Is (Was) There an Economic Case For Land Reform in Bangladesh?

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Abstract:: This paper argues that the economic case for land reform in Bangladesh, contrary to frequent claims, is not well-established. A ceiling-cum-redistributive land reform, which is usually advocated, is not likely to be conducive to a prosperous agriculture. The only likely outcome of the proposed reform policy is the attenuation or destruction of the rural elite and the growth of a weak peasantry dependent upon state patronage.

Introduction

There are few densely populated developing countries where the question of land reform has not been mooted at one time or another during the past few decades, and Bangladesh is no exception in this regard. Land being scarce, the necessity of maximising output (particularly food) of the land through more intensive cultivation and diffusion of modern technology is regarded paramount and any obstacle to the attainment of this fundamental goal has to be removed on pain of increased misery. An alleged obstacle to agricultural development is the existing structure of agricultural land tenure. It is a very widely shared opinion that it is inequitable, and inefficient under both static and dynamic considerations. It is inequitable because the distribution of agricultural land is skewed with much of the land owned by only a small proportion of the rural households. It is inefficient in the static sense because the total output and employment are believed to be not maximised under even the existing technology. It is inefficient dynamically as it inhibits technical progress in agriculture. These alleged characteristics of agriculture has become almost an article of faith among many, and it is only a small step to the inevitable conclusion that a

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"radical" redistributive land reform is necessary to cure the malady of agrarian underdevelopment.

The land tenure question in Bangladesh gained prominence during the post-liberation years (and lingered on ever since) when socialist fervour ran high. The radicalism of land reform gelled well with the current mood and the hunt was on for the elusive enemies of the creed. The large landowners became a convenient scapegoat who could be held responsible for economic stagnation. It was only fitting that the property of such people should be partially or wholly expropriated (with or without compensation) and distributed among the poorer peasants to usher the economy to the road to rapid development.

Interestingly, although the motivation for such radical land reform was professedly socialist, the underlying economic analysis that supported such radicalism was mostly neoclassical in spirit. The inequity in land distribution gave rise to two characteristic features of agriculture which were alleged to foster inefficiencies. The first related to tenancy and the second to farm size. Given the structure of the agrarian society and the state of technology, the large landowners were frequently unable to farm the entire land they owned. They were forced to rent out all or part of their land to those who were in a better position to farm the excess land. The most common form of renting in Bangladesh was cropsharing whereby one of the parties (the landlord) supplied the land and perhaps shared the cost of some inputs like seed and fertilizer, while the other party (the share tenant) supplied all other inputs and undertook the responsibility of farming. The output was divided among the two parties in a pre-determined proportion (usually 50-50).

Cropsharing was widely regarded as an inefficient farming arrangement and the land tenure system that was conducive to

such a production arrangement could also be regarded as an inefficient one. The inequitable land distribution also meant that the area on the farm varied widely. This was believed to have certain implications for land productivity in view of the findings of the *Farm Management Studies in India*. There it was found that the productivity of agricultural land tended to decline with an increase in the farm size. The same tendency was alleged to be present also in Bangladesh aagriculture.[1] The unequal distribution of land was, therefore, not only inequitable, but also a source of low productivity and stagnation of agriculture. It was then possible to argue that a land reform policy which transferred ownership of land from large landowners to tenants and small farmers would simultaneously achieve a more egalitarian distribution of land and a more prosperous agriculture.

The economic case for redistributive land reform seems to rest almost entirely on these two alleged features of our agriculture. The first, i.e. the inefficiency and unprogressive nature of cropsharing farms, leads to the recommendation that share tenancy should be abolished and/or the tenants should be given the ownership of the tenanted plots. The second, i.e. the size-productivity relation, leads to the policy of breaking up large farms into smaller ones and the imposition of a ceiling on the size of the agricultural farm.[2] Despite the obvious and far reaching political, social and economic implications of these policies if executed, not much attention has been paid to rigorously analyse the economic reasoning behind these policies and examine whether such reforms are actually conducive to agrarian development.[3] This paper is an attempt to fill up this lacuna in the literature.

Tenancy

The inefficiency argument relating to cropshare tenancy is essentially an artifact of English economists who regarded this tenurial system, which was widespread in France and other parts of Europe but almost nonexistent in England, as inferior to the fixed rent tenure that was more common in England. In essence, the argument was that since the share tenants received only a share of the product of the land, they would undersupply inputs and hence achieve a smaller output than the fixed rent tenant or owner cultivator.[4] In recent years, a large number of authors have challenged this view. They argued that if cropshare cultivation was less efficient than the other types of tenure, it would not have been adopted by rational farmers.[5] A number of factors like risk,[6] supervision problems,[7] capital constraint,[8] moral hazard and screening problems[9] may render cropshare cultivation more attractive and profitable than the other forms of cultivation. To the extent these factors remain in place (with or without land reform), the attractiveness or efficacy of cropsharing is not diminished. By limiting the choice of farmers regarding voluntary productive arrangements and disposition of resources, a tenure reform introduces additional distortions in the economy and could easily lead to a net reduction in welfare.

