

# Re-evaluating the Land Reforms in West Bengal

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## INTRODUCTION

West Bengal is an exceptional state in India in that the Left Front government stayed in power there for more than 30 years, from 1977 to 2011. The Left Front government gave priority to the development of the agricultural and rural sectors, especially through land and panchayat reforms in the initial stages of its rule. On the other hand, the agricultural sector (including livestock, forestry, and fisheries) started to grow rapidly after the 1980s, and the pace did not slacken until the end of the 1990s. Led by such high agricultural growth, the entire economy achieved high and sustained growth, resulting in a substantial rise in per capita income. The Left Front government asserted that the agricultural growth was due mainly to its land reforms programme, supported by the panchayat reforms.

However, this assertion of the Left Front government is questionable, although Abhijit-Banerjee et al. (2002) and Pranab Bardhan and Dilip Mookherjee (2011) verified in quite a rigorous manner some propositions related to the positive role of Operation Barga (a programme for protecting sharecroppers' rights) in agricultural output growth. I argue that the positive – and statistically significant – effects of the Operation Barga programme on agricultural productivity and growth that they measured reflect a mere reduction of Marshallian inefficiency (later explained) and that inefficiency itself persisted. And I also negate the arguments on the positive role of Operation Barga, by making tenancy rights more secured, in inducing private long-term investments among sharecroppers.

Despite such arguments, however, I do not deny the role of land reforms in the overall economic development of West Bengal. Rather, I would assert that the land reforms *did* contribute to economic growth through enhancing demand for both agricultural and non-agricultural products and services in rural areas, by creating a more egalitarian asset and income distribution.

The organization of the essay is as follows. First, it summarizes the progress of the land reforms programme in West Bengal. Then, after

showing the growth record in the state's agriculture and economy since the 1980s, it re-examines various arguments so far submitted with regard to the relationship between land reforms and agricultural productivity (growth). Arguments on Bangladesh agriculture are referenced in order to understand the issue more comprehensively. Third, the essay discusses the characteristics of agrarian structure in India and Bangladesh in a comparative perspective with prewar East Asia, especially Japan, since it is closely related to the present argument. Finally, the slowing down of agricultural growth in West Bengal after the first decade of the twenty-first century and its implications are discussed.

### SUMMARY OF LAND REFORMS IN WEST BENGAL

Soon after its establishment in 1977, the Left Front government in West Bengal launched comprehensive rural reform and development programmes – not only land reforms and panchayat reforms but also a distribution programme for subsidized agricultural input, rural finance programmes, rural infrastructure development programmes, etc. However, we focus here only on the land reform programmes, including the programmes on land appropriation/redistribution and land tenancy reforms.

A complicated and suppressive agrarian structure was developed in Bengal after the Permanent Settlement in 1793 between *zamindars*, other intermediaries, occupancy tenants, sharecroppers (*bargadars*), agricultural labourers, and so on. The upward mobility of the occupancy tenants was facilitated by a series of tenant protection measures, including the 1885 Bengal Tenancy Act. The fertile and productive land of Bengal enabled the creation of such a multi-stratified agrarian structure.

After India's independence, there was an initiative to do away with zamindars and other intermediaries. The West Bengal government enacted the West Bengal Estates Acquisition Act in 1953 and announced that the state would appropriate land exceeding 25 acres of farmland (plus 20 acres of non-farm land) per household. The Land Reforms Act (1955) prescribed how to distribute the appropriated land. In 1971 the Revised Land Reforms Act was passed, aiming at more effective implementation of the land appropriation/redistribution programme. Landless and Scheduled Castes (SC)/Scheduled Tribes (ST) households were given priority as beneficiaries.

It is estimated that by 1970 about 500,000 acres of land had been appropriated. The figure increased to 633,000 acres by July 1977 and 962,000 acres by February 1979. Besides, as approximately 160,000 acres were in a state of suspension at the time of February 1979 by order of the courts, a total of 1.12 million acres (=453,000 ha) were appropriated; this was already almost equal to the latest figure of 458,000 ha as of November 2011 (Government of West Bengal 2011: 98). Considering the total net

sown area of 5.3-5.4 million ha in West Bengal, it accounted for slightly less than 9 per cent of total farmland.

However, although the elimination of zamindars and other intermediaries was relatively successful, the former occupancy tenants became landlords and the relations between the new landlords and sharecroppers/agricultural labourers persisted, due mainly to the small share of land actually appropriated by the state. The idea of 'land to the tillers' was by and large not realized. Note that according to the report of the Floud Commission (Government of Bengal 1939), more than 20 per cent of the land in Bengal was cultivated by sharecroppers in the pre-war period.

