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Lessons from the Land Reform Movement in West Bengal, India

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Executive Summary

In the early seventies, the state of West Bengal, in the eastern part of India, had one of the highest poverty levels and the largest number of poor people in the rural areas of India. West-Bengal saw two major turnarounds in the rural sector in the eighties: a spectacular jump in the growth rate of production of rice, the major food-crop, from 1.8 percent during 1960-80 to 4.68 percent during 1977 to 1994; and a remarkable fall in the rural poverty level from 73 percent in 1973 to 31 percent in 1999. West Bengal greatly surpassed the achievements of other states.

This coincided with the 1977 election of a coalition of left parties, led by Communist Party of India (Marxist) or CPM, which has held uninterrupted power for the last 26 years. The CPM instituted a series of major rural reforms guaranteeing heritable rights to sharecropping tenants (known as “Operation Barga”), ensured better distribution of products between tenants and owners, and confiscated surplus landholdings from big land-owners and distributed part of this to the poor farmers. Effectively, this gave quasi-property rights to the sharecroppers and eliminated absentee landlordism to a large extent. This was followed by decentralization of village power structures through a three-tier system known as *panchayati raj*, which started effective functioning from 1985 onwards through fiscal devolutions.

It is not easy to determine the extent to which land reforms were responsible for the spectacular turnarounds in West-Bengal, since a number of catalysts worked simultaneously in bringing this change. Some writers identify land reforms and decentralization as the major institutional innovations, along with strong political will of the leftists as the catalysts; others give the credit to the rapid rise in the use of inputs, which in many cases were simply market-driven. The studies do not address the interlinkages and interdependence of different land reform measures, decentralization in decision-making, and autonomous and induced technological changes.

After analyzing the essential historical background that leads to the whole reform process, the technique applied for identifying the crucial factors behind West-Bengal’s rural success is the use of cross-section time-series pooled data regressions over districts of West-Bengal. The results show that Operation Barga has some effect in raising productivity of yield along with irrigation, fertilizer, rural roads, and labor use. The impact of recording of sharecroppers was captured by cut-off dummies which represent different levels of recording. One significant result is that optimal level of recording seems to be 25 percent of operating households in a district, since setting cut-off below this seems to capture too poor peasants, having insufficient complementary inputs. Setting cut-off above it tends to ignore some genuine success cases. The regressions show that yield-raising effect appears to be a combination of land reform and technological factors where perhaps the Panchayats also played the role of spreading the use of inputs through extensive construction of *unsurfaced* rural roads as well as through their dispute settlement and intermediary roles.

Political will in carrying out land reforms was very important. The ruling coalition in West Bengal used its massive historical support of poor peasants through its peasants

organizations. It had a clear vision of the sequence of reforms that began with Operation Barga, and continued in 1985 through empowerment of the local level bodies or the three-tier panchayats, with fiscal devolution. This created the right incentive and power structure to increase investment in land through better irrigation, rural roads, seeds, and higher labor use. The poor farmers could avail themselves of the fruits of technological progress only once they were made more secure and given more incentives to use better inputs with the help of locally elected bodies. The panchayats played an effective role since 1985 in mediating water disputes and ensuring steady labor supply and minimum wages. The current phase of reform encourages crop diversification and promotes agro-based industries across West-Bengal.

Agricultural reforms in West-Bengal produced some desirable reforms through an interlinkage and interface of several variables. These are Operation Barga, decentralization of decision making and conflict resolution through the panchayats and spread of modern inputs to the poorer sections of the cultivators. None of them can be viewed as stand-alone strategies.

However, every success also highlights some weaknesses which need to be looked into for fruitful replications across Indian states and similar countries elsewhere. While democratic decentralization could very well be replicated given right political will, the weaknesses which came to the forefront are (a) neglect of wage demands of the other major poor stratum namely, agricultural laborers; (b) alienation of land from the sharecroppers or redistributed landholders; (c) paying little attention to gender inequality in succession acts of land ownership or redistribution of land titles; (d) erosion of democracy at grassroots levels; and (e) neglect of action in case of complementary inputs. Also, it shows the opportunity cost of not taking appropriate actions along with land reforms, the most important of which is the lack of diversification of crop and other rural industries.

Implementation Process

The state of West-Bengal in India has caught the attention of policy planners and economists involved in rural development around the world for several reasons. One needs to know the salient features of the state so that the discussion makes some obvious sense. The Statistical Handbook of the Government of West Bengal, 2000 provides the most important facts relevant to our discussion. West Bengal had a population density of 767 per square kilometers against overall Indian average of 267. The reason was an influx of refugees from the eastern side of the borders after independence in 1947 due to religious division. In 1991, 72.52 per cent of workers used to be in rural areas. Also, the budget surveys show much heavier dependence of the population on food items (dominated by rice consumption) in West Bengal (65.9 per cent) compared to Indian average (59.4 per cent) in 1999-2000. At the same time, the rural population earns the maximum from rice production since it occupied 84.87 per cent of total foodgrains area in 1980-81 going up to 90.62 per cent in 1999-2000. This is crucial since area under foodgrains was roughly 4.9 times the area under non-foodgrains (cash crops and vegetables) in 1980-81, coming down to about 4.1 times in 1999-2000. The production of rice as a percentage to total foodgrains production had moved from 90.15 per cent to 92.68 per cent during the same time-period. Hence, the majority of the population in West Bengal stays in rural areas with overwhelming dependence on rice cultivation in their production and consumption. The dependence is more as one moves down the income ladder to the small peasants and agricultural labourers (NSS data, 1999-2000). In 2000, from administrative point of view, West Bengal has 17 districts, divided into 341 development Blocks and 3248 cluster of villages, having altogether 40,911 villages (called mouzas).

