80.98	-
Valley Total	**93.02**	**2513.22**	**233.78**	**-**
Senapati	27.62	1839.52	51.36	3.48
Tamenglong	8.36	1017.94	8.51	84.69
Churachandpur	13.30	1639.85	21.81	81.65
Chandel	6.24	1258.01	7.85	73.24
Ukhrul	13.33	1913.73	25.51	23.26
Hill Total	**68.85**	**1670.88**	**115.04**	**-**
State Total	**161.87**	**2154.94**	**348.82**	**16.41**
All-India	**42.5 million hect.**	**1888.00**	**80298.30**	**-**

Source: Crop Estimation Survey, 1993-94, DES, Govt. of Manipur & Economic Survey, 1998-99 for All-India figures.

In the table given above, the Valley has 57.5% of the total area under rice and produces 67% of the state's total output of 348.82 thousand MT. The Hills with an area of 42.5% produces only 33% of the state's total production of rice. The productivity level in the hills is 1,670.88 Kgs./hect. as compared to 2,513.22 Kgs./hect. in the Valley. Of two blocks in Bishnupur district one block had a productivity of 3,039 Kgs./hect. Estimates for Thoubal district put it at above 3,000 Kgs./hect. for the entire district by the Directorate of Agriculture

Of the State's total area under rice, 16.41% are under jhum. The three Hill districts of Tamenglong, Churachandpur and Chandel had 84.69%, 81.65% and 73.24% of total rice area under jhum. Senapati and Ukhrul had only 3.48% and 23.26% under jhum. In the districts of Tamenglong, Churachandpur and Chandel permanent cultivation takes place on only 19.18% of total rice land. Of the total area under High Yielding Varieties (HYVs) paddy, 98.72% was in the Valley. During 1993-94, of the total fertilizer input in the state, 97.07% was in the valley and only 6.97% in the hills. (See Appendix table 1.2).

Table 1.2 below depicts the land use pattern of the state as a whole and for individual districts. It is clear from the table that forests constitute the largest category of land use followed by agriculture and settlement. It also

indicates the high population and agricultural concentrations within the valley areas as compared to the more highly forested hill regions.

Table 1.2: Details of District wise land use/land cover in Manipur.

		Percentage of Total District Area							
					Forest Cover				
No.	District	Area in hectare	Settle ment	Agricul ture	Dense (>40% cover)	Mode- rate (20-40%)	Low (<20% cover)	Water- Bodies	Others
1	Imphal	120,100	17.2	50.5	0.1	12.20	10.40	6.90	2.70
2	Thoubal	50,700	19.6	42.4	-	-	5.80	24.90	7.50
3	Bishnupur	53,000	11.6	49.3	-	1.30	3.10	30.00	4.80
4	Senapati	327,100	0.80	3.40	1.90	38.80	53.90	-	1.30
5	Ukhrul	454,400	0.70	1.40	3.50	49.30	44.30	-	0.70
6	Chandel	331,300	0.40	1.90	8.40	37.80	50.50	-	1.20
7	Churachandpur	457,000	1.40	2.10	4.50	58.60	32.50	-	0.90
8	Tamenglong	439,100	1.00	1.60	7.20	54.40	35.10	-	0.80
	Manipur Total	**2,232,700**	**2.00**	**7.00**	**5.00**	**45.00**	**39.10**	**2.00**	**1.00**

Source: Directorate of Science, Technology and Environment.

1.2: JHUM CULTIVATION

'Shifting Cultivation' also called 'jhumming' cultivation occupies a distinct place in the tribal economy. It constitutes a vital part of the socio-economic network of tribal life. Hence, for a proper analysis of the socio-economic life of the tribals, the analysis of shifting cultivation appears to be a pre-requisite. According to Pelzer (1958),

"Shifting field agriculture may be defined as an agricultural system which is characterised by a rotation of fields rather than crops, by short period of cropping (one to three years) alternating with long fallow

periods (upto twenty and more years, but often as short as six to eight years) and by clearing by means of slash and burn."

In most of the hilly slopes all over, especially in areas that are inhabited by tribal people, shifting type of cultivation is practised. The essential features of the system are to clear the natural vegetation and burn the forest debris, and, as the fertility of the soil is exhausted due to erosion of top soil, to abandon the field and start farming in a new area. The characteristics of Jhum cultivation are:

i) Rotation of fields rather than crops;

ii) Use of fire for clearing and preparation of land;

iii) Use of human labour as chief input;

iv) Non-employment of animals, plough or machinery; and

v) Use of simple implements (e.g. dibble stick, doe, knife, spade, etc.)

In the human civilization, shifting cultivation possibly is the first step of purposeful use of soil for crop production. Settled farming evolved much later when river valley civilizations emerged.

Usually jhum land is selected in November and December on the hill slopes. Hill slopes are selected because it is easier to get land slopes, it is easier to clear the land, and there is no water logging during the next two months, in January or February, the trees, shrubs and tall grasses on the land are cut and

left on the ground for drying. In the last part of March or early April when the cuttings are dry the debris is burnt. After one or two showers when ash settles down on the soil, the cleared area becomes fit for sowing of crops. The soil is not ploughed or upturned. Seeds of several crops are put into the holes made by dibble sticks or sharp knives. Sowing (and also planting) continues during April and May.

A large variety of crops are grown. In Manipur paddy is by far the most important cereal crop followed by maize and different types of millets, pulses & beans, mustard & sesamum, sugar-cane, cotton, mesta, yams & sweet potatoes, chillies, ginger, turmeric, pine-apples and many other kinds of fruits and vegetables. In fact the choice of crop is consumption oriented and each family grows crops according to its consumption needs. But to procure daily necessities like salt, dry-fish, clothes, medicines, etc. cultivators also grow some cash crops like cotton, chillies, sesamum, ginger, turmeric, etc.

Weeding is a more or less continuous process. Harvesting of crops starts from the third month after the sowing. Rice is harvested during the month of October-November. Maize is harvested in June-July; millets are harvested in November-December.

Under jhum cultivation human labour and land are the principal factors of production. Capital in the form of tools, implements, machinery and finance

is non-existent. Organisation plays a very minor role. There is practically no hired labour. Family labour supplies the necessary motive power for all purposes and hence there is little scope for commercial considerations in the allocation of resources. The principal handicap of the system is that modern technology cannot be applied to cultivation; hence the yield per hectare is small. A plot of land is used once or twice (i.e. for two consecutive years) and then left fallow. The period of crop and the period of fallow vary from area to area depending on the pressure of population and the land available for such cultivation, which was generally 15-20 years two decades ago. Jhum cycle is the period of rest allowed to the jhum land for recoupment of its fertility. With the progressive shortening of the jhum cycle, the land cannot replenish its fertility and hence the productivity decreases.

According to a report of a Task Force on shifting cultivation, Planning Commission (Oct. 1983), an estimated 70,000 families are engaged in jhumming cultivation or activities allied to it in Manipur. Population depending upon jhuming, it was estimated, grew at the rate of 3.2% per annum. The area under shifting cultivation annually is said to be around 900 sq.Km. Of the total net-cropped area, jhum cultivation accounts for 36% in 1983.

Table 1.3: Shifting Cultivation in North-East India.

States	Annual Area under Shifting Cultivation	Fallow period (in years)	Minimum Area under shifting cultivation one time or other (sq.km.)	No. of families practising shifting cultivation
(1)	(2)	(3)	(4)	(5)
Arunachal Pradesh	700 (1.30)	3-10	2,100 (3.89)	54,000
Assam	996 (1.20)	2-10	1,392 (2.40)	58,000
Manipur	900 (1.29)	4-7	3,600 (5.14)	70,000
Meghalaya	530 (1.01)	5-7	2,650 (5.06)	52,290
Mizoram	630 (1.26)	3-4	1,890 (3.18)	50,000
Nagaland	190 (0.16)	5-8	1,913 (1.65)	1,16,046
Tripura	223 (0.52)	5-9	1,115 (2.59)	43,000
Total	**3869 (0.87)**	**-**	**14,660 (3.31)**	**4,43,446**

Note: Figures in the parentheses indicate are available per family.
Source: Basic Statistics, NEC, 1987; NEC compiled from Task Force Report on Shifting cultivation, Ministry of Agriculture (1983)

In all the hills of our tribal economy, a cast majority of the population, including women, and children are self-employed in the age-old traditional practice of jhumming. Shifting cultivation has its own local variations among the tribes as to the rights over the land, the crops to be grown, the cycle of production, (i.e. clearing, sowing, weeding and harvesting). Yet in its essentials, the system of shifting cultivation followed is very nearly the same all over the hills of Manipur.

Production under jhum cultivation is for own consumption. Mixed cropping give the jhumias their daily requirements of foodgrains, vegetables and even clothing in addition to providing insurance against shortage of one crop by another crop. If only one crop is grown as under settled farming, the jhumias will have to depend for their requirements on outsiders. But in the absence of marketing facilities and proper transport system it will be difficult for the jhumias to get their requirements easily. Jhuming requires very little capital. If land and human labour are available, cultivation is possible. In permanent cultivation at least a pair of bullocks, irrigation or some sort, land preparation by manual labour, etc. become essential. For a poor jhumia this minimum level of investment required under settled cultivation is itself a problem.

1.3: PROPERTY RIGHTS AND AGRARIAN RELATIONS IN MANIPUR

As discussed earlier, on the basis of its physical features Manipur is divided into two divisions--the Hill and the Valley. In the three Valley districts and in all the plain areas of the hill district a settled form of cultivation is practised. Settled cultivation entails individual ownership rights over land. The table 1.4 below gives us the area under rice by type of cultivation.

Table 1.4: Area under rice by type of cultivation. ('000 hectares)

	Permanent		Jhum		
Year	Valley	Hill	Valley	Hill	Total
(1)	(2)	(3)	(4)	(5)	(6)
1992-93	87.39	38.56	-	25.24 (16.7)	151.19
1993-94	93.02	42.28	-	26.57 (16.4)	161.87
1994-95	96.35	29.81	-	37.77 (23.0)	163.93
1995-96	77.52	27.62	-	29.79 (22.1)	134.93
1996-97	88.95	33.67	-	43.48 (26.2)	166.10
1997-98	88.42	29.03	-	40.45 (25.6)	157.90

Source: DES, Manipur, (1999)
Note: Figures in the parenthesis are percentage to total area cultivated under rice.

It is seen from the table that in Manipur out of the total area under rice about 75% is under permanent cultivation and 25% under jhum cultivation. Out of the area under permanent cultivation the hill areas' permanent cultivation constitute about 35%. Under the permanent cultivation, according to Agricultural Census 1990-91, in Manipur wholly owned self-operated is 93.7%, wholly leased-in 4%, partly owned and partly leased-in constitute 2.2%. That is, most of the cultivators in Manipur are owner-cultivators and tenancy is not rampant. The major form of tenancy where it exists is fixed rent in kind which has a smaller disincentive effects on innovation than in the case of share cropping tenancy. However, it is regressive compared to owned land, in the matter of introducing technological innovations. In areas using new agricultural

technology tenancy is found to be associated with lower labour input than in the case of ownership holdings.

On the contrary, in the hill where shifting cultivation is practised there is no private ownership. There is community ownership of land with the village chief as the head. The Hill areas of Manipur belong to two different groups of tribes--the Nagas who inhabit Ukhrul, Senapati, Tamenglong and parts of Chandel district; and the Kuki-Chins live in Churachandpur district and parts of Chandel and Senapati districts.

> *The land tenancy system differs slightly in the Naga and Kuki-Chin areas. Among the Nagas, there is communal ownership, as well as individual ownership "Each village possesses a defined area and within it the villagers enjoy rights of fishing, hunting and development of agriculture either by new terraces or by jhumming. In villages where terraced cultivation is practiced there are a mass of customs relating to the equitable distribution of water throughout the terraces. The easements necessarily differ from village to village, but the underlying principle remains the same and violations of customs and precedents were severely dealt with in the past."* (Hodson, 1941).

Among the Kuki-Chins there is no individual ownership of land. The traditional land holding system was based on the principle of communal

ownership with the assumption that the chief is the custodian of the village customs and laws of the village community. It may be recalled that the colonial administration has brought about far reaching changes in the agrarian relations of the hill. But such changes were not in the nature of reform with a view to improving the economic condition of the cultivators; they were motivated by the desire to collect more revenue resources. It therefore, legitimised the rights of the chief over the land by legalizing the ownership of land of the chief for practical purposes The direct result of such revenue administration was that each village land became the private property of the chief and, thereupon, the traditional communal ownership and freedom of the common people were minimised.

Thus, the agrarian system prevailing in the economy is somewhat akin to semi-feudal type. The chief has, by convention, overriding power over the utilization of the village land. Lands are, however, distributed and each villager is allowed to cultivate a plot of land every year. Besides, once the chief had accepted an outsider or new migrant to be his villager then the chief is duty-bound i.e. cultivation of a plot of land is an entitlement for the bonafide villagers but such an entitlement does not, under any circumstances, constitute permanent individual ownership of the land when the jhum 'season' is over, the land reverts to the village chief. Therefore, due to lack of ownership and land

use, there is no incentive for the cultivators to improve the land and the chief does not have any land improvement programme either.

In the beginning, in the Hill areas, there was no land revenue or tax of any sort. During the British period after 1892, the Chin Hill Regulation was applied to the hills of Manipur and house-tax of Rs.3/- per year per household was imposed, which was later raised to Rs.6/-. Due to the change of possession every year, land revenue cannot be imposed on the cultivators of these areas. (Cf. Maxwell, 1892).

In the hill areas of Manipur there is no tenancy system. The land theoretically belongs to the state but in practice it is owned and controlled by the village chief. A sort of land tax claimed by the chief for allotting land to the people of the village is called locally '**chang seo**' or '**bushun**'. There is no well spelt out land revenue system.

In order to establish a direct link between the tillers of the soil and the Government in the hill areas of Manipur, legislation has been passed which enables the Government to acquire the chief's rights over land. This legislation was assented to by the President and became effective in 1967. It is known as "the Manipur Hill Areas(Acquisition of Chief's Rights) Bill, 1966. By this legislation the land administration of the hills and valley was brought on to a uniform basis within the framework of the Manipur Land Revenue and Land

Reforms (MLR & LR) Act, 1960. This Act while it provided for the acquisition of certain right, title and interest of the chief in and over land was not applicable to the "Hill areas" of Manipur (even though the definition of "hill areas" could be changed by government notification). The 1966 Bill, therefore, complemented the 1960 Act.

With this Act the Government is empowered by notification, to acquire all rights, title and interest of chiefs in the lands in specified villages, which should then rest in the government. The compensation to be paid is worked out by the government appointed officer. The Act also allows ownership over land to the chief or any person who has brought land under settled cultivation. This ownership right shall be permanent, heritable and transferable. This Act empowers the government to reserve land for jhum cultivation and also regulate jhum land.

We will take a short digression here and further elaborate the various government Acts or Reform measures in relation to land ownership in Manipur The spread of democratic ideas and institutions has gradually led to the decline of absolute chieftainship. By introducing the element of elective system in composition of Village Authority members, the Manipur (Village Authority in Hill Area) Act, 1956 may be said to have set in motion the declining process of the institution of chieftainship. It may be noted that before the introduction of

the Act, the chief had the overriding or unquestioned power of nominating any one of his villagers to be his councilors. Such a group of handpicked councilors held office till the chief decided it was otherwise. The above Act designated him "Ex-officio" Chairman of the Village Authority, thereby avoiding the use of the title "chief".

The Village Authority Act was followed by the Manipur Hill Areas (Acquisition of Chief's Rights) Act. 1967. The Act in fact reduced the powers of the chief though it did not abolish chiefship Traditional subscription like the grain-rent, forced labour and front leg of the animals killed, etc. were gradually eliminated from most villages, though they have not fully disappeared. Thus, chieftainship remains more or less an accepted institution in the economy in spite of various legislative measures aiming at its abolition.

One of the most significant Land Reform introduced so far in Manipur is the MLR & LR Act, 1960. The most basic thing dealt with is the declaration that, "all lands including forests, mines and minerals which are not the property of any person are the property of the state." The MLR & LR Act, 1960 is also of great significant since it has an important bearing on the land holding system of tribals as a whole.

The hill areas were in fact exempted from the purview of this MLR & LR Act, 1960. Section 1(2) categorically stated: "It extends to the whole of the

Union Territory of Manipur except the hill areas thereof". It also made special provision for protection of tribals under section 158 which prohibits transfer of a tribals' land to a non-tribal without the prior permission of the Deputy Commissioner and the previous consent of the District Council, but has no provision for regulating transfer by a non-tribal of his land situated in the predominantly tribal inhabited villages. But Section 1(3) of the MLR & LR (Amendment) Act, 1975 empowered the state government to extend, by notification in the official gazette, the whole or any part of the Act to any of the hill areas of Manipur also as might be specified in such notification. The hill districts do not automatically become the "hill areas" which term under the MLR & LR Act, 1960 has been assigned a specific meaning. According to Section 2(1) of the Act "hill areas" means such areas in the hill tracts of the state of Manipur as state government may by notification in the official gazette declared to be hill areas.

Accordingly, the MLR & LR Act, 1960 applies to 665 villages out of which 550 villages are situated in the 3 plain districts and the rest 105 in the plain areas of the hill districts. Most of the later villages lie in the Churachandpur district and some in Senapati district. The total number of villages in the state of Manipur being 2109, the territorial jurisdiction of the MLR & LR Act, 1960 extends to about 31% of the total number of villages in

the state, but in terms of population it covers about 71% of the total population of the state. The complement to the 1960 Act was the 1966 Bill (converted to an Act in 1967) that covered the Hill Areas. The two together attempted to curb the power of the chiefs.

The land survey undertaken under the MLR & LR Act, 1960 with the objective of providing better means of earning in the long run is being looked at with misgivings in the hills. There is no gainsaying that the Act would give "land rights" to the cultivators. Their main concern is such an open extension of the Act, without adequate and effective protection and safeguard being given to them would mean opening up of the land to the outsiders (i.e. the plain people) who have more and better resources at their command. Without effective preventive measures the land would thus become a purchasable commodity open to one and all. Even though there are apparently such preventive measures in pace, tribals fear that these would be easily bypassed, resulting in large-scale land alienation. Being economically weaker and less fortunate they would perhaps be hard-pressed to sell their land for money. It is, therefore, apprehended that most of the land would finally pass into the hands of plain people and they would be left with no land to live with. It is in this perspective that the tribals viewed the Act as a whole.

1.4: PROBLEM OF AGRICULTURE IN THE VALLEY

From the foregoing instances, we know that Manipur does not constitute an agriculturally homogenous land. The valley, which is called the 'rice bowl' of the state, constitutes only about 8.24% of the state's total area. As shown in table 1.4, 75% of the total area under rice comes under permanent cultivation, and again out of that 75% belongs to the valley. In other words, that is about 55% of the total area under rice comes from the valley. With the high population concentration in the valley (about 65% of Manipur's population) having a density of 530 persons per sq. Km. (according to 1991 census), it is clear that there is no possibility of land area expansion in the valley and this is the main problem in Manipur's agriculture. In the valley we have a situation where output in absolute terms is more or less constant, while an increase in yield compensates for a decline in area. There is hardly any scope for area expansion.

Approach and measures to increase production in the Valley:

To intensify cultivation and the cropping pattern is a must in the valley given the limited area. The introduction of multiple and diversified cropping to a large extent with assured water supply through irrigation is essential. The most important cause of the lack of intensive cropping in Manipur is its exclusive dependence on nature. It is because of the lack of irrigation facilities

that agriculture, the backbone of the state's economy, is still mono-cropped. An analysis of the pattern of irrigation in the state has also shown that the farmers used bulk of the water supply on paddy and only about 5% of the total supply has been applied to other crops. The state has enough scope for irrigation facilities that have remained untapped and unexplored. Even in this age of large-scale modernised and mechanised farming, the state has only about 30% of agricultural land irrigated as against the all-India average of 37%. In a state like Manipur where agriculture is dependent on the uncertain, uneven and unequally distributed rainfall, there can be no two opinions about the urgent need for the development of irrigation facilities. If this facility is provided to the existing agricultural lands, crop-rotation, crop diversification and double or multiple cropping can occur to the fullest possible extent and the state can again become a marginally surplus state in the production of foodgrains.

But the fact remains that even if there is the unfavourable man-land ratio in the valley and much land cannot be added to the existing agricultural lands, the existing lands in the Valley are not optimally utilized. The soil of Manipur is very fertile and productive and in the case of some crops like rice, maize, etc. it exceeds the all-India yield rate. Manipur has the highest productivity in respect of paddy in the whole of the North--Eastern India. In addition to provision of irrigation facilities, if certain soil improvement works are done to

prevent the exhaustion of its capabilities and add to its productive capacity, the state will be able to raise the yield rate to a still higher level. In the process it requires many and varied measures such as soil management, adequate fertilization through both organic and inorganic manures, etc. One fear about the application of chemical fertilizers (among the poor and illiterate farmers) is the fear of the early exhaustion of the natural fertility of the soil. While there are no doubt problems associated with the use of chemical fertilizers, exaggerated apprehensions about such problems keep yields lower than they could be. Hence, there is the urgency of adequate and frequent demonstration of the use and application of the fertilizers by the Department of Agriculture and Horticulture.