There was a large-scale mass movement by sharecroppers demanding a greater share (two-thirds) of the harvest from 1946 to 1950 in Bengal, known as the 'Tebhaga Movement.' Responding to this event, the state government enacted the West Bengal Bargadars Act in 1950 to protect sharecroppers. However, the act declared that landlords and sharecroppers would each take one-third of the harvest and that one-third could be taken by the party that provided (current) inputs; it also permitted landlords to evict sharecroppers when the latter failed to cultivate the land 'properly'. In fact, sharecropped land was progressively evicted during the 1950s and 1960s. Note, however, that according to the National Sample Survey, sharecropped land still accounted for 18.7 per cent of total farmland in West Bengal in the early 1970s (Dasgupta 1984).

Soon after taking power in 1977, the Left Front government amended the 1971 Land Reforms Act, which made sharecropping rights hereditary and rendered eviction by landlords a punishable offence. It also declared that sharecroppers could retain three-fourths (75 per cent) of the harvest. However, as is usual in India, the implementation of programmes at ground level cannot be ensured by the enactment of laws alone. The contribution of the Left Front government was to strongly enforce such laws by making full use of its network of party organizations and farmers unions (Kisan Sabha). Especially notable was the registration movement among sharecroppers called Operation Barga since 1978, by which the protection of sharecroppers' rights written in the Land Reforms Act (1977) saw substantial progress at the ground level. The distribution of appropriated land was also accelerated under the Left Front government.

As mentioned above, appropriated land totaled 1.13 million acres (=458,000 ha) as of November 2011. The number of beneficiaries from the land distribution programme was 3.02 million, comprising SC (36.8 per cent), ST (18.2 per cent), and others (45 per cent). On average, the distributed area per family was 0.37 acres (=0.15 ha). Note that per family distributed land size was approximately one acre until the late 1960s but it reduced to one-thirds thereafter because, in principle, each acre of land was divided between three beneficiaries (Lieten 1992: 136).<sup>1</sup>

The Operation Barga programme, on the other hand, was almost completed by the late-1980s. As of November 2011, the number of

beneficiaries had reached 1.54 million and the registered sharecropped land was 1.13 million acres (=457,000 ha) (Government of West Bengal 2011: 99). On average, the registered land area per sharecropper was 0.73 acres (=0.30 ha). The registered sharecroppers comprised SC (30.8 per cent, with an average of 0.79 acres), ST (10.9 per cent, 0.94 acres), and others (58.3 per cent, 0.67 acres).

In summary, the total land area either distributed or registered under the Operation Barga programme was 2.25 million acres (=914,000 ha), roughly equivalent to only 17 per cent of total farmland (net sown area). By contrast, however, the number of beneficiaries reached 4.56 million, which is large considering that in the mid-1980s the numbers of cultivators and agricultural labourers were roughly 5.30 million and 4.50 million, respectively.<sup>2</sup>

In fact, Sunil Sengupta (1981) estimated that the beneficiaries from the land distribution programme accounted for nearly 35 per cent of total targeted people. Banerjee et al. (2002) estimated that registered sharecroppers accounted for 48 per cent of total sharecroppers, whereas Bardhan and Mookherjee's (2011) estimate was 65 per cent. Although the two land reforms covered a rather limited area, they spread to a much higher proportion of rural targeted people.<sup>3</sup>

One important issue is how the beneficiaries changed and/or maintained their livelihood after the land reforms. Since there is no official data in this regard, let us look at the results of a large-scale follow-up survey conducted in 2000 by the State Institute of Panchayats & Rural Development. The survey covered 21,712 and 13,878 beneficiaries across the state from the land distribution programme (hereafter Pattadar) and the Operation Barga programme (hereafter Bargadar), respectively (Chakraborti 2003).

According to the report, due to various reasons 13.2 per cent of Pattadars lost their distributed land while 14.4 per cent of Bargadars lost their registered sharecropped land. In other words, the remaining beneficiaries, accounting for more than 85 per cent of the total, still kept their rights. The most frequent share of harvest paid by Bargadars was one-fourths (49.2 per cent), which was guaranteed by law, followed by one-half (19.2 per cent), nil (19.1 per cent), and two-fifths (12.5 per cent). In other words, nearly 70 per cent of Bargadars paid legal land rent or even nil. With regard to cost sharing for current input, in 90.8 per cent of cases sharecroppers bore all the costs, however.

Table 1 shows several agriculture-related indicators for Pattadars and Bargadars. The most notable fact here is that more than one-fourths (26 per cent) of Pattadars purchased additional land besides the distributed land and nearly one-thirds (33 per cent) of Bargadars purchased land. They probably purchased their registered sharecropped land, because it became much less valuable for landlords since it now yielded a smaller land rent share (than the market rate) and would never be returned, because tenants could pass on the sharecropping rights to their

TABLE 1. SELECTED AGRICULTURE-RELATED INDICATORS FOR LAND REFORM BENEFICIARIES

	<i>Pattadar</i>	<i>Bargadar</i>	State average
Purchased land with own money (%)	26.4	32.9	—
Member of cooperatives (%)	14.6	20.6	—
Received loan from cooperatives (% of members)	71.0	70.9	—
Land under irrigation (%)	60.4	64.5	—
Used chemical fertilizers (%)	87.4	93.0	—
Cropping intensity (%)	172.9	170.6	171.0
Yield per hectare of aman rice (kg/ha)	1,784	1,814	1,996

*Source:* Prepared by author based on A.K. Chakraborti, *Beneficiaries of Land Reforms: The West Bengal Scenario*, State Institute of Panchayats & Rural Development, 2003.

descendants. In such a situation, it can safely be assumed that the Bargadars obtained land at very cheap rates or even free of charge.