Given the above statistics, the major distinguishing feature of this state is that it is under a left party coalition rule for the last 26 years without a break. In this period, the agricultural scenario in West-Bengal evolved around the fact that rice production, which determines the fortune of millions in West-Bengal, had a phenomenal rise in the last 20 years or so. Along with that, poverty in rural areas declined appreciably during 1977 to 1993. What role did land reform play in this transformation? This section will highlight two major implementation processes in this context- the first is the enormous drive on the part of the Left front government to record the names of the thousands of unregistered sharecroppers, known more commonly as “Operation Barga” and to identify surplus land over legal ceiling for distribution among the Landless, known as vesting of “Patta”. The maximum land to be distributed to any person having cultivable land less than 1 acre. The second is the implementation of rural local self-government through elections to three-tier bodies called “Panchayats” in short. One must understand the background of this process from the historical perspective as well as through the recent political scenario.

Historically, West Bengal (part of the state of Bengal before independence of India in 1947) was under a system known as *Permanent Settlement*, which was introduced by the British Rulers in 1793. The basic rationale behind such a system was to ensure land revenue from the landed gentry, known as *Zamindars*. Throughout the 19th Century, writes one historian (Sen, 1979), land revenue yielded the highest share among all categories. Since revenue collection was

the sole aim of such a land system, landlords became proprietors, whereas, cultivators became tenants. However, the pressure for increased revenue in the 19th century forced many landlords to lease out or in acute cases, sell their lands to non-cultivating families residing in towns and having trading interests and government jobs. These new tenants, mostly absentee, are known as jotedars (jote means plot of land). They were rentiers from the Zamindar and usually known as *Ryots*. This was the beginning of multiplicity of tenures in Bengal (Sen, 1979). Majority of Jotedars rented out their land to sub-tenants known as sharecroppers or *bargadars*.

With the onset of depression (1929-33), agricultural product prices declined and as a result more lands passed onto non-agriculturist jotedars. This also increased sub-letting and led to a rise in the incidence of sharecropping. Meanwhile, the jotedars were given occupancy rights if they were cultivating the any plot of land for 12 years by the *Bengal Tenancy Act, 1885*, known as the first major land reform act in Bengal (Bhattacharya, 1979). Thus jotedars acquired security and occupancy rights, but those below in the ladder, namely the sharecroppers, also known as tenants-at-will, did not enjoy any such rights.

The Unfortunate part of the Land Reform Acts of West Bengal till the late 1970's was that the laws were seldom honored and they were either ignored or contested in the court (Raychaudhuri and Chakraborty, 1981). This led to sporadic peasant protests, the most famous of which in the history of Bengal is the *Tebhaga Movement* during 1948-51. This was essentially a movement by the sharecroppers, supported by the peasant organizations on the left, for example *All India Kisan Sabha*, which came under complete control of the communist from 1945 onwards (Sen, 1979). The demand was to ensure 2/3rd share (meaning of *tebhaga*) of gross produce to the sharecroppers if they had supplied inputs.

The *Tebhaga* movement had put pressure on the government to recognize the rights of the Sharecroppers. Some steps were initiated through changes in the *Bengal Tenancy Act of 1885*, known as *Land Reforms Act of 1955 and 1966*. The changes in the act and search for ceiling-surplus land during mid-1950s and mid-1960s, according to one author, made that decade "replete with the story of rampant *malafide* transfer of ownership holdings for evading ceiling provisions and of technical eviction of sharecroppers on an unheard-of scale making the tardy and often turbid attempts at land reform, totally infructuous for the interest of the rural people." (Bandyopadhyay, 1981, p. 202). Several studies reveal the tendency of underreporting and concealment of the tenancy status in the face of land reform legislations during the 60's and 70's (Ghosh and Dutt, 1977, pp.187-188; Bandyopadhyay, 1981, p. 204).

Left Front government, a coalition of left oriented parties, led by the Communist Party of India (Marxist) (popularly known as CPM), assumed office in 1977. What started earlier as amendments to Land Reforms Act of 1955 in the years 1966, 1970 and 1971, got a boost by the amendment in 1977. This amendment virtually made cultivation in absentia an exclusionary clause for a landlord to evict a sharecropper. Also, the onus for proving a person not a sharecropper was shifted to the landowner. Apart from that, every landowner was made legally bound to issue receipts for delivery of products to sharecroppers. These were all steps towards providing security and heritable rights to the sharecroppers. In 1978, there was a frontal attack on

forces preventing the recording of names of sharecroppers under the name “Operation Barga”. More details will be said about it later in section 5.

The above discussion falls in place once one questions the success of “Operation Barga”, effectively from 1978 onwards, since this measure of land reform placed unregistered sharecroppers at the top of the menu for reshaping land tenure relationships in West-Bengal. There is a belief that the area cultivated by sharecroppers in the 80’s is less than 8 per cent of the cultivated area (Gazdar and Sengupta, 1999, p.87; Rogaly, Harriss-White and Bose, p.14), hence any policy giving primacy to the sharecroppers gives wrong signals and incentives to the cultivators and agricultural labourers (Lahiri, 1981, p. 120). As a result, this kind of a policy could not bring about a turnaround in West-Bengal’s agricultural growth rate. The discussion in the earlier paragraphs is specifically addressed to this question. The painstaking research by some eminent agricultural experts lend support to the fact that there were *defacto* or unregistered sharecropping on a large scale during the period of mid 60’s to mid 70’s and the concealment and misreporting naturally assumed significant scale when the news of an impending drive towards name registration spread around as a rumour.

The policy question which had to be solved by the CPM led left front government thus was which agricultural group should get priority- Share croppers or the other deprived section, namely agricultural labourers. If agricultural labourers as a class are the lowest segment in the income scale, then safeguarding their interests through a movement to increase their wages would have been the best policy. This differentiation is made more difficult due to the existence of mixed categories like sharecroppers cum labourers who are actually small farmers augmenting their income by working in other peoples’ lands off seasons. After all, land reform does not necessarily mean those in possession of land should only get attention in the reform process. If it is found that most of the poor rural families had to depend on sharecropping as a means of livelihood, then establishing rights of the sharecroppers (known as Bargadars in Bengal) would have been the prime target of peasants movement in the state. Otherwise, the best option should have been to target agricultural labourers alone.