So, priority should be given to investigation and research in the sphere of intensive agriculture to ensure a much more significant scientific and rational use of land in the state. It would mean effective implementation of plan programmes for progressive introduction of double and multiple cropping with the help of quick and High Yielding Varieties (HYVs) of crops duly supported by extensive irrigation facilities and extensive use of fertilizers. In this way and by this process, it can be concluded that even if the scope for extensive cultivation is limited, there is a large scope for intensive cultivation in the state.

1.5: PROBLEM OF AGRICULTURE IN THE HILLS

In the five hill districts of Manipur constituting about 90% of the state's total area, the most primitive form of cultivation called "shifting cultivation" or "jhuming cultivation" is practised by the majority of the hill tribes. There is no precise area of land under shifting cultivation in Manipur. The area ranges from 65,000 hectares to 83,000 hectares. And under shifting cultivation there is no scope for improved agricultural implements, modern cultural practices, land improvement, HYV seeds, chemical fertilizers, etc. This form of cultivation was evolved under the conditions of physiographic remoteness, lack of communication and where density of population was low. It is a 'subsistence economy', the form of land use being primitive and unprofitable. In the old days, when population was low, shifting cultivation seems to be the best suited system for the hill tribes and they are able to live happily, being self-sufficient. But with the changing conditions, namely, increase of population, decrease of jhum cycle, progressive deterioration of soil in the hill slopes, improvement in communication and need for raising the standard of living this system has become outdated. Hence jhumming cultivation as practiced now cannot continue. The pressure of population makes jhum cultivation both enlarged in scope and inefficient in results.

According to the report of the Directorate of Economics and Statistics, Manipur 1998, out of the total area under rice in the hills jhumming cultivation constitute about 55%. The district-wise decennial population growth rate (1991 census) shows that in all the hill district the growth rate was above the average state growth rate of 32.46% in 1971-81 and 29.28% in 1981-91, which was again higher than the all-India average of 23.51% in 1981-91. These facts reveal the intensity of the problems in the hill economy in relation to land use and the increasing population pressure. Besides these, one of the greatest hindrance to settled agriculture and improvement of the conditions in the hill region is the absence of private ownership rights on land. No doubt, other form of farming, e.g. cooperative farming, could be tried, but realistically individual farming offers the most practicable solution to the problem of stagnation.

Approach and measures to improve the Hill economy

Looking at the crucial problems facing the hill economy, a progressive programme of transformation of the existing and-use under shifting cultivation to terrace or permanent cultivation is a must. This transition from jhum cultivation to modern agriculture should be undertaken cautiously by the state Government without disrupting the tribal peoples' lifestyles too violently. Measures for this transformation of the existing community land system are bound to be difficult and time consuming. It will not be easy to abolish (as is

already evident) the traditional and time-honoured land ownership system in the hills. Notwithstanding its desirability and progressiveness, the Government cannot easily extend the MLR & LR Act, 1960 to the hills overnight because it involves multifarious problems and delicate political issues.

Jhuming cultivation is an integral part of tribal culture and is associated with many social institutional and economic factors. The much talked about permanent cultivation is not suitable unless there is private ownership of land or co-operative farming. Shifting cultivation is the best-suited practice for the existing communal system of land ownership. If it is not so backward and if modern technology and implements can be implemented, the tribal system, working on the communist line could have been the best system without any differentiation among the villagers.

The correct and necessary approach to the problem of shifting cultivation lies in accepting to it not as a necessary evil, but reorganising it as a way of life; not condemning it as an evil practice, but regarding it as an agricultural practice evolved as a reflex to the physiographical character of the land. Also, jhuming must be regarded not only as a way of life, but an important aspect closely interwoven with tribal culture. Any development activity must, therefore, ultimately be based on a study of both agricultural method and social implications of jhuming to be able to provide the right kind

of guidance to the people without disrupting their life-styles. Such a disruptions can later create a moral vacuum and a breakdown of the people's culture.[2]

If the Government is sincere and honest enough to attend to the development of the tribal economy as a whole, it has to 'reconsider' its policies towards the tribal development, and in relation to the MLR & LR Act, 1960 those sections or parts which open the tribals' land to the access of the non-tribals. Adequate compensation may also be given to the erstwhile village chiefs as in Mizoram. Forcible termination of the village chiefs, who are literally sovereign in their respective villages by customs and traditions, would not possibly be the right step. It is observed that,

> *"Land reforms in this area, to be successful, must first attend to the problem of distortions introduced by the colonial rule; at the same time advantage must be taken of the democratic upsurges within the communities. There is evidence that attempts at changing the land system under bureaucratic initiative have sometimes promoted neo-feudalism in the tribal areas."*[3]

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[2] Farmers of India, Vol-III, Indian Agricultural Research, New Delhi, 1964.
[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.

The extension of the MLR & LR Act, 1960 in the hill areas of the state would perhaps be less contentious and quarrelsome when appropriate and adequate measures effectively protecting the interest of the tribals in land is part of the package of the land reform policy. Provided that there are adequate and effective safeguards for the tribals, the socio-economic rationale of "individual holding rights or ownership" would fare much better and be welcomed by the tribals. Reference may be made in this connection of the Report on Development of Tribal Area that 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 has got currency and acceptance in the country as whole. It is considered to be "progressive"; The National Committee on Development of Backward Areas has also recommended "individualisation" of communal ownership in the North-East for the sake of 'progress'.

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[4] Govt. of India, Planning Commission, Report on Development of Tribal Areas--National Committee on the Development of Backward Areas, June 1981, p-53.

"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 recognised and the movement from community to individual ownership has begun. However, the individual needs to be given a legal right of the land."[5]

Considering the weak economic base and the fragile nature of their subsistence living which would possible be the result of the existing system of land use and ownership pattern, there is, it is felt, a need for taking a serious introspection and experiment with the system of "individual ownership". The cultivator has no incentive to improve the land and invest on it since the land they cultivate does not belong to them. He has no permanent rights over the land and this type of holding is known to be sapping the will of the farmer to improve the land. Facility for credit and other financial assistance either from the Government or other financial institutions is hard to come by. The economy

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[5] ibid.

can no longer thrive in isolation. It has got to adapt itself with the current system of private holding. On the merit of private holding, it is asserted that--

> *"Give a man a secure possession of a bleak rock and he will turn it into a garden; give him a nine years' lease of a garden he will convert it into a desert."*[6]

Thus, the system of individual or permanent holding rights has become imperative in view of the stagnations and disabilities from which the Hill economy of Manipur suffers. Private ownership rights would make the cultivating family devote most of their time on the land. They would then diversify production; embark on the production of cash crops, etc. creating additional sources of income for their family. No one will any longer have an incentive to burn the village lands and forests (both for cultivation and for hunting) since this would affect his interest too in the long run. Reservation instead of destruction would become the main economic consideration of the villagers having holding rights in the village lands. Credit and other financial assistance including technical assistance, if necessary, would be more easily forthcoming.

There is also a need for integral mapping of land-use pattern on the basis of cadastral surveys on the entire Hill region of the state that will enable

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[6] Arthur Young, quoted in Rudder Dutt and K.P.M. Sundram, *"Indian Economy"*. p-440.

the state Government to work out the optimal long-term use of the available resources. Agriculture expansion, qualitative and quantitative, has remained a far cry in the economically depressed areas of Manipur. The majority of the farmers toiling in the fields cannot adopt innovations for such reasons as the unviable size of holding and financial constraints. Therefore, there should be an appropriate reorganisation of the institutional framework of agriculture aiming at the achievement of economic and technical progress, consistent with the prevailing needs of the tribals.

The tribal settlement pattern, which was scattered over a large area, also needs to be restructured and reorganised. There should be a proper large settlement with high concentration of population to be able to create their own local market and educational and financial institutions. Otherwise, it is difficult for the Government administration to provide basic facilities to the jhumias by way of transport, bazars, schools, banking institutions, etc. There should be concentration of population as in the plains.

CHAPTER-2

MANIFESTATION OF THE AGRICULTURAL CRISIS IN MANIPUR: PRODUCTION TRENDS

2.0: INTRODUCTION

In the previous chapter we discussed the Manipur economy as a whole with special reference to the prevailing agricultural conditions, the different types of cultivation practices in the hills and the valleys and the general topography of the state. We observed that there is a crisis in the economy, particularly in the agricultural sector. In this chapter we will study the manifestation of the agricultural crisis in the production performance of the state.

For assessing the performance of the agricultural sector, it is necessary, to discuss the production and the productivity trends in agriculture. The present chapter is devoted to such a study. Our objective is to give an account of the nature of the changes in foodgrains production and also to identify the basic contributing factors to these changes. Agricultural production has two components, viz. foodgrains and non-foodgrains. The most outstanding feature of the agricultural production in Manipur is the heavy preponderance of foodgrains over non-foodgrains. Our analysis will, therefore, emphasise

foodgrain production. In Manipur the share of foodgrain output in total agricultural production has been nearly hundred percent. There has been hardly any cultivation of cash and other commercial crops on a significant scale. Among the foodgrains, rice alone accounts for about 90% of foodgrain production and about 80% of the total cropped area. Hence, the performance of the agricultural sector of the state is reflected in the changes in foodgrain production over the years. Even after 50 years of Planned economic development, the agricultural sector remains very backward. More than two-thirds of the work force derives their livelihood from agriculture and allied activities. Thus, the performance of this sector still holds the key to the improvement in real incomes and living standards of the bulk of Manipur's population.

2.1: SOURCE OF DATA

For our empirical investigation we have relied exclusively on the data collected from different publications of the Central and State Government. No field study material could be furnished due to time and place constraint. For reference also, there is hardly any written published books done exclusively on foodgrains production in Manipur. Our study will be based on data provided by the - "Estimates of the Area and Production of Principal Crops in India",

Department of Economics and Statistics (DES), Ministry of Food, Agriculture, Community Development and Cooperation, Government of India; "Economic Review of Manipur", DES, Government of Manipur, "Statistical Abstracts of Manipur", DES, Government of Manipur.

Our period of study will cover from 1950-51 to 1997-98. Being the main crop of the state, figures for paddy/rice are available from 1950-51; but for other non-foodgrains viz. maize cultivated in the state, DES has released the data only from 1964-65. Both this data are however, available upto 1997-98. As regards this data, it may be mentioned here that the estimates for Manipur based on the results of random sample crop cutting survey were available only from 1966-67. The data for earlier years were based on estimates of yield separately for each crop from cuts on land that grow only the crop under consideration. These estimates are not based on any allocation of area under mixed crop. Official estimates are based on an allocation essentially by convention. The problem of mixed crop arises in estimating the yield also. If a particular plot grows a mixed crop, the allocation of the area of that plot as between the two crop influences their respective over all yields per unit of area.

The production and yield rates given by the National Sample Survey (NSS) are generally higher than those given by "Estimates of Area and Production of Principal Crops in India" (EAPPC). In the case of Manipur the

area under rice given by NSS is smaller than that of EAPPC. There fore, strictly on statistical grounds the time series of production of rice prior to 1965-66 are not comparable with the post 1965-66 series. However, we do not notice any major discrepancies or discontinuity in the time series data or Area, Production and Yield of rice. Since Manipur is a small state whatever method is adopted can be considered reliable in terms of coverage and sampling.

While concentrating on the data, it should be borne in mind, that Manipur does not constitute an agriculturally homogeneous land. There are no precise estimates of area under shifting cultivation in the hill region of Manipur. The area under shifting cultivation ranges from 65,000 hectares to 83,000 hectares. The estimation of yield rate is extremely difficult in the absence of information on land actually put to grow a crop and the quantity produce. Besides this, there are no standard accurate weights and measures in areas practicing shifting cultivation and production is mainly for own consumption. The pattern of mixed cropping has evolved through ages as an insurance against the vagaries of nature. In the hill areas, it is common to find farmers who measure farm size by the output, not by area, as is the practice in the valley.

2.2:APPROACH AND METHODOLOGY

Before we begin our analysis, we will briefly comments on the different methodologies- their merits and demerits.

Suppose we have time series data Y_t on a characteristic 'Y' (Y for production). It is well known that the change in Y per unit of time 't' is denoted by

$$\mathbf{dY/dt} \text{ or } \mathbf{(Y_{t+1} - Y_t)}$$

according to whether 't' varies continuously or takes only discrete values, since we are dealing with a time series, we say that there is growth or stagnation or decay (same as retardation) in 'Y' at 't' if

$$\mathbf{dY/dt \geq < 0,}$$

The measure that is important is the rate of change in 'Y' per unit of time at 't' divided by the existing value of the variable. This is usually termed as growth rate, at 't' and is denoted by

$$\mathbf{G(t)=\frac{Y_{t+1} - Y_t}{Y_t} x\ 100}$$

This gives the year-to-year percentage change in production over the previous year (V.N. Reddy,1978).

The smooth curve passing through the points of graph of Y_t against 't' is called the growth trend. From the growth curve we can easily obtain the quantitative characterisation of the path of the growth of the variable under consideration. Some of the simple growth curves that are used to illustrate the empirical phenomenon of growth are the linear trend and the log linear (exponential) trend.

Linear function: $\mathbf{Y_t=a+bt}$

Log linear function: $\mathbf{\log Y_t= a+bt}$ (or $\mathbf{Y=Ae^{bt}}$) for continuous time series and

$\mathbf{Y=A(1+g)^t}$ for discrete time.*

Where, Y= Output

a= the Y-intercept

t = time

b= slope of the trend line

Estimation of trends, have been plagued by the problem of fluctuations, which are also as important a part of time series as trends themselves. It will be wasteful to lose information on the nature and magnitude of fluctuations by concentrating on trends alone. Thus, either the method of moving averages or exclusion of extreme years of high or low production is a "wasteful" method of

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* $Y_t=Y_o(1+g)^t$ and $Y_t=Ae^{bt}$

$\log Y_t=\log Y_o + t\log(1+g)$ $\log_e Y=\log A+bt$

$=a+bt$ $=a+bt.$

$g\%=(\text{Antilog } b-1)x100$

estimating trends. It mounts to throwing away information on precisely the years marked by weather effects that should be of as much interest as trends themselves.

Fitting a trends to raw data and calculating co-efficient of variation of residuals from the fitted trend apparently takes note of both the trend and fluctuations. Though normally it may be an adequate procedure, it may not be workable when fluctuations are large and frequent. This is because the very estimation of trend is distorted by fluctuations, and neither the trend nor the fluctuations derived here may adequately reflect the reality involved.

As explicit inclusion of weather in trend equations as a proxy may appear to provide an adjusted growth rates in food grains production by using the log linear functions. The details of the estimated results show that the inclusion of rainfall index improved the value of R^2 for a majority in the states-specially in the low rainfall and low irrigated states. It indicates that variations in rainfall alone can help explain in a substantial measure the variations in food grains production in these states. Also, since the adjustment for weather isolates the impact on the growth performance of rainfall conditions being better or worse, the adjusted growth rates may be taken to reflect the intrinsic performance of the states.

According to V.M Rao, M.V. Nadkarin and R.S. Despande this weather adjusted growth holds no appeal either (1982). Weather is too complex a matter to be specified in terms of one or two variables, and is, in any case, not within the competence of mere economists. The procedure also amounts to assuming that weather is the only source of fluctuations and that once it is included in a model all the fluctuations are taken care of. In any case, such a model affords no opportunity of studying fluctuations separately as they are identified with weather.

According to V.M Dandekar (1980), the use of the linear function **Y=a+bt** for estimating growth of agriculture over time is inappropriate, though often used for the purpose uncritically. What is worse having estimated the parameter 'b', namely, the linear rate of growth postulated to be constant over the period, it is sought to be converted into an equivalent constant compound rate of growth because the linear rate of growth is found to be not very convenient for any comparison of growth between two periods, between two regions or between two crops. In order to convert the linear rate of growth into compound rate of growth, the former is sometimes divided by the output at the beginning of the period, which is of course incorrect; it should be divided by the mean output over the entire period. Logically, if we need to estimate the

compound rate of growth over the period the right and proper procedure is to choose the log-linear function **logY=a+bt**, and not the linear one **Y=a+bt.**

It is obvious that if the linear rate of growth is constant over the period, the compound rate of growth cannot be constant; in fact the former implies a declining compound rate of growth. This is made the basis for fitting both the linear and the log-linear functions, and if the linear function yields a higher value of R^2 than does the log-linear function, it is taken as evidence that the compound rate of growth over the period is not constant by declining.

Another method that can be use is the peak-to-peak growth rate (Prabhat Patniak, 1987). But again, the peak to peak growth rate computations takes into account only two points of time. Obviously such measures are influenced by the choice of initial and terminal years and ignore the data lying between the peaks. In the intervening years for which the growth rate is calculated, there may have been wide fluctuations, in which case this method does not reflect a realistic picture. However, the method is suited for those data that were not marked by wide year-to-year fluctuations but instead maintain a more or less uniform pattern of change.

In addition to these, we have also attempted to estimate the source of growth from other factors, for instance, fertilizer consumption, water-irrigation, seed varieties, prices, institutional factors, etc.

2.3: CROPPING PATTERN AND CROPPING INTENSITY

By cropping pattern we mean the proportion of area under different crops at a point of time, change in this distribution over a period of time and factors determining this change in distribution. Cropping pattern in Manipur is determined mainly by natural factors like rainfall, climate and soil condition. However, technological factors and different government programmes and price policy have also played an important part. The study of cropping pattern is of great significance for preparing a rational and balanced plan for cultivation of such crops that would give maximum returns with minimum inputs to meet the requirements of food for the people and raw materials for industry in the State. The area under cereals, pulses, oilseeds, sugar-cane, cotton and other miscellaneous crops for different years are given in the next page.

From the table 2.1 above, the following facts about cropping pattern in Manipur can be summarized. Food crops including cereals (rice, wheat and maize) and pulses cover more than 80% of the total cropped area. Among foodgrains cereals predominate, for instance, in 1975-76 out of the total area of 194.6 thousand hectares under food grains as much as 188.6 thousand hectares (i.e. 97%) was devoted to cereals. Out of total area of 168.35 thousand hectares under food grains in 1997-98 the share of cereal was 161.47 thousand hectares

Table 2.1:Cropping Pattern in Manipur (Area in '000 hectares)

Sl.No	Crop	1975-76	1980-81	1985-86	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1.	Cereals	188.60	198.46	170.34	162.02	164.3	153.99	164.59	168.40	137.47	172.48	161.47
		(91.76)	(84.87)	(81.73)	(80.08)	(82.02)	(79.09)	(79.77)	(79.58)	(76.10)	(79.14)	(79.00)
2.	Pulses	6.0	4.62	6.56	9.26	5.29	5.37	4.96	5.77	5.26	5.12	6.88
		(2.91)	(1.96)	(3.16)	(4.58)	(2.64)	(2.76)	(2.40)	(2.73)	(2.91)	(2.35)	(3.37)
3.	Oilseeds	4.3	5.59	5.30	2.68	2.67	2.93	3.22	3.72	3.08	3.12	2.00
		2.08)	(2.39)	(2.54)	(1.32)	(1.33)	(1.51)	(1.56)	(1.76)	(1.71)	(1.43)	(0.98)
4.	Sugarcane	2.4	2.25	2.28	1.86	1.51	1.46	1.14	1.26	1.18	1.31	0.47
		(1.16)	(0.96)	(1.09)	(0.92)	(0.76)	(0.75)	(0.55)	(0.59)	(0.65)	(0.60)	(0.23)
5.	Cotton	*	0.31	0.57	0.14	0.16	0.14	0.16	0.19	0.11	0.06	0.06
			(0.13)	(0.27)	(0.07)	(0.08)	(0.07)	(0.08)	(0.09)	(0.06)	(0.03)	(0.03)
6.	Others	4.2	22.61	23.37	26.37	26.38	30.80	32.36	32.28	33.54	35.84	33.51
		(2.03)	(9.69)	(11.21)	(13.03)	(13.17)	(15.82)	(15.64)	(15.25)	(18.57)	(16.45)	(16.39)
	Total	**205.5**	**233.80**	**208.42**	**202.33**	**200.31**	**194.69**	**206.33**	**211.62**	**180.64**	**217.93**	**204.39**
		(100)	**(100)**	**(100)**	**(100)**	**(100)**	**(100)**	**(100)**	**(100)**	**(100)**	**(100)**	**(100)**

Note: Figures in brackets are percentage
Source: Statistical Abstract of Manipur, DES, Manipur, 1998.
** For 1975-76 we do not have figure for cotton..*

(i.e. 95.9%). This shows that the area under pulses was only 3% and 4% of the total area under food grains in 1975-76 and 1997-98 respectively. The State of Manipur follows predominantly the mono-cropping pattern with rice covering almost one hundred percent of the area under cereals. The cereal crops grown in Manipur are rice, wheat and maize and their percentage shares out of total area under cereals are around 94%,, 0.20% and 6.00% respectively. Maize is the second most important cereal crop in the state and is mainly grown in the hills.