It is also noted from the table that whereas the beneficiaries achieved the same cropping intensity compared to the state average, their yield per hectare in monsoon-season rice (aman) remained at substantially lower levels than average. This point will be discussed later.

It is also found from the report that because of the small land area per household, the beneficiaries who could make their living from the family farm alone were limited to 9.9 per cent and 16.6 per cent for Pattadars and Bargadars, respectively. At the same time, however, beneficiaries who secured more than 180 days' employment outside the family farm accounted for 64.5 per cent and 51.8 per cent of Pattadars and Bargadars, respectively (those who secured 90-180 days' employment accounted for 28.3 per cent and 36 per cent).

It can be concluded that, as Georges Lieten (1992) stressed, the land distribution programme played an important role in preventing marginal farmers from losing land and becoming landless proletariats. In addition, Operation Barga not only protected Bargadars by ensuring more secured tenancy rights and lower shares of land rent but also provided roughly one-third of them with ownership of their sharecropped land through purchasing (most probably) at cheap rates.

## THEORY AND EMPIRICAL EVIDENCES

The West Bengal economy had been stagnant for a long time in that the slow growth had been absorbed by population growth, making per capita income almost stagnant. However, the economy started to grow rapidly after the 1980s, led by high growth in the agricultural sector (Table 2). The annual growth rate of 4-5 per cent in agriculture for two decades was remarkable, especially considering the nature of the sector.

TABLE 2. ECONOMIC GROWTH RATES IN WEST BENGAL

	Growth rate (annual %)				
	Net State Domestic Product (NSDP)	Per capita NSDP	Agriculture (including forestry and fisheries)	Manufacturing	Other sectors
1980/81-1990/91	4.24	1.98	4.32	2.47	5.08
1990/91-2000/01	6.84	5.14	5.32	5.01	8.35
2000/01-2007/08	7.06	5.83	2.40	4.35	9.41
All periods (1980/81-2007/08)	5.97	4.21	4.13	3.91	7.48

Source: Prepared by author based on Government of West Bengal, *Economic Review, Statistical Appendix*.

It was quite natural for many people to believe that the high agricultural growth from the 1980s in West Bengal could be attributed mainly to the land reforms and other rural development programmes (supported by the panchayat reforms) initiated by the Left Front government since 1977. The Left Front government itself touted its achievements, such as the following:

This dynamism in the agricultural sector is related to the development strategy followed by the State. The crux of the strategy is the successful implementation of land reforms measures which entail the distribution of ceiling surplus land among the landless and providing security of tenure to the sharecroppers. The land reforms carried out are not merely redistributive measures or charity but tailored to achieve the maximization of agricultural output because of the empirical fact of higher per acre production record in the land belonging to the poor working farmers. As a mere land reforms cannot be effective unless the beneficiaries of such reforms are in a position to carry out productive activities, the resources of the State are concentrated in providing these beneficiaries as well as other small and marginal farmers with crucial non-land inputs like seeds, credit, fertilizers and irrigation facilities. This basic strategy has become operationally effective with the introduction of decentralized district level planning in the State by which the rural poor through the elected Panchayats get an opportunity for participating directly in the development process in the State (Government of West Bengal 1995: 18).

In summary, it was asserted that the land reforms contributed to the agricultural output growth because the beneficiaries (hard-working poor farmers) were given work incentives by the reforms and also the government provided them with non-land inputs such as seeds, credit, fertilizer, and irrigation facilities.

The inverse relation between farm size and productivity (per acre) has been one of the major issues intensively discussed in Indian agriculture. The arguments can largely be divided into two: static and dynamic. With regard to the former argument, because of labour market imperfections,

it is debatable whether the value of family labour and hired labour are equal to the market wage rate. It is argued that small farmers use family labour beyond the point where marginal productivity of labour is equal to the prevailing market wage rate, since there are virtually no alternative employment opportunities. It is also stipulated that large farmers do not employ hired labour up to the point where marginal productivity of labour is equal to the market wage rate, because of the high supervision cost for hired labour. On the other hand, the latter argument generally asserts that small farmers lag behind in adopting (new) agricultural technology because of their inherent risk aversion, but that they later catch up rapidly, often surpassing large farmers if there are no serious constraints such as in the access to credit markets. Since the issue now is whether the land reforms contributed to higher agricultural output growth, the latter argument (on productivity differences among different farm size groups in a dynamic sense) should be applicable.