The empirical evidence relating to productivity of different tenurial classes in Bangladesh is far from conclusive. The findings of Zabbar and Hossain indicated that tenant farmers were at least as productive as owner farmers.[10] However, the latter study also revealed that the tenant farmers obtained a higher yield from their owned land than from rented land.[11] In contrast, Shahid and Herdt found no significant difference in input use between tenanted and owner operated rice plots although there was some difference in the yield rate.[12] In a more recent study, Taslim found that the tenant farmers produced a

higher yield on their own land than on cropshared land in only one of the three sample districts.[13] These findings seem to indicate that there is not much to be gained in terms of total agricultural output from a tenancy that either abolishes tenancy or transfers ownership of rented land to the tenant cultivators. Indeed, if the evidence presented by Hossain that tenant farms were more productive than owner farms of similar size were to be taken as guide, then tenancy reform could actually lower the total product of agriculture.[14]

Cropshare tenancy is often regarded as unprogressive because it allegedly inhibits the spread of technical innovation in agriculture. One of the early exponents of this view is Bhaduri.[15] He opined that the landlords in an agrarian economy, who were also the supplier of consumption loans to the tenants at usurious interest rates, would prevent their tenants from adopting yield-increasing technical innovations as it might undermine the debt-bondage of the tenants. A number of authors have subsequently shown Bhaduri's argument to be both theoretically unconvincing[16] and empirically untenable,[17] but it continues to have a strong influence over many scholars. Some authors have also argued that under the existing cost structure and the terms of share contracts, technical innovations would not be adopted by the tenants.[18] There is not much hard evidence to substantiate this bleak attitude. The exhaustive study of Hossain did not corroborate the claim that the tenant farmers were lagging behind the owner farmers in the adoption of high-yielding variety (henceforth HYV) crops.[19] In fact, the tenants devoted higher proportion of their land area to the cultivation of HYV crops than the owner farmers. Asaduzzaman and Taslim and Ahmed[20] also produced evidence that refuted the hypothesis that cropsharing was unprogressive.[21]

Most of the authors, including the proponents of redistributive land reform, would agree that the availability of sufficient credit at suitable terms and the provision or extensions services are the crucial factors that determine the pace of adoption of modern technology in agriculture.[22] Farm size and tenure status are of minor importance in this regard.[23] This has been true in other countries too. It is now widely recognised that the main reason of whatever success the land reform program in Japan achieved was that credit and extension services were made easily available to the farmers by a network of institutionalised co-operatives supported by the government. It is precisely because of the lack of these auxiliary services that the Korean land reform program, though patterned after the Japanese model, did not fare as well. [24]

The quick diffusion of the modern HYV technology in agriculture thus requires that these services are made available to the farmers. Since the machinery through which this could be achieved is controlled by the government, it is the government's responsibility (and ultimately of the urban elite as it controls the government) to provide these services. But so far their performance in this regard has been quite unsatisfactory. A majority of the farmers still do not have access to institutional credit and the provision for extension services is either non-existent or inadequate. It is no wonder that the pace of adoption of modern technology in agriculture has been slow. Isolation of farm size and tenure status as the main reasons for the slow diffusion of HYV technology by the urban elite may be no more than a subtle attempt to mask its own failure and shift the blame of stagnation to agriculture. A window dressing by way of a redistributive land reform does not go into the heart of the agrarian problem and, therefore, is unlikely to achieve much

either in terms of modernisation or improving the living conditions of the rural mass.

It is well-recognised that currently HYV cultivation requires much more labour than the local crops.[25] Given the existence of a large pool of unemployed and underemployed labour, this is regarded as another highly desirable feature of HYV technology. It should be noted, however, that this can only be a stop-gap short term strategy. The ultimate purpose of development is a sustained improvement of the standard of living of the people, which essentially implies a sustained increase in the productivity of labour, and this requires of a reduction in the amount of labour employed per unit of output of land. One should not lose sight of the fact that agriculture of the country already employs (and supports) far too many people. The logic of development requires that a majority of this population is withdrawn from agriculture. But this can be achieved only if agriculture adopts, along with HYV, a labour-saving technology and the nonagricultural sectors grow sufficiently rapidly to absorb the released workforce from agriculture. In the ultimate analysis, the nature and pace of development of the non-agriculture sectors will define the limits of agriculture development.

One of the more common misconceptions about cropshare tenancy is that it is the vice of the large landowners who are too lazy or incompetent to cultivate land themselves. From this conviction follows the recommendation that if the large holdings could be fragmented into smaller farms by giving ownership rights to tenants over the rented land, it would reduce the incidence of this undesirable practice. However, it is difficult to lay hand on any data that substantiate this belief. *The Agricultural Census 1983-84* provides information on land leasing, but the households are grouped according to their

operated area (p. 293). It shows that the large farms account for only a small proportion of the total rented land, but it does not necessarily imply that the large landowners are minor players in the lease market. Some indication of the number of households engaged in leasing may be gleaned from the table in p.315 of the *Census* which is reproduced below. It cross tabulates households of different farm size by their owned area. Notice that there were 1,533,400 households who owned between 0.5 to 0.99 acres of land. Of these 180,000 had a farm area of less than 0.5 acres, while the rest had more than this amount. This implies that there were at least 180,000 households in this size group who leased out part of their land. Similarly there were at least 336,900 households among the size group 1.0-2.49 acres who leased out part of their land. Thus, the sums of the entries above the diagonal provide lower bounds of the number of households in the respective size groups who lease out part of their owned land.[26] This is shown in the last row of the table.