Historical data on Bengal’s agriculture were collected both at the behest of the British rulers as well as by Research organisations like Indian Statistical Institute. One may find a good account of the statistical aspect in the book by Ghosh and Dutt (1977). One may quote the following table from the book to gauge the extent of sharecropping in Undivided Bengal and post-partitioned West-Bengal (Ghosh and Dutt, 1977, Table 13.3, p. 118):

Table 1: Sharecropping in Bengal

Source of Inquiry	Coverage of the Inquiry	Year under Observation	Percentage of area under Sharecropping
Floud Commission	Bengal	1938(Pre-Independence)	20.0
Bengal Famine Inquiry	14 districts of Bengal	1944(Pre-Independence)	27.0
Plot to plot enumeration	Bengal	1944(Pre-Independence)	39.3
Bengal Rural Survey	Bengal	1946(Pre-Independence)	24.7
West-Bengal Rural Survey	West-Bengal	1952(Post-Independence)	35.2

A similar table may be reproduced from the same book to understand the dependence of rural families on agricultural labour (Ghosh and Dutt, 1977, Table 14.9(b), p. 130):

Table 2: Extent of Agricultural Labour in Bengal

Source of the Inquiry	Period of Inquiry	Percentage of Families with Agricultural Labour as Primary Occupation
Census of India	1931	22.2
Floud Commission	1938	22.5
Famine Inquiry	1943	17.1
Famine Inquiry	1944	16.9
Rural Survey	1945	11.9

A cursory look at the above tables clearly reveals a couple of facts, namely,

(a) Sharecropping was an important facet of Bengal agriculture before and just after independence. The reasons were many, but the most important ones seems to be intrusion of some non-cultivating as well as non-agriculturists households in Bengal's agriculture right after the depression in the 1930's and war in the early 1940's (See Ghosh and Dutt, 1977, Chapters 12 and 13; Raychaudhuri and Chakraborty, 1981, pp. 122-125).

(b) The decline in the number of agricultural labourers is mainly on account of rapid rise in the foodgrains prices since the 1940s, making existence of this class extremely hard (Ghosh and Dutt, 1977, p.130).

Thus, the decision of the CPM led left front government to assign topmost priority to sharecropping and not agricultural labourers, was dictated by the historical reality of the state. Thus, if poverty was to be reduced in the rural areas, the sharecroppers had to be given their due share along with more security. So, the decision could not be criticized as historically unjustified or statistically misguided. This is the necessary condition for the success of any policy including land reform measures.

The second major success of the Left front government of West Bengal is to initiate local self-government through three tier elected bodies known as “Panchayats”. The state of West Bengal is administratively divided into three levels, namely districts, and within a district blocks and within a block anchals. The topmost tier works at the district level known as the *Zilla Parishad*. Then at the block level (consisting of large number of villages), it is the *Panchayat Samitis*. At the grassroots level of anchals (having a small number of villages, typically 12-15), the elected body is *Gram Panchayat (GP)*. The idea of local self-government was not new in India, but elected bodies to implement them was quite rare. It certainly has the goal of bringing democracy at the grassroots level. Indian constitution was amended in 1993 (73rd amendment) by which State Legislatures are required by law to endow panchayats with powers and authority that are necessary for them to function. By this amendment, 1/3rd of seats were reserved for women. The panchayats were also supposed to (1) prepare plans for the development at the appropriate level and (2) to implement other schemes sponsored by higher authorities.

In West Bengal, first election to Panchayats was held in 1978. For every five years from then onwards, elections were held in 1983, 1988, 1993, 1998 and most recently in 2003. One of the key functions performed by the Panchayats, especially by the panchayat samitis and the GPs, were to assist in the “operation Barga” processes. This will be highlighted more in section 5 below. Apart from this, the panchayats were actively involved in the execution of the Central government sponsored schemes of employment, namely National Rural Employment Programmes (NREP), Intensive Rural Development Programme (IRDP) or Jawahar Rozgar Yojana (JRY) schemes. This was quite successful in creating and expanding some rural infrastructure, especially rural roads (mainly un-surfaced) maintained by the Zilla Parishads. Apart from this, they also ensured distribution of a package of seeds (mainly rice), fertilizer and pesticide, called Minikits although its coverage was limited (Chakraborti, 2002; Bardhan and Mookherjee, 2003). The other important task was the maintenance of tubewells for irrigation of both high and medium capacity by the panchayat samitis through Beneficiaries committees. The question is, how democratic and effective the panchayats were in promoting widespread use of infrastructure and inputs in the villages. The discussion is postponed until section 5.

Impact Analysis

Operation Barga, Agricultural Productivity and Poverty

The preceding section has shown in no uncertain terms the importance of rice in the production and consumption of rural population, who form an overwhelming majority in total population. Now, who are the stakeholders in the Left front endeavour towards more justice in the rural areas through land reforms. The most obvious beneficiaries are the sharecroppers and the pattadars, who are the owners of the ceiling-surplus land confiscated and then distributed by the government. Understandably, as also argued later in this section, it is the so called small and very small (called marginal) farmers who really could benefit from the sharecropping registration. The Pattadars, who were previously landless, were also one of the poor groups who benefited. However, the land distributed to each pattadar was not to exceed 1 acre. What about the

agricultural labourers, whose main occupation is to work in others lands? They would benefit provided the agricultural wages had increased. This might well have been done by the active intervention of the lower two tiers of the panchayats, called Panchayat Samitis and Gram Panchayats. We will look at some available data below.

The importance of land reform in case of West-Bengal came to limelight because of several events. The first and foremost is a spectacular jump in the growth rate of rice production in West-Bengal in the later half of the eighties. Let us first summarise some of the data about growth rates of rice production in West-Bengal in Table 3, noting rice is the major food crop in this region.