In the case of West Bengal, the land distribution programme provided small pieces of land – an average of 0.15 ha, as already mentioned – to quite a large number of landless and marginal farmers. Assuming no economies of scale in agricultural production and no serious constraints in credit markets, for instance, theoretically such marginal farmers had no disadvantages in adopting new agricultural technologies, such as high-yielding varieties (HYVs). However, in practice, since the land distributed to the beneficiaries was of low quality, usually the beneficiaries were in a disadvantageous position.

In fact, as Table 1 shows, the beneficiaries seemed to lag behind in adopting HYVs in aman rice cultivation, although this has not been statistically tested.<sup>4</sup> Based on a large quantity of farm-level data from 1982 to 1995, Bardhan and Mookherjee (2011), however, found that the land distribution programme did not have a negative effect on agricultural productivity in terms of value-added per acre. As Lieten (1992) also concluded, largely speaking, there is not much evidence showing that the beneficiaries from the land distribution programme lagged behind in adopting new agricultural technologies, and in fact they managed to achieve almost the same productivity as other farmers despite facing various disadvantages such as low quality of land and credit constraints.

Bardhan and Mookherjee (2011) found that the contribution of the government's subsidized agricultural input distribution programme (the so-called mini kits programme) was by far the largest, and they also found that the programme was not biased and thereby spread to all sorts of farmers regardless of farm size and tenure status. Such a government programme might help the beneficiaries from the land distribution programme to catch up with the other farmers in adopting new agricultural technology.

How, then, can we evaluate the effects of the Operation Barga programme? How, and to what extent, the sharecropping system affects

agricultural productivity has also been a major issue in development economics. The existence of the Marshallian inefficiency theoretically inherent in the sharecropping system has long been a controversy. Marshallian inefficiency is the proposition that land productivity remains lower in sharecropped land compared to owner-operated land, due to the labour disincentive effects for sharecroppers: because under the sharecropping contract, even if they attain higher production by putting in more labour they can get only a part (the same percentage share given to them) of the marginal products.<sup>5</sup>

Theoretically, Operation Barga can reduce Marshallian inefficiency if it successfully limits land rent share to a maximum 25 per cent instead of the usual 50 per cent. Hence, if data sets include both registered sharecroppers and unregistered sharecroppers, it can be concluded that, other things being equal, Operation Barga contributes to higher agricultural productivity. It is in this context, as we would argue, that both Banerjee et al. (2002) and Bardhan and Mookherjee (2011) obtained robust results on the positive and significant impact of the Operation Barga programme on higher agricultural productivity. And if that is the case, Operation Barga played an important role in reducing the Marshallian inefficiency, but at the same time the inefficiency still remains.

In this connection, the case of Bangladesh is meaningful. Based on district-level 1996 agricultural census data of Bangladesh, Koichi Fujita (2009) measured the effects of farm size and tenancy on agricultural productivity, under controlled land quality indicators.<sup>6</sup> Table 3 is a summary of the results.

All the dependent variables listed here (ratio of irrigated area, cropping intensity, and HYV adoption rate in aman and boro) affect land productivity. Note that the ratio of irrigated area strongly affects the cropped area of irrigated boro rice in the dry season, which leads to higher land productivity. With regard to the effects of tenancy (mostly sharecropping), it was found that the coefficients of the ratio of tenancy land was positive and significant among the smaller size group but there were no significant results among the larger size group, except for irrigated area ratio. The results show the important fact that in the case of the smaller farm size group tenancy induced higher productivity, but that was not the case with the larger farm size group. Rather, tenancy negatively affected land productivity in the case of the larger farm size group, because it negatively affected the ratio of irrigated area. The negative sign of tenancy in the larger farm size group indicates the existence of Marshallian inefficiency in Bangladesh.

To summarize, it was found that in West Bengal Operation Barga contributed to higher agricultural productivity, whereas in Bangladesh tenancy (sharecropping) contributed to lower agricultural productivity, albeit only for the larger farm size group. The positive and negative signs



