Chapter - 3

Land Reform Measures and Consequent Changes in Rural Front

Since Independence a number of measures has been taken to change the land relations, inherited from British rule, in the state. Different enactments have been passed, right from the early 1950s, to provide land to the landless and to change conditions of tenancy. Some of these measures pertain to the following:

i) Abolition of intermediaries;

ii) Ceiling on land holdings and distribution of surplus Land;

iii) Tenancy reforms.

The implementation of land reform measures, however, remained virtually untouched at the early stage barring abolition of intermediaries and prohibition of subletting of land. Besides, the act had many loopholes through which landowners could evade ceiling legislation. Such legal loopholes were:

i) Exemptions from ceilings for land under orchards or religious charitable institutions;

ii) Permission of transfer of land;

iii) Right of resumption of land from tenant for self- cultivation, etc.

But the Government was not interested enough to plug the legal loopholes at the

early stage of implementation of land reform measures. As a result concentration of landholding could not be checked; nor did the bargadars (sharecroppers) have any protection either against eviction or for getting their due share of the crop (Bhaumik, 1993).

Incidentally, detection of ceiling surplus land is a difficult task. There are various methods by which landowners can conceal their ceiling surplus land. Some of the methods used by the landowners to evade the ceiling legislation were:

i) deliberate suppression of ceiling;
ii) transfer of land by anti-dated pattas, amalnamas, rent receipts etc.;
iii) benami transfer;
iv) change of classification of land;
v) creation of religious and charitable trust;
vi) civil suits;

Similarly, taking advantage of legal loopholes the landowners ejected bargadars. A large number of bargadars had been ejected during 1958-67. The ejection of tenants deprived them of any means of livelihood and converted them into agricultural labourers (Bondyopadhyay,1980 : 26-28). As a result, agrarian struggle started and took a form of national movement. Under the circumstances, amendment of the West Bengal Land Reform Act passed in 1955 became urgent to reduce concentration of landholdings and to protect interest of

the bargadars. Accordingly, several important amendments have been effected in the Act of 1955 at different times.

However, the Left Front Government, which came into power in the state in 1977, took serious step to implement land reform measures and to plug the legal loopholes in the existing legislation. The Government laid greater emphasis on structural reforms, like land distribution, security of tenure and democratic decentralization through Panchyati system. A package of agrarian programmes was adopted by the Left Front Government to do away with all forms of concentration of land holdings and to give substantial relief to bargadars, landless peasants and agricultural workers. The package of agrarian programmes may be summerised as follows:

i) Quick recording of the names of the sharecroppers through *'Operation Barga'* and thereby securing to them the legal rights they are entitled to, under the statute.

ii) Distribution of available surplus land among sharecroppers with small operational holding as well as among landless and sub-marginal farmers.

iii) Drive to detect and vest more ceiling surplus land through quasi-judicial investigative machinery with the help of peasant organizations and Panchayati Raj Institutions.

iv) Giving institutional credit cover to the sharecroppers and the assignees of vested land to irreversibly snap the ties of bondage they have with the landlords and moneylenders.

v) Designing 'food for work' and other programmes for developing rural infrastructure, which would primarily benefit assignees of vested land and marginal farmers as well as give them sustenance during periods of distress, thus preventing re-transfer of land to the rich landowners.

vi) Assigning permanent title for homestead purpose to all the landless agricultural workers (including sharecroppers), artisans and fishermen occupying (up to 0.08 acre) as permissive possessors.

vii) Providing tiny sources of irrigation to the assignees of vested lands through bamboo tube-wells where underground hydrological conditions permit such technology and bank-financed tube-wells with other suitable areas with a view to inducing such assignees to go in for high value multiple cropping to improve their economic status.

viii) Giving financial assistance in the form of subsidies to the assignees of vested land for development of their land.

ix) Abnegation of the old revenue system which was a hangover from the Zamindary era and substituting it by a new measure under which revenue is assessed on landholding above a certain valuation on progressive rate. Small and marginal farmers have been exempted from revenue burden.

x) Restoration of land alienated by poor and marginal farmers through distress sale, provided the purchaser himself is not a poor peasant having landholding less than 1.0 acre.