Only 156,200 of the 1,077,600 households who rented out land (14.5 per cent) owned 7.5 acres or more land. The largest group of reenters is actually the small owners. However, these figures, though indicative of the number households engaged in leasing (out), do not provide much clue regarding the amount of land leased out by various groups. To get some idea about the extent of land leasing by various ownership groups, we resort to the findings of sample surveys. Table 2, put together from the findings of Taslim, is utilised for this purpose.[27] The table shows the number of lease contracts taken out by the tenants of his sample and the area leased by the size group of the landlords from whom land was leased. Again, the maximum number of contracts were given by the small landowners followed by the medium landowners. Number-wise, the large landowners were the least significant of the three groups accounting for 28.5 per

Table 1:Distribution of Households by Owned and Operated Areas

(Number of households in 000)

Operated Area of household (acres)	Owned Area (acres)							
	0.05-0.49	0.05-0.99	1.00-2.49	2.50-4.99	5.00-7.49	7.50-14.99	15.00-24.99	25.00 & above
0.05-0.49	1998.7	180.0	151.7	41.5	11.1	5.5	1.0	0.2
0.50-0.99	435.6	936.4	185.2	39.6	10.0	5.4	1.3	0.3
1.00-2.49	364.1	338.9	2057.5	175.4	29.3	12.3	3.2	0.8
2.50-4.99	86.4	67.9	383.0	1156.3	97.6	18.8	2.7	0.5
5.00-7.49	11.7	7.6	36.1	108.0	441.4	60.3	4.1	1.0
7.50-14.99	3.1	2.3	8.1	18.9	46.6	313.0	28.8	2.3
15.00-24.99	0.5	0.3	0.5	1.0	1.3	7.1	55.8	7.7
25.00 & above	0.0	0.0	0.0	0.1	0.0	0.3	0.7	12.9
Total No. (9970.4)		1533.4	2822.1	1540.8	637.3	422.4	97.6	25.7
Lower bound of rentiers (Tot: 1,077.6)		180.0	336.9	256.5	148.0	102.3	41.1	12.8

Source: *The Bangladesh Census of Agriculture and Livestock 1983-84*, vol. 3, Bureau of Statistics, Government of Bangladesh.

cent of the contracts. But area-wise, they were the most important group providing 43.7 per cent of the total rented land. This is due to the fact that while the small landowners rented out about one-half acre of land per contract, the large landowners gave out 1.17 acres. [28]

Table 2: Area Leased by Tenants by Size
Group of Landlords

Land owned by landlord From whom and was leased	Number of tenancy Contracts	Total area Rented (acres)
Up to 2.5 acres (small)	125 (37.5)	61.98 (24.4)
Up to 7.5 acres (medium)	113 (33.9)	81.18 (31.9)
Above 7.5 acres (large)	95 (28.5)	111.18 (43.7)
Total	333 (100.0)	254.34 (100.0)

*Figures in parentheses are percentages of column totals.

What emerges from these findings is that the large owners are not only outnumbered by the relatively small landowners in the lease market, they are also dominated by the small and medium landowners as regards the amount of land leased out. Hence, a reduction in the size of land ownership is no guarantee to a reduction in the incidence of tenancy. The same conclusion was also drawn by Ghose who categorically stated : " - the growth of small farms [did not] discourage tenancy to any significant extent."[29]

When a majority of both tenants and landlords are relatively small landowners, the feasibility and efficacy of a reform policy that abolishes cropsharing is limited. It is very unlikely that the

leased land could be expropriated and distributed to the tenants in this situation. The abolition of tenancy, if it is undertaken at all, would then imply redemption of the leased land by the owners. Evidently, this would be a Pareto-inferior move as both parties will be worse-off after the reform. The small landowners might not be in a position to properly cultivate the redeemed land because of lack of non-land inputs like bullocks or because they are engaged in other activities. Presumably they rented out the land for these reasons.[30] They would suffer a loss in rental income. The small tenants, who cobbled together an economically viable farm by leasing, would find not only their income reduced but also the viability of their farming operations severely compromised. As Abdullah pointed out, this would only succeed in accelerating the disintegration of the small peasant economy.[31] Thus, a successful tenancy reform that abolishes cropsharing may undermine the stability of the very economy it wants to foster.

Cropshare tenancy is generally regarded as an exploitative relation. It will be difficult to find many members of the intelligentsia who think otherwise. The landlord is regarded as the arch villain who rents out land under very onerous terms to the hapless tenants.[32] However, a close inspection will reveal that share tenancy is not really as exploitative as many would have us believe. To demonstrate this it is necessary to calculate the costs and returns from cropshare cultivation. Let us take the case where the landlord bears no costs of cultivation of the rented land and takes one-half of the produce of the rented land. The only cost that the landlord bears is the forgoing of the services of the land for a specified period, say a year. The price of the land is the price at which it can be sold in the market. We do not have access to any reliable data on the value of agricultural land.

Although not very satisfactory, we may use the method of the Land Reform Committee, 1983 for this purpose. The Committee stipulated that for all land taken away by the government from large landowners, they should be compensated at the rate of ten times the annual gross produce of the land. Thus, this may be taken as a very conservative estimate of the true value of the land. Let us further assume that the rented land is of the same quality as the rest of the land. The gross value of crop production per acre per annum was Tk 9,110 in 1987-88 in current prices,[33] while the gross value added per acre was Tk 7780.[34] The price of an acre of land may then be estimated at Tk 91,100. The landlord receives one-half of the produce of the land. So for every acre of land rented out the landlord receives Tk 4,550, i.e. the landlord gets a 5 percent return on his asset or investment in land.