TABLE 3. AGRARIAN STRUCTURE AND PRODUCTIVITY IN BANGLADESH

	Smaller size group (-0.49, 0.50-0.99, 1.00-1.49, 1.50-2.49 acres)				Larger size group (1.00-1.49, 1.50-2.49, 2.50-7.49, 7.50 acres-)			
	Ratio of irrigated area	Cropping intensity	Aman HYV adoption rate	Boro HYV adoption rate	Ratio of irrigated area	Cropping intensity	Aman HYV adoption rate	Boro HYV adoption rate
Farm size	-1.01 (-0.48)	-4.27 (-2.13)	1.80 (0.98)	-0.88 (-0.48)	-1.27 (-3.50)	-2.29 (-6.55)	-0.17 (-0.56)	-0.55 (-1.64)
Ratio of land under tenancy	0.12 (1.03)	0.57 (5.09)	0.32 (3.13)	0.41 (3.97)	-0.32 (-2.93)	0.01 (0.07)	0.00 (0.04)	0.04 (0.44)
High land (% of farmland)	0.02 (0.20)	-0.17 (-2.10)	0.25 (3.44)	-0.03 (-0.39)	0.13 (1.40)	-0.21 (-2.34)	0.44 (5.75)	-0.01 (-0.09)
Low land (% of farmland)	-0.16 (-1.49)	-0.53 (-5.24)	-0.29 (-3.16)	0.04 (0.48)	-0.01 (-0.06)	-0.56 (-6.25)	-0.16 (-2.05)	0.05 (0.63)
District dummies	Omitted	Omitted	Omitted	Omitted	Omitted	Omitted	Omitted	Omitted
Adjusted R <sup>2</sup>	0.55	0.56	0.6	0.52	0.53	0.57	0.62	0.48

Note: In the parenthesis t-values.

Source: K. Fujita, 'Worlds Apart: Peasants in Japan and Agricultural Labourers in Bangladesh', *International Journal of South Asian Studies*, Vol. 2, 2009.

were opposite, but it seems both were consistent with theory, because in the former case the effect of reducing Marshallian inefficiency was captured whereas in the latter case the effect of Marshallian inefficiency itself was measured.<sup>7</sup>

There is some evidence indicating that Marshallian inefficiency still exists in West Bengal, although it was reduced by Operation Barga. But before arguing this point, we need to note the difference between aman and boro rice cultivation in terms of market-clearing land rent share. Because of the higher cost for irrigation and related inputs, the market-clearing land rent share was found to be much higher for aman (50 per cent) than boro (20 per cent) in Bangladesh (Fujita 2004). The same phenomenon seems to be observed in West Bengal as well.

Table 4 shows the results of a case study by S.K. Bhaumik on crop shares observed in West Bengal. The most frequent land rent share observed in the case of unregistered sharecroppers was 50 per cent for aman and 25 per cent for boro. If we consider these shares to be the market-clearing land rent shares, even if the government caps land rent share at 25 per cent through Operation Barga, in the case of boro the regulation does not have much meaning. That is, theoretically, the reduced Marshallian inefficiency effects of Operation Barga must be observed more in aman than in boro.

TABLE 4. DISTRIBUTION OF CROP SHARE

Crop	Tenant type	No. of cases	Crop share of landowners				
			0%	25%	33%	40%	50%
Aman rice	UR	80	1	1		3	75
	R	80	25	30	4	1	20
Boro rice	UR	96		73	1	2	20
	R	56	21	31			4

Note: UR-Unregistered, R-Registered.

Source: S.K. Bhaumik, *Tenancy Relations and Agrarian Development: A Study of West Bengal*, Sage Publications, 1993: p.115.

Table 5 shows the results of measuring such a differential impact of Operation Barga on rice productivity. Note that the comparison is made between sharecropped land and owned land for the same sharecroppers (owner-cum-tenants). Note also that we rearranged the data presentation according to our objective; hence, statistical significance could not be tested.

First, it is found that for unregistered sharecroppers the output per acre of aman rice in sharecropped land is 16.9 per cent lower than in owned land. But for registered sharecroppers the gap is reduced to 5.1 per cent. It seems that the results in Table 5 captured the effect of reduced Marshallian inefficiency in aman cultivation. Second, on the

TABLE 5. DIFFERENCES IN ECONOMIC PERFORMANCE BETWEEN OWNED/  
SHARECROPPED PLOTS OF UNREGISTERED AND REGISTERED TENANTS

Performance criterion	Crop	UR			R		
		Owned land	Share-cropped land	% difference	Owned land	Share-cropped land	% difference
Material input per acre (Rs.)	Aman	344.1	236.0		320.3	266.3	
	Boro	789.9	735.7		724.8	694.7	
Bullock labour per acre (Rs.)	Aman	12.5	12.2		14.3	13.6	
	Boro	10.7	10.2		13.9	14.0	
Hired labour per acre (Rs.)	Aman	68.4	60.5		70.0	69.3	
	Boro	115.6	113.8		108.3	112.2	
Output per acre (Rs.)	Aman	2118	1761	16.9	2009	1907	5.1
	Boro	3489	3191	8.5	3397	3216	5.3

Note: UR-Unregistered, R-Registered.

Source: Prepared by author based on S.K. Bhaumik, *Tenancy Relations and Agrarian Development: A Study of West Bengal*, Sage Publications, 1993: p.115.

other hand, it is found that for unregistered sharecroppers the output per acre of boro rice in sharecropped land is 8.5 per cent lower than in owned land. For registered sharecroppers the gap is also reduced but is still 5.3 per cent. Hence, the improvement in productivity is much less for boro than for aman. This is consistent with the theory as mentioned above.