The distinctive features of the agrarian reform policy of the Left Front Government can be stated as following:

Firstly, land reform has been considered to be the main plank of the agrarian policy framework.

Secondly, the programmes have been designed on the basis of past experience, with a support system for the potential beneficiaries.

Thirdly, the development programmes are to be implemented effectively by involving panchayats and peasant organizations and by inducing the intended beneficiaries to participate actively in such programmes.

As a result of these government efforts, land reform measures have been implemented more effectively. The implementation of redistributive land reforms, after plugging legal loopholes of the earlier Acts, made possible for the state to appropriate huge amount of ceiling surplus land and their distribution among landless land-poor families. It has been reported that by December 31, 1980, about 12.12 lakh acres of surplus land were distributed among 12 lakh beneficiaries, about 57 percent of whom are form the scheduled casts and tribes.

Up to June, 1992, the state of distribution of surplus land in West Bengal was like the following:

The all-India figure of distribution of surplus land being 49.50 lakh acres up to march 1992 as per CMIE (1992) data, it appears that more than one-fifth of all ceiling surplus land distributed in India had been distributed in West Bengal.

By September 30, 1988, the cumulative area of distribution of vested agricultural land was 10.32 lakh acres and the cumulative number of beneficiaries was 25.32 lakh, about 55 per percent of who are the scheduled castes and scheduled tribes (Table-3.2)

Table: 3.1 Distribution of Surplus Land – March 30, 1992 (West Bengal).

Item	Value
Agricultural Land Vested	12.69 (Lakh acres)
Agricultural Land distributed	9.29 (Lakh acres)
Area Hit by Injunction	1.76 (Lakh acres)
Number of Beneficiaries of Vested Agricultural Land : Total	20.43 (Lakh)
Schedule Castes	7.60 (Lakh)
Schedule Tribes	3.92 (Lakh)

Source: Government of West Bengal.

On tenurial front, the state has taken measures for helping tenants and share croppers by providing security of tenure, by raising their share of produce and by enabling them to obtain institutional credit using tenancy contract as a collateral. But without bringing the tenants and share croppers (bargadars) on record, security of tenurial rights can be not ensured and they cannot get even a crop loan from credit institutions. In order to bring the tenants and sharecroppers on record, a campaign of entering the names of bargadars into revenue records was done under the active support of peasant organizations and panchayats. Such programe, styled as '*Operation Barga*'(O.B.) was launched in the state in May 1978.

The introduction of the programme, O.B.and its satisfactory implementation has made it possible for the state to bring nearly 10.42 lakh bargadars on record of revenue up to March 31, 1981. Till the end of June, 1992, about 14.39 lakh bargadars have been recorded. Among them 6.2 lakh were from scheduled castes and tribes. The figure of recording of the names of bargadars further increased and reached at about 14.86 lakh till the end of September, 1998. (Table 3.2).

It may be noted that a large number of sharecroppers were allowed to live on the landowner's plots. Whenever a sharecropper has tried to record his name, he has faced threat of eviction from the homestead plots (Bandyopadhyay, 1992). To remove this difficulty of barga recording a programme of conferring title of homestead land has been undertaken up to the limit provided by the relevant act.

It has been found that up to June, 1992, about 2.58 lakh families were provided with homestead land. Up to September, 1998, nearly 0.18 lakh acres of homestead land have been distributed to 2.92 lakh beneficiaries; out of whom 60.6 percent are belonged to Scheduled Caste and Tribe communities (Economic Review, 1998-99,Government of West Bengal).

All these measures are supposed to bring about changes in the agrarian structure of West Bengal. The structure involves the relative position of different categories of farmers with respect to number of operational holdings, operational area, tenancy, terms of tenancy etc. An attempt is, therefore, made to examine the changes in the size class distribution of operational holdings and operational area as well as tenurial relationships.