Given that the interest rates paid by banks in the country on savings deposits are ten per cent or more, it would seem that the landlords are actually taking a loss (self-exploiting) by holding on to land. They would be better off selling the land and investing the proceeds in bank deposits to earn more than double the rental income. Curiously, this interest income, which is paid out of the surplus generated by workers (including peasants), is not regarded exploitative although the return is more than twice as onerous as the rental income.

An interesting question is why the landlords hold on to land when they can earn much higher income in alternative assets. There could be a number of socio-psychological reasons, like the security and prestige conferred by land ownership, for retaining land; but it seems unlikely that they alone would provide sufficient incentive. Few households would be willing to accept such large material losses year after year. A more promising

explanation for holding land might be the rapid increase of the price of land over the years. Between 1973-74 and 1985-86 rural land price index increased from 100 to 566, but during the same period CPI increased from 100 to 369 only.[35] This implies that while the CPI increased at an average annual rate of 10.56 per cent, rural land price increased at the rate 14.26 per cent. Thus the real value of land appreciated considerably over this period.

If a person had sold off his land for, say, Tk 100,000 at the beginning of 1973-74 and deposited the money in a bank to earn a 10% interest rate, he would have received Tk 345,227 at the end of 1985-86. If he had retained the land and rented it out, he would have received Tk 5,000 every year assuming that crop prices and yields did not change. If he had invested all rental incomes in bank deposits to earn 10% interest and sold his land at the end of 1985-86 he would have received Tk 683,613, i.e. nearly double of what he would have got if he had incomes in bank deposits. Thus the appreciation of the real value of the land, rather than the rental income, appears to provide a more plausible economic rationale for holding on to land.

In an underdeveloped agrarian economy land is the principal asset in which savings may be invested. An added attraction of land as an asset is that it not only maintains its real value but also yields an income (if it is farmed) unlike some other assets like precious metals or cash money. An essential feature of the process of development is the creation of many other earning assets, mainly in the urban sector, like bank deposits, bonds, securities, stocks and shares etc, which compete with land for the savings of the individual. However, the urban elite in Bangladesh has so far been unable to provide these alternative assets (except bank deposits) to attract savings away from land.

Bonds stocks and shares are not only absolutely insufficient in amount to absorb the nation's savings, they are also highly risky due to the dishonesty and incompetence of the urban elite. Even the nominally safe bank deposits are risky due to spiraling inflation which is largely the creation of the urban sector that is passed on to the rural economy.[36] In the absence of sufficiently lucrative alternative assets, land attracts much of the savings of not only the rural people but also of many urban households. Legal restrictions on land holding through tenancy and ceiling legislation would not automatically channel savings to other assets since people do not have much faith in them. A part of the savings may be held in such assets as precious metals and bank deposits while the rest would be dissipated in higher consumption spending. If the urban sector can fulfill its responsibility of providing sufficiently attractive alternative assets, then these legislation would be largely unnecessary as many households would, on their own, switch to these new assets.

The widespread belief that landlords are exploitative often leads to the suggestion that suitable changes in the terms of share contracts in favour of the tenants will reduce their burden. One of these changes suggested by the Land Reform Committee of 1983 is the reduction of the landlord's share output from the usual one-half to one-third and the other is the granting of security of tenure to prevent landlords from arbitrarily evicting tenants. It has been indicated earlier that there is not much evidence of coercion from either party in a share contract. This would seem to imply that these contracts are negotiated voluntarily and the terms are largely determined by what the market would bear. An exogenous change in these terms will introduce further distortions in the village economy and can only worsen the situation. For if the one-half share is just adequate to

compensate the landlords at the margin, a decrease in the share rate to one-third will either reduce the amount of land offered for renting, or force the landowners to devise various ways of evading these regulations. In the latter case, the effective cropshare may actually arise above one-half to cover the risks of detection. Whichever is the case, the poor tenants are likely to lose out.[37]

It is well-known in the cropsharing literature that when work monitoring is costly, the only method of imposing some discipline on tenant cultivation is short term leasing.[38] Short term leasing allows the landlords to evict any tenant whose performance is unsatisfactory. This threat of eviction forces the tenants to apply more inputs on rented land than they would do otherwise. By legislating a security of tenure the landlords will be deprived of their main weapon to ensure a satisfactory cultivation of the rented land. As suggested by the Marshallian theory, cropsharing cultivation might indeed be inefficient in this situation. On the other hand, a security of tenure may encourage the tenants to make medium or long term investment in land improvement. The resultant increase in land productivity may offset the inefficiency effect. Which of these effects will dominate is not certain. It is not unlikely that a security of tenure may cause the total product of the rented land, and hence, of agriculture to be materially lower at least in the initial yrars.[39]

Farm Size

There is a considerable consensus among the scholars and policy makers in Bangladesh regarding the existence of an inverse size-productivity relation in agriculture. Such relation in agriculture first came into focus with the publication of the Indian *Farm Management Studies* in the mid-fifties.[40] These studies showed that over much of India the intensity of input use and the yield

rate declined as farm size grew larger indicating that the large farms were in some sense less efficient or productive than the smaller ones. A. K. Sen attempted to explain this phenomenon in terms of differential opportunity cost of labour of the large and small farms.[41] He suggested that most large farms were run commercially to maximise profits. Since they used hired labour for cultivation, profits were maximised when labour was employed up to the point where the marginal product of labour was equal to the market wage rate. The small farms on the other hand were mostly peasant farms. Their opportunity cost of labour was lower than the market wage rate and consequently they employed labour beyond the point which equated the marginal product of labour to the wage rate.