On the other hand, Banerjee et al. (2002) asserted that Operation Barga provided registered sharecroppers with security (protection from eviction by landlords) and thereby gave them a greater incentive for long-term investment in land, which could possibly mitigate and exceed the disadvantages in work disincentives (Marshallian inefficiency). In fact, through rigorous analysis of district-level data Banerjee et al. concluded that such an effect of encouraging long-term investment existed and mitigated the effects of Marshallian inefficiency. Although Banerjee et al. did not argue about the concrete form of such long-term investment, agricultural machinery such as power tillers and shallow tube wells (STWs), especially the latter, can be the most productive investments in the context of West Bengal agriculture. As a matter of fact, Pranab Bardhan et al. (2009) provided evidence of complementarities between Operation Barga and private investments in land such as STWs.

At first glance, however, such arguments – that registered sharecroppers (with assumed poor economic status) made lump-sum investments such as in STWs – seem to be quite strange. In fact, Fujita (2010) showed through his case studies in West Bengal (and Bangladesh) that the majority of investors in STWs were medium or large farmers with more than 2.5 acres, seemingly not including the beneficiaries from Operation Barga. How can we consistently understand the contradiction?

## SOUTH ASIAN AGRARIAN STRUCTURE

The key point may lie in the characteristics of land tenancy markets in South Asia, including India and Bangladesh. Table 6 shows the agrarian structure in Bangladesh in the mid-1980s.

As Table 6 shows, land under tenancy<sup>8</sup> accounted for 18-19 per cent of total farmland in Bangladesh in the mid-1980s. Land rented out was basically going to larger farm size groups, especially medium and large farmers with 1.5-2.49 acres, 2.5-4.99 acres, and 5-7.49 acres. The notable point is that pure landless households rarely rented in farmland, resulting in the composition of farmers in terms of tenure status being: owner farmers (62.6 per cent), owner-cum-tenant farmers (36 per cent), and tenant farmers (1.4 per cent). The average sizes of operated land were 2.13 acres, 2.58 acres, and 0.9 acres, respectively. Note that such a tendency is also observed in different years' agricultural censuses in Bangladesh, including the 1996 census, although the percentage of tenant farmers was much higher (10.2 per cent) vis-à-vis the lower share of owner-cum-tenant farmers (23.6 per cent).<sup>9</sup>

This characteristic of land tenancy markets in Bangladesh is in sharp contrast to the case of pre-war East Asian countries, particularly Japan. In prewar Japan, for instance, 45-8 per cent of farmland was under tenancy ('thickness' of land tenancy markets) and the composition of farmers was: owner farmers (31.4 per cent), owner-cum-tenant farmers (38.42 per cent), and tenant farmers (27.9 per cent). Especially notable is that the share of (pure) tenant farmers was high (which means that the majority of landless people rented in land) in pre-war Japan, contrary to the case of Bangladesh. As K.N. Raj put it:

In Japan, Taiwan, and most parts of mainland China, the land-lease markets seem to have functioned for a long time in a manner that inequalities in the size distribution of operational holdings were relatively small and few rural households, dependent on agriculture for their livelihood, were left totally landless. Under these conditions, it was in the interest of tenants to raise the productivity of land through more intensive input of labor, even if it helped landlords to increase rent; it was also in the interest of landlords to help them to do so through advances of working capital on a selective basis and, where they were far-sighted, through various other initiatives for improving the infrastructure and related farm practices. In South Asia, however, high proportions of rural households have received no land at all or only very small parcels of it through the leasing process and have been, therefore, wholly or largely dependent on wage labor. Most of the land leased out by owners even appears to have gone to relatively privileged categories of households (with often some land of their own), which could thereby operate larger holdings employing such labor. (Although leasing of land to tenants with small holdings has been widespread in the traditional rice-growing regions of India, combined also with systems of crop-sharing, relatively large land holdings dependent primarily on wage labor have persisted in even such regions on an extensive scale). Neither the landlord-tenant nor the employer-employee

TABLE 6. AGRARIAN STRUCTURE IN BANGLADESH IN THE MID-1980s

Operational farm size (acres)	No. of HHs (‘000)	Owned farmland (‘000 acres)	Average owned area (acres)	Rented out (‘000 acres)	Rented in (‘000 acres)	Operated land (‘000 acres)	Average operated area (acres)	Net rented- in land (‘000 acres)
Non-farm HHs	3,773	741	0.20	741	0	0	0	(741)
Landless	2,366	0	0.00	0	0	0	0	0
Non-cultivating landlords	1,407	741	0.53	741	0	0	0	(741)
Farm HHs	9,970	19,748	1.98	3,057	3,800	20,491	2.06	743
-0.49	2,380	887	0.37	556	89	420	0.18	(467)
0.50-0.99	1,614	1,082	0.67	388	258	952	0.59	(130)
1.00-1.49	1,304	1,347	1.03	326	344	1,365	1.05	18
1.50-2.49	1,677	2,607	1.55	388	713	2,932	1.75	325
2.50-4.99	1,813	5,001	2.76	509	1,251	5,743	3.17	742
5.00-7.49	670	3,420	5.10	341	561	3,640	5.43	220
7.50-	512	5,404	10.55	549	584	5,439	10.62	35
Total	13,743	20,489	1.49	3,798	3,800	20,491	1.49	2

Source: Prepared by author based on Bangladesh Bureau of Statistics, *The Bangladesh Census of Agriculture and Livestock 1983-84*.

relationships in such situations have been favorable to intensive use of labor on the available land (Raj 1988: 267-8).