Table: 3.2 Land Reforms: Some Relevant Information (As on September 30, 1998).

Item		Value
1.	(a) Agricultural Land Distributed	10.32 (Lakh acres)
	(b) Homestead Land Distributed	0.18 (Lakh acres)
2.	Number of Beneficiaries of vested Agricultural Land :	
	(a) Total	25.32 (Lakh)
	(b) Scheduled Castes	8.91 (Lakh)
	(c) Scheduled Tribes	4.98 (Lakh)
3.	Number of Beneficiaries of Homestead Land	2.92 (Lakh)
4.	Number of Bargadars Recorded	
	(a) Total	14.86 (Lakh)
	(b) Scheduled Castes	4.52 (Lakh)
	(c) Scheduled Tribes	1.46 (Lakhs)
5.	Area under Barga Recording	11.0 (Lakh acres)

Source: - Economic Review, 1988-99, Government of West Bengal.

To compare the changes before and after the implementation of land reform measures, we have compared the initial year of the implementation of the programme (1970-71) with 1990-91 when some progress has been made in the plementation.

We, now, examine the changing pattern in the size in distribution of operational holdings in table 3.3 below. The data on the percentage distribution of operational holdings and operated area size-classes may give us an idea about relative economic position of different categories of farmers. A look at the table would reveal the following features:

i) The largest section of rural households belongs to the category of marginal farmers, operating land below 1.0 hectare. The percentage of operational holdings increased from 59.97 in1970-71 to 73.83 in 1990-90. Thus, over the period, marginalisation of the peasantry has increased to a substantial extent. The marginal and small holdings together constitute the largest share of total holdings and it increased from 82.31 percent in 1970-71 to 91.44 percent in1990-91 and the area operated by them has also increased from 47.28 percent to 66.46 percent over the same period. This indicates that the access of the poor to land has been extended.

Table: 3.3 Distribution of Operational Holdings and Operated Area by Major Size- Classes.

Size Classes (in hectares)	Number of Holding (000)		Area Operated (000 hectare)		Average Size (Hectare)	
	1970-71	*1990-91*	*1970-71*	*1990-91*	*1970-71*	*1990-91*
Marginal (Below 1.0)	2528.5 (59.97)	4639.1 (73.83)	1089.7 (21.53)	2064.4 (36.51)	0.43	0.45
Small (1.0-2.0)	941.8 (22.34)	1107.0 (17.62)	13011.6 (25.75)	1694.0 (29.95)	1.38	1.48
Semi-medium (2.0-4.0)	558.0 (13.25)	457.2 (7.28)	11446.9 (28.69)	1269.1 (22.69)	2.59	2.77
Medium (4.0-10.0)	184.5 (4.37)	79.3 (1.26)	973.6 (19.33)	425.5 (7.52)	5.28	5.36
Large (10.0 & above)	3.61 (0.09)	1.3 (0.02)	231.8 (4.7)	202.7 (3.58)	64.2	156.99
Total	4216.3 (100)	6283.9 (100)	5061.6 (100)	5655.9 (100)	1.2	0.90
Gini-coefficient :-	*1970-71 = 0.478;*		*1990-91 = 0.412*			

Notes: Figures in parentheses are percentages to total.

Sources: Agricultural Census data as reported in Agricultural Situation in India, August 1985 and February 1995.

ii) Whereas the number as well as the proportion of semi-medium, medium and large holdings has declined, that for marginal holdings has increased largely.

iii) The number of the small holdings has increased but their proportion to the total number of holdings has declined.

iv) The absolute and relative share of the area operated by the marginal and small holdings have increased but the area operated by all other size-classes has declined both in absolute and relative terms.

v) The average size of the large holdings has increased remarkably and that for the marginal holdings has increased marginally. The total number of operational holding has increased at higher rate relative to total area operated so that the average size of holding has declined from 1.02 hectares in 1970-71 to 0.9 hectare in 1990-91.

vi) Inequality in the distribution of operated land has declined during the period 1970-71 to 1990-91 as indicated by the decline in the Gini-coefficient from 0.478 in 1970-70 to 0.412 in 1990-91.