The argument of Sen can be illustrated by means of Figure 1. Panel I in the figure depicts a series of isoquants while panel II shows the production function (corresponding to two farm sizes H_0 and H_1). If the small farmer cultivates H_0 amount of land, he will optimally produce at E* in panel I or e* in panel II. He will obtain an output equal to Q*. The opportunity cost of his labour, which is by assumption less than the market wage rate, is given by the slope of the line tangent to the production function at e*, or the slope (for a given price of land) if the tangent to the isoquant.

Q* at E*. If the same piece of land were cultivated by a large farmer (under conditions of constant returns to scale) whose opportunity cost of labour was equal to the wage rate, he would produce at E_1 (or e_1) and obtain a lower output Q_1. Notice that the tangent to the production function (isoqunat) at e_1 (E_1) is steeper (flatter) than the tangent at e* (E*) indicating that the labour cost faced by the large farmer is greater than that faced by the small farmer. A higher labour cost incurred by the large

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farmer leads to a less intensive application of labour and hence, results in a lower yield rate.

Figure I
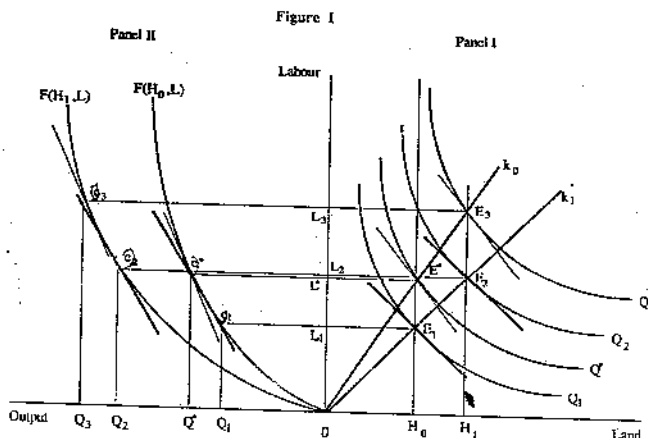
The inadequacy of Sen's explanation of the inverse relation in terms of differential labour cost soon became evident with the availability of more empirical evidence which indicated that the inverse relation survived independently of a differentiation along peasant and capitalist farms.[42] Of particular significance was the fact that the inverse relation showed up even among the predominantly hired labour farms which obviously could not be explained by Sen's hypothesis.

Hossain adopted a variant of Sen's hypothesis to explain the existence of an inverse relation in his study of villages.[43] He postulated that the opportunity cost of labour of the smaller farmers was low (and lower than the wage rate) due to widespread unemployment in the labour market where the ruling wage rate, which was constrained to be at least as great as the subsistence requirement, did not equilibrate the demand for and supply of labour and consequently, the smaller farmers intensified the use of surplus family labour on their farms.[44]

Despite the many problems with such an explanation of the inverse relation, it gained considerable support among the intelligentsia in the country.

Ahmed provided an alternative explanation of the inverse relation.[45] He argued that the large farmers, who employed substantial amount of hired labour, found it relatively more difficult to hire the requisite amount of labour particularly during the peak seasons when the labour market was tight. They were, therefore, forced to economise on the use of labour by selecting a less labour-intensive cropping pattern and using less labour on individual crops than they would have used otherwise. Consequently, the yield rate achieved by them was also lower than the same farms.

Recently, Taslim discarded both these explanations as inadequate and provided a third explanation.[46] He postulated that the hired labours, who were paid according to the time spent at 'work' rather than the actual work effort delivered, had a tendency to shirk. Hence, it was necessary to supervise them to extract a satisfactory effort, which imposed certain costs on the employer. The supervisory work was usually undertaken by family workers. To the extent the large farmers employed more hired labour per family worker, the supervision costs incurred by them were also greater. Consequently, they employed less hired labour (and hence total labour) per unit of land than the small farmers. Accordingly, the yield rate achieved by the former could be lower than that of the latter.[47]

The argument of Taslim can be illustrated with the help of Figure 2. Let the large farmer own amount of land and the small farmer kh ($0<k<1$) amount of land. The production function of the small farmer is shown by the curve q(kh;L) and that of the

large farmer by q(h;L). Agricultural production is assumed to be subject to constant returns to scale. The labour cost of production is shown by the curve OgC. The small farmer does not suffer from any supervision problems; accordingly his labour cost of production is simply wage times the amount of labour employed. Thus the labour cost curve facing the small farmer is a straight line (Og) with a slope equal to the wage rate. His optimal production point is a, at which a tangent to the production function q (kh;L) is parallel to the labor cost line Og. He employs kL_0 amount of labour and obtains q_0 amount of output. If the large farmer suffered from no supervision problems, the labour cost line facing him would be Ogm. He would produce at b where the tangent to the production function q_1 (h;L) is parallel to the labour cost line. He would employ L_0 amount of labour and obtain q_1 amount of output. He would employ 1/k times more labour than the small farmer on his farm which is 1/k times the size of the small farm. Since the production function is subject to constant returns to scale, $q_1 = (1/k) \cdot q_0$. Therefore, output per unit of land or labour would be the same in both farms