Table 3: Rates of Growth per annum of Rice Production in West- Bengal

Year	Aman	Total	Author	Year	All-India
1950/51 to 1966/67		1.804	Bandopadhyay, 1989	1950/51 to 1998/99	2.47
1967/68 to 1984/85		0.77	Ibid, 1989		
1982/83 to 1989/90		8.85	Mukherjee et al., 1994		
1960 to 1980	0.62	1.85	Rawal and Swaminathan, 1998		
1980 to 1995	4.03	5.03	Ibid, 1998		
1977/78 to 1993/94	3.56	4.58	Sanyal et al., 1998	1977/78 to 1994/95	0.81

The above table clearly shows the jump in the production of rice in West-Bengal in the eighties. The reason a column for Aman production figure is separately given is that till the middle of the nineties, the latest period for which the above growth figures are quoted, Aman or Kharif or winter(or monsoon, from July to November) crop constituted the biggest cultivation of paddy in West-Bengal. The other crops, like Autumn or Aus (May to September) or the much-hyped Boro or Summer (November to June) did not figure that prominently till the mid-nineties, although the area under the Boro and its production had the fastest growth among all crops. But till the early or mid-nineties, Aman, and especially the local variety, was cultivated by the majority of the poorer sections of cultivating households. The Following Table gives the picture:

Table 3A: Percentage of Area under Different Crops of Rice in West Bengal

Rice Season (Harvest)	1980-81	1990-91	1998-99
Aus (Spring)	11.88	10.49	7.20
Aman (Winter)	81.43	74.09	68.24
Boro (Summer)	6.68	15.41	24.56

Source: Statistical Handbook, 2000, BAES, Govt. of West Bengal, 2001.

Table 3B: Share of West Bengal in Rice Production in India and Relative Yield

States	1982-83	2001-02	Yield (Kg/hectare), 2001-02
West Bengal	10.5	16.39	2513
Uttar Pradesh	13.39	11.98	2120
Andhra Pradesh	16.28	12.24	2978
Tamil Nadu	7.44	7.98	3263

Source: Economic Survey, 1987-88 and Ministry of Agricultural Cooperation dataset,

However, as table 3B above shows, although West Bengal has gone to the top among all rice producers in India, its yield rates are lower than some other states. So there should be no place of complacency. In West Bengal, the major crop Aman being a monsoon crop, it is needless to say, that the Local variety of Aman has the least cost and hence, is easily practiced by the poorer households from the marginal and small farmers groups. Also, one should note that Boro cultivation has lowest growth in yield or productivity over the years compared to Aus or Aman. Between 1980-95, Aman cultivation had a growth of per hectare production (or yield) of 3.67 per cent and Aus had a growth rate of productivity of 4.78 per cent, as against 1.25 per cent growth rate of productivity for Boro. The reason is that Boro being a summer crop always uses HYV seeds, hence yield happens to be always high.

The second most noteworthy impact of land reforms is regarding implementation of the laws of land ceilings and distribution of surplus lands among the landless and poor peasants, known as pattadars. The following table shows the results:

Table 3C: Share of West Bengal in implementation of land-ceilings among all major rice producing states in India as in March, 2001

States	Area Distributed (in acres)	Percentage to All-India Total	Number of Beneficiaries	Percentage to All-India Total
West Bengal	1048005	19.74	2564931	47.14
Andhra Pradesh	581568	10.95	534603	9.83
Uttar Pradesh	258698	4.87	294062	5.40
Tamil Nadu	179683	3.38	142347	2.62
Total INDIA	5309035	100	5440676	100

Source: Anil K. Chakraborti-“Beneficiaries of Land Reforms”, 2002

The above table requires little explanation. Some commentators have questioned the credit of the left front in achieving this, since this is a cumulative result, which started from abolition of Zamindari system in the previous Congress Party regime (Mallik, 1993). But the whole process picked up in the left front regime can never be questioned (Gazdar and Sengupta, 1997).

Next, one may focus on poverty alleviation and land equalization efforts of the left front. Tables 4 and 5 below highlight these issues.

Table 4: Poverty estimates (Percentage of People Below Poverty Line of Rs.49 per capita per month in 1973-74 prices in Rural Areas)

Year	Official Planning Commission Estimates (Experts Committee Methods)	Deaton-Dreze Adjusted Estimates	
	West Bengal	India	West Bengal India
1972-73	73.16	56.44	
1987-88	48.8	39.4	36.3 39.0
1993-94	41.2	37.1	25.1 33.0
1999-00	31.7	26.8	21.9 26.3

Source: Report of the Expert Group on Estimation of Proportion and Number of Poor, PPD, Planning Commission, Govt. of India, July, 1993; Angus Deaton and Jean Dreze, "Poverty and Inequality in India: A Re-examination", *Economic and Political Weekly*, September 7, 2002.

Table 5: Percentage Distribution of Operational Holdings and area operated by size-groups, 1990-91

Year	West-Bengal	India	
1990-91	Marginal (Below 1 hectare)	Small (1-2 hectares)	Marginal (Below 1 hectare) Small (1-2 hectares)
No. of Operational holdings	73.8	17.6	59.4 18.8
Area Operated	36.51	29.95	15.0 17.4

The table 4 above on poverty shows that by head-count ratio, number of rural poor in West-Bengal declined by 56.67 per cent between 1972-73 and 1999-00 following the Experts committee of Planning Commission methodology. The corresponding All-India percentage decline is 52.52. It is not that West-Bengal has been able to eliminate rural poverty faster than All India performance, but it is more creditable since West-Bengal had one of the highest numbers of relatively poor people in India. This lends more credit to the pro-poor policies of the government in West Bengal, since the number of Marginal and Small farmers is not only much greater in West Bengal but the amount of area they operate is also much larger compared to All India figures, as can be seen from Table 5 above.