It may be noted that in net terms, the changes in the distribution of operational holdings had gone largely in favour of the small and marginal holdings over the period 1970-71 to 1990-91 (Table-3.4). While 83.5 percent and 17.5 percent gains accrued to marginal and small holdings respectively, losses of semi-medium, medium and large holdings were 18.1 percent, 57.0 percent and 64.0 percent respectively.

Table: 3.4 Percentage Changes in Number and Area of Operational Holdings during 1970-71 to 1990-91.

Size Classes (in hectare)	Holding	Area
Marginal (Below 1.0)	83.5	89.4
Small (1.0 – 2.0)	17.5	30.1
Semi-medium (2.0 – 4.0)	-18.1	12.3
Medium (4.0-10.0)	-57.0	-56.3
Large (10.0 and above)	-64.0	-12.6
All sizes	49.0	11.7

Source: Calculated from Table-3.

In terms of area operated by sizes of operational holdings, the figures of the Table- 3.4 reveal that the small and marginal holdings have been better off over the period 1970- 71 to1990-91. But the semi-medium, medium and large holdings have incurred loss over the period.

Extent of Tenancy Cultivation

As a result of the strategy of agrarian transformation perused by the state, there has been some decline in tenancy cultivation. This is indicated by a decline in leased in area to net cultivated area from 7.44 per cent in 1980-81 to 5.73 per cent in 1990-91 (Table: 3.5). It is also indicated that there has been notable decline in the proportion of leased in area to the net cultivated area for

marginal, small and semi-medium classes. But the medium and large classes witnessed an increase in the proportion of leased in area to their net cultivated area. This indicates the presence of 'reverse tenancy' in the state as in some Green Revolution areas in India.

Status of Tenancy

Before the recording of the bargaders, most of the leases were oral and it was very difficult for a bargadar to produce documentary evidence in favour of his claim of tenancy. Naturally, the tenants suffered from rack-renting and eviction. However, the Programme, 'Operation Barga' has enabled the state to assure tenancy for 14.39 lakh of the bargadars up to June 30, 1992. Till the end of September, 1998 nearly 14.86 lakh bargadars have been made assured for tenancy on 11.0 lakh acres of land (Table 3.2). Taking into account of NSS estimates of the 37th Round (1982), the number of households leasing- in land (about 20.9 lakh), nearly 71 percent of the bargadars are appeared to have been registered in record of revenue for enjoying security of tenure up to September 30,1998.

Terms of Tenancy

It has been found that produce-sharing type of tenancy was the most important form of tenancy in the state. But over the period of time the importance of produce-sharing tenancy has largely declined.

Table: 3.5 Distribution of Leased-in Area.

(per cent)

Size Classes (in hectare)	Leased-in Area/Net Cultivated Area		Produce Sharing/ Total Leased in Area	
	1980-81	*1990-91*	*1980-81*	*1990-91*
Below 1.0 (marginal)	9.03	6.21	91.52	72.12
1.0 – 2.0 (small)	9.88	6.83	91.89	77.35
2.0 – 4.0 (medium)	5.90	4.81	88.83	76.27
4.0 – 10.0 (big)	2.10	4.30	87.12	36.62
10.0 and above (large)	0.36	0.70	86.13	23.39
All size	7.44	5.70	90.88	72.57

Source: Agricultural Census 1980-81 and 1990-91, Government of West Bengal.

The proportion of produce sharing to total leased in area of the state declined from 90.88 percent in 1980-81 to 72.57 percent in 1990-91 (table 3.5). The terms of leasing have also moved in favour of the lessee after barga recording. According to the agricultural census estimates, there has been a decline of 19.4 percent in the produce- sharing contract by area for the marginal size class and a decline of 14.5 percent for the small size class between 1980-81 and 1990-91 (table-3.5). It may be noted that there has been gradual increase in the leased-in area under fixed cash tenancy arrangement in the State over the years. It has been found that area under tenancy for fixed cash rent contract

increased from 2.04 percent as per the NSS 37th Round (1982) to12.4 percent in the NSS 48th Round (1992). This may be treated as a new development in the field of tenancy.