Area under oil seeds was 4.3 thousand hectares in 1975-76 and 5.3 thousand hectares in 1985-86. In the nineties it has decline to about 3 thousand hectares only. In percentage term share of area under oilseeds out of total cropped area declined from 2.54% in 1985-86 to 0.98% in 1997-98. Coming to commercial crops, area under sugar cane and cotton also decreases over the period. Only in area under 'miscellaneous crops' there was a significant increase from 4.2 thousand hectares (i.e. 2.03% of total cropped area) in 1975-76, to 23.37 thousand hectares (i.e. 11.21%) in 1985-86 and further to 33.55 thousand hectares (i.e. 16.39%) in 1997-98.

This crop pattern with lack of variety is a mark of the backwardness of agriculture in the state. The mono-cropping pattern with the predominance of

rice and the relative unimportance of other crops highlights the lack or insignificance of commercialisation of agriculture in the State.

Cropping Intensity:

Although the economy of Manipur is predominantly agricultural, until recently, there have been no major or medium irrigation schemes and therefore agriculture is solely dependent on the capricious rainfall. As a result, cropping intensity in Manipur is very low. In other words, area of agricultural land sown more than once is very negligible-only about 5.5% of the total cropped area in 1996-97. Tables 2.2 and 2.3 below show the area sown more than once and the irrigated area for the past few years.

Table 2.2: Land-use Classification in Manipur (Area in hectares)

Agricultural Year	Net sown Area	Area sown more than once	Total Cropped area
1985-86	1,39,983	5,600 (3.85)	1,45,582
1989-90	1,43,455	6,160 (4.12)	1,49,615
1990-91	1,46,693	5,765 (3.78)	1,52,558
1991-92	1,52,623	6,210 (3.91)	1,58,833
1992-93	1,55,402	6,068(3.76)	1,61,470
1993-94	1,53,808	6,226(3.89)	1,60,034
1994-95	1,54,031	6,235(3.89)	1, 60,266
1995-96	1,60,524	6,752(4.20)	1, 60,524
1996-97	1,54,966	9,013(5.47)	1, 64,779

Source: Marketing Intelligence, Directorate of Agriculture.
Note: Figures in the bracket are percentage to total cropped area.

Table 2.3: Estimated area under rice by different type of irrigation (Area in '000 hectares)

YEAR/ DISTRICT	AREA UNDER RICE BY TYPE OF IRRIGATION			AREA UNDER RICE NOT IRRIGATED	TOTAL AREA UNDER RICE
	CANAL& OTHER	TANKS	TOTAL		
(1)	(2)	(3)	(4)	(5)	(6)
1985-86	50.35	0.46	50.81(30.86)	113.79	164.60
1990-91	57.21	0.08	57.21(36.34)	100.12	157.41
1991-92	60.66	0.05	60.66(37.84)	99.59	160.30
1992-93	57.49	0.02	57.51(38.04)	93.68	151.19
1993-94	47.96	0.67	48.63(30.04)	113.24	161.87
1994-95	62.14	2.60	64.74(39.49)	99.13	163.93
1995-96	31.51	0.03	31.54(23.37)	103.39	134.93
1996-97	61.01	0.22	61.23(36.86)	104.87	166.10
1997-98	47.44	0.39	47.83(30.29)	110.07	157.90
DISTRICT- WISE (1997-98)					
(1)	(2)	(3)	(4)	(5)	(6)
1. SENAPATI	9.53	--	9.53	14.04	23.57
2.TAMENGLONG	1.11	0.06	1.17	8.15	9.32
3.CHURACHANDPUR	2.23	--	2.23	11.96	14.19
4.CHANDEL	1.86	--	1.86	5.19	7.05
5.UKHRUL	2.34	--	2.34	13.01	15.35
6.IMPHAL	5.69	--	5.69	36.87	42.56
7.BISHNUPUR	15.79	--	15.79	1.93	17.72
8.THOUBAL	8.89	0.33	9.22	18.92	28.14
9.MANIPUR	47.44	0.39	47.83	110.07	157.90

NOTE: Figures in brackets are percentage to total area under rice.
Source: Directorate of Economics & Statistics, Manipur.

From the table 2.2, it is clearly seen that the cropping intensity in the state is very low and hence there is enough scope for the introduction of double or multiple cropping, and a more diversified cropping pattern by assuring adequate water supply through irrigation. As only about 30% of the total cropped area under rice is getting irrigations and the proportion is far lower, if not zero, for other important crops, it is essential that increased irrigation should be made available to the farmers. Only then more areas can be brought

under multiple and diversified cropping. A steady growth of the state's economy will be ensured only with the expansion of irrigation facilities on the one hand and the extension of irrigation to other crops such as maize, wheat, vegetables, etc. on the other.

With the introduction of irrigation to some extent and as a result of sustained efforts and continued demonstration by the Department of Agriculture, the response of the farmers in introducing and popularising cultivation of high yielding varieties of seeds, particularly in the case of paddy, is very encouraging. The use of High Yielding Variety (HYV) seeds increased from 38% of total sown area in 1990-91 to 54% in 1996-97. With the introduction of minor irrigation canals and the use of HYV seeds, the consumption of chemical fertilizers also has increased gradually from 1,741 tonnes in 1975-76 to 4,791 tonnes in 1985-86 and 13,185 tones in 1997-98, (see Appendix-tables 2.1 &2.2). An increase in the consumption of these fertilizers is known to have significant yield-raising effects. If these facilities are provided to its agricultural lands, crop rotation, crop diversification and double or multiple cropping can be undertaken to the fullest possible extent and the state can become a marginally surplus state in the production of food grains.

From what has been discussed above about the land use and the crop patterns, it is seen that the two are intimately related with each other. Even if the scope of extensive cultivation under the existing circumstances is very limited, there is immense scope for intensive cultivation with proper and careful husbanding of the soil so that production may be increased and the natural fertility of the soil may not be exhausted in the immediate future. This policy of intensive cultivation with proper care will also be the way for meeting the increasing requirements of food grains of the people of the state.

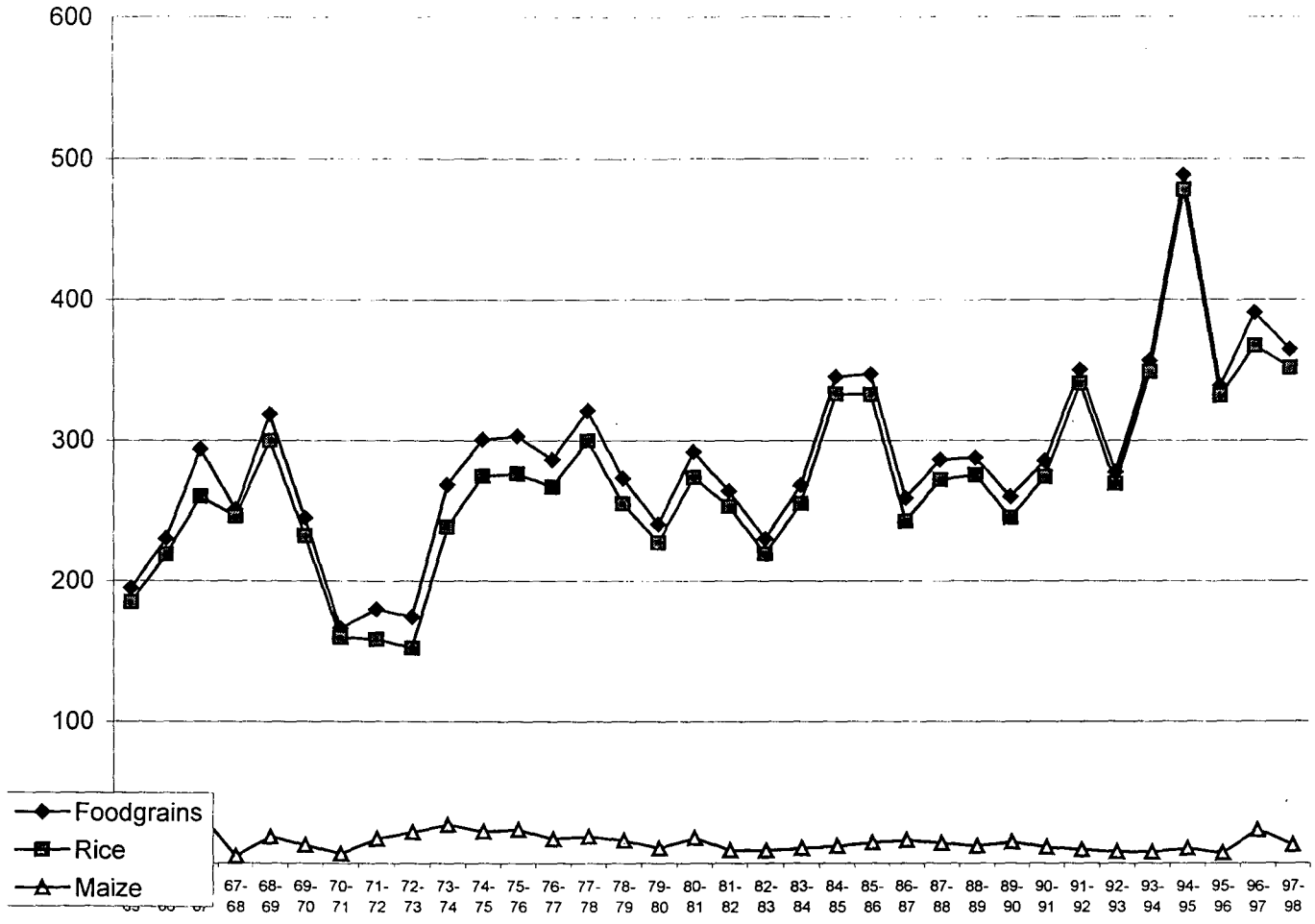
2.4: PRODUCTION PERFORMANCE AND GROWTH

This part of the analysis begins with an examination of time series data on foodgrains production. Table 2.4 shows the information on foodgrains production over the past five decades. It will be seen from the table that the data on foodgrains production reveal marked year-to-year fluctuations. (See graph 2.1).

As shown in the table 2.4 there had been a substantial increased in foodgrains over the period from 195 thousand tonnes in 1964-65 to 365 thousand tonnes in 1997-98. Similarly for rice there has been a significant increase throughout, though with great fluctuation, from 88 thousand tonnes in 1950-51, 185 thousand tonnes in 19964-65, 275 thousand tonnes in 1974-75

Table 2.4: Production of Foodgrains, Rice and Maize in Manipur ('000 tonnes)

Year	Foodgrains	Rice	Maize
(1)	(2)	(3)	(4)
1950-51	-	88	-
1951-52	-	62	-
1952-53	-	72	-
1953-54	-	67	-
1954-55	-	133	-
1955-56	-	119	-
1956-57	-	127	-
1957-58	-	137	-
1958-59	-	104	-
1959-60	-	94	-
1960-61	-	129	-
1961-62	107.0	107.0	-
1962-63	108.0	108.0	-
1963-64	109.0	109.0	-
1964-65	195.0	185.0	10
1965-66	230.1	218.8	11.3
1966-67	293.8	260.0	33.8
1967-68	251.0	246.0	5
1968-69	318.7	300.0	18.7
1969-70	244.8	232.0	12.8
1970-71	166.6	159.8	6.8
1971-72	179.9	158.6	17.1
1972-73	174.4	152.2	22
1973-74	268.5	238.6	27.2
1974-75	300.5	274.7	22.3
1975-76	303.1	276.4	23.6
1976-77	286.4	267.0	17.2
1977-78	321.2	300.0	18.9
1978-79	273.1	255.2	16
1979-80	240.5	227.5	10.6
1980-81	291.9	273.8	17.8
1981-82	263.9	253.1	9.2
1982-83	230.1	219.5	9
1983-84	268.1	255.1	10.4
1984-85	345.2	333.0	12.2
1985-86	347.1	332.5	14.6
1986-87	258.9	242.5	16.4
1987-88	286.2	272.1	14.1
1988-89	287.8	275.6	12.2
1989-90	260.0	245.1	14.9
1990-91	285.6	274.2	11.4
1991-92	350.1	340.5	9.6
1992-93	277.4	269.3	8.1
1993-94	356.6	348.8	7.8
1994-95	488.7	478.3	10.4
1995-96	338.9	331.8	7.1
1996-97	390.7	367.3	23.4
1997-98	364.8	351.7	13.1



Graph 2.1: Production of Foddgrains, Rice and Maize

and further to 352 thousand tonnes in 1997-98. Maize though the second most important cereal crops occupies a very insignificant position: only 4% to 5% of the total cereal production compared to rice which constitute more than 90% of foodgrains output.

The index and percentage change of rice production over the years are given in columns 5 & 6 of Table 2.1. Output of rice increased continuously from 1959-60 (94 thousand tonnes) to 1968-69 (300 thousand tonnes), except for the year 1961-62 for which there has been a fall of 17% over the previous year. Again a continuous increase in rice production was observed from 1972-73 (152.2 thousand tonnes) to 1977-78 (300 thousand tonnes) disregarding the slight fell in the year 1976-77. Also, looking at the three-year moving averages another continuous increase in rice production has been observed from 1987-88 to 1995-96. As a whole, output of rice has shown an upward trend over the entire period with a compound growth rate of 3.19% per annum.

An estimation of the three-year moving averages of rice production data reveals a more systematic pattern of changes over the years than the actual figures. From the above observation it seems that the growth rate of production of rice may have started to decline. In order to test this, compound growth rates were calculated between the successive peak-levels of rice output. The results are presented in table 2.5 below.

Table 2.5: Peak to peak compound rate of growth of rice production (in '000 tonnes)

Peak year	Rice production	Period	(% per annum) Compound rate of growth
(1)	(2)	(3)	(4)
1954-55	133		
1964-65	185	1954-55 to 1964-65	0.49
1973-74	239	1964-65 to 1973-74	-2.56
1984-85	333	1973-74 to 1984-85	0.26
1993-94	349	1984-85 to 1993-94	0.33
1996-97	367	1993-94 to 1997-98	-2.08
		1950-51 to 1997-98	3.19

Source: Computed from table 2.1 col.3.

In 1954-55 production of rice reached the first of the major peaks at 133 thousand tonnes, which represents 98.5%, increase over the previous year of 67 thousand tonnes. The second peak was 185 thousand tonnes in 1964-65. Each of the peak year's production that occurred at regular interval of a decade shows an absolute rise over the previous peak level. What the peak-to-peak growth rates reveal is that while the compound growth rate of output per annum for the entire period shows a positive 3.19%, there has been fluctuations and a substantial deceleration in rice growth in Manipur. For the periods 1964-65 to 1973-74 and 1993-94 to 1996-97 there have been a negative compound growth rates of –2.56% and –2.08% respectively. For the other periods, though positive, the growth rates are very modest and are all below the entire period growth rate of 3.19%. Hence, no systematic pattern can be established.

However, the identification of peaks highlights a characteristic feature of the long-term growth profile of Manipur rice production.

Peak to peak growth rate computations take into account only two points of time and ignore the data lying between the peaks. Thus, in the case of Manipur, where there are great fluctuations, it is therefore, desirable to use that measure which takes into account the entire series of observations. This is based on a log linear function, namely, *log Y=a+bt* where Y=production, t=time variable and the growth rate is given by *(Antilog b-1)x100* takes into account all observations lying between the years. The aim here is to see whether the peak-to-peak growth rates previously calculated are broadly consistent with the trend rates based on log-linear function.

Table 2.6 Trend growth rates of Rice production in Manipur.

Period	Log Y=a+bt	Growth rate R (% p.a.)	R^2
1950/51 to 1973/74	Y=74.1+1.05t	5.04	0.56
1974/75 to 1983/84	Y=285.8+0.98t	-1.76	0.38
1984/85 to 1997-98	Y=264.8+1.02t	2.28	0.23
1950/51 to 1997/98	Y=76.2+5.96t	3.19	0.76

Source: Computed from Table 2. Col.4.

The growth rates based on a log-linear function namely, log Y=a+bt takes into account all observations lying between the years. The low R^2 is the result of the sharp fluctuations in the data. But the fact of deceleration in growth rate offer an initial increase is clearly borne out.

The usual technique for estimating growth rates in the sub-periods of a time series (as shown in table 2.6) is to fit separate log linear trend lines by

ordinary least squares to each segment of the series. These trend lines are likely to be discontinuous which can result in anomalies such as sub-period growth rates which all exceed, or are less than, the estimated growth rate for the period as a whole. A distinctive feature of discontinuous models is that they make use of information regarding the values of the variable in question throughout the time series in estimating the growth rate for a given sub-period. Also, the ordinary least squares estimates are less affected by instability or cyclical fluctuations. There is no asymmetry in the treatment of the information contained in observations falling before and after the beginning and end points of the sub-periods; all observations are used to distinguish the underlying growth trends from instability or fluctuations around them.

From the table 2.6 it is seen that, for the whole period, i.e. 1950/51 to 1997/98 the trend growth rate would work our to be about 3.19% per annum. When the functions are fitted to each of the three sub-periods, i.e.. 1950/51 to 1973/74, 1974/75 to 1983/84 and 1983/84 to 1997/98, the resulting trend growth rates are 5.04%, -1.76% and 2.28% respectively. This indicate a high growth rate in the first sub-period and that was followed by a deceleration in the second sub-period which was again increased to 2.28% in the last one and a half decade, though even this later figure was way below the figure for the first sub-period.

2.5: THE IMPACT OF AREA AND YIELD CHANGES IN RICE PRODUCTION

Given the area under each crop and their respective yields, the production level is determined. At this stage of analysis, it is useful to examine the changes over the years in the area under foodgrains and in yields which have contributed to the production trends discussed above. Rice production in Manipur has undergone a sizeable increase during our period of study. This growth, however, has been accompanied by an increase in the instability of rice output. Increase in area and yield are the two main sources of growth in production though there are many other factors contributing to the growth in production. Production variability was usually dominated by the fluctuations of yield per unit of area; yield variability being invariably higher than area variability. Area variability was not only lower than yield variability, it declined, even though there was an increase in area in absolute term, whereas the increase in mean yield of rice was accompanied by an increase in yield variability as shown in table 2.7.

As seen from graph '2.2a' area under rice rises continuously from 1953-54 (71 thousand hectares) to 1957-58 (168 thousand hectares). A more or less constant area of around 160 thousand hectares followed this for 7 years. From 1963-64 to 1981-82 there were large fluctuations in area under rice throughout the whole period except for the period 1973-74 to 1977-78 where the area got

Table 2.7: Area, Production and Yield of Rice in Manipur.

Year	Area	3 yrs. M.A.	Production	3 yrs. M.A.	Yield	3 yrs. M.A.
50-51	83		88		1060	
51-52	81	78.7	62	74.0	765	941.9
52-53	72	74.7	72	67.0	1000	903.0
53-54	71	77.0	67	90.7	944	1151.7
54-55	88	83.0	133	106.3	1511	1259.1
55-56	90	105.3	119	126.3	1322	1251.3
56-57	138	130.3	127	127.7	920	1027.7
57-58	163	153.3	137	122.7	840	805.0
58-59	159	160.3	104	111.7	654	695.3
59-60	159	160.0	94	109.0	591	680.5
60-61	162	160.3	129	110.0	796	685.4
61-62	160.0	161.3	107.0	114.7	669	710.6
62-63	162.0	161.0	108.0	108.0	667	670.8
63-64	161.0	151.2	109.0	134.0	677	920.4
64-65	130.5	144.7	185.0	170.9	1418	1209.3
65-66	142.7	144.7	218.8	221.3	1533	1522.3
66-67	160.9	159.2	260.0	241.6	1616	1521.0
67-68	174.0	167.3	246.0	268.7	1414	1608.7
68-69	167.0	161.7	300.0	259.3	1796	1607.1
69-70	144.0	150.4	232.0	230.6	1611	1515.8
70-71	140.2	140.0	159.8	183.5	1140	1306.3
71-72	135.8	140.9	158.6	156.9	1168	1115.3
72-73	146.6	150.7	152.2	183.1	1038	1203.8
73-74	169.8	164.3	238.6	221.8	1405	1333.3
74-75	176.5	174.5	274.7	263.2	1556	1507.1
75-76	177.2	177.0	276.4	272.7	1560	1541.0
76-77	177.2	177.8	267.0	281.1	1507	1580.5
77-78	179.1	172.0	300.0	274.1	1675	1593.6
78-79	159.6	164.6	255.2	260.9	1599	1580.0
79-80	155.2	167.8	227.5	252.2	1466	1505.5
80-81	188.6	170.7	273.8	251.5	1452	1473.8
81-82	168.3	171.8	253.1	248.8	1504	1446.8
82-83	158.5	162.7	219.5	242.6	1385	1490.4
83-84	161.2	162.4	255.1	269.2	1583	1652.2
84-85	167.4	164.4	333.0	306.9	1989	1863.9
85-86	164.6	165.7	332.5	302.7	2020	1826.0
86-87	165.1	165.2	242.5	282.4	1469	1710.0
87-88	165.8	166.0	272.1	263.4	1641	1586.4
88-89	167.1	165.1	275.6	264.3	1649	1599.9
89-90	162.4	162.3	245.1	265.0	1509	1633.5
90-91	157.4	160.0	274.2	286.6	1742	1791.8
91-92	160.3	155.8	340.5	294.7	2124	1888.4
92-93	149.7	157.3	269.3	319.5	1799	2025.8
93-94	161.9	156.8	348.8	365.5	2154	2321.1
94-95	158.9	158.4	478.3	386.3	3010	2437.8
95-96	154.4	159.8	331.8	392.5	2149	2456.8
96-97	166.1	159.5	367.3	350.3	2211	2195.9
97-98	157.9		351.7		2227	

Source: Various issues of Estimates of Area and Production of principal crops in India, DES, M/o Food, Agriculture, Community Development and Corporation, GOI.