According to Raj (1988), the special characteristics observed in South Asian tenancy markets could be explained by socio-cultural factors such as the caste system as well as technical factors related to South Asian agriculture, with livestock as a major sideline. The first hypothesis is related to the fact that socially discriminated people such as low castes have historically been excluded from access to land, including tenancy. The second hypothesis is based on the existence of economies of scale in agriculture related to draft animals (namely bullocks). Whereas marginal/small farmers tend to rent out land because they cannot keep bullocks, medium and large farmers try to rent in land for utilizing their bullocks as much as possible. Landless people do not rent in land in this context.<sup>10</sup>

We do not have data showing that the tenancy markets and agrarian structure in West Bengal in the 1980s were basically the same as in Bangladesh,<sup>11</sup> but let us now assume this proposition to be correct. And let us return to our question, why did Bardhan et al. (2009) find complementarities between Operation Barga and private investments in land such as STWs?

My hypothesis is as follows. There were largely two types of sharecroppers in West Bengal in the late 1970s to 1980s, when the Operation Barga programme was implemented. One was medium or large farmers, and the other was small farmers. Some of the latter farmers might have been landless, but the majority might have had some land, even though small. It seems that Operation Barga benefited both types of sharecroppers, except the cases where small landowners rented out land to medium- or large-scale sharecroppers, simply because if such cases (protection of wealthy sharecroppers by the sacrifice of poor landowners) occurred on a large scale they must have become a serious political issue (but not reported). In conclusion, it can be considered that the sharecroppers protected by Operation Barga were not in general so poor, compared to the small-scale owner-farmers.

In fact, Bardhan and Mookherjee (2011: 211), for instance, indicated that 'most tenant farms exceeded 1.25 acres in size' in the data they used. Of course, it is not realistic to think that the majority of beneficiaries of Operation Barga were medium or large farmers, as mentioned above; but still the sharecroppers benefiting from Operation Barga had some land of their own and additionally rented in land. If that is the case, it is not surprising that complementarities were observed between Operation Barga and private investments such as STWs.

The conclusion of mine is as follows. Banerjee et al. (2002) argued that Operation Barga induced long-term investments in land because of the more secured tenancy rights, which exceeded the work disincentive effects of the sharecropping contract (Marshallian inefficiency). Bardhan and

Mookherjee (2011) also supported Banerjee et al.'s argument, by showing the complementarities between Operation Barga and private investments such as STWs, although they concluded that the impact of Operation Barga was very small, especially compared to the effects of the subsidized agricultural input distribution programme (mini kits programme), because of the underdeveloped land tenancy markets. However, I basically would deny such effects of Operation Barga in inducing long-term investments in land because of the more secured tenancy rights. The evidence measured by Bardhan and Mookherjee for a close relationship between Operation Barga and private long-term investments, such as STWs, is likely due to the special nature of land tenancy markets in South Asia, including West Bengal, in which sharecroppers are in general not so poor, especially compared to the small-scale owner farmers. Rather, there is a high possibility that the more secured tenancy rights contributed to strengthen the labour disincentive effects of the sharecropping system.

Finally, I repeat my conclusion that Operation Barga reduced Marshallian inefficiency, but Marshallian inefficiency itself has persisted and continues to be a constraint to higher agricultural productivity in West Bengal. In this sense, Operation Barga was a mere second-best solution.

## CONCLUSION

Overall, then, can it be concluded that the land reforms in West Bengal did not contribute at all to economic development? My answer is no. I would argue that they were not merely redistributive measures, same as the position of the Left Front government (Government of West Bengal 1995: 18).

My argument is that the assumed mechanism is as follows. The land reform programmes benefited quite a large number of landless and marginal/small farmers, as already mentioned. After benefiting from the programmes, the Green Revolution for rice started in the state basically encouraged by mainly private STW investments and public investments in rice research (especially for the development of HYVs for aus and aman suitable to the locally diverse agro-ecological conditions). The income of the beneficiaries of land reforms also grew fairly rapidly in this process. The subsidized input distribution programme (mini-kits programme) of the state might contribute to facilitate the land reforms beneficiaries to adopt new agricultural technology. Such a widespread rise in per capita income in rural areas reduced rural poverty and created demand for high-value agricultural products (such as fruit, vegetables, livestock products, and fish) as well as non-agricultural products and services. Spurred by such a growing demand in rural areas, non-rice high-value agricultural sectors and the non-farm activities started to grow not only in urban areas but also in rural areas with increased employment

opportunities, thereby contributing to overall economic growth (the so-called final demand effects).