The land reform measures and their satisfactory implementation have, thus, created more equitable pattern of distribution of landholdings in the state in recent years. The redistributive land reform programmes have enabled a large section of landless poor rural people to possess land. This increased accessibility of such people to land has been instrumental in reducing rural inequality to some extent. Significant changes have also been appeared in the field of tenancy. A considerable number of bargaders have been assured heritable right of cultivation on land. There has been a decline in the practice of leasing-in land in the produce-sharing lease contract. A change in the terms of tenancy is discernible in recent years through a shift away from share-crop tenancy to fixed rent tenancy.

All these would perhaps indicate that the agrarian structure in West Bengal has undergone changes as a consequence of the implementation of land reform measures. There is, therefore, every reason to believe that agricultural production should go up. This is because of the reason that ownership of land and security of tenure may create incentives for farmers to put more labour for improvement of agriculture since they can reap fruits of benefit from that.

Besides, a change inagrarian structure is considered to be conducive to increase agricultural production.

Incidentally, the agricultural economy of West Bengal had been suffering for a long stagnation up to end of the 1970s right from the pre-Independence period. For example, Boyce (1987) estimated the growth rate of agricultural output between 1949 and 1980 as 1.74 percent per annum. Limited growth in the production of 'aman' rice, the most important crop of West Bengal, was, according to him, the root cause of agricultural stagnation. He found that the between1949 and 1980, growth in yield of 'aman' rice was only 0.24 per cent per annum and growth in area cultivated under 'aman' paddy was 0.57 per cent per annum. It is to be noted that Boyce attributed the failure to increase in agricultural productivity to institutional factors.

The situation, however, took a turn in the 1980s. Using cost of cultivation data, Sen and Sengupta (1995) found that the growth rate of net value added in agriculture at constant prices in West Bengal was 6.85 per cent in the 1980s as compared to 2.3 per cent in the 1970s. According to their estimates, West Bengal had one of the highest rates of growth of rice yields in the 1980s and a trend-break in growth was discernable.

Saha and Swaminathan (1994) estimated growth rate of food grain production using data thrown up by CMIE, 1993. They estimated the growth rate of food grain production in West Bengal at 6.5 per cent per annum between 1981-82 and

1991-92, while it was only 2.7 per cent per annum for the country as a whole. The rates of growth of aggregate agricultural production and productivity for that period, as calculated by them were 6.4 per cent per annum and 5.2 per cent per annum respectively. The growth rate of food grain production, according to their observation, was the highest among 17 major States of the Indian Union. They observed that the phenomenon of high agricultural growth was widespread and the contribution of productivity growth to total output growth was very high, and higher than the contribution of growth in area. They also observed that the period of high growth was not associated with greater instability in the levels of production.

Rawal and Swaminathan (1998) estimated growth rate of food grain production in West Bengal for the period 1950-1995. They observed that food grain production grew at the rate of 2.5 per cent a year from 1950 to 1980 and it jumped to 5.8 per cent per annum in the 1980s. According to their observation, the rate slowed down in the first half of the 1990s but the overall annual growth rate of food grains was 4.5 per cent for the period 1980 to 1995. They also found that while the area under food grain production expanded at less than 1 per cent a year in the period before and after 1980, growth rate of productivity per annum became more than doubled in the latter period.

According to an estimate of Sanyal, Biswas and Bardhan (1998), the rate of growth of all-crop production was 4.10 per cent per annum and that of yield per hectare was 4.97 per cent per annum during the period from 1977-78 to

1995-96. They also found that for total food grains, productivity grew at a higher rate than production. While the production grew at 3.6 per cent a year, productivity growth was 5.1 per cent. Growth rate of 'boro' rice production was observed to be the highest (9.4 per cent a year) among the food grain crops. They also observed that in case of rates of growth of non-food grain crops, production exceeded productivity. While the production grew at 4.7 per cent per annum, productivity growth was 3.6 per cent per annum. They estimated that substantial area was brought under cultivation of some non-food crops like potato, oilseeds etc. and this effected lowering in the growth rate of productivity. According to their observation, while production of potato and oilseeds grew at the rates of 6.9 per cent and 14.0 per cent per annum, acreage growth rates for these crops were 4.5 per cent and 10.1 per cent per annum respectively.