Area in '000 hectares;

Production in '000 tonnes;

Yield in Kg./hectare.

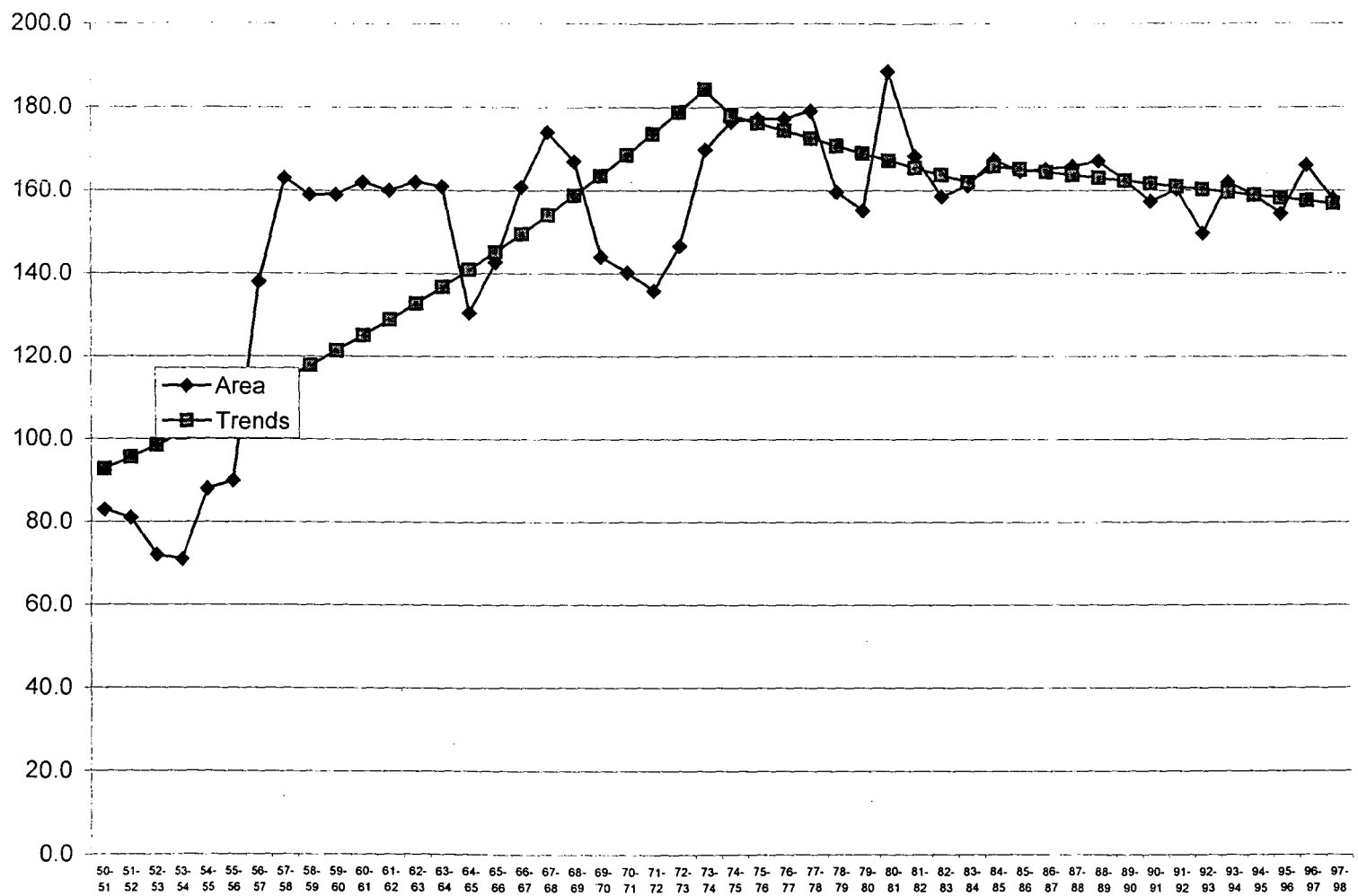
stagnated at about 177 thousand hectares. From 1982-83 there was no more expansion or any significant change, rather the area under rice was declining.

The following conclusions can be drawn from table 2.6 and graphs 2.2a, 2.2b and 2.2c the growth in rice production comes from both increase in area and yield (more from area expansion) in the period 1950-51 to 1973-74. In the second sub-period 1974-75 to 1983-84 there was a decline in all the three—area, production and yield. In the sub-period 1984-85 to 1997-98 there was a decline in area under rice and a rise in yield per hectare; so the increase in production can wholly be attributed to the increase in yield.

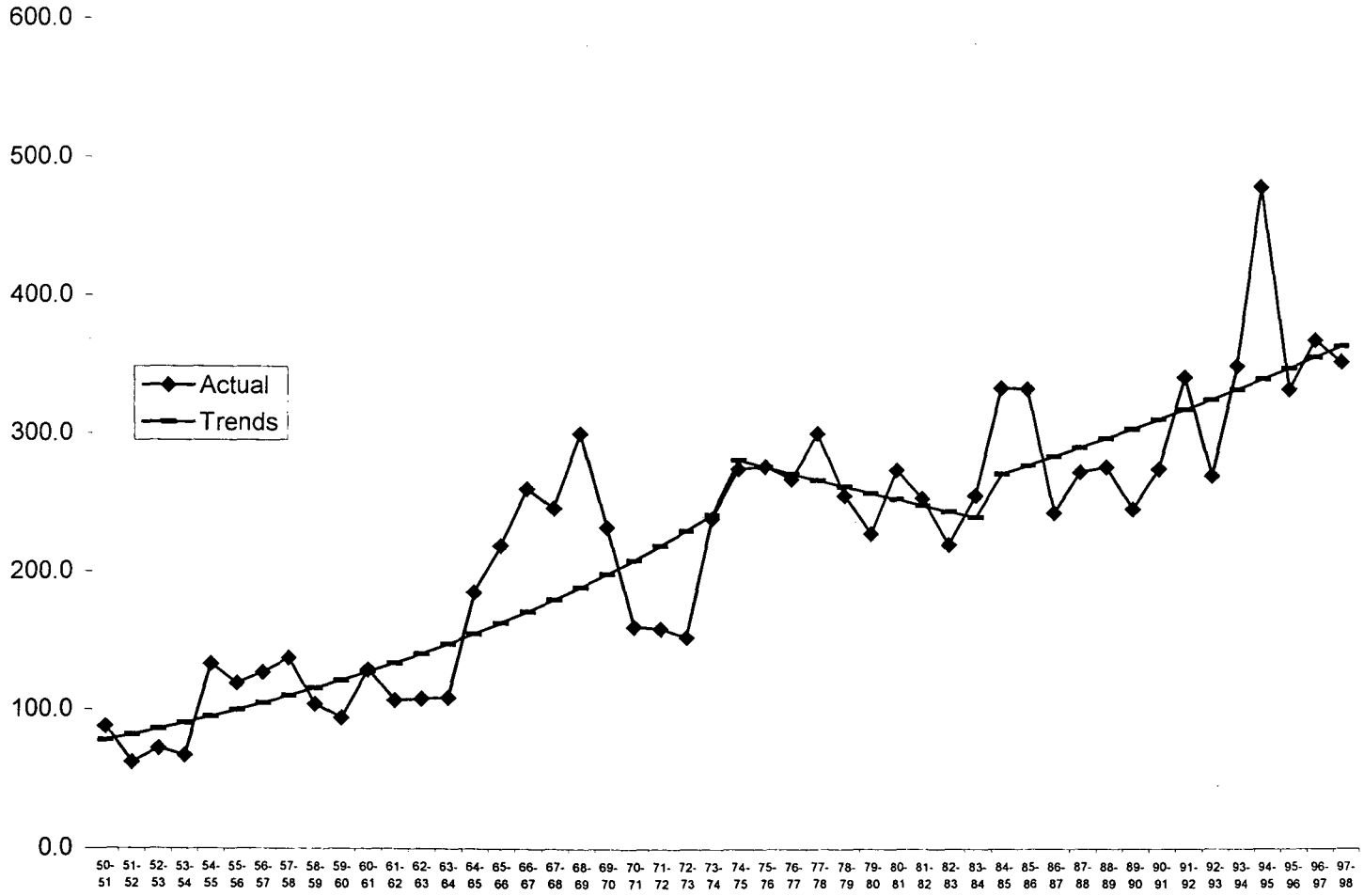
2.6. DECOMPOSITION OF PRODUCTION INTO 'AREA EFFECT' AND 'YIELD EFFECT'

In this sub-section an attempt is made to decompose the changes in the production of rice into "yield effect" and "area effect" for the state as a whole. The decomposition analysis is worked out for three sub-periods: 1951-52 to 1973-74, 1974-75 to 1983-84, 1984-85 to 1996-97 and also for the whole period 1951-52 to 1996-97.

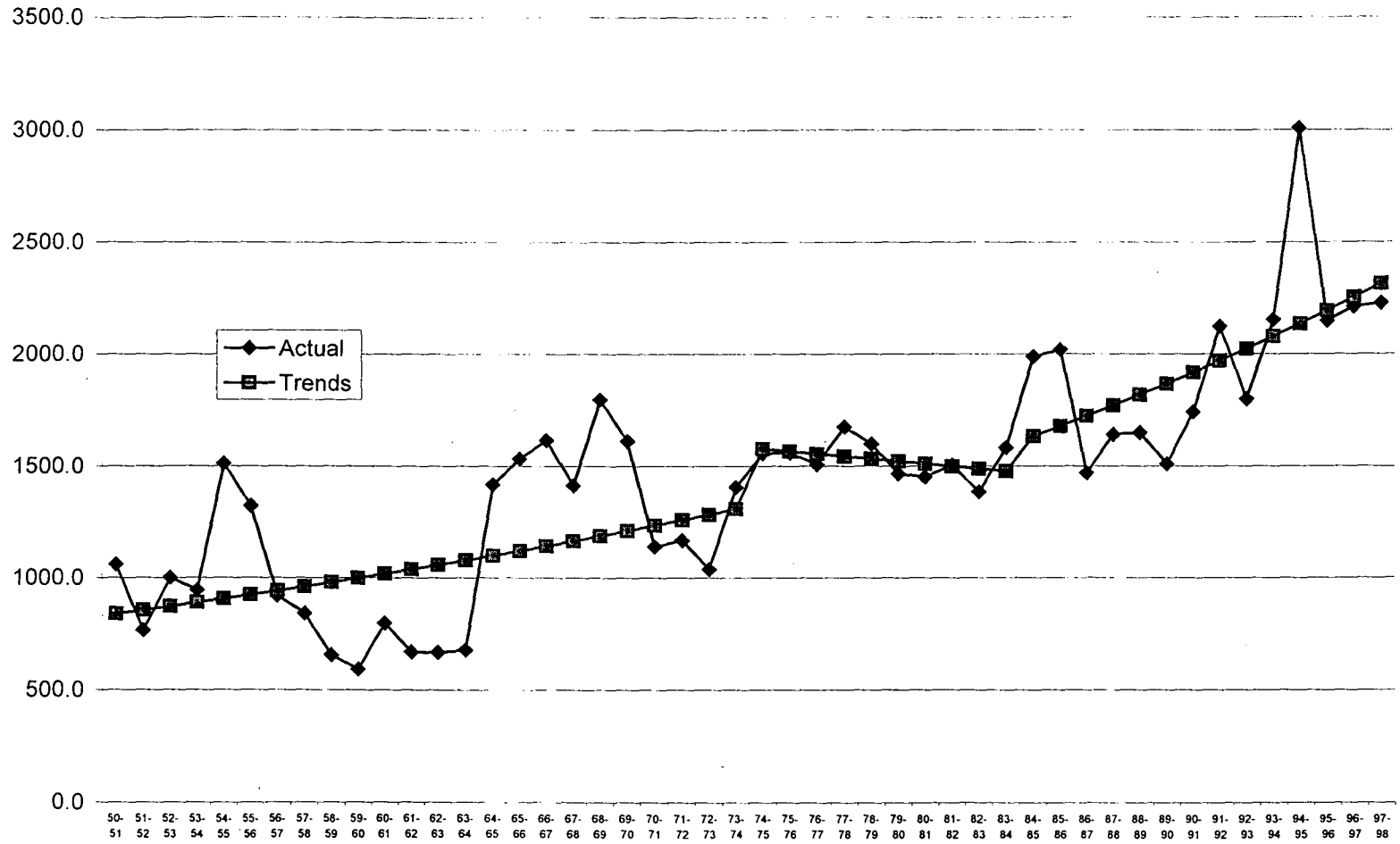
The procedure followed for working out the contribution of expanding area (to be called 'area effect') and yield improvements (to be called 'yield effect') was as follows: Let P_o, A_o and Y_o be the output, area and yield levels



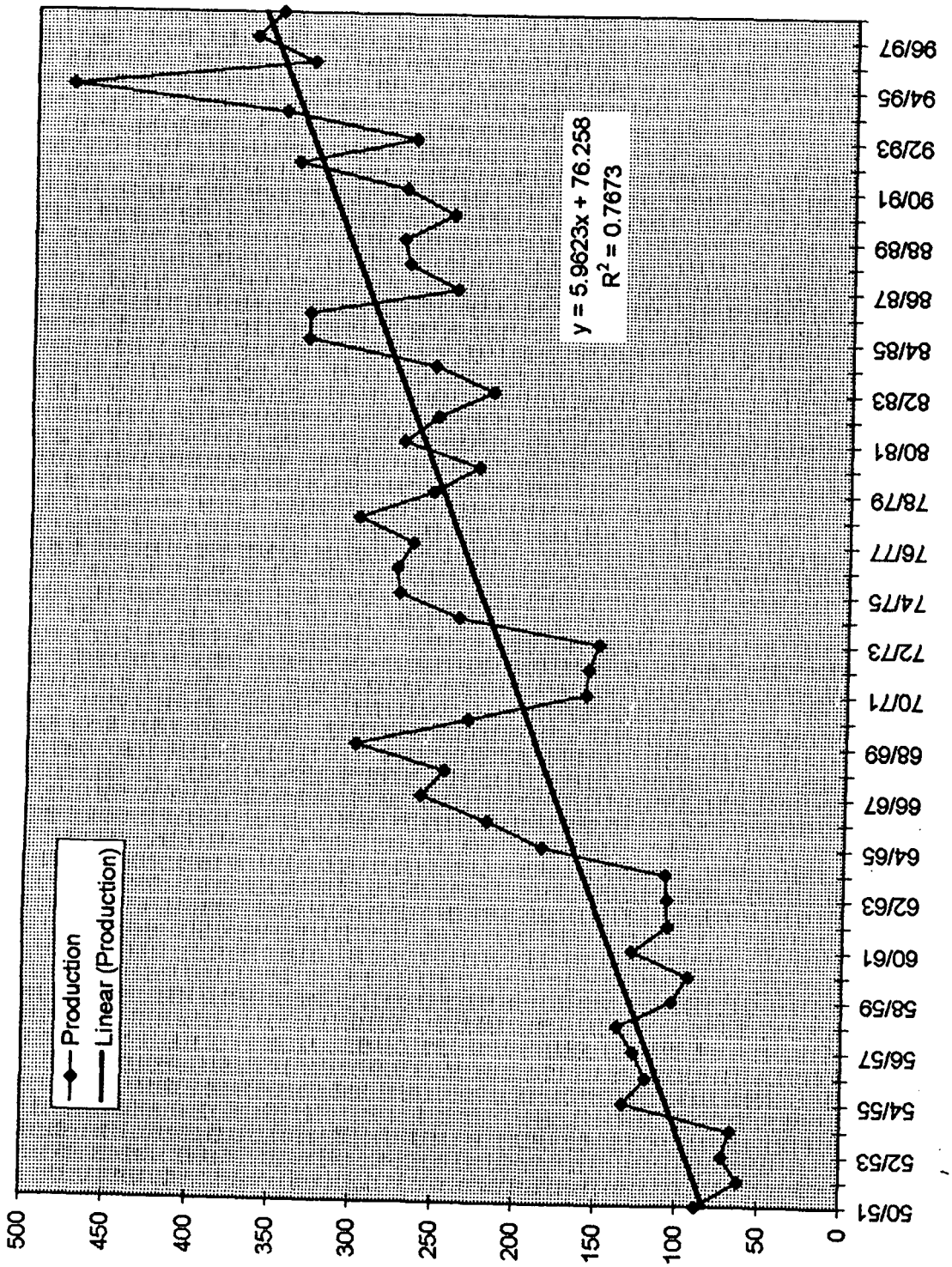
Graph 2.2a: Area of Rice in Manipur: Actual and Break-up Trends



Graph 2.2b: Production of Rice in Manipur - Actual and Break-up Trends



Graph 2.2c: Yield of Rice in Manipur: Actual and Break-up Trends



Graph 2. 2d: Production of Rice in Manipur: Actual and Trends

of the base year respectively and P_t, A_t and Y_t be those of the terminal year respectively. For each variable, a three-year around the end-points of the sub-periods average was taken. Absolute change in output was (P_t-P_o), if the yield rate for the base year had continued to hold in the terminal year, the additional output obtained by area expansion (A_t-A_o) alone would be $(A_t-A_o)Y_o$. Obviously $(A_t-A_o)Y_o$ is the share of area expansion in total change in output, i.e. (P_t-P_o)—$(A_t-A_o)Y_o$, is to be attributed to two factors: yield improvements and the "interaction term"*. The share of area expansion and yield improvements in the total increase in output, when expressed as percentages, gives 'area effect' and 'yield effect' (G.K. Chadha, 1986).

Table 2.8: Relative contribution of Area and Yield Expansion in the Production of Rice in Manipur (1950/51 to 1997/98)

Period	Area Effect	Yield Effect
1950-53 to 1972-75	54.55	45.45
1973-76 to 1982-85	-303.93	403.93
1983-86 to 1995-98	-210.44	310.44
1950-53 to 1995-98	27.54	72.46

Note: *Calculations are based on 3 years averages.*
For the above calculation triennium centered on 1951-52, 1973-74, 1974-75, 1983-84, 1984-85, 1996-97 were taken for Production, Area and Yield.
Source: Table 2.4, col.5.

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* $P_t-P_o=Y_o(A_t-A_o)+(Y_t-Y_o)A_t$
$=Y_o(A_t-A_o)+A_o(Y_t-Y_o)+(A_t-A_o)(Y_t-Y_o)$
In what follows, given the fact that area increases was negative for two of the three periods and small for the entire period as a whole, we have not separated the yield effect from the interaction term. Thus, we have taken the area and the yield effect as adding up to 100 percent.

The analysis conducted in terms of three sub-periods within the 48-year span ending in 1997-98. The triennium 1950-53 is taken as the base year for the first sub-period, which ends in 1972-75. The second and third triennium runs from 1973-76 to 1982-85 and 1983-86 to 1995-98 respectively. The entire period is defined in terms of the years 1950-53 to 1995-98.

From the table 6 it is seen that the "yield effect" is more than the "area effect" in the changes in output for the entire period and for both the last two sub-periods. For the entire period the "yield effect" for rice is as high as 72.46% as against the "area effect of 27.54%/ In the first sub-period (1950-53 to 1972-75), the role played by area and yield improvements were equally substantial with the "area effect" (i.e. 54.55%) a little more than the "yield effect" (i.e. 45.45%). A striking difference in area and yield effect was observed in the post 1972-75 years. Not only did the contribution of area decrease, but it actually turned negative in both the second and third sub-periods. Thus, the "yield effect" played a fairly substantial role in output expansion from 1973-76. The "yield effect" contributed 403.93% in the second period and 310.44% in the third period. While the area expansion played a sizeable role in the expansion of rice production till 1972-75, the decisive edge of "yield effect" in the later years is clearly discernable. This increase in yield was made possible due to the effect of green revolution that reached Manipur

during the 70s. In sum, since the arrival of the new HYV seeds, yield improvements have contributed largely (or solely) to the total increase in rice output. But it is noteworthy that the magnitude of the yield effect itself has declined from the second to the third sub-period. Unless very significant effect is made to boost yield increases in Manipur in the coming years, as the area under rice continues to fall, the output growth rate will lag behind population growth as it has done for both the second and the third sub-periods.