Figure 2
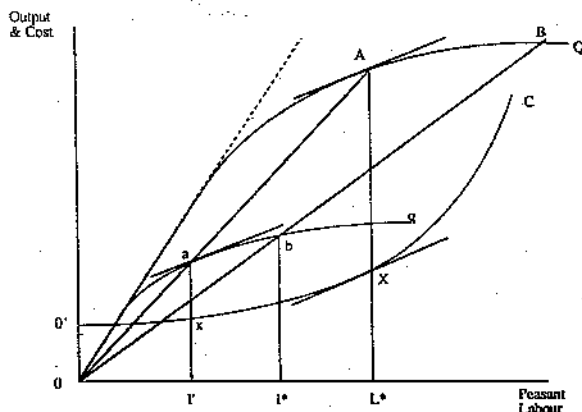
However, if the large farmer incurs supervision cost that rises with the employment of more hired labour, the labour cost curve facing him is not Ogm, but OgC. This labour cost curve is drawn to show that of the farmer does not encounter much supervision cost when he employs a certain small (say L_g) amount of labour, but beyond that supervision cost rises as more hired labour is employed. The labour cost (inclusive of supervision cost) curve accordingly has a straight line segment O_g and then it becomes convex (from below). The large farmer optimally employs L_a amount of labour at which the tangent to the production function is parallel to the tangent to the labour cost curve and obtains q_2 amount of output. He employs less labour than he would have if he had not incurred any cost ($L_a < L_o$) and consequently produces a smaller output ($q_2 < q_1$). Therefore, the intensity of labour-use and the yield rate achieved by the large farmer are both less than that achieved by the small farmer.

A strong belief in the inevitability of an inverse relation in agriculture,[48] supported by occasional empirical evidence, almost always leads to the conclusion that a ceiling-cum-redistributive land reform would increase the total product of agriculture.[49] Despite the momentous nature of such a reform, few land reform studies cared to either explain why such a relation should exist in agriculture or to state which, if any, of the above explanations was regarded as appropriate. Policies based on mere empirical findings may have serious limitations and could prove counterproductive. Consider, for example, the hypothetical case where the inverse relation owes its origin to none of the reasons stated earlier, but to a restrictive agricultural price policy. Governments in many developing countries have in the past deliberately depressed the relative price of agricultural goods below its free market level through various tax-subsidy schemes,

exchange rate policies and other measures apparently to expedite industrial growth. But such a policy has an adverse affect on agriculture and may engender an inverse relation.

This may be illustrated with the help of Figure 3. Let VMP_1 be the value marginal product of labour curve of the large farm at the existing depressed price and VMP_2 is the curve would have prevailed had there been no manipulation of the agricultural price by the government. If W is the market price wage rate, the large farm would optimally employ OL_1 of labour under the existing price. But if the market were free, it would have employed OL_2 of labour. If the government also interfered in the labour market and stipulated a minimum wage above W, then the large farm would be forced to employ even less labour.[50] Interestingly, the same price policy which restricts the intensity of labour-use by the large farm could also force the small farm, which faces a subsistence constraint, to intensify the use of family labour. A reduction in the relative price of the agricultural goods increases the amount of these goods necessary to purchase the subsistence bundle of industrial goods. This would force the small farmers to intensify the use of family labour on the farm.

Figure 3
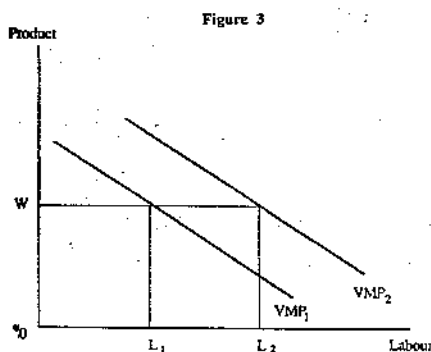
There would thus be a tendency toward increased (land) productivity of the small farm. However, the higher productivity

of the small farm would not be due to its greater efficiency; it would rather be a reflection of the increased misery of the small farmer who has been forced to accept an even lower return to his labour.[51] The amelioration of this situation does not imply an increase in the number of distressed small farmers; but rather it requires the removal of the price distortion that was exogenously imposed upon the peasantry.

Let it now be assumed that the inverse relation is caused by a lower opportunity cost of labour of the small farmers, which is the lynch-pin of Hossain's analysis and appears to have gained much acceptance. Referring back to Figure 1, if the small farmer cultivates H_0 amount of land, he optimally produces at E^* in panel I (or e^* in Panel II) and obtains an output of Q^*. The slope of the line tangent to the isoquant Q^* at E^* (or the production function at e^*) shows the opportunity cost of labour of the small farmer. If it was equal to the market wage, then the farmer would have produced at E_1 (or e_1) obtaining a lower output, Q_1. Now let a redistributive land reform increase the cultivated area of the small farmer to H_1. The new equilibrium depends very much on what happens to the opportunity cost of labour. If it remains the same and the isoquants are homothetic, the new equilibrium would be at E_3 (or e_3) where the output produced would be Q_3. The land-labour ratio remains constant as shown by Ok_0.