We have taken an attempt to observe agricultural growths in the State before and after effective implementation of land reform measures. A crop-wise analysis of growth rates of area, yield, production and productivity of major crops of West Bengal has been attempted for the same for the period from 1970-73 to 1995-98 in our following discussions. It may be noted that selected food grain crops account for nearly 98 per cent of total food grains production and all crops selected account for about 85 per cent of total agricultural production in the State.

The main sources of data are Centre for Monitoring Indian Economy (CMIE), (September 1998) and Economic Review (1971-72, 1980-81, 1991-92 and

1998-99), Government of West Bengal. The whole period has been divided into three sub-periods, taking triennia average such that Period-1 (1970-73 to 1977-80), Period-2 (1977-80 to1988-91) and Period-3 (1988-91 to 1995-98). The Period-1 and the Period-2 have been considered to compare the changes before and after implementation of land reform measures rigorously, while the Period-3 has been considered to observe recent trend of agricultural growths in the State. For the purpose of analysis, the data on triennia averages for the years 1970-73, 1977-80, 1988-91 and 1995-98 have been calculated and from these, the absolute change in the above parameters of the crops for the above mentioned periods have been calculated by simple growth rate.

Table 3.6 shows disaggregation of trends of growth, according to area covered by major crops in West Bengal, over the selected period. It reveals that area under rice and total food grains increased in all periods and over the whole period 1970-73 to 1995-98. Area under rice grew highest in period-2. The rate of growth of area under rice is found to be 12.93 per cent.

The rate growth of rice area was 17.44 per cent over the period 1970-71 to 1995-98. Although area sown with wheat and pulses declined in period-2, total food grains grew at the rate of 3.08 per cent during the same period. The area under rapeseed and mustard grew highest in period-2. The rate of growth of area of this crop was 245.37 per cent.

It is found that both food grains area and area under major non-food grain crops

grew over the whole period from 1970-73 to 1995-98. It is evident from the table that there had also been a change in commodity composition during the period from 1977-80 to 1988-91 (period-2).

Table: 3.6 Triennia Average Area of Major Crops in West Bengal.

Crops	Triennia Average Area (thousand hectare)				Simple Growth Rate (Percent)			
	1970-73	1977-80	1988-91	1995-98	1970-73 to 1977-80	1977-80 to 1988-91	1988-91 to 1995-98	1970-73 to 1995-98
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Rice	5005	5032	5683	5878	0.54	12.93	3.43	17.44
Wheat	383	504	299	352	31.60	-54.56	17.74	-8.09
Pulses	584	543	315	216	-7.02	-41.99	-31.43	-63.01
Food-grains	6126	6202	6397	6523	1.24	3.08	1.97	6.48
R and M	104	108	373	325	3.58	245.37	-12.87	212.50
Jute	412	507	447	592	23.06	-11.83	32.43	43.69
Potato	70	131	197	285	87.14	50.38	44.67	307.14

Source: CMIE September 1999.

Note: R= Rapeseed

M = Mustard.

Table: 3.7 Triennia Average Yield of Major Crops in West Bengal.

Crops	Triennia Average Yield (thousand hectare)				Simple Growth Rate (Percent)			
	1970-73	1977-80	1988-91	1995-98	1970-73 to 1977-80	1977-80 to 1988-91	1988-91 to 1995-98	1970-73 to 1995-98
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Rice	1223	1327	1877	2141	8.50	41.45	14.06	75.06
Wheat	2153	1860	1930	2249	-13.61	3.76	16.53	4.46
Pulses	564	607	655	711	7.62	7.90	8.55	26.06
Food-grains	1203	1290	1807	2095	7.23	40.08	15.94	74.15
R and M	370	443	883	786	19.73	99.32	-10.99	112.43
Jute	1290	1334	2020	2092	3.41	51.42	3.56	62.17
Potato	14023	16273	22677	24118	16.05	39.35	6.35	71.99

Source: CMIE, September 1999.