Can we show more rigorously the interaction between yield of rice and different parameters of land reforms. To note, from the mid-1980's, the decentralized decision making through the *Panchayats* started to leave some imprint on the agrarian scene, once formally funds were devolved to them and duties were assigned to formulate village plans (Webster, 1999). This presence of panchayats became quite visible in the late eighties (Datta, 2001), which does not, however, imply that *Panchayats* always acted as politically neutral or corruption free local bodies (Williams, 1999, p.236). One of the key roles played by Panchayats all over West-Bengal, irrespective of political affiliations, happens to be "Dispute-settlement" (Williams, 1999, p. 235; Gazdar and Sengupta, 1997, p.175) or "conflict-resolution" (Rawal and Swaminathan, 1998, p.

2601). This always eases things, especially in the controversies surrounding water-use and rising wage rates of agricultural labourers. Also, the funds utilized for national programmes, and in many cases utilized through the *panchayats* like IRDP or JRY created durable assets, helping to create employment and more irrigation potentials.

Another group of writers stressed the enhanced bargaining power and security of tenancy as incentive factors in tenant's production activities. One of the good references is Banerjee, Gertler and Ghatak (1998). They argued that "Operation Barga" involved a limited transfer as opposed to a full transfer of property rights. This creates two effects on sharecroppers termed as "bargaining power effect" and "security of tenure effect". The first is really an empowerment effect whereby the legally enforceable contract of tenancy consequent upon "Operation Barga" provides an 'outside option' for the tenant. This increases the bargaining strength of the tenant and increases his crop share. The security of tenant effect on the other hand produces two counteracting results – one causes the tenant to put in less work effort if the threat of eviction was used as a device to force the tenant to work harder. The other effect is a positive one that gives more incentive to the tenants to increase the investment on land, both short-term and long-term. Banerjee et al (1998) conducted a survey in 1995 of 480 sharecroppers in West-Bengal and studied the nature of their contracts for both the pre and post-reform periods. Their survey indicated both these effects have positive effects on tenant's incentives and as a result, in the words of the authors, "Operation Barga had a large and positive effect on productivity (Banerjee et al., 1998, p.3)".

The problem of estimating the impact of any land reform measures in the context of an agrarian economy is several. One is already mentioned before – a long time-series captures a number of effects simultaneously and it becomes difficult to segregate them. The other is arguably the problem of quantifying something that has several intangible effects, like sense of security of tenants and noise-free communications from Bureaucrats and Technocrats to farmers through the Panchayats (Mukerjee and Mukhopadhyay, 1996). Also, the role of panchayats in resolving conflicts regarding disputes regarding water use or use of agricultural labour is almost impossible to be measured. Under the circumstances, it is best to go for the method of panel data estimation for marginal and small farmers separately, since these groups are the major beneficiaries of Sharecropping registration system. However, the Panel data estimation for both Marginal and Small farmers reveal clearly that classical regression model is better than either fixed effects or Random effects models In both cases. This led us to try out more standard pooled regressions over districts and time, using barga recording as a dummy and introducing some factors which might capture the role of panchayats. Again, for data limitations, to accommodate panchayat related activities, like minikit distribution and rural road constructed, we took two years 1985 and 1994, and pooled them over districts. The major sources used are all publications of different departments of Government of West Bengal (GOWB), namely,

- Agricultural Census of 1985-86 and 1995-96 for area of operational holdings and net irrigated area data and
- Economic Reviews, 1985 and 1995, for Fertiliser use data (in tons)

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- Study of Farm Management and Cost of Production of Crops in West Bengal for 1984-85 and 1994-95 for cost of fertiliser per acre, yield per acre (in quintals) and total labour (Manual and hired in Man-days) per acre data.
- Statistical Abstract, 1997-98 for Rural Roads in Kilometers

Before proceeding with the regression let us have a glance at the figures for some of the major variables over districts and time, to indicate the scale of operations of Operation Barga and Panchayats. All data are for small and marginal farmers.

Table 6: Summary Statistics of some key variables related to Operation Barga and Panchayats over districts and time

Variable	Mean	Coefficient of variation	Maximum	Minimum
Fertiliser in Kg per acre	18.89	1.29	65.46	4.06
Labour in mandays	55.36	5.14	85.3	37.2
Yield in kg per acre	953	4.34	1442	494
Roads in kilometers (1985)	1205.77	1.32	3852	23
Roads in kilometers (1995)	1857.99	1.73	3982	605
Minikit numbers per operating household (1984-85)	.01	2.05		
Minikit numbers per operating household (1994-95)	.04	2.00		
Barga recording as percent of operating household (1984-85)	22.3	2.36		
Barga recording as percent of operating household (1994-85)	24.9	3.35		

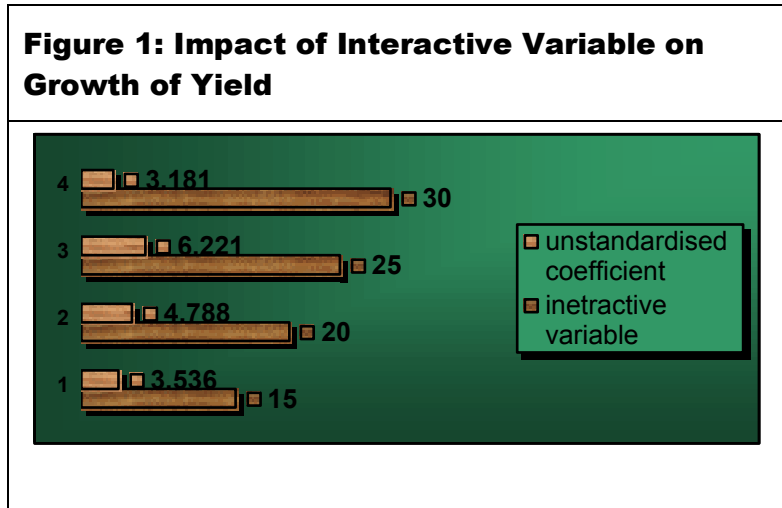
Thus, minikit distribution is not a success for Panchayats, whereas roads are. Also Barga recording increased marginally over time and across districts, although coefficient of variation also increased.