Let us now look at Table 2 again. It shows that agricultural growth in West Bengal accelerated more in the 1990s than in the 1980s. The growth rates in the manufacturing and other sectors (including service sectors) also started to accelerate in the 1990s. This was, I argue, because of the final demand effects of the agricultural growth mentioned above. The final demand effects of the agricultural growth after the 1980s must have been strengthened by the land reforms because the number of beneficiaries was so large.<sup>12</sup> In other words, the land reforms in West Bengal, including both the land appropriation/redistribution programme and the Operation Barga programme, made the agricultural growth that occurred after the 1980s more inclusive. The land reforms in West Bengal did contribute to economic growth by creating more egalitarian assets and income distribution in rural areas.<sup>13</sup>

Finally, we need to note that, as Table 2 shows, the agricultural growth rate finally came down after the first decade of the twenty-first century. It indicates that the West Bengal economy shifted to a new developmental stage where agriculture could no longer play a leading role in economic development due mainly to the sluggish growth of demand for food. In this sense, the slowdown of agricultural growth was quite natural and inevitable, like the Indian economy as a whole after the mid-1990s.

It seems that the Left Front government started to face such a serious problem after the first decade of the twenty-first century, particularly since the private sector has had a strong tendency to avoid investments (in non-agricultural sectors) in communist-governed regions in general, especially West Bengal. It is widely accepted that the state government's land appropriation from farmers in order to establish industrial parks triggered the historic defeat of the left parties in the 2011 West Bengal election.

## NOTES

1. This was probably because of the shortage of land relative to the potential beneficiaries.
2. According to the population census, the numbers of cultivators and agricultural labourers were 4.59 million and 3.89 million respectively in 1981 and had increased to 5.85 million and 5.06 million by 1991 (Government of West Bengal 2011: 4).
3. With regard to regional variation within West Bengal, the average land area covered by the two land reform programmes was 16.6 per cent, with the lowest records in the districts of Nadia (8.8 per cent) and Murshidabad (10.9 per cent) and the highest records in Darjeeling (43.4 per cent) and Jalpaiguri (25.1 per cent) (Government of West Bengal 2011: 98-9).
4. The movement of rice cropped area and yield, divided into aus (pre-monsoon season), aman (monsoon season), and boro (dry season) in West Bengal and Bangladesh, is shown in the Appendix. The jump in yield started in the mid-1960s with boro rice, when IRRI-developed HYVs were introduced; but because of the



limited irrigated area, its impact was not reflected in the entire rice sector until the 1980s. On the other hand, after the 1980s, with the dissemination of locally developed HYVs suitable to the diverse agro-ecological conditions, the yield of aus and aman also started to increase. In sum, the rice Green Revolution in Bengal after the 1980s was caused by two movements: the expansion of irrigated area by mainly private shallow tubewells (STWs) and associated expansion of high-yielding boro cropped area, and the gradual dissemination of HYVs in aus and aman.

5. Marshallian inefficiency can be avoided under the fixed land rent contract, but the risk of crop failure due to unavoidable reasons (such as unfavourable weather conditions) would be entirely borne by sharecroppers under the same contract. The sharecropping contract is superior in this aspect, which seems to be the major reason why sharecropping was preferred in traditional agrarian societies.
6. Farmland is classified into high, medium, and low land in the agricultural statistics in Bangladesh.
7. But, then, why sharecroppers with smaller farm size attained higher land productivity in Bangladesh? As Eirik G. Jansen put it: 'There is little doubt that a tenant who feels he is competing hard on an open market to obtain a plot for sharecropping will increase his efforts to produce a good crop. On the other hand, an owner-cum-tenant, who for different reasons may have a more long-lasting sharecropping contract, will put more labour efforts and inputs into his own land' (Jansen 1986: 177). And as I argue later, the dominant sharecroppers in Bangladesh in the mid-1980s were the latter owner-cum-tenants with larger farm sizes.
8. Note that land transferred through mortgage was included here.
9. See Fujita (2009) for details. The higher share of tenant farmers might be related to the development of power tiller rental markets in rural Bangladesh. See note 10.
10. This is because the rental market for bullocks is far from complete and involves high risk.
11. The unit data of the National Sample Survey (NSS) are available only for 2003 and 2013. With the proliferation of power tillers since the late-1980s, the nature of tenancy markets is expected to be largely transformed, i.e. more landless people are expected to participate in land tenancy markets as tenants.
12. Note also that at the same income level, household expenditure tends to be greater when the household has more assets (private conversation with Dr. Shigemochi Hirashima).
13. Note here that the more egalitarian assets and income distribution in rural areas was created in the broader context of the Left Front government policy sets, including the political mobilization and participation of the poor. But such aspects are beyond the scope of this essay.

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## APPENDIX

### Movement of Rice Cropped Area and Yield in West Bengal and Bangladesh