Note: R= Rapeseed, M= Mustard.

The percentage growth rates in yield of major crops in West Bengal are shown in Table 3.7. It is observed that there had been overall increase in yield of major crops during the period from 1970-73 to 1995-98. It is found that the growth rates in yield of all major crops were the highest in period-2. Although the growth rate in yield of wheat declined during period-1and that of rapeseed

and mustard declined during period-3, overall growth rates in yield of these two crops increased during 1970-73 to 1995-98.

It is observed that during the whole period, yield growth rate was highest for rapeseed and mustard (112.43 per cent) and that of rice was 75.06 per cent.

The figures presented in Table: 3.8 show the growth rates in production of major crops in West Bengal. It is found that there had been overall increase in the production of rice, total food grains, rapeseed and mustard, jute and potato and overall decrease in the production of wheat and pulses during 1970-73 to 1995-98. The productions of rapeseed and mustard and potato grew tremendously during this period. While the percentage rate of growth of production of potato is found to be 609.16 and that of rapeseed and mustard is 571.05, the percentage rate of growth of rice production is observed to be only 105.64 during the whole period. However, the growth rate of rice production is observed to the highest during period-2.

When we turn to look into the productivity of major crops in the State it is found that over the period from 1970-73 to 1995-98, productivity increased for all major crops in the State (Table 3.9). Productivity growth rate was the highest for rapeseed and mustard (113.51). It is notable that the rates of growth of productivity were highest during 1977-80 to 1988-91 for each major crop except wheat.

Table: 3.8 Triennia Average Production of Major Crops in West Bengal.

Crops	Triennia Average Production (thousand hectare)				Simple Growth Rate (Percent)			
	1970-73	1977-80	1988-91	1995-98	1970-73 to 1977-80	1977-80 to 1988-91	1988-91 to 1995-98	1970-73 to 1995-98
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Rice	6121	6686	10640	12587	9.23	59.14	18.30	105.64
Wheat	826	934	575	792	13.08	-38.44	3.74	-4.12
Pulses	309	284	200	152	-8.09	-29.58	-24.00	-50.81
Food-grains	7373	8025	11574	13664	8.84	44.22	18.08	85.32
R and M	38	48	329	255	26.32	585.42	-22.49	571.05
Jute	2855	3789	5010	6909	32.71	32.22	37.90	142.00
Potato	972	2117	4454	6893	117.80	110.39	54.76	609.16

Source: CMIE, September 1999.

Note : R = Rapeseed, M = Mustard.

Table: 3.9 Triennia Average Productivity of Major crops in West Bengal.

Crops	Triennia Average Productivity (thousand hectare)				Simple Growth Rate (Percent)			
	1970-73	1977-80	1988-91	1995-98	1970-73 to 1977-80	1977-80 to 1988-91	1988-91 to 1995-98	1970-73 to 1995-98
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Rice	1.22	1.33	1.87	2.14	9.02	40.60	14.44	75.41
Wheat	2.16	1.85	1.92	2.25	-13.43	0.04	17.19	4.17
Pulses	0.53	0.52	0.63	0.70	-1.89	21.15	11.11	32.08
Food-grains	1.20	1.29	1.81	2.10	7.50	40.31	16.02	75.00
R and M	0.37	0.44	0.88	0.79	18.92	100.00	-10.23	113.51
Jute	6.93	7.47	11.21	11.67	7.79	50.07	4.10	68.40
Potato	13.89	16.16	22.61	24.19	16.34	39.91	6.99	74.15

Source: CMIE, September 1999.

Note: R = Rapeseed, M = Mustard.