To capture the effects of Barga registration, for pooled regression, we calculated percentage of barga households as percentage of total number of households operating and ranked the districts. Four alternative measures were used to denote strong effects of barga-in one measure those districts which had more than 15 percent of households registered for Barga, are labeled High Barga Districts (represented by a dummy *barga20* taking the value 1) and the rest of the districts was labeled Low Barga Districts (represented by the dummy mentioned above taking the value 0). Similarly, in other measures, cut-offs at 20, 25 and 30 per cents. These variables were labeled Barga 15, Barga 20, and so on. Also, four interactive variables *inter 15*, *inter 20*, *inter 25* and *inter 30* are created which are interaction between barga registration and fertilizer use. The idea is that very low barga registration per se may not induce higher production unless supported by complementary inputs. Thus the interactive variables capture fertilizer use coupled with barga registration percentage. In other words, they are fertilizer use per hectare times the amount of barga registration. Hence the following variables were incorporated in the regression:

Dependent Variable: Yield rate per acre of Aman (Local variety) for either marginal or small farmer for the relevant districts (in Quintals)

Independent or Explanatory Variables: Net irrigated area per acre of operational holdings (percentage); fertiliser use per acre (in tonnes); Labour use per acre (in Man-days, Hired plus Family); minikit distribution (in numbers); length of roads maintained by Zilla Parishads (in kilometres), Barga 15, 20, 25, or 30 (High or low Barga recording districts at 15,20,25 and 30 percent cutoff), *inter 15*, *inter 20*, *inter 25*, and *inter 30* (fertiliser times Barga recording at the aforesaid cutoffs).

The log linear regression results produce the following graph for the interactive variable:



The best fit lines are reported below (coefficients are unstandardized coefficients):

$$(1) \text{Log}(\text{yield}) = -0.144 + 0.457***\text{log}(\text{roads}) + 0.070** \text{log}(\text{labour}) + 6.221***\text{inter } 25, \text{ Adjusted } R^2 = 0.310, F=7.747***$$

Note: *, **, and *** refer to significant at 10, 5 and 1 per cent levels respectively

As figure 1 reveals, the barga registration is most successful when the cutoff is taken at 25 per cent since fertilizer per hectare was most fruitfully utilized by the recorded bargadars at that level. Cutoff below or above that not only produced weakened effects, they were also insignificant for 15 and 30 per cent levels. This means, at low levels of cutoff, numbers may brand recording successful, but the recorded bargadars did not get requisite complementary inputs like fertilizers. On the other hand, at a very high cutoff level, one may unjustifiably ignore some genuine successful cases of recording, hence artificially weakening the impact of barga recording. The procedure establishes that a 25 per cent minimum recording percentage is apparently optimal in terms of its yield raising effects. The associated regression captures yield raising effects of

- barga recording through its influence on fertilizer use
- the role of panchayats through rural roads and
- greater use of labour.

Since the use of fertilizer also depends on availability of water, irrigation was by definition also an important determinant, but high multicollinearity precludes the use of both. Thus an inter-district comparison of the performance of the major beneficiaries of land reforms in west Bengal, namely the small and marginal farmers, does bear out the importance of reform.

Does it reduce poverty? It is obvious, given the great importance attached to rice in both consumption and production of rural people in West Bengal as highlighted in the start of the paper. Also, why are the pattadars left out from the above regression? For the simple reason that their landholding size is too small to make any difference in the general conclusion.

Driving Factors

Analysing the regressions done above, it looks like operation barga, aimed at reducing risk of sharecroppers and ensuring better distributive justice to them, did have some influence in raising productivity of the marginal and small farmers. The Panchayats, among other activities, carried out a number of Central Government employment schemes like Rural Labour Employment programme (RLEP) and Jawahar Rojgar Yojna (JRY). Most of them went towards creation of rural roads and some towards excavation of tanks and ponds. It is clear that this effort of improving the rural infrastructure bore fruit. Let us look at some of the political economy factors, which are already mentioned in different sections of the paper.

Commitment and Political Economy for Change

The major political economy questions behind the land reforms efforts of West Bengal and also raised in the paper are as follows:

- What is the commitment of the constituents of Left parties towards a genuine land reform?
- Is it a politically correct decision on the part of the left front government to choose the sharecroppers and pattadars as the main target group, since this has implications for long term survival of the main party CPM?

The first question may be answered in several ways. The first is the history of Bengal. As discussed in the implementation section, the peasant organizations attached to the Communist Party, especially, All India Kishan Sabha (AIKS), sided with the struggle of the sharecroppers for their longstanding demand for 2/3rds share (in case they supply all inputs). This started with the famous *Tebhaga* movement in the 1940s. The division of political parties were quite clear on the eve of independence of India in 1947- the landlords (or *jotedars*) were backed by the Congress party while the sharecroppers (or *Bargadars*) and the agricultural labourers (or *Khetmajurs*) sided with the Communists and their allies (Mallick, 1993; Leiten, 1992). This is further supported by the fact that recording of Bargadars (sharecroppers) peaked in the first three years (1978-81) and slowed down thereafter. The total number of bargadars is variously put at 2.3 million (Banerjee, Gertler and Ghatak, 1998) to 3 million (Mallick, 1993). The actual figure seems to be close to first figure quoted above. The volume of barga recording may be gauged in the following figures-

Table 7 : Number of Bargadars registered

Year	Cumulative Numbers registered (Cumulative percentage to total)
Up to 1978 (Pre Operation Barga)	0.25 million (11 per cent)
1981	1.20 million (52 per cent)
1984	1.31 million (57 per cent)
1991	1.43 million (62 per cent)
1995	1.47 million (64 per cent)

Source: Bardhan and Mookherjee (2002) for figure upto 1978; Economic Review, Government of West Bengal, Various years.