2.7: SUMMARY:

The time profile of production performance in Manipur over the past five decades ending 1997-98 reveals the crucial agricultural crisis prevailing in the state. The still continuing existence of the mono-cropping pattern, the low cropping intensity and persistent fluctuations in production are all a manifestation of the agricultural crisis in Manipur. The lack of growth inducing infrastructure and proper outlet (market) for surplus products has contributed to a deceleration of growth in foodgrain in Manipur.

The growth path of foodgrains production over our period of study was characterised by series of plateaus representing phases of stagnation of varying duration. Compound annual growth rates calculated on a peak-to-peak basis suggest a fall in foodgrains growth from the high level of the fifties. The long

run deceleration in growth rate is confirmed by trend growth rates calculated using the log linear function. For the sub-period 1950-51 to 1973-74 the trend growth rate in rice output of 5.04% is highly significant. Subsequently, the growth rate declined tremendously to -1.76% in the sub-period 1974-75 to 1983-84. This was again followed by a growth rate of 2.28% during 1984-85 to 1997-98. However the trend growth rate for the entire period of study as a whole remained positive with a significant 3.19% level. At the state level, it was found that for the entire period the "yield effect" contributed more than the "area effect" for rice output. Hence, from the analysis it is apparent that in Manipur agriculture, the main determinant of production growth rates has been increasing yield. Therefore, the state government should emphasis on yield-raising measures such as enhancing the cropping intensity, and encouraging greater application of modern inputs and technology.

CHAPTER-3

IMPACT OF MANPUR'S AGRICULTURAL CRISIS ON LIVING STANDARD

3.0: INTRODUCTION

So far in the preceding chapters we have discussed the different types of cultivation practices and the agricultural scenario as a whole; we also discussed the production performance and its trend in the State. In this chapter, we will examine the consumption pattern by the people of Manipur with a view to seeing what proportion of the consumption requirement of the people is met by the state's own production. We will also see whether or not there is a convergence or a divergence between the production and consumption of food grains and attempt to give explanation for this. While doing this we will also compare the State's pattern of consumption with the all-India consumption pattern and see whether these patterns are similar.

In this context, several recent writings on consumption pattern have argued that there has been a relative decline in cereal consumption, with a shift from food to non-food items; and within food, from cereals to other food products. Cereal consumption has declined across all income groups despite a

small rise in real incomes. The decline in total cereal consumption is mainly on account of a decline in the consumption of coarse cereals. This shift in consumer behaviour is usually explained as arising from a change in tastes or preferences and in response to changes in relative prices. However, the changes may be forced in that they occur in response to larger changes in the economy (Suryanarayana, 1995). In the light of this we will study what is the condition in Manipur.

3.1: DATA BASE

Our study will be based on the different national Sample Survey (NSS) consumer-expenditure surveys. Therefore, before analysing these data it will be useful to look at the nature of the data shown by NSS Organisation (NSSO) and the methodology they have adopted for estimating cereal consumption. The NSS is a repetitive fact-finding survey, under which about two rounds of survey are carried out in a year. The collection of the data by personal interview is carried out by an independent field organisation set up by the Government of India.

For nearly three decades the NSS has been collecting every year upto 1973-94 and at five year intervals thereafter, data on the level and pattern of consumption from a representative sample of households in rural and urban

areas of different parts of the country. It is by far the most comprehensive source of information on the subject. No other source provides such detailed continuous and apparently comparable data over as long a period.

However, the NSS was restructured after the 25th round (1970-71) and the organisation (NSSO) was placed under the technical direction of the independent governing council. One of the earliest decisions of this council was that data on the distribution of consumer expenditure in the population (along with employment and unemployment) would in future be collected only once in five years. Therefore, beginning with the 27th round (Oct. 1972 to Sept. 1973), when the sample size was increased manifold, the regular, large scale surveys of consumer expenditure and employment or unemployment have been conducted by the NSSO (under its pre-determined five-year and ten-year cycle of work) at pre-set five year intervals. This scheme of sampling in time has never been disturbed to accommodate any extraneous and contemporary conditions. So, thus far, we have five quinquennial survey series on the consumer-expenditure viz., the 27th round (Oct. 1972-Sept. 1973), the 32nd round (July 1977-June 1978), the 38th round (Jan.1983-Dec.1983), the 43rd round (July 1987-June 1988) and the 50th round (July 1993-June 1994) available for our study.

Fortunately, we have a long series of data on consumer-expenditure collected through the NSS that could provide the basis for dependable projections of demand. In the absence of comparable data on income, the data on total consumer expenditure obtained from the same source could be utilized as a proxy for income. The kind of data available would permit a search for some relationships of a general nature between expenditure on particular commodity groups and a total consumer expenditure, in addition to permitting some broad comments on the change in the consumption pattern which is taking place under the impact of development.

3.2: COMPOSITION OF OUR CONSUMPTION STUDY

We are interested in consumption studies. So, to start with we have to make a selection of commodities that will be studied in detail. We will concentrate on items of essential consumption like food-grains/cereals and cereal-substitutes.

Groups of consumption items: Results on break-up of monthly per capita expenditure (mpce)[1] over different items of consumption are presented for 19

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

broad item groups. These are-- (1) cereals (2) gram (3) cereal substitutes (4) pulses & pulse products (5) milk & milk products (6) edible oil (7) meat, fish & egg (8) vegetables (9) fruits & nuts (10) sugar (11) salt (12) spices (13) beverages, refreshments & processed food (14) pan, tobacco & intoxicants (15) fuel & light (16) clothing (17) footwear (18) miscellaneous goods & services (19) durable goods. Apart from these, sub-totals of mpce on (a) food and (b) non-food are also provided.

Cereal-substitutes: This includes tapioca (sago), green tapioca, mahua and jackfruit seed but not potato or sweet potato.

Milk and milk products: This includes ghee, butter, curd ice-cream, etc. Consumption of milk-based sweet meats (pera, rosogolla, etc) comes under " beverages, refreshments & processed food" unless they are prepared from milk, sugar, etc. within the household. In the latter case consumption of milk, sugar, etc. are accounted separately instead of the entire consumption being accounted under "milk products".

Beverages, etc.: This caption is used in the tables to refer to the food group beverages, refreshments & processed food. Processed food includes confectionery, biscuits, jam, pickles, etc. unless these are prepared within the household (in which case consumption would be accounted under the various

ingredients such as sugar, flour, etc.) and importantly cooked meals purchased and consumed by household members.

Clothing: Apart from clothing proper, this category includes: bed sheets, bed covers, pillows, curtains, mattresses, blankets, rugs, mats and mattings, cotton yarn, wool and knitting wool. It however, excludes tailoring charges, which come under miscellaneous goods and services.

Miscellaneous goods and services: This includes educational and medical expenses, and expenditure on amusement, goods for personal care and effects, toilet articles, consumer services and conveyance. In fact, all items other than food, pan, tobacco, intoxicants, fuel and light, clothing, footwear, and durable goods come under the miscellaneous category.

Durable goods: This term refers to durable goods other than clothing and footwear; items included here are distinguished from miscellaneous goods by having a longer expected lifetime of use(roughly, one year or more). Expenditure incurred on repairs and construction of durable used for domestic purpose is included in "expenditure on durable goods".

3.3: PRODUCTION-CONSUMPTION BALANCE

Our purpose here is to examine whether foodgrain production within the state is sufficient to meet the consumption requirements. The production of food grain in Manipur available from the "Area, Production and yield of food grains", estimated by the Directorate of Economics and Statistics (DES), Government of India, has been used to provide us the amount of food produced in the state. For the comparable years of the NSS Rounds, the gross productions so given were netted out for seed-requirements, feed and wastage.[2] The number of sample villages (for rural) or blocks (for urban), households and persons in the different quinquennial NSS consumer-expenditure surveys on which our study will be based are given in table 3.1 below.

Table 3.1: Number of Sample surveyed by the NSS in Manipur

Year (NSS Round)	RURAL			URBAN		
	Villages	Hhs	Persons	Blocks	Hhs	Persons
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Oct1972-Sep1973(27th)	158	782	4316	47	442	2448
Jul 1977-Jun 978(32nd)	72	1060	5300	36	427	2203
Jan 1983-Dec1983(38th)	120	1166	6529	60	578	3450
Jul 1987- Jun1988(43rd)	59	589	3292	36	360	2252
Jul 1993-Jun 1994 (50th)	100	1000	5465	70	699	3699

[2] Net production has been as 92.4% of gross production for rice.

The above sample population has been used before estimating the weighted average consumption of cereal foodgrain during the respective several round. To find the average state per capita consumption both the rural and urban per capita consumption weighted by the respective sampled populations has been used. After estimating the weighted average of the rural and urban consumption, the figures so obtained were blown up with the mid year population for the state during the relevant years to obtain the total consumption.(See Appendix Table 3.1).

The production-consumption balance estimated in this way is given below in tables3.2 and 3.3 for rice and total cereals.

Table 3.2: Surplus/ Deficit of production of rice in Manipur.

Year (NSS Round)	Per capita consumption (kg)		Mid-year popula-tion ('000)	Total consumption ('000 tonnes)	Production ('000 tonnes)		Surplus in net production over consumption ('000 tonnes)
	Per month (30days)	Per year (365 days)			Gross	Net (92.4% of Gross)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1972-73 (27^{th})	17.15	208.66	1115	232.65	152.2	140.63	-92.02
1977-78 (32^{nd})	17.16	208.78	1289	269.12	300.0	277.20	8.08
1983 (38^{th})	17.00	206.83	1511	312.52	255.1	235.71	-76.81
1987-88 (43^{rd})	16.07	195.52	1672	326.91	272.1	251.42	-75.49
1993-94 (50^{th})	15.05	183.11	1939	355.05	348.8	322.29	-32.76

Table 3.3: Surplus/Deficit of production of total-cereal in Manipur.

Year (NSS Round)	Per capita consumption (kg)		Mid-year population ('000)	Total consump-tion ('000 tonnes)	Production('000 tonnes)		Surplus in net roduc-tion over consump-tion ('000 tonnes)
	Per month (30days)	Per year (365 days)			Gross	Net (92.4% of Gross)	
(1)	(2)	(3	(4)	(5)	(6)	(7)	(8
1972-73 (27th)	17.59	214.01	1115	238.62	174.4	161.14	-77.48
1977-78 (32nd)	17.31	210.60	1289	271.46	318.9	295.66	23.20
1983 (38th)	17.22	209.51	1511	316.57	268.1	247.72	-68.20
1987-88 (43rd)	16.32	198.51	1672	332.00	286.2	264.45	-67.55
1993-94 (50th)	15.58	189.55	1939	367.54	356.6	329.50	-38.04

It may be seen from the table that the net output of rice increased sharply to 277.20 thousand tonnes in 1977-78 from 140.63 thousand tonnes in 1972-73. Production of rice again fell significantly to only 235.71 thousands tonnes in 1983, followed by a continuous rise up to 322.29 thousand tonnes in 1993-94. But except for the 32nd round (1977-78) the total rice produced in the state could not meet the required consumption demanded by the population leaving a gap in production in the other four rounds, despite a significant decline in the per-capita consumption of rice from 17.15 kg in 1972-73 to 15.05 kg in 1993-94. That is due to the fact that the rate of growth of production could not keep in pace with the rate of growth of populations.[3] It may of course be argued that the NSS-surveyed years happen, coincidentally to

[3] Manipur has recorded a decimal growth rate of population 32.46% in 1971-81 and 29.29%in 1981-91(Appendix 1.7 of Manipur Economic Review, 1994-95)

be rather special ones. For example 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 it was not a result of such exceptional circumstances but reflected a structural phenomenon.

In the same way, there was deficit in production of total-cereal[4] in all the available observed rounds of NSS except for the 32nd round (1977-78), though of lesser volume, besides the 50th round (1993-94) as shown in table 3.3.

In this context, it is significant to know that the gap in production over consumption has been persisting from seventies through the nineties, in spite of the fact that there has been significant reduction in the per capita consumption of foodgrain in the state. Before examining the reasons behind the persisting gap between production and consumption in food grains in Manipur, it will be interesting to take a short digression from the main theme and examine why the per capita consumption of food grain declined in the nineties. It is generally argued in some quarters that with the initiation of structural adjustment and the liberalization process in the nineties in the economy, there has been a shift in the consumption pattern of cereals to non-cereals high-value items because of the prosperity that has come about with the liberalization of the market

[4] Total-cereal includes-rice, wheat, jowar, bajra, maize, barley, small millets and ragi. (Appendix 1.7 of Manipur ECOS Review, 1994-95)

economy. Let us examine how far it is true for Manipur. As this is not our main theme, we will take only three rounds for comparison-the 27th, the 32nd and the 50th rounds.

Since unlike the series we got in quantity terms, these items are given in value of per capita consumption; in order to make it comparable, these has to be converted into real terms. In the absence of any other deflators, to convert the nominal consumption into real consumption we have used the Implicit Price Deflator (IPD) obtained from the State Domestic Product (SPD) at factor cost for the State of Manipur for the relevant years (see Appendix table 3.2). Our results can be summarised as follows in table 3.4.

Table 3.4: Deflated real value of consumption of broad groups of items per person for a period of 30 days for Manipur.

Items	27th round(1972-73)	38th round (1983)	50th round (1993-94)
(1)	(2)	(3)	(4)
(a) Cereals	65.22	49.48	37.13
(b) Non-cereals	23.34	33.17	27.29
(c) Food total(a+b)	**88.56**	**82.65**	**64.42**
(d) Non-food total	30.34	33.03	33.80
(e) Total exp. (c+d)	**118.90**	**115.67**	**98.23**

From table 3.4, it is clear that there has been a sharp rise in the real consumption of non-cereal items from 23.34 in 1972-73 to 33.17 in 1983. But in the nineties (i.e. the post-liberalization period) there has been a decline in both cereal and non-cereal items. Only for non-food items there was a rise in

the nineties. The overall total expenditure in real terms declined throughout the seventies, eighties and nineties.

Thus, the argument that there is a reduction in the consumption of cereal accompanied by a rise in the consumption of non-cereal high-value in the nineties due to economic liberalization is not true in the case of Manipur. On the contrary, it is observed that there has been a decline both in the quantity of cereals and in the real value of total consumption.

3.4: CONSUMPTION PATTERN IN MANIPUR

Consumption in its broadest sense means" the use of economic goods and personal services in the satisfaction of human wants." The propensity to consume is determined by subjective conditions (such as human motives) and objective conditions (such as prices, tastes, change in fiscal policy, rate of interest, etc.) but the most important is the size of income. This means that the standard of living of a community is indicated by the consumption pattern of the people belonging to the community. In order to have a look at the standard of living of the people of the State of Manipur, the per capita expenditure on broad groups of items for both rural and urban in Manipur, derived from the NSS consumer-expenditure surveys results, are used.

The procedure that was adopted in this connection was to study the change of pattern of consumption with increasing income or expenditure. As no data on income were available, the study was undertaken on the basis of total expenditure. Accordingly the households in each expenditure class were classified by monthly per capita expenditure of the households and the consumption patterns were studied for both rural and urban areas, it may also be noted that the consumer expenditure of consumption refer to a period of 30 days.

The table in this expenditure class-wise form is available only in value terms (and not in quantity terms), since all non-food items are given only in value term. Also from the tables it will be seen that the class intervals are rather irregular and vary from round to round. This has been done with a view to having an adequate and more or less equal representation of households in each expenditure class. Here below we will present only the NSS 50^{th} Round (for other rounds of NSS see Appendix tables 3.3a, 3.3b, & 3.4a, 3.4b).

Table 3.5a: Value (Rs) of consumption of broad groups of food and non-food items per person for a period of 30 days for each monthly per capita expenditure class.

MANIPUR: RURAL (NSS 50TH ROUND)

ITEMS	MONTHLY PER CAPITA EXPENDITURE CLASS (Rs)												
	<120	120-140	140-165	165-190	190-210	210-235	235-265	265-300	300-355	355-455	455-560	560>	All classes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1.Cereals	--	52.50	86.11	96.47	97.28	107.11	112.36	114.24	128.33	142.70	146.13	143.87	120.01
2. Gram	--	--	--	--	--	0.04	0.06	0.07	0.05	0.08	0.14	--	0.06
3.Cereal substt	--	--	0.12	--	--	0.07	0.06	0.04	0.06	0.05	--	--	0.05
4.Pulses&Products	--	4.25	2.52	2.99	3.54	4.33	5.02	5.92	6.85	8.88	9.95	7.51	6.11
5.Milk&milk product	--	--	--	--	0.26	0.85	1.26	2.42	3.24	4.07	5.92	7.59	2.41
6.Edible oil	--	--	2.60	3.88	5.39	6.16	7.78	9.38	8.70	9.77	10.43	6.76	8.14
7.Meat,egg&fish	--	10.00	10.26	14.10	17.48	19.46	21.52	25.30	31.86	37.66	43.11	37.50	27.01
8. Vegetables	6.94	10.25	10.37	11.10	11.90	14.46	14.75	15.65	17.12	20.93	24.44	29.91	16.56
9.Fruits(fresh)	--	3.50	1.25	1.29	1.55	1.87	2..17	2.46	2.86	3.92	4.10	5.14	2.65
10Fruits(dry)	--	--	0.16	--	--	--	0.01	0.03	0.03	0.02	0.03	0.03	0.02
11. Sugar	--	3.50	1.41	2.43	2.63	2.77	3.27	3.74	4.38	5.38	6.53	5.29	3.91
12.Salt	0.85	0.75	0.79	0.81	0.90	0.85	0.89	0.93	1.00	1.11	1.08	1.03	0.96
13.Spieces	--	4.00	2.58	2.67	3.02	4.09	4.68	5.85	6.30	7.68	8.26	7.44	5.61
14.Beverages, etc	--	5.75	1.66	4.23	3.75	5.71	7.23	8.91	9.60	11.50	15.36	22.52	8.65
15. Food(1-14)	7.80	94.75	119.83	139.96	147.70	167.79	181.07	194.93	220.41	253.75	275.46	274.85	202.14
16.Pan, tobacco&intox	--	--	6.56	3.87	7.67	7.46	10.64	11.92	15.95	16.83	18.85	11.52	12.46
17Fuel & light	27.21	16.25	17.19	17.77	18.90	20.26	22.27	23.43	24.35	29.52	31.80	41.65	24.06
18.Clothing	--	--	--	--	1.68	1.97	2.29	6.48	7.63	10.67	26.99	82.39	7.34
19Footwear	5.64	--	0.86	--	0.99	0.86	2.33	4.03	5.38	9.13	9.38	41.85	4.88
20Misc,goods & services	21.58	18.50	12.94	14.65	23.05	25.14	30.05	40.10	50.07	70.97	131.69	238.48	47.29
21Durable goods	--	--	--	--	0.29	0.66	0.61	1.20	1.79	3.48	1.25	0.42	1.41
22. Non food(16-21)	54.42	34.75	37.56	36.29	52.57	56.35	68.19	87.15	105.16	140.59	219.96	416.31	97.43
23. Total exp.(15+22)	62.22	129.25	157.39	176.25	200.27	224.13	249.26	282.08	325.57	394.33	495.42	691.17	299.57

Table 3.5b: Value (Rs) of consumption of broad groups of food and non-food items per person for a period of 30 days for each monthly per capita expenditure class.