However, if the opportunity cost of labour were to increase, the new output would be lower than Q_3. If the increased landholding income raise the opportunity cost of labour of the small farmers to equality with the market wage rate, then the new equilibrium is at E_2 (or e_2). The land-labour ratio increases and the output rises to only Q_2 and the land-productivity achieved by the small farmer at this point would be, if production is subject to constant returns to scale, equal to that of

the large farmer so that no gains may be achieved by the reform.
The pre-reform higher productivity of the small farm is due to
the poverty and misery of the small farmer, which forces him to
accept a low return on his labour. Hence, whether or not, and to
what extent, this higher productivity will be maintained depends
crucially on whether or not he can be pinned down to the
previous level of poverty and misery. But this is the very
negation of one of the main objectives of land reform, which is
to ameliorate the living conditions of the small farmers. A
redistributive land reform would succeed in increasing
agricultural output only to the extent it can hold down the
standard of living of the small farmers. What such a
redistributive land reform policy is likely to achieve is to
distribute poverty rather than to move towards higher standards
of living.[52]

If the inverse relation is caused by the tightness of the
agricultural labour market, as suggested by Ahmed, a
redistributive land reform is not certain to be conducive to a
higher productivity.[53] The reduction in the demand for labour by
the shrinking large farms may be more than offset by an increase
in labour demand by the small farms. Since according to Ahmed
nearly a half of the total labour use in the small farms is already
provided by hired labour. Hence, the tightness of the labour
market may increase.[54] The smaller farms will then also have to
economise on the use of hired labour. Therefore, the productivity
of the small farms may decline. There may be no gain in total
productivity, and if there is any gain, it would be less than what
is indicated by a static analysis.

If the inverse relation in agriculture is due to supervision
problems, as believed by Taslim, the transfer of land from the
large to the small farmers is likely to attain the stated objective

of the reform. A reduction in the farm size of the large farmers will reduce their hired labour requirement and consequently reduce supervision problems. An increase in the number (and/or size) of the small farms will increase the use of hired labour in these farms, but since they are well endowed with family labour relative to land, they are not likely to face much supervision problems and hence, total product may be expected to increase.[55] Thus, in this case land reform may be expected to increase the total product of agriculture. However, this conclusion would depend very much on whether or not the small farmers would have sufficient amount of non-land inputs like bullocks to farm the redistributed land. If they do not, which is most likely the case, the government will have to undertake the added responsibility of providing these inputs. If it cannot, the productivity of the redistributed land will suffer and the total product of agriculture could even decline.

If the inverse relation is due to either a tightness in the labour market or supervision problems, one possible solution to these labour problems may be the mechanisation of agriculture.[56] There is a widespread belief that such mechanisation will reduce agricultural employment and exacerbate the already serious under and unemployment problem.[57] There may be a grain of truth in this argument in the static sense. Mechanisation will almost certainly reduce employment in the activities where it is introduced; indeed that is the very purpose of its introduction. Thus, mechanisation of agriculture may reduce employment in such activities as ploughing and harvesting. However, a successful mechanisation is also likely to increase income of the farmers substantially and expand employment opportunities in the existing consumer-goods industry and in such activities as did not exist previously.

History bears few examples where automation had led to a fall in total employment although employment in particular activities might have suffered a decline. The incessant endeavour of entrepreneurs to reduce cost of production had inexorably led them toward automation, but the very process of automation had created employment opportunities in hitherto nonexistent activities so that total employment did not fall in the long run. Mechanisation of agriculture is very much likely to reduce employment in certain agricultural operations, but it may also generate employment created in other sectors and such new activities as repair and maintenance of the machines and ultimately the manufacturing of these machines. Employment in these new activities could outweigh the reduction in other activities so that the total employment might not fall. It is only the composition of employment that would change.

An increase in the standard of living of the agricultural population requires an increase in the productivity of labour. HYV cultivation, which entails a more intensive use of labour per unit of land, does not much increase labour productivity although it does increase the total agricultural output. The standard of living of farmers cannot be, therefore, much improved by labour-intensive HYV cultivation.[58] Such an improvement ultimately requires an improvement in the farming skill and the machanisation of agriculture which can continually increase the productivity of agricultural labour. *If a substantial and continual increase* in income of the farming population is a policy objective, agricultural mechanisation has to be considered at some stage.

It is worthwhile to point out that in the absence of any adverse government intervention in agriculture, many enterprising farmers may move toward automation to solve

labour problems and increase farm profits. This has actually occurred in some regions of the Indian subcontinent like the Punjab. It is no mere coincidence that this region also happens to be agriculturally one of the most prosperous regions in the subcontinent. There is also not much evidence that mechanisation has led to a reduction in total employment in the region. If at all, there has been a large migration of labour from other parts of India to this region.

Some Implications of Land Reform.

Let us now consider the empirical dimensions of the reform problem. Table 3 shows the size of distribution of farm households in Bangladesh. The great majority of the farm households are small farmers cultivating, on average, less than one acre of land. Only about 5 per cent of the households cultivate more than 7.5 acres of land. The table reveals an unmistakable tendency toward marginalisation of the peasantry due largely to population pressure. Between 1960 and 1983-84, the number of agricultural households increased by 62.4 per cent, but the number of medium and large farmers declined absolutely. While they accounted for nearly 56 per cent of agricultural households in 1960, by 1983-84 this proportion fell to only 30 percent. The land area operated by the medium farmers did not change appreciably but the large farmers lost markedly (see Table 4). In 1960, they accounted for nearly two-fifths of the total operated area, but by 1983-84 they controlled just over one-quarter.