Thus it is clear that the efforts to ensure hereditary rights and distributive justice to sharecroppers got a real boost under the left front regime which started in 1977.

About the second question, sufficient discussion is made about the importance of sharecroppers as a group vis-a- vis the agricultural labourers. One pertinent fact in this context is the mixed nature of small and marginal sharecroppers in West Bengal. They are both sharecroppers and agricultural labourers since they work on others land to augment their income (Leiten, 1992; Bandyopadhyay, 1981). So a thin veil divides the two groups- they could be classified either way. Thus guaranteeing more returns to poorer sharecroppers certainly help the majority of the poor people some way or other. So it is not really either only electoral politics or a trick played by middle peasantry in disguise since they also had lands under sharecropping as argued by some (Mallik, 1993). Given the preponderance of marginal and small holdings in West Bengal, there is no doubt about the right political will of the Left front government (Bardhan and Mookherjee, 2002; Bandyopadhyay, 2003; Hanstad and Brown, 2001). But as one author cautions (Bhattacharya, 1999), CPM, the leader of the Left Front, allowed middle peasantry to get some control back again through its policy of appeasing all sections in the rural community.

Institutional Innovation

The two major institutional innovations in the Land Reform process are (1) ‘bringing bureaucracy close to the Villages’ (Bhattacharya, 1999) and (2) Delegating financial and planning activities to elected local governing bodies. The first one, which centered around Operation Barga, is to replace the age-old and traditional Revenue Court approach to register names of sharecroppers by the Rural Camp method (Bandyopadhyay, 2003). The former method was heavily biased against the sharecroppers since they did not have the necessary wherewithal to put up their cases in the revenue courts. In the second approach, the government machinery came closer to the ground reality. There were broadly six stages to operation barga (Hanstad and Brown, 2001,p.36). In the first stage, officials identified areas with large concentration of bargadars, determined from settlement records and information passed on by the peasant organizations. Second, squads composed of *Kanungos* (Land settlement branch) and Junior Land Reforms Officers (Land Management Branch) were organized. Third, Dates of evening camps were settled. Fourth, in the evening camp, government officials stressed the benefits that the Bargadars will enjoy after recording their names. Fifth, the day after the camp public meeting, field officials investigated the Bargadars’ claims. Lastly, on the third day of the camp, government officers recorded Bargadars’ names, noted any objections and disposed of them. Recorded Bargadars were given certificates which were later entered into village records.

Devolution of financial and planning responsibilities to Panchayats started from 1985 onwards. In each electoral constituency, the members were supposed to meet at least twice in a year in what is called “*Gram Sansads*”. This itself is empowering the masses since they now have a collective voice to air their grievances (Datta, 2002). This is more than just reserving seats for the women by constitutional amendments. All gram panchayats are supposed to seriously consider and implement comments and suggestions of Gram Sansads. As per data available till

2000 from the department of Panchayats and Rural Development of the government of West Bengal, there were more than 3000 gram Sansads, and almost 90 per cent of them held meetings. The worrying point, however, is the rapidly dwindling attendance in these gram sansad meetings- from a figure of 30 per cent in 1996, it has steadily fallen to 5 per cent in 2000. However, it is not to be denied that the panchayats played an important role in mediating conflicts and disputes in matters relating to water or labour use or even in social disputes (Bhattacharya, 1999; Williams, 1999; Gazdar and Sengupta, 1997))

Learning and Experimentation

The major lesson learnt in the process may be divided into two segments- one about the positive aspects and the other on some undesirable developments in the last few years (alienation, rise of ag labour, wages, compositions of gram sansad etc.). To start with the positive aspects, the first and foremost surely is the importance of political will in carrying out land reforms. The Left front in West Bengal utilized its massive historical support of poor peasants through its peasants organizations. This is all the more important keeping in mind the fact that West-Bengal has population density per square kilometers three times the national average as well as the largest number of poor people in rural areas in the seventies. Second is the clear vision on the part of rulers to have a sequence of reforms starting with the operation barga. The second phase clearly started in 1985 with empowering of the local level bodies or the three-tier panchayats with fiscal devolution. This, when combined with the already executed operation barga created the right incentive and power structure to increase investment in land through better irrigation, seeds and higher labour use. The poor farmers could only avail of the fruits of technological progress once they were made more secure and given more incentives to use better inputs with the help of elected local bodies. Now comes the third phase of reform of encouraging crop diversification and promoting agro-based industries across West-Bengal (New Agricultural Policy, Govt. of West Bengal, 2003). Unfortunately, although the sequencing is done correctly, the time-lags of the whole process seems unjustified (Raychaudhuri and Sen, 1996). This really slowed down growth rates in the agricultural sector considerably after a period of sustained high growth.

However, there are some disturbing trends, which the land reform measures in West Bengal failed to prevent. The first is the dispossession of lands of the pattadars and bargadars. A study sponsored by the state institute of panchayats and Rural Development (Chakraborti, 2002) shows that about 13.23 per cent of pattadars and about 14.37 per cent of bargadars have lost possession of their lands. The study did not go into the reasons, but the trend is itself worrying.

The second major disturbing feature is the rapid fall in the number of cultivators during 1991 to 2001 in West Bengal by about 1.30 per cent and a rise of agricultural labourers by 3.01 per cent (Singh, 2003, p.894). For India as a whole, cultivators have increased in numbers along with a rise in the number of agricultural labourers. This fall in the number of cultivators in West Bengal, in spite of empowerment through land reforms and local governments, is a disquieting feature.