MANIPUR: URBAN (NSS-50TH ROUND)

ITEMS	MONTHLY PER CAPITA EXPENDITURE CLASS (Rs)												
	<160	160-190	190-230	230-265	265-310	310-355	355-410	410-490	490-605	605-825	825-1055	>1055	All classes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1.Cereals	73.80	88.05	98.57	108.88	111.68	122.60	121.21	123.45	118.90	123.54	125.92	153.85	114.01
2. Gram	--	--	--	0.01	0.05	0.03	0.04	0.21	0.01	1.04	--	--	0.05
3.Cereal substt	--	--	0.03	--	0.02	--	--	--	--	--	--	0.58	0.01
4.Pulses&Products	11.34	4.01	4.78	6.18	7.07	7.19	7.23	8.44	12.97	12.38	6.13	12.53	7.04
5.Milk&milk product	--	--	1.98	2.70	2.56	6.60	6.32	13.56	23.09	12.25	18.48	35.69	5.60
6.Edible oil	2.35	5.88	7.42	8.94	8.77	10.28	10.86	12.47	14.97	22.64	23.25	15.94	9.91
7.Meat,egg&fish	4.40	13.22	14.91	17.62	21.65	27.33	29.27	36.35	42.54	45.52	102.57	73.07	24.44
8. Vegetables	3.82	10.72	12.13	15.98	15.52	18.75	18.37	21.13	28.00	36.79	29.48	36.05	17.34
9.Fruits(fresh)	0.49	0.63	0.84	1.50	2.33	2.82	3.11	4.06	9.52	7.06	6.45	21.75	2.63
10Fruits(dry)	--	--	--	--	0.06	0.06	0.16	0.29	0.35	0.89	4.22	--	0.10
11. Sugar	--	0.57	3.27	3.50	3.47	4.79	5.20	6.13	8.73	7.29	11.95	9.33	4.37
12.Salt	0.62	0.92	0.66	0.76	0.78	0.77	0.89	0.87	0.93	1.13	0.93	1.08	0.80
13.Spieces	1.22	3.58	4.23	5.67	5.72	6.64	6.48	8.18	9.74	14.39	14.56	9.32	6.25
14.Beverages, etc	1.22	2.28	6.11	7.78	9.72	11.12	16.11	18.00	16.83	30.38	92.59	38.83	11.38
15. Food(1-14)	99.26	129.86	154.94	179.52	189.39	218.98	225.26	253.14	286.55	315.29	436.51	408.02	203.94
16.Pan,tobacco & intox.	2.93	10.88	9.50	8.57	12.78	12.72	15.51	15.25	21.76	22.49	46.56	61.82	12.54
17Fuel & light	4.55	16.93	20.91	23.43	24.64	28.77	29.91	35.40	37.27	45.89	66.80	48.17	27.03
18.Clothing	--	--	0.90	3.21	6.07	4.58	7.73	7.21	20.83	10.76	33.69	6.26	5.48
19. Footwear	--	5.53	0.75	2.39	7.36	7.60	7.83	4.07	11.78	11.91	--	--	5.43
20.Misc,goods&services	11.69	18.48	24.50	31.67	44.67	58.35	92.35	127.01	148.25	264.55	303.11	629.82	63.20
21. Durable goods	--	0.24	0.52	0.96	1.88	1.82	2.97	3.74	5.06	--	--	--	1.91
22. Non food(16-21)	19.17	52.05	57.07	70.23	97.41	113.84	156.30	192.67	244.95	355.60	450.16	746.07	115.61
23. Total exp.(15+22)	118.44	181.91	212.02	249.74	286.80	332.81	381.56	445.81	531.50	670.89	886.67	1154.09	319.55

Comparing the consumption patterns in the rural and urban areas, broadly speaking, the per capita total consumer-expenditure on all the commodity groups is marginally higher in the urban than in the rural areas. The monthly per capita total expenditure was Rs. 319.55 in urban and Rs 299.57 in rural areas. For items like fuel & light, miscellaneous goods & services the urban per capita consumption is comparatively higher. Further, as tables 3.5a & 3.5b reveals, the per capita expenditure on cereals is lower in urban as compared to the rural areas and that of non-cereals higher in urban than in rural areas. This indicates that the expenditure on food (particularly cereals) declines as developmental process leads to urbanisation. As is clear from the tables, the pattern of consumption for rural and urban are rather similar. For both areas the consumption of almost all the commodities rises with increasing expenditure class. Items like pulse & products, salt & spices can be considered to be less variable than the consumption of any other commodity. In Manipur, the amount or percentage of consumption of gram, cereal-substitutes and dry fruits are negligible. The consumption pattern also shows that for most items the highest level of per capita consumption is reached at the second highest class with a decline in the highest expenditure class. This decline however could be a result of the fact that the data for the highest expenditure class are not as reliable as for the others, for a variety of reasons

Since we have the consumption data available for the past three decades, it would be useful to examine how the pattern of consumption has undergone a change over this period. We will therefore, analyse the average per capita consumer expenditure on each of the commodity groups over time. To do so, table 3.6 is designed to compare the average per capita consumer expenditure and its percentage on different commodity groups for 1972-73, 1977-78 and 1993-94 i.e. the 27th, the 32nd and the 50th rounds of NSS.

Looking at the table 3.6 we can clearly draw a broad result that the percentage per capita consumption expenditure for food is higher and that of non-food lower in rural than urban areas throughout our period of study. On further examination we see that for non-cereal commodity groups, viz. milk & milk products, edible oil, sugar and beverages the percentage of per capita consumption expenditure were all higher in the urban than in the rural areas. But for meat, egg &fish, vegetables and salt the percentage expenditure were marginally higher for rural areas. In the non-food commodity groups like footwear, miscellaneous goods and services the urban percentage of per capita expenditure was higher and for other non-food the variation between rural and urban is quite insignificant. Thus a clear distinction in the consumption pattern is found in the rural and urban areas of Manipur.

Table: 3.6:
Per Capita Consumption Expenditure in Manipur in absolute percentage terms for a period of 30 days

Commodity Groups		27th round (1972 - 73)				32nd round (1977 - 78)				50th round (1993 - 94)			
		Per Capita exp. (Rs.)		% exp		Per Capita exp. (Rs.)		% exp		Per Capita exp. (Rs.)		% exp	
		Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
	1	2	3	4	5	6	7	8	9	10	11	12	13
1	Cereals	31.16	31.39	56.65	53.17	29.71	30.48	43.98	37.42	120.01	114.01	40.06	35.68
2	Gram						0.01		0.01	0.06	0.05	0.02	0.01
3	Cereal substitutes									0.05	0.01	0.02	
4	Pulse & Products	0.85	0.03	1.54	0.05	1.37	2.21	2.03	2.71	6.11	7.04	2.04	2.20
5	Milk &Milk products	0.50	0.95	0.91	1.61	0.97	1.84	1.40	2.26	2.41	5.60	0.80	1.75
6	Edible Oil	1.04	1.46	1.89	2.47	1.78	2.46	2.63	3.02	8.14	9.91	2.72	3.10
7	Meat, Egg & Fish	4.12	3.89	7.49	6.59	6.89	6.81	10.20	8.36	27.01	24.44	9.02	7.65
8	Vegetables	2.21	2.16	4.02	3.66	4.40	3.73	6.51	4.58	16.56	17.34	5.53	5.42
9	Fruits & Nuts	0.18	0.26	0.33	0.44	0.28	0.54	0.41	0.66	2.67	2.73	0.89	0.85
10	Sugar	0.33	0.66	0.60	1.12	0.41	1.15	0.60	1.41	3.91	4.37	1.30	1.37
11	Salt	0.16	0.14	0.29	0.24	0.29	0.28	0.43	0.34	0.96	0.80	0.32	0.25
12	Spices	0.67	0.74	1.22	1.25	1.28	1.55	1.89	1.90	5.61	6.25	1.87	1.95
13	beverages & refreshments	0.57	1.46	1.04	2.47	0.83	2.53	1.23	3.10	8.65	11.38	2.88	3.56
14	food: Total	**41.79**	**43.14**	**76**	**73.07**	**48.21**	**53.59**	**71.31**	**65.77**	**202.15**	**203.93**	**67.47**	**63.79**
15	pan, tobacco & intoxicants	1.85	2.50	3.36	4.23	2.46	3.38	3.64	4.15	12.46	12.54	4.16	3.92
16	fuel & light	3.39	3.78	6.16	6.40	6.28	7.43	9.29	9.12	24.06	27.03	8.03	8.46
17	clothing	2.16	2.58	3.23	4.37	2.37	4.28	3.51	5.25	7.34	5.48	2.45	1.71
18	footwear	0.42	0.59	0.74	0.99	0.45	1.66	0.66	2.04	4.88	5.43	1.63	1.70
19	misc. goods & services	4.38	5.56	7.96	9.42	6.20	8.00	9.18	9.82	47.29	63.20	15.78	19.78
22	durable goods	1.01	0.88	1.9	1.49	1.58	3.05	2.34	3.74	1.41	1.91	0.47	0.60
23	non-food: total	**13.21**	**15.89**	**23.35**	**26.9**	**19.34**	**27.80**	**28.62**	**34.12**	**97.44**	**115.59**	**32.52**	**36.17**
24	Total Exp (14 + 21)	**55.00**	**59.03**	**100**	**100**	**67.55**	**81.39**	**100**	**100**	**299.59**	**319.52**	**100**	**100**

Trend and changes in the Consumption Pattern of Manipur:

We may now examine the trend and changes in the consumption pattern of Manipur over the period. Since it is not possible to plot a graph (though we desire to do so) due to the lack of available data for more years, our analysis will be a theoretical one. The percentage expenditure on food continues to decline in both the rural and urban areas. It decreased from 76% in 1872-73 to 67% in 1993-94 in rural and from 73% to 64 % in urban areas over the same period. This decline in the percentage of food in total expenditure could be attributed to the tremendous fell in the percentage expenditure on cereals that could not be offset by the rise in the percentage expenditure on non-cereal items. For non-cereal commodity groups such as vegetables, fruits & nuts and beverages the state experienced an increase for both rural and urban areas over the period, except for vegetables that declined in the nineties for urban. The percentage expenditure on milk & milk products and on meat, egg and fish showed an increase between 1972-73 to 1977-78 and again declined in the nineties.

On the contrary, the percentage expenditure on non-food items during this period increased from 24% to 32% in the rural areas and from 27% to 36% in the urban areas. Further it is observed that there has been a sharp rise in the

percentage of per capita expenditure on miscellaneous goods and services from 8% to 16% in the rural and from 9% to 20% in the urban areas during the period 1972-73 to 1993-94. Pan, tobacco & intoxicants items and fuel & light exhibits a more or less constant percentage allotted to them over the period. Thus there is a clear change in the consumption pattern in terms of a shift in the percentage of total expenditure from food to non-food items; and within the food items from cereals to non-cereals.

3.5: COMPARISON BETWEEN MANIPUR AND ALL-INDIA

Manipur is distinct in many ways from the rest of the country. However, in this section, our emphasis in comparing with the mainland All-India will be in regard to consumption pattern and related levels of development. The staple food of a region is usually determined by the predominant food crop that is grown in that region. Rice is grown both in the hills and plains. According to the 38th Round of NSS, the shares of expenditure on food grains to total consumer-expenditure in the rural and urban areas were 48% and 47% respectively. Again out of the total consumption of food grains, the consumption of rice accounts for 94% in rural and 91% in urban areas of the State.

Table 3.7: Average quantity (kg) of consumption of rice and total cereals per person for a period of 30 days.

NSS ROUND	MANIPUR		ALL-India	
	RICE	Total-Cereal	RICE	Total-Cereal
(1)	(2)	(3)	(4)	(5)
27th Round	17.15	17.59	5.93	13.66
32nd Round	17.16	17.31	6.54	13.97
38th Round	17.00	17.22	6.69	13.46
43rd Round	16.07	16.32	6.48	13.39
50th Round	15.05	15.58	6.47	12.43

Table 3.7 of the consumer-expenditure survey by the different NSS rounds indicates that the consumption pattern in the North-East and particularly that of Manipur is quite different from the mainland All-India consumption pattern. In Manipur the per capita consumption of rice is about three times that of the All-India average per capita consumption of rice in quantity and in value. The difference though much lesser for total-cereal shows that the average per capita consumption of total-cereal at All -India level is only about 80% of Manipur's consumption.

Looking at the break-up of cereals and food (table 3.8) reveals that rice alone constitute the state cereal consumption with a very insignificant amount of wheat. The main pulses consume in Manipur are arhar, moong, masur, urd and peas, which all shows a higher per capita levels of consumption than the All-India average.

Table 3.8: Average quantity (Kg.) of consumption of cereals and pulses per person for a period of 30 days in Manipur and All India (NSS 50th Round 1993-94)

		MANIPUR		ALL - INDIA	
S.No.	ITEM	RURAL	URBAN	RURAL	URBAN
(1)	(2)	(3)	(4)	(5)	(6)
1	Rice	15.77	14.92	7.02	5.28
2	Wheat	0.01	0.15	4.40	4.72
3	Jowar			0.84	0.39
4	Bajra			0.48	0.13
5	Maize	0.16		0.38	0.03
6	Barley			0.01	
7	Small millets			0.02	
8	Ragi			0.24	0.09
9	Total Cereals	**15.94**	**15.07**	**13.39**	**10.64**
10	Gram			0.04	0.05
11	Cereal Substitutes	0.02		0.06	0.04
12	Arhar	0.03	0.07	0.23	0.33
13	Gram(Split Gram)			0.06	0.08
14	Moong	0.04	0.05	0.10	0.14
15	Masur	0.16	0.17	0.13	0.11
16	Urad	0.03	0.05	0.10	0.11
17	Khesari			0.02	
18	Peas	0.10	0.10	0.02	0.01
19	Soyabean	0.01	0.01		
20	other pulses	0.11	0.06	0.09	0.09
21	Total Pulses	**0.50**	**0.51**	**0.85**	**0.96**

NSS 38th Round (1983)

Table3.9: Per Capita percentage of expenditure on Food by monthly per capita exp. Class

	Manipur		All India	
monthly per capita exp. Class (Rs.)	Rural	Urban	Rural	Urban
(1)	(2)	(3)	(4)	(5)
0 -30			73.11	61.95
30 -40			77.48	65.63
40 -50			77.23	74.72
50 -60	86.76		76.30	74.02
60 -70	85.73		75.45	73.40
70 -85	83.77	75.62	74.17	75.18
85 -100	80.37	76.78	72.76	70.73
100 -125	78.61	76.31	69.79	68.75
125 -150	73.26	75.89	66.13	66.04
150 -200	67.75	76.06	62.27	62.30
200 -250	55.04	59.87	56.84	58.27
250 -300	52.25	51.31	52.10	55.02
300 & above	47.32	46.04	44.15	44.45
All Classes	71.32	70.39	65.46	59.01

NSS estimates of food shares for households by monthly per capita expenditure class in 1983(though a bit dated) are shown in table 3.9. First, for the bottom up to Rs 85-100 monthly per capita expenditure class for All-India and upto Rs 125-150 for Manipur, food shares were over 70%. It is only for those in the top Rs 300 & above class that the food shares was below 50%. By any standard, food is the most important item of expenditure for the overwhelming majority of rural households. Although the food share has been declining slowly for households in all expenditure classes, including the lowest class, the size of the food share remains very high. In urban areas(for both All-India and Manipur), food shares were lower in every class than food shares in rural areas. For Manipur, for all the class the percentage expenditure on food is higher than the corresponding All-India figures. So if we use the criterion of the food stamp Programme[5] in India, all households would be 'poor'. Alternatively, if we used a food share of 60% to identify the poor, the cut-off that is used in China to identify a poverty line, (Wang Youjuan, cited in Li Shi, 1999) then also a majority of the population would be 'poor' (though we can not estimate how much percentage of the population).

[5] According to the Food stamp programme of USA any household that spends more than one-third of its income on food is considered 'poor' (Kuhn et al, 1996).

3.6: IMPACT AND CAUSES OF MANIPUR'S AGRICULTURAL CRISIS

The impact of the crisis, without doubt, can be seen from our findings in the preceding sections in that there has been

1) an imbalance between production and consumption with the latter exceeding the former,
2) a real decline in the per capita consumption not only or rice, the staple food of Manipur, but also all other items of consumption.

This deficit in production of food in Manipur is called a crisis because it is an agrarian state that is deficit. It is not argued that self-sufficiency in foodgrains should be attained at any cost. The deficiency can be met by importing from surplus state through the Food Corporation of India network as has been the practice. It can be a cheaper way of getting foodgrains. However, the problem in Manipur is with the transport system and the expansion of the secondary and the tertiary sectors to generate sufficient income to pay for the food imports, which seems to be a harder alternative. Still, a greater difficulty is the absence of organized and regulated markets and the underdeveloped character of the co-operative marketing system in the state. This dependence on outside products very often causes grave consequences in the consumption and the price structure.

CAUSES: The crisis could be attributed to the following:

1) Weak economic base infrastructure.
2) Lack of investment-private and public
3) Weak financial position of the state government
4) Inefficient functioning of the Public Distribution System (PDS) and lack of proper pricing policy in the state; and
5) Step-motherly treatment of the State by the Central Government.

Economically, Manipur is one of the most backward States in the country. As per the Index of Relative Development of the infrastructure for 1991-92, Manipur occupies a very low place. In terms of infrastructural development, the state lags behind the rest of the country by 21%. The length of road per 100 Sq. Km. of area in 1992 for the state is only 26.07 kms. as against 56.1 kms for All-India. In 1992-93 the per capita energy consumption for Manipur was 140.4 KWH while for All-India it was 330.6 KWH. The per capita Net State Domestic Product (NSDP) of Manipur, for 1994-95 at current price was Rs 6541 as against Rs 8237 for All India. To make things worse there are severe regional disparities within the state between the valley areas and the hills. The valley areas are comparatively more developed than the hills. Infrastructural development in the hills is inadequate in terms of road network,

agricultural development, medical facilities, educational facilities, power availability, etc. All these are attributed to the slackening of the overall growth and development in the state, which has had its impact in all spheres, including on the standard of living of the people.

Growth of food grain production is not sufficient enough to meet the demand within the State. This deficit in food production could be attributed to the in sufficient investment forthcoming from the private and public sectors to raise the productivity to meet the increasing demand of the growing population. We do not have data on capital-formation for the State. However, there are other indicators which can be taken as strong proof for this. For instance, in irrigation out of the two main source viz. canals and tube well and other wells, all the canal irrigations are owned by the State Government or by the Government of India(as shown in the preceding chapter). In Manipur, these are very insignificant with only about 30% of the net sown area being irrigated even in 1997-98. Secondly, if we consider applications of advanced inputs and practices the state lag far behind.

With the launching of the First Five Year plan in 1951 for the whole country, the process of Planned Economic Development for Manipur State also was initiated. The total outlay for the first three Five Year Plan for Manipur was however very small amounting to only Rs. 20.68 crores. It was

only in the fourth Five Year Plan with an investment of Rs. 30.25 crores, that the process of economic development in Manipur has initiated. Even then, the total plan allocation for development during the 30 years beginning from 1951-52 was only about 150 crores. The size of the plan outlay was boost only in the Sixth Five Year Plan with an allocation of Rs. 240 crores. (See appendix table 3.4)

The State has been totally denied any investment by any Central Public Sector Undertaking (PSU). The state also did not receive its due share from National Financial Institution like Industrial Development Bank of India (IDBI). The share of plan outlay for Manipur from the North-Eastern Council (NEC) was also insignificant being only around 3% to 7%. The people of Manipur have been depending only on the state plan for development of state, unlike other states that get larger private sector, central sector and external investments. The cumulative effects for all these factors have accentuated the structural backwardness that confronts the state today.

In very backward regions like Manipur, where cultivators are relatively very poor and hence cannot undertake yield-raising investments in agriculture, it is the duty of the State Government to undertake a substantial effort to assist them. But the State Government is not able to do this because of

its poor financial resource position. This will be clear from an examination of the revenue by sources of the State Government during the last few years.

Table 3.10: Total Revenue of Manipur Government.

Head	1975-76		1983-84		1993-94		1996-97	
	Revenue	% to total revenue	Revenue	% to total revenue	Revenue	% to total revenue	Revenue	% to total revenue
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
A. State Tax Revenua	193.58	5.30	395.98	3.51	1852.66	3.26	3118.28	3.79
B. Non-Tax Revenue	227.43	6.23	274.77	2.44	2768.99	4.68	5330.13	6.47
C. Share from Central Taxes	305.23	8.36	948.16	8.42	16150.26	28.43	23185.00	28.17
D. Grants-in-aid from the Centre	2922.29	80.09	9644.40	85.63	36020.56	63.64	50657.01	61.56
E. Misc. Capital Receipts	-	-	-	-	-	-	-	-
F. Total Revenue	3,648.53	100.00	11,263.31	100.00	56792.47	100.00	82290.42	100.00

Source: Finance Department, Manipur

It may be seen from the table 3.10 that tax and non-tax revenue of the State constitute only about 10% of the total revenue. In 1983-84 it constitute only 6% of the total revenue. The state share from the Central taxes is also very low only about 8% of total revenue in the seventies and eighties. This share from the Centre tax has increase significantly in the nineties. This low generation of tax and non-tax revenue from within the state economy is due to the fact that the state economy has not grown enough to collect adequate amounts from this source. Thus, the economy is stuck in a vicious circle: "low economic and development activities therefore no revenue to collect, no revenue therefore no fund to invest..." The state's main source of revenue is

grants-in-aid from the Centre that constitute more than 80% of total revenue in the seventies and eighties. With the increase in the State's share from Central taxea this has gone down to around 60% in the nineties. There is no capital receipts coming from private companies or foreign investment in the state. The huge amount of grants-in aid coming from the Centre cannot be set apart for investment because of other problems, such as insurgency, law and order, etc. which itself is the manifestation of the very poor economic and employment growth.

In Manipur, the main avenue of employment in the organized sector is primarily restricted to the government sector and the scope in private sector is negligible due to lack of employment oriented industries. The state has a high rate of un-employment particularly among the educated youths. The number of persons on the live-register in Employment Exchanges was 2.52 lakhs as on 31.01.1995, that was only 0.02 lakhs in 1974. The ever increasing volume of unemployment amongst the educated youths poses serious socio-economic and political problems leading to the deterioration of the law and order situation in the State.

Coming to investment in agriculture it has been declining in terms of percentage of total plan outlay. In a state like Manipur where the majority are poor the role of the State is very crucial specially in a key sector like

agriculture, to accelerate the pace of development. Compared with the percentage of plan outlay allocated at the All-India level which is around 5% to 6% the fund allocated to the agriculture sector in Manipur, appears comparatively high. But in the absence of any other sources it is still not enough; even then it is declining further in the nineties.