The number of small farm households meanwhile increased by a staggering 156 per cent. Such a large increase has been accommodated by a reduction in the land area operated by both the medium and large farmers and a diminution of the average farm size of the small farmers. The average small farm size

declined from 1.23 acres in 1960 to a paltry 0.93 acres by 1983-84. It is generally believed that 2.5-3.0 acres of land is needed to provide a minimum subsistence living for the average farm family. A great majority of the peasants in the country would thus appear to be not viable. These households must then depend on nonagricultural incomes to sustain themselves. There is now considerable empirical evidence to suggest that off-farm employment is the mechanism which permits these otherwise nonviable small farms to persist.[59]

Table 3: Number of Farm Households by Size Groups

(Number in '000)

Farm size	Owned area 1983-84	Operated area 1983-84	Operated area 1960	Average farm size (acres) 1983-84 1960	
Small (up to 2.5 acres)	7246.6 (72.7)	6975.7 (70.0)	3104.5 (50.57	0.93	1.23
Medium (2.5 To7.5 acres)	2178.9 (21.8)	2483.4 (24.4)	2485.1 (40.48)	4.11	3.76
Large (7.5 To25 (7.6 Acres)	545.7 (5.5)	511.3 (5.1)	549.4 (8.95)	11.65 *	11.07
Very Large (25 acres and above)	25.7 (0.25)	14.0 (0.14)	30.7 (0.50)		
Total	9970.4	9970.4	6139.0	2.27	3.54

Figure is parentheses are percentages of total households.
*Average farm size of all farms operating 7.5 acres or more land.
Sources: *The Bangladesh Census of Agriculture and Livestock 1983-84,*
vol. 3, Bangladesh Bureau of Statistics, Government of Bangladesh;
The Report on Agricultural Census of Bangladesh 1977 (National
Volume), Bangladesh Bureau of Statistics, Government of Bangladesh.

Table 4: Operated Area by Farm Size

(acres in '000 acres)

Farm size	Operated area 1983-84	Operated area 1977	Operated area 1968	Operated area 1960
Small (up to 2.5 acres)	6,505 (28.69)	4,117 (18.75)	4,459 (20.40)	3,559 (15.46)
Medium (2.5 To 7.5 acres)	10,219 (45.07)	10,738 (48.90)	8,786 (40,20)	10,020 (46.12)
Large to25 acres)	5,950 (26.24)	7,105 (32.35)	8,609 (39.39)	8,349 (38.43)
Total operated area	22,674	21,960	21,856	21,726

*Figure in parentheses are percentages of total operated area.
Sources: *The Bangladesh Census of Agriculture and Livestock 1983-84*, vol. 3, Bangladesh Bureau of Statistics, Government of Bangladesh; *The Report on Agricultural Census of Bangladesh 1977* (National Volume), Bangladesh Bureau of Statistics, Government of Bangladesh.

Given that the total arable land area cannot be increased significantly, there is hardly any scope for providing all small farms with sufficient land to produce a subsistence income.[60] In fact, even with a perfectly egalitarian redistribution of arable land, each agricultural household would get a nonviable holding of only 2.27 acres, or alternatively only 7,558,000 households, could be provided with a subsistence holding of 3 acres.[61] Thus any redistributive scheme can only be partial, directed to benefit only a fraction of the farm households.

From past experience it seems unlikely that a ceiling of less than 25 acres can be successfully imposed. If a 25 acre ceiling is

rigorously implemented it would release at most 125,100 acres of land. With a 10 acres ceiling, the maximum amount of land recovered for distribution would be 837,000 acres. Now suppose the government takes a very radical step to introduce reform policies that would convert the entire peasantry into small peasants households owning at most 7.5 acres of land. It would apparently seem that in this case the government appropriate 2,082,750 acres of land from households owning more than 7.5 acres of land. It would apparently seem that in this case the government appropriate 2,082,750 acres of land from households owning more than 7.5 acres of land. However, this would be a serious over- estimation of the amount of land that could be appropriated.

The average large farm family of the country is about twice the size of the average small farm family since the former tends to be a joint family comprising families of brothers, father and son etc.[62] It seems almost certain that a redistributive reform would lead to a disintegration of the large farm family into its component smaller units. In all fairness, each of these family units would have to be allowed to retain 7.5 acres of land. Assuming that each large farm family breaks up, on average, into two smaller family units upon land reform, only farms in excess of 15 acres would be required to cede land. This reduces the availability of excess land for redistributive to only 508,900 acres of land (or just over 2 percent of the total land). If this land were to be redistributive among the landless labours in plots of 2.5 acres, it would benefit less than 5 percent of such households in the country. Therefore, such a redistributive reform policy cannot meet the requirements of any more than a tiny proportion of the farming population. But to realise this small perceived gain, the nation would have to bear the cost of rigorously enumerating the entire peasantry and ascertaining their

landholdings and other sources of income in order to determine who would have to cede land and who would be the beneficiaries. Such an exercise, which necessarily involves a great deal of subjectivity would confer substantial power on the bureaucracy and the ruling political parties who would ultimately determine the beneficiaries and the victims of the policy. If history is any guide, they will certainly use (or abuse) this power to their own advantage.

The national gain in terms of an increase in the total agricultural output due to such a redistributive policy is also unlikely to be substantial. To get some feel of the probable magnitude of the increase in output let us assume that there are only two types of farms, small and large, and that the small farmers cultivate only owned land. If the large farms are broken up into small farms, then the rate of (once for all) increase in agricultural output $g = (y-1)/(1+ ay)$, where y is ratio of yields of small and large farms and a is the ratio of the area of the small and large farms. Now, the large farms (15 acres and above) comprise 8.34 per cent of the total arable land of the country. We do not have any national estimate of the productivity of the small and large farms. However, Hossain reported that the small farms were about 20 per cent more productive than the large farms in his sample areas.[63] If this estimate is assumed to hold at the national level, then $y = 1.2$. Hence, the increase in the total output due to a redistributive land reform under these assumptions is $g = 0.0141$, or only 1.41 per cent. Since in a good year the agricultural sector