The third point of worry is the data of last elections held for Panchayats in 2003. In the previous elections, held in five yearly intervals since 1978, seats where no contest was held

amounted to less than 1 per cent of seats in the first two years, and except for 1988, it was less than three percent (about zero per cent in the lowest tier) in 1993 and 1998. In 2003, in the upper two tiers, more than 10 per cent of the seats and about 4.5 per cent of seats in the lowest tier were not contested and almost all of them went in favour of the left front (Institute of Social Sciences, 2003). This may have two implications- either the left front has done extra-ordinary work or they had resorted to coercion and intimidation to drive away voters. One needs investigative studies for this trend to understand its effect on grass roots democracy that was the backbone of the Panchayati system.

Next, one notes that the agricultural labourers in West Bengal, who are also a major stakeholder in the agricultural sector, did not gain much in the process. As Gazdar and Sengupta (1997, pp.177-178) had shown, the real wage in West Bengal grew at the rate 5.5 per cent between 1980 and 1991, but almost the same rate is achieved by Bihar (4.8 percent), Orissa (5.5 percent) and India as a whole (4.8 percent), who did not have the spectacular land reforms like West Bengal. So, as apprehended by some authors (Bhattacharya, 1999; Mallik, 1993), agricultural labourers could not gain much in the process since the CPM played a middle role of appeasement of cultivators for electoral gains.

What about the position of women in case of ceiling-surplus land redistribution and inheritance? This is a matter of concern since one study highlights that although the Hindu Law of Succession, under which property inheritance really worked, specifies equal shares to sons, daughters and widow, in most cases it is the sons who got the shares (Hanstad and Brown, 2001). On the other hand, the pattas (land ownership rights) which were granted for the redistribution of the ceiling-surplus land, did not envisage joint ownership of both the spouses until 1994-95 (Chakraborti, 2003). Thus, only 9.70 per cent of total pattas granted had joint ownership till 2002, which shows discrimination against women quite significantly.

The last weakness of the programme is the absence of concomitant development in the fields of credit and agricultural inputs. As studies show, the initial spurt in lending activities by specialized rural banks dissipated quickly (Raychaudhuri and Sen, 1996). Commercial Bank credit per hectare, which was higher in West Bengal than national average in 1983, went well below that in 1993 (Bhattacharyya, 1996). In case of other agricultural inputs, be it pumpsets, tractors, threshers, or fertilisers, it is all private initiatives which really mattered. It is not exactly appropriate to say that the left rulers in West Bengal did not allow market related activities to function, although they perhaps, did not directly encourage these activities. The land reform provided the opportunities for the small producers to interact with the market driven activities more widely.

Lessons Learned

In the end, it is natural to pose the question how far is West Bengal's experiment with land reforms replicable in other Indian states and in other countries with similar land tenure systems. The above discussion on the role of land reforms brings out some very important aspects of agricultural development and rural poverty reduction in the state. To understand the dynamics of

change in West-Bengal's agriculture, one has to keep the perspectives clear. West Bengal, historically, had a system of absentee landlords, who depended heavily on tenants. Since unregistered tenants could be exploited at will, there was a strong resistance towards registration of their names. The left parties historically sided with the peasant resistance as ideologically the communists and their allies were aligned towards the interests of the poor peasants. The recording of sharecroppers or operation barga was somewhat dictated by the peasants organization which assumed sharecropping had a big presence among the poor farmers. The goal however was to bestow quasi property rights to ensure heritable rights of the sharecroppers as well as to allow a greater share of the product to the sharecroppers. The standard approach of revenue courts, which depended on the bureaucrats, was replaced by field camps, guided and dominated by left party activists and sympathizers. At the same time, the land reform programme successfully confiscated ceiling surplus land and distributed them among landless and the poor peasants. Then came the effective use of the three tier panchayats in the decision making process and execution of centrally funded schemes, especially in the infrastructure and irrigation related projects. Also, Panchayats ensured settlement of water and wage disputes very effectively, which are things that could not be quantified very easily. The impact of the reform was perceptible on yield of rice. Rice was the staple of poor people and agriculture in West Bengal was completely dominated by rice cultivation. Thus, across districts and over time, higher the registration of bargadars and the more successful the activities of the panchayats in creating infrastructure like roads, higher was the yield. The natural outcome of this is to reduce rural poverty faster than other states in West Bengal, bring more equality in land distribution and activate grass roots decision making through 'gram sansads' of Panchayats.

However, there are failures on some other fronts also. Among the major stakeholders, agricultural labourers did not gain much. Their real wages did not increase appreciably. The number of cultivators is going down although this is not the trend for India as a whole. In addition, there is dispossession of land distributed to the landless as well as those cultivated by recorded bargadars. The grass root involvement of Panchayats is facing a serious challenge due to poor participation of the electorates in village level meetings. Also, untied fund allocation to Panchayats to carry out plans for the future of the villages is getting seriously jeopardized due to apathy of state governments. The New Agricultural Policy of West Bengal admits that over-dependence of farmers on rice is causing problem of oversupply and falling prices and they need be encouraged to diversify to other crops and non-farm activities. Without this, the fruits of land reform cannot be sustained.

Thus replication of West Bengal model critically rests on (a) History of land tenure, which was dominated by absentee landlordism (b) Political reality of leftwing peasant movement aligned with the poorer stakeholders (c) bestowing quasi property rights through law of inheritance for sharecroppers through non-traditional methods of name registration (d) grass roots participation of villagers through local level elected governments (e) active role of local bodies in rural infrastructure development and dispute settlements in case of land, water and wages. Although history in general cannot be repeated, some other factors, especially strengthening of the grass roots participation in the decision making process, can well be emulated. At the same time, replication must take caution regarding some of the weaknesses of the movement, namely

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(a) inadequate attention to agricultural labourers (b) dispossession of land over time and reduction in the proportion of cultivators (c) fiscal constraints of the state impinging upon untied fiscal devolutions of panchayats (d) over dependence of poor farmers on rice cultivation (e) Less attention to the problems of credit and other agricultural implements and (f) a tendency towards weakening of the grass roots democratic institutions.

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