Table 3.11: Percentage of Plan outlay in Agriculture & Allied Activities in Manipur

Five Year Plan	Agriculture & Allied Activities	Total	% Out lay in Agriculture
(1)	(2)	(3)	(4)
5th Plan(1974-79)	16.35	92.86	17.61
6th Plan(1980-85)	27.50	240.0	11.46
7th Plan(1985-90)	56.60	430.0	13.16
8th Paln(1992-97)	91.49	979.0	9.35
9th Plan(1997-2002)	183.17	2426.39	7.55

Source: Annual Plan 1995-96-Review and outline, Vol.I Published by Planning Department, Govt. of Manipur, -Department of Planning, Manipur.

The agricultural credit requirements of the farmers are met mainly from the non -institutional local sources with a very high rate of interest. Most of the existing institutional sources are not accessible due to their location or complications in their terms and conditions. A majority of the state financial banks for this purpose are often short of funds, and the Central run institutions are all concentrated in Gauhati, Assam. Also, owing to the absence of ownership rights on land in the hill regions, for the Tribals it is hard to avail

any facility for credit and other financial assistance. Therefore, this slackening of investment in agriculture should be of major concern to the state government, as it is also one of the main cause of the agricultural crisis in the state.

It has been observed from our study that there has been a decline in the per capita consumption of cereal in rural and urban areas of Manipur and that of All India. In addition to that, the NSSO recently released data on the calorie intake per person per day in India's 17 most populous states.[6] This reveals a deeply disturbing finding that, "at the All India level, average calorie intake declined steadily in rural and urban areas between 1972-73 and 1993-94" According to the findings of shariff and Mallick(1999): in 1993-94, on average, persons in 80% of rural households and 70% of urban were getting less than the recommended amount of calories per day(i.e. less than 2,400 calories in rural areas and 2,100 calories in urban areas). Information as to how many people of Manipur belong to what level of calorie intake are not known to us. But it is sure that chronic hunger and malnutrition remains widespread in some parts of the state.

The critical issue, thus, is the source of food coming to the state and the distribution system. In order to capture this, we will see the functioning of the

[6] Swaminathan and Ramachandran(1999)

Public Distribution System (PDS) in Manipur[7]. The basic objective of the PDS in India is to provide essential consumer goods at cheap and subsidised prices to the consumer so as to insulate them from the impact of rising prices of these commodities and maintain the minimum consumption status of our population.

The department of Food & Civil Supplies has been entrusted with the task of PDS in Manipur. The Directorate of Food & Civil Supplies, Manipur came into existence by amalgamating two offices viz-(i) The Civil Supply Office and (ii) The State Trading Office with Deputy Commissioner (the erstwhile MCD) as Head of the Department. According to the Economic Review Report of Manipur(1989-90), in 1989-90 there were 16 Trucks, and 16 go downs for food and civil supplies out of which 3 are in the hills. Total capacity of the 16 go downs was 17,700 tonnes out of which 1,200 tonnes are in the hills. In 1989-90, there were 1583 fair price shops operating in the Stae. The commodities distributed through the fair price shop besides foodgrains, includes levy sugar, edible oil, salt, kerosene, cement, etc. During the year 1988-89, 24,897 tonnes of rice have been distributed which worked out to be 14.45 kg per person against the per capita per annum consumption requirement of 207 kg. Estimated quantity of sugar distributed per person per annum during the same period is 3.22 kg.

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[7] Apart of our discussion in PDS is drawn from Malthura Swaminathan's book(1999)-"Weakening welfare..."

In an isolated state like Manipur where transportation and communication systems is very poor the need for Government PDS and fair Price shop is undoubtedly more. But this again, seems to be unavailable to the rural poor. Due to lack of proper storage facility and poor delivery services, even where it exists it is confined to the district headquartes. The villagers scarcely benefit from PDS. The study by Parikh (1994) shows that only 5.4% of the population in the urban areas of Manipur participates in PDS. To put it differently, more that 90% of the population did not purchase any grain from the PDS.

In order to safe guard the interest of the consumers and the producers agricultural prices policy is very necessary. Rapid and violent fluctuations in agricultural prices have many harmful consequences. For example, a steep decline in price of a particular crop in some year can inflict heavy losses on the growers of that crop, reducing their income substantially and also dampen their spirit to cultivate the same crop next year. Thus, the agricultural prices policy of the government should serve a dual purpose- not allowing the prices to rise inordinately and not allowing them to fall below a certain minimum level. Naturally, for this purpose it becomes necessary for the government to build up buffer stocks and sufficient storage capacity to hold these stocks. An extensive public distribution system is also required to distribute food grains and other

agricultural commodities at fair prices to the consumer. Therefore, to strengthen the PDS and setup an appropriate agricultural prices policy is an immediate need to be taken up by the state government. A successful implementation of these will improve the living standard of the poor masses.

The North-eastern states in general and that of Manipur in particular have long been neglected by the Central Government. In terms of grants-in-aid and loans the state of Manipur seems to get a proportionately high amount of funds from the centre, but in terms of real investment activities and taking up projects what the state has been getting actually is a step-motherly treatment. The Central Government knows very well the inability of the state to initiate its own development activities but never really tried to make it stand independently and grow. Instead, the Central is making it perpetually dependent on it.

3.7: SUMMARY

This chapter attempted an assessment of the impact of the crisis in agriculture on the living standard of the people of Manipur. In doing so, we focus on the pattern of consumption and the changes therein over time. The impact and causes of the crisis are also discussed extensively. Our findings are that there is an imbalance between production and consumption; and there is a real decline in consumption over time.

Manipur, a rice consumer state, where rice alone accounted for about 90% of food grains production and about 80% of the total cropped area is a dependent state not able to meet the requirement of its population. Manipur continued to have a deficit in food production (except for the 32nd round of NSS year) despite the fact that there was a decline in the per capita consumption in quantity and real value. Our analysis of quantity and value of consumption of different items by monthly per capita expenditure class shows that as income or expenditure class increases the consumption level also increases. In rural sector, the share of food as a whole has not altered substantially. The share of some groups, notably milk & milk products, vegetables and beverages, refreshments & processed food, have increased in the rural areas at the expenses of cereal. The percentage expenditure on food for all classes is higher in the rural than in the urban areas. Among non-food groups, miscellaneous goods and services have registered a steady rise in share over the period under consideration.

One distinct difference between Manipur and All India is in the composition of cereal consumption. The consumption of rice is more than 90% of their total cereal consumption in Manipur. The monthly per capita consumption of rice in Manipur is about 17 kg as against the All India averages of 6 kg, i.e. the Manipuris per capita consumption of rice is almost three times

the All India average. Our discussion on the impact and causes of the agricultural crisis reveals the financial status of Manipur state government. In this connection the state government need to take up a fresh initiative in many departments. Also, there is a need for correction in many sectors at the policy and administrative levels itself.

CHAPTER-4

SUGGESTIONS AND CONCLUSIONS

From our study it is clear that Manipur is predominantly an agrarian economy in which agricultural production is not structurally transformed and diversified. Economically and structurally, it is one of the most backward states in India. Being predominantly hilly the only resource which Manipur possesses is the valley area where most of the state's requirement of food are grown. The hill regions are not suitable for cultivation and most of its requirements of food are imported from the valley. There is a structural crisis due to this unevenness in development between the hill and valley and this further accentuates disparities between the two regions. Within the state the tribal population in the hill is in a disadvantage condition because it does not have access to a proper transport and communication. In years of crops failure they are even more badly hit.. A numbers of measures undertaken by the government such as, for instances, the Public Distribution System (PDS), Banking facilities, etc. do not reach them. The tribals are relatively more vulnerable than the plain people since they cannot meet their requirements of food and non-food in a timely manner due to the lack of proper marketing net-work facilities.

Manipur though an agrarian economy has also become of late a food deficit state. The main reasons for this deficit, a part from over reliance on the uncertain rainfall is the increase in population at an alarming rate. Because of the disruption of the ecological balance in the state during the last few years as a result of deforestation through mass cutting of trees in a larger hill regions for jhuming and the resultant erosion of soil, rainfall becomes very uncertain and scanty. There has been a mixed record of partial drought and partial flood and hence production cannot come up to the expectation of the planners. Looking at the production trends, it is observed, that after a sharp increase in the fifties, the level of output has reached a plateau.

Agricultural development is multi-dimensional in nature. Agricultural transformation is brought about by a complex combination of price incentives, changes in the social and institutional structure and public investment in research, technological diffusion and rural infrastructure. In fact, these factors are highly inter-dependent and the status of any one of them generally depends more or less on the achievements on other fronts. Therefore, the relevance of a policy instrument whether it be institutional reforms or technological or research in investment should be discussed only when the characteristics of the problem are unambiguously stated.

Agriculture, as we know, is a decentralized activity where millions of individual farmers are free to take decision regarding investment, crops to be grown, input-mix to be used, and the amount of produced to be sold within the infrastructure and policy environment generated by the government. Any planning for agriculture supply should be based on a realistic assessment available resources, the possibility of the transfer of technology to the field level, given the behavioural constrains of the millions of production agents and also agricultural potential, estimated in a realistic manner in the medium term and the long term.

To transform the class nature and agrarian relation of the princip agents in rural societies feudal modes of production have first to be destroyed before economic incentives and economic organization can play a role in transforming rural society. The state for this matter plays a vital role of energizing different components of the growth process. Spreading of available technology for agricultural development should be through the implementation of an appropriate frame work of institution and adjustment of incentives prices. Operationalising the impact of agricultural and rural development technology at the farm/village level and setting up of para-statal and institution which support the extension of technology to this level as also agricultural marketing and processing should be undertaken by the state.

In the hill, the alternative to jhuming would have to be technologically viable, economically efficient and socially acceptable. As seen from the first chapter, a major cause of rural poverty is lack of access to land ownership and land use. The only requirement any type of land reform should meet is that it should create a relationship between man and land that does not thwart his incentive to work and to invest his own labour. If this relation between man and land is not established, attempt to improve technology in agriculture and to raise yields will never have a great result. This type of reform is also important for making other complementary reforms serve the masses more effectively. Tribal land system is a problem to banks as it lacks mortgage-ability for want of written records of ownership rights. Hence, tribal farming remains "untouchable" to banks and capital formation in hills often goes by default. Since banking laws cannot be amended to finance jhuming, village councils and tribal chief should be persuaded to go for cadastral survey and conferring right to individual ownership. In semi-monetised tribal areas, "Input-Bank" offering farm inputs, credit and marketing should be set up by the government.

Horticulture development in the hill tracks on an impressive scale will be an appropriate step to supplement the income of the farmer. The ecological conditions in the hills are suited to the growth of pine-apples, oranges, papayas and citrus fruits. This alternative measures of crop production to traditional

shifting cultivation are no doubt welcome. But the necessary financial backup for any alternative activity which involves a long gestation period is always lacking. When the shifting cultivators come forward to start plantation of fruits, horticulture gardening, etc. remunerative alternative means of income be given for the intervening period (i.e. upto the time of getting return from plantations etc.). As there is not much local demand and existing produced cannot be sent outside the territory due to difficult and expensive transport cost and the perishable nature of crops, horticulture has not been an attractive line with Manipur farmers. The natural advantages of soil and climate for horticultural crops are not exploited and food crops are grown where fruits might thrive better. The problem relating to further expansion of area under any plantation in the state is the lack of market beyond the region. For these fruit crops presence of good communication facilities is an essential prerequisite as these crops are of "low value-high volume" nature. Processing centers as well as marketing centers should be made available in the vicinity of the producing areas.

In the valley we have a condition of very limited land resources with low diversified cropping pattern and low rate of industrial development on the one hand and high rate of population growth on the other, resulting in heavy pressure on the land. However, there is enough scope for increasing area under

cultivation and bringing land under double and diversified cropping with assured irrigation facilities and proper soil management. Growth of agricultural output can be accelerated by reversing the decelerating trend in area under rice crop. Since there is no evidence for any significant change in the cropping pattern, the deceleration in the growth of area under rice crop can be interpreted as the division of more and more agricultural land towards non-agriculture uses. The rapid pace of urbanization has undoubtedly placed strong pressure on the valley land which is more suitable for cultivation than the hill land. The needs of urbanization can be met by developing urban centers in the low lying hills and foot-hill. It can be further dispersed to the five hill districts by establishing government offices and residential complexes in the district. In addition to stopping the diversion of arable land in the valley for non-agricultural purposes every efforts should be made for reclaiming the shallow lakes in the valley. With the additional area made available for cultivation and the introduction of double cropping it should be made possible to shift from a mono-cropping of paddy to a more diversified crop pattern.

The officers of various implementing agencies of developmental plans in the state blame the farmers for their alleged laziness or apathetic attitude while the farmers complain that there is lack of sincerity on the part of the officers in disseminating knowledge of technology and seeds and in supplying

fertilizers etc. in proper time. The extension services of the implementing agencies need complete re-orientation. Lack of market to sell their surplus product and of a proper pricing policy from the government is a major hurdle to any increase in production by the farmers. In the absence of proper pricing policy the adventurous cultivators often end up becoming the losers, since they are subjected to and exploited by the private traders and mahajans. This policy should be accompanied by the building up of government buffer stocks and by an extensive Public Distribution System(PDS). This risk reduction in the form of assured prices is expected to have a positive impact on the farmers to produce more and in commercializing agriculture.

In order to have the needed structural change or transformation what is important is greater effort by the government. In a situation where investment is not forth coming from any other sources in substantial amount every thing rest on the government. Central Government has to take the initiative in major infrastructural development and projects, not just by giving grants and aids. There should be emphasis in central and state government plan for the regions on productive sectors like irrigation, power and infrastructure etc. This will create more avenues for employment which will further increase the purchasing power of the people above their production raising their well being and standard of living.

APPENDIX

and

BIBLIOGRAPHY

Appendix Table 1:1
anipur by Districts (1991 Census)

S.No	Region / Districts	Area		Population		Population density (per sq.km.)
		in sq.km.	% to total	in '000	% to total	
1	2	3	4	5	6	7
A	VALLEY	2238	10	1186	64.5	530
1	IMPHAL	1128	5.5	711	38.7	576
2	BISHNUPUR	496	2.2	181	9.8	363
3	THOUBAL	514	2.3	294	16	565
B	HILLS	20089	90	651	35.5	32
4	SENAPATI	3271	14.7	209	11.3	63
5	CHURACHANDUR	4570	20.5	176	9.6	39
6	UKHRUL	4544	20.3	109	6	24
7	TAMENGLONG	4391	19.7	86	4.7	20
8	CHANDEL	3313	14.8	71	3.9	21
	TOTAL: MANIPUR	**22327**	**100**	**1837**	**100**	**82**

ensus of India 1991

APPENDIX 1.2
AREA UNDER RICE BY TYPE OF CULTIVATION(DISTRICT WISE) (AREA IN '000 Hectares)

SL. NO	NAME OF DISTRICT	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
	PERMANENT (INCLUDING TERRACE)						
1	SENAPATI	17.24	26.66	16.12	18.48	26.17	21.5
2	TAMENGLONG	2.83	1.28	1.14	1.28	0.48	0.99
3	CHURACHANDPUR	4.69	2.44	2.71	2.42	2.69	2.63
4	CHANDEL	1.54	1.67	3.29	2.75	2.26	2.51
5	UKHRUL	12.6	10.23	6.55	2.69	2.07	1.4
	HILL TOTAL	38.56	42.28	29.81	27.62	33.67	29.03
6	IMPHAL	42.64	42.77	50.19	34.46	47.92	42.56
7	BISHNUPUR	16.52	17.83	16.6	16.76	16.04	17.72
8	THOUBAL	28.23	32.42	29.56	26.3	24.99	28.14
	VALLEY TOTAL	87.39	93.02	96.35	77.52	88.95	88.42
	STATE TOTAL	125.95	135.3	126.16	105.14	122.62	117.45
	JHUM						
1	SENAPATI	0.97	0.96	2.81	2.05	3.71	2.07
2	TAMENGLONG	7.07	7.08	9.08	5.8	8.8	8.33
3	CHURACHANDPUR	5.63	10.86	13.88	11.21	10.25	11.56
4	CHANDEL	6.63	4.57	5.14	4.34	6.8	4.54
5	UKHRUL	4.94	3.1	6.86	6.39	13.92	13.95
	HILL TOTAL	25.24	26.57	37.77	29.79	43.48	40.45
6	IMPHAL						
7	BISHNUPUR						
8	THOUBAL						
	VALLEY TOTAL						
	STATE TOTAL	**25.24**	**26.57**	**37.77**	**29.79**	**43.48**	**40.45**
	TOTAL						
1	SENAPATI	18.21	27.62	18.93	20.53	29.88	23.57
2	TAMENGLONG	9.9	8.36	10.22	7.08	9.28	9.32
3	CHURACHANDPUR	10.32	13.3	16.59	13.63	12.94	14.19
4	CHANDEL	8.17	6.24	8.43	7.09	9.06	7.05
5	UKHRUL	17.54	13.33	13.41	9.08	15.99	15.35
	HILL TOTAL	63.8	68.85	67.58	57.41	77.15	69.48
6	IMPHAL	42.64	42.77	50.19	34.46	47.92	42.56
7	BISHNUPUR	16.52	17.83	16.6	16.76	16.04	17.72
8	THOUBAL	28.23	32.42	29.56	26.3	24.99	28.14
	VALLEY TOTAL	87.39	93.02	96.35	77.52	88.95	88.42
	STATE TOTAL	**151.19**	**161.87**	**163.93**	**134.93**	**166.1**	**157.9**

Source: Directorate of Economics & Statistics Manipur, 1998

APPENDIX 2.1

AREA UNDER RICE BY TYPE OF CULTIVATION(DISTRICT WISE) (AREA IN '000 Hectares)

SL. NO	NAME OF DISTRICT	1990 - 91	1991 - 92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
	HIGH YIELDING VARIETIES AND IMPROVED VARIETIES								
1	SENAPATI	0.32	0.03	2.40	3.73	1.30	1.08	4.49	7.13
2	TAMENGLONG	1.77	1.41	2.42	0.97	0.82	0.76	0.48	0.18
3	CHURACHANDPUR	0.68	3.46	1.47	2.81	4.63	1.93	4.67	3.50
4	CHANDEL	1.37	4.18	1.38	0.74	2.26	3.06	4.75	4.24
5	UKHRUL								
	HILL TOTAL	**4.14**	**9.08**	**7.67**	**8.25**	**9.01**	**6.83**	**14.39**	**15.05**
6	IMPHAL	24.58	27.77	16.91	18.80	25.74	17.51	40.91	24.93
7	BISHNUPUR	12.57	10.98	9.27	7.87	11.92	10.67	14.50	13.62
8	THOUBAL	18.78	15.89	14.83	4.61	15.10	17.57	20.07	18.23
	VALLEY TOTAL	**55.93**	**54.64**	**41.01**	**31.28**	**52.76**	**45.75**	**75.48**	**56.78**
	STATE TOTAL	**60.07**	**63.72**	**48.68**	**39.53**	**61.77**	**52.58**	**89.87**	**71.83**
				OTHERS					
1	SENAPATI	20.78	21.90	15.81	23.81	17.63	19.45	25.39	16.44
2	TAMENGLONG	7.24	8.57	7.48	7.39	9.40	6.32	8.80	9.14
3	CHURACHANDPUR	7.79	5.76	8.85	10.49	11.96	11.70	8.25	10.69
4	CHANDEL	4.14	3.09	6.79	5.50	6.17	4.03	4.31	2.81
5	UKHRUL	11.98	13.01	17.20	13.33	13.41	8.98	15.99	15.35
	HILL TOTAL	**51.93**	**52.33**	**56.13**	**60.52**	**58.57**	**50.48**	**62.74**	**54.43**
6	IMPHAL	24.47	21.96	25.73	23.97	24.45	16.95	7.01	17.63
7	BISHNUPUR	6.27	7.64	7.25	9.96	4.68	6.09	1.54	4.10
8	THOUBAL	14.67	14.65	13.40	27.81	14.46	8.73	4.92	9.91
	VALLEY TOTAL	**45.41**	**44.25**	**46.38**	**61.74**	**43.59**	**31.77**	**13.47**	**31.64**
	STATE TOTAL	**97.34**	**96.58**	**102.51**	**122.26**	**102.16**	**82.25**	**76.21**	**86.07**
				TOTAL					
1	SENAPATI	21.10	21.93	18.21	27.60	18.93	20.53	23.88	23.57
2	TAMENGLONG	9.01	9.98	9.90	8.36	10.22	7.08	9.28	9.32
3	CHURACHANDPUR	8.47	9.22	10.32	13.30	16.59	13.63	12.94	14.19
4	CHANDEL	5.51	7.27	8.17	6.24	8.43	7.09	9.06	7.05
5	UKHRUL	11.98	13.01	17.20	13.33	13.41	9.08	15.99	15.35
	HILL TOTAL	**56.07**	**61.41**	**63.80**	**68.83**	**67.58**	**57.41**	**71.15**	**69.48**
6	IMPHAL	49.05	49.73	42.64	42.77	50.19	34.46	47.92	42.56
7	BISHNUPUR	18.84	18.62	16.52	17.83	16.60	16.76	16.04	17.72
8	THOUBAL	33.45	30.54	28.23	32.42	29.56	26.30	24.99	28.14
	VALLEY TOTAL	**101.34**	**98.89**	**87.39**	**93.02**	**96.35**	**77.52**	**88.95**	**88.42**
	STATE TOTAL	**157.41**	**160.30**	**151.19**	**161.85**	**163.93**	**134.93**	**160.10**	**157.90**