It should be noted that rice is the main crop in West Bengal. It continued to be grown in the three seasons of 'aman', 'aus' and 'boro' and accounted for over 65 per cent of the gross cropped area of the State. Among these three seasons, 'aman' rice has always been the most important in terms of output and acreage.

But overtime 'boro' rice has grown in significance (Table 3.10). From the figures presented in the table it is found that while share of 'boro' rice in total area under rice was 6.69 per cent in 1980-81, it increased to 18.21per cent in 1996-97. Similarly, the production of 'boro' rice to total production of rice increased from 11.59 per cent in1980-81 to 26.07 per cent in 1996-97. The importance of 'aus' rice has diminished gradually both in terms of acreage and output. It is observed that during 1980-81 to 1990-91, while acreage of 'aus' rice declined, production of this crop increased. Moreover, growth of production of 'aman' rice as well as that of 'boro' rice was greater than growth of area under these crops during the period (Table 3.11). It is found that while areas under 'aman' and 'boro' rice grew at the rate of 2.18 per cent and 158.60 per cent respectively, production increased at the rate of 13.97 per cent and 207.95 per cent respectively during the same period. This indicates that productivity of all varieties of rice increased during 1980-81 to1990-91.

It follows from our crop-wise analysis of agricultural growth that production and productivity of rice and total food grains were limited during the period from 1970-73 to 1977-80. Limited growth of total food grains production was accompanied by some higher growth in production and productivity of rapeseed and mustard, jute and potato. Our observation of agricultural growth, however, provide support for agricultural stagnation for periods prior to the 1980s as had been observed by Boyce in his meticulous study published in1987. Substantial increase in production of rice was associated with some decline in production of wheat and pulses during 1977-80 to1988-91.

But remarkable growth in production of rapeseed and mustard, jute and potato fairly compensated the decline in production of wheat and pulses. All these lead us to believe that the stagnation of agricultural production came to an end in the 1980s. And also that, Boyce's observation of limited growth in 'aman' rice production as one of the evidences of agricultural stagnation loses much of its validity due to growing share of 'boro' rice production in total rice production during the 1980s. However, it is important to note that there had been decline in the rate of growth of agricultural production and productivity in West Bengal for period over half of the decade of 1990s.

It follows from all these observations that the agricultural economy of West Bengal has undergone significant changes in the post-1970s. There has been not merely on agrarian structure with more equitable pattern of distribution of land holdings but also remarkable growth in agricultural production and productivity of the State. And also the observed 'agricultural impasse' had been passed away.

Table: 3.10 Distribution of Acreage and Output of Rice by Season.

Season	Area (thousand hectare)			Production (thousand tons)		
	1980-81	1990-97	1996-97	1980-81	1990-91	1996-97
Aus	615.1	610.3	461.7	576.4	906.3	775.5
	(11.88)	(10.50)	(7.96)	(7.72)	(8.68)	(6.14)
Aman	4214.6	4306.5	4282.5	6024.0	6865.8	8566.4
	(81.42)	(74.09)	(73.84)	(80.69)	(65.78)	(67.79)
Boro	346.5	896.1	1056.4	865.2	2664.4	3294.9
	(6.69)	(15.42)	(18.21)	(11.59)	(25.53)	(26.07)
Total	5176.2	5812.9	5800.6	7456.6	10436.9	12636.8
	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)

Source: Economic Review, 1998-99.

Note: Figures in the parentheses are percentages to total.

Table: 3.11 Growth of Acreage and output of Rice by Season.

Crop	Acreage Growth Rates			Rates of Growth in Production		
	1980-81 To 1990-91	1990-91 To 1996-97	1980-81 To 1996-97	1980-81 To 1990-91	1990-91 To 1996-97	1980-81 To 1996-97
Aus	-0.78	-24.35	-24.94	57.25	-14.43	34.54
Aman	2.18	- 0.57	1.61	13.97	24.77	42.21
Boro	158.61	17.89	204.88	207.95	23.66	280.82
Total	12.30	- 0.21	12.06	39.98	21.08	69.47

Note: growth rates have been calculated from figures in Table 3.10.