Source: Directorate of Economics & Statistics Manipur

APPENDIX TABLE 2.2
CONSUMPTION OF CHEMICAL FERTILIZERS IN MANIPUR (In tonnes)

Year	Nitrogen	Phosphatic	Potassic	Total
1975-76	1563	124	54	1,741
1980-81	2328	441	58	2827
1981-82	2848	412	72	3332
1982-83	3391	597	54	4024
1983-84	3496	790	79	4366
1984-85	3196	504	58	3758
1985-86	3845	817	129	4791
1986-87	4333	1137	194	5661
1987-88	4676	1513	144	6333
1988-89	5179	1928	197	7304
1989-90	5594	1162	149	6904
1990-91	5560	2401	254	8215
1991-92	6676	1900	583	9159
1992-93	6676	1900	583	9159
1993-94	8202	853	51	9106
1994-95	7516	900	138	8554
1995-96	10536	1053	233	11822
1996-97	11397	1248	534	13179
1997-98	11356	1316	513	13185

Source: Directorate of Agriculture, Government of Manipur

AppendixTable 3.1 a:

Table: Per Capita consumption of Rice (Qty. and Value) in Manipur according to NSS consumer expenditure survey, Round 27 to 50

	RURAL					URBAN					State capital consumption of Rice	
State (Round)	Quantity (kg)	Value (Rs)	Sample Pop	Quantity (kg)	Value (Rs)	Quantity (kg)	Value (Rs)	Sample Pop	Quantity (kg)	Value (Rs)	Quantity (kg)	Value (Rs)
1	2	3	4	5 = (2x4)	6 = (3x4)	7	8	9	10 = (7x9)	11 = (8x9)	12 = (5+10 / 4+9)	13 = (6+11 / 4+9)
1972 - 73 (27)	17.40	30.38	4316.00	75098.40	131120.08	16.73	30.98	2448.00	40955.04	75839.04	17.16	30.60
1977 - 78 (32)	17.58	29.62	5300.00	93174.00	156986.00	16.15	29.35	2203.00	35578.45	64658.05	17.16	29.54
1983 - 84 (38)	17.11	58.55	6529.00	111711.19	382272.95	16.78	58.47	3450.00	57891.00	201721.50	17.00	58.52
1987 - 88 (43)	16.55	72.35	3292.00	54482.60	238176.20	15.38	68.12	2252.00	34635.76	153406.24	16.07	70.63
1993 - 94 (50)	15.71	119.11	5465.00	85855.15	650936.15	14.88	112.16	3699.00	55041.12	414879.84	15.37	116.30

3.16

Table: Per Capita consumption of Total Cereal (Qty. and Value) in Manipur according to NSS consumer expenditure survey, Round 27 to 50

	RURAL					URBAN					State average per capita consumption	
State (Round)	Quantity (kg)	Value (Rs)	Sample Pop	Quantity (kg)	Value (Rs)	Quantity (kg)	Value (Rs)	Sample Pop	Quantity (kg)	Value (Rs)	Quantity (kg)	Value (Rs)
1	2	3	4	5 = (2x4)	6 = (3x4)	7	8	9	10 = (7x9)	11 = (8x9)	12 = (5+10 / 4+9)	13 = (6+11 / 4+9)
1972 - 73 (27)	17.94	31.16	4316.00	77429.04	134486.56	16.98	31.99	2448.00	41567.04	78311.52	17.59	31.46
1977 - 78 (32)	17.63	29.71	5300.00	93439.00	157463.00	16.56	30.48	2203.00	36481.68	67147.44	17.32	29.94
1983 (38)	17.24	58.87	6529.00	112559.96	384362.23	17.18	59.72	3450.00	59271.00	206034.00	17.22	59.16
1987 - 88 (43)	16.72	72.84	3292.00	55042.24	239789.28	15.74	69.35	2252.00	35446.48	156176.20	16.32	71.42
1993 - 94 (50)	15.93	120.01	5465.00	87057.45	655854.65	15.07	114.01	3699.00	55743.93	421722.99	15.58	117.59

Appendix Table 3.2

Net State Domestic Product(SDP) of Manipur

YEAR	CURRENT PRICE	CONSTANT PRICE	IMPLICIT PRICE DEFLATOR
1970-71	4020	10974	36.63
1971-72	4737	11086	42.73
1972-73	5663	11810	47.95
1973-74	7334	14163	51.78
1974-75	8641	15615	55.34
1975-76	9150	16339	56
1976-77	9532	16664	57.2
1977-78	11092	18274	60.7
1978-79	11399	17693	64.43
1979-80	14114	17780	79.38
1980-81	19956	19956	100
1981-82	24202	21103	114.68
1982-83	25635	21445	119.54
1983-84	30398	23296	130.48
1984-85	34444	24257	142
1985-86	37225	25617	145.31
1986-87	42604	26125	163.07
1987-88	54177	28166	192.35
1988-89	60583	29526	205.18
1989-90	63408	29934	211.82
1990-91	72301	31622	228.64
1991-92	86769	34285	253.08
1992-93	95711	35939	266.31
1993-94	115633	36692	315.14
1994-95	130579	39584	329.87
1995-96	141223	40719	346.82
1996-97	157065	43406	361.85
1997-98	175521	46156	380.27

AppendixTable 3.3 a:
NSS 27TH ROUND(1972-73)
Consumer expenditure(Rs) per person for a period of 30 days by broad groups of items and by monthly per capita expenditure classess. MANIPUR: RURAL

	Item	monthly per capita expenditure class in rupees														
		0 -13	13 - 15	15 - 18	18 - 21	21 - 24	24 - 28	28 - 34	34 - 43	43 - 55	55 - 75	75 - 100	100 - 150	150 - 200	200 & above	all classes
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Cereals		8.62		12.58	15.59	17.26	19.95	25.27	30.66	36.59	38.49	45.36	53.41		31.16
2	Gram															
3	Cereal substitutes															
4	Pulse & Products				0.20	0.62	0.31	0.37	0.69	0.74	0.89	1.36	1.81	5.17		0.85
5	Milk &Milk products						0.06	0.25	0.23	0.30	0.65	1.08	1.58	3.31		0.50
6	Edible Oil		0.30		0.73	0.66	0.65	0.71	0.73	0.98	1.05	1.72	2.11	2.93		1.04
7	Meat, Egg & Fish		1.38		1.28	0.88	2.26	2.39	2.66	3.71	4.72	7.01	8.07	14.25		4.12
8	Vegetables		0.76		1.15	1.16	1.27	1.39	1.60	2.18	2.43	3.34	3.68	7.77		2.21
9	Fruits & Nuts							0.06	0.08	0.09	0.19	0.37	0.90	1.24		0.18
10	Sugar						0.04	0.11	0.14	0.20	0.40	0.72	1.35	1.77		0.33
11	Salt		0.15		0.18	0.15	0.13	0.14	0.15	0.16	0.15	0.18	0.19	0.30		0.16
12	Spices		0.44		0.62	0.57	0.44	0.46	0.57	0.67	0.73	0.94	0.95	1.92		0.67
13	beverages & refreshments				0.23		0.13	0.22	0.23	0.36	0.52	0.99	1.93	4.36		0.57
14	food: Total		**11.65**	**0**	**16.97**	**19.63**	**22.55**	**26.05**	**32.35**	**40.05**	**48.32**	**56.20**	**67.93**	**84.43**	**180.00**	**41.79**
15	pan, tobacco & intoxicants		0.41		0.68	0.96	0.70	0.91	1.02	1.56	2.40	2.87	4.11	9.95	20.00	1.85
16	fuel & light		1.84		1.71	1.61	2.28	2.53	2.62	3.06	3.68	5.23	5.29	11.82	1.00	3.39
17	clothing						0.09	0.65	0.69	1.09	2.38	5.16	10.45	24.54		2.16
18	footwear				0.77			0.20	0.08	0.21	0.47	0.84	2.85			0.42
19	misc. goods & services		0.14			0.39	0.85	1.36	1.56	3.03	5.27	10.20	14.74	16.88	5.00	4.36
20	rents								0.01	0.03	0.01	0.02	0.06			0.02
21	taxes															
22	durable goods						0.03		0.05	0.11	0.64	4.27	7.65	16.71		1.01
23	non-food: total		**2.39**	**0**	**3.16**	**2.96**	**3.95**	**5.65**	**6.03**	**9.09**	**14.85**	**28.59**	**45.15**	**79.9**	**26.00**	**13.21**
24	total consumer exp		**14.04**	**0**	**20.13**	**22.59**	**26.50**	**31.70**	**38.38**	**49.14**	**63.17**	**84.79**	**113.08**	**174.33**	**206.00**	**55.00**
25	no. of sample hrs.		2		7	12	23	73	170	181	192	76	40	5	1	**782**

AppendixTable 3.3 b:
NSS 27TH ROUND(1972-73)
Consumer expenditure(Rs) per person for a period of 30 days by broad groups of items and by monthly per capita expenditure classess. MANIPUR: URBAN

	Item	monthly per capita expenditure class in rupees														
		0 -13	13 - 15	15 - 18	18 - 21	21 - 24	24 - 28	28 - 34	34 - 43	43 - 55	55 - 75	75 - 100	100 - 150	150 - 200	200 & above	all classes
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Cereals						19.81	20.71	26.15	29.29	32.50	38.17	45.85	48.16	66.66	31.39
2	Gram															
3	Cereal substitutes															
4	Pulse & Products							0.01		0.03	0.07					0.03
5	Milk &Milk products							0.21	0.41	0.53	1.31	1.46	2.23	4.22	5.05	0.95
6	Edible Oil						0.65	0.74	0.82	1.04	1.56	2.29	3.51	3.00	3.91	1.46
7	Meat, Egg & Fish						0.78	1.98	2.21	2.71	4.83	5.21	8.16	13.28	16.51	3.89
8	Vegetables						0.94	1.35	1.52	1.94	2.38	2.43	3.98	4.73	4.1 5	2.1 6
9	Fruits & Nuts							0.09	0.06	0.10	0.40	0.46	0.65	0.78	1.99	0.26
10	Sugar						0.11	0.34	0.28	0.39	0.74	1.11	1.98	0.96	1.33	0.66
11	Salt						0.10	0.12	0.11	0.13	0.15	0.20	0.16	0.32	0.39	0.14
12	Spices						0.46	0.51	0.51	0.64	0.83	0.89	1.24	1.49	1.91	0.74
13	beverages & refreshments						0.38	0.32	0.43	0.71	1.71	3.73	3.69	20.22	23.35	1.46
14	food: Total						23.23	26.38	32.5	37.51	46.48	55.95	71.45	97.16	125.25	43.14
15	pan, tobacco & intoxicants						0.07	0.68	1.15	1.90	2.53	4.75	6.02	5.93	6.99	2.50
16	fuel & light						2.06	2.45	2.65	3.30	4.08	5.12	6.00	7.95	11.76	3.78
17	clothing							0.09	0.37	1.21	3.12	4.56	9.08	13.65	23.78	2.58
18	footwear							0.31	0.14	0.38	0.45	1.63	1. 54	3.89	2.65	0.59
19	misc. goods & services						0.80	1.04	1.68	3.12	5.60	8.99	14.05	16.6 5	44.82	5.04
20	rents							0.21	0.16	0.26	0.49	0.93	0.24	19.80	18.52	0.52
21	taxes															
22	durable goods							0.02		0.05	0.39	1.96	7.56	0.37		0.88
23	non-food: total						2.93	4.8	6.15	10.22	16.66	27.94	44.49	68.24	108.52	15.89
24	tctal consumer exp						26.16	31.18	38.65	47.73	63.14	83.89	115.94	165.40	233.77	59.03
25	no. of sample hrs.						5	20	64	120	122	61	39	6	5	442

AppendixTable 3.4a:
NSS 32nd ROUND(1977-78)
Consumer expenditure(Rs) per person for a period of 30 days by broad groups of items and by monthly per capita expenditure classess. MANIPUR: RURAL

	Item	monthly per capita expenditure class in rupees														
		0 -13	13 - 15	15 - 18	18 - 21	21 - 24	24 - 28	28 - 34	34 - 43	43 - 55	55 - 75	75 - 100	100 - 150	150 - 200	200 & above	all classes
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Cereals		3.33	5.06	9.28	18.08	22.23	24.84	26.50	29.80	33.25	34.71	38.66	77.84	50.24	29.71
2	Gram															
3	Cereal substitutes											0.01				
4	Pulse & Products	0.37		0.15	0.43	0.61	0.43	0.74	1.27	1.48	1.53	1.77	1.89	3.30	3.03	1.37
5	Milk &Milk products				0.24	0.21	0.30	0.37	0.38	0.82	1.20	2.12	2.22	2.36	2.44	0.97
6	Edible Oil			0.16	0.67	0.35	0.24	0.92	1.59	1.96	2.11	2.22	2.80	3.60	4.60	1.78
7	Meat, Egg & Fish		0.55	2.04	2.04	3.21	3.17	3.89	6.19	7.20	7.60	9.21	10.73	10.06	16.72	6.89
8	Vegetables	0.23	0.61	1.67	2.03	1.67	2.39	2.49	3.79	3.92	5.20	5.59	9.71	9.06	6.36	4.40
9	Fruits & Nuts	2.15			0.03	0.24	0.18	0.20	0.21	0.21	0.37	0.28	0.50	1.21	1.36	0.28
10	Sugar		0.05	0.31	0.08	0.28	0.20	0.28	0.33	0.32	0.46	0.61	0.84	0.99	1.32	0.41
11	Salt		0.14	0.18	0.25	0.10	0.21	0.23	0.28	0.30	0.28	0.30	0.59	0.48	0.64	0.29
12	Spices		0.91	0.99	1.05	0.70	1.05	1.09	1.08	1.23	1.32	1.69	1.91	2.56	3.17	1.28
13	beverages & refreshments		0.2	0.11	0.42	0.33	0.15	0.61	0.73	0.73	0.87	1.20	1.46	5.63	15.37	0.83
14	food: Total	2.75	5.79	10.67	16.52	25.78	30.55	35.66	42.35	47.97	54.19	59.71	71.31	117.09	105.25	48.21
15	pan, tobacco & intoxicants		1.22	0.87	1.02	0.95	1.24	1.47	1.84	2.32	2.69	3.28	5.42	6.55	13.03	2.46
16	fuel & light		2.48	3.68	4.74	2.74	3.55	4.13	5.15	5.64	6.47	8.95	12.31	8.07	44.54	6.28
17	clothing				1.32	1.34		1.27	1.25	1.69	2.75	4.32	7.28	10.05	8.04	2.37
18	footwear							0.37	0.34	0.35	0.58	0.65	1.10	2.25		0.45
19	misc. goods & services		2.23	2.84	2.65	1.25	1.77	2.29	3.73	5.34	6.11	8.67	14.34	14.41	235.36	6.20
20	durable goods		0.07			0.52	0.39	0.70	0.63	1.45	1.84	3.02	3.85	8.21	9.01	1.58
21	non-food: total		6	7.39	9.73	6.80	6.95	10.23	12.94	16.79	20.44	28.89	44.30	49.54	309.98	19.34
22	total consumer exp	2.75	11.79	18.06	26.25	32.58	37.50	45.89	55.29	64.76	74.63	88.60	115.61	166.63	415.23	67.55
23	consumer rent								0.01	0.02			0.20		2.37	0.02
24	consumer tax cess								0.01							
25	no. of sample hrs.	4	4	5	5	16	30	97	187	248	187	164	95	9	9	1056

AppendixTable 3.4b:
NSS 27TH ROUND(1972-73)
Consumer expenditure(Rs) per person for a period of 30 days by broad groups of items and by monthly per capita expenditure classess. MANIPUR: RURAL

	Item	monthly per capita expenditure class in rupees													
		0 -13	13 - 15	15 - 18	18 - 21	21 - 24	24 - 28	28 - 34	34 - 43	43 - 55	55 - 75	75 - 100	100 - 150	150 - 200	200 & above
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Cereals				13.64	10.16	20.78	24.36	26.98	28.90	33.82	38.20	42.72	67.66	30.48
2	Gram											0.06			0.01
3	Cereal substitutes													0.15	
4	Pulse & Products					0.52	1.43	1.39	1.87	1.84	2.38	3.24	4.76	8.92	2.21
5	Milk &Milk products					0.89		0.67	1.05	1.79	1.93	4.08	4.46	9.49	1.84
6	Edible Oil				0.27	0.44	0.76	1.13	2.05	2.11	2.76	3.90	5.81	11.29	2.46
7	Meat, Egg & Fish				3.64	6.37	3.16	4.05	5.04	6.42	7.49	8.64	18.78	17.48	6.81
8	Vegetables				3.55	1.69	2.05	1.69	2.89	3. 89	4.50	4.89	6.30	9.59	3.73
9	Fruits & Nuts				0.09	0.30	0.17	0.31	0.29	0.33	0.55	1.24	1.93	2.64	0.54
10	Sugar				0.23	0.41	0.30	0.45	0.94	0.89	1.39	1.83	2.84	5.18	1.15
11	Salt				0.18	0.23	0.18	0.13	0.23	0.28	0.36	0.33	0.30	0.42	0.28
12	Spices				0.73	1.46	0.90	1.12	1.22	1.15	1.32	1.78	1.98	27.65	1.55
13	beverages & refreshments				0.73	0.89	1.11	1.60	2.07	2.24	2.75	3.06	6.32	15.16	2.53
14	food: Total	0	0	0	23.06	23.36	30.84	36.9	44.63	45.95	59.25	71.25	96.20	175.63	53.59
15	pan, tobacco & intoxicants				1.64	2.04	2.04	1.87	2.53	3.05	3.38	5.42	9.93	10.49	3.38
16	fuel & light				3.45	4.28	5.28	6.22	6.84	6.28	7.66	9.31	14.76	23.91	7.43
17	clothing						2.17	2.85	2.55	3.74	4.46	6.92	16.17	11.09	4.28
18	footwear					3.78	1.17	1.95	1.27	1.07	1.61	2.18	4.96	5.43	1.66
19	misc. goods & services				2.27	3.64	3.41	3.14	5.18	8.07	8.72	12.44	12.05	73.97	8.00
20	durable goods				2.91		0.51	0.75	1.99	1.79	2.79	5.28	21.72	18.10	3.05
21	non-food: total		0	0.00	10.27	13.74	14.58	16.78	20.36	24	28.62	41.55	79.59	142.99	27.80
22	total consumer exp	0	0	0.00	33.33	37.10	45.42	53.68	64.99	69.95	87.87	112.80	175.79	318.62	81.39
23	consumer rent								0.59		0.27	1.32	11.76	14.11	0.83
24	consumer tax cess										0.02	0.03			0.01
25	no. of sample hrs.				1	4	22	27	69	75	123	74	20	12	427

Appendix table 3.5: Plan allocation of Manipur (Rs. in crores)

Five Year Plan	Approved Outlay	Central Assistance	Expenditure
(1)	(2)	(3)	(4)
First Plan(1951-56)	1.55	--	1.08
Second Plan(1956-61)	6.25	--	6.22
Third Plan(1961-66)	12.88	--	12.82
ThreeAnnual Plan(1966-69)	10.14	--	7.20
Fourth Plan(1969-74)	30.25	26.13	31.25
Fifth Plan(1974-79)	92.86	55.97	98.90
Annual Plan(1979-80)	31.00	27.60	32.53
Sixth Plan(1980-85)	240.00	240.00	243.32
Seventh Plan(1985-90)	430.00	545.00	501.22
Annual Plan(1990-92)	365.00	345.88	363.42
Eighth Plan(1992-97)	979.00	N.A.	N.A

Source: Annual Plan 1994-95, Planning Department, Manipur.

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Ibid 1968-69

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Ibid 1976-77

Ibid 1985-86

Ibid 1989-90

Ibid 1990-93

	NSS Round	Pd. Covered	Volume	No.	Published Date	Issue No.
Sarvekshana	27th	Oct.'72 to Sept. 73	II	3	Oct. 1978	7
Sarvekshana	32nd	July 77 to June '78	IX	3	Jan. 1986	26
Sarvekshana	38th	Jan. 83 to Dec. 83	XIII	2	Oct. - Dec. 1989	41
Sarvekshana	43d	July'86 to June '88	XV	1	July - Sep 1991	48
Sarvekshana	50th	July '93 to June '94	XX	2	Oct -Dec 1996	69
`Sarvekshana	50th	July '93 to June '94	XIX	4	Apr. June 1996	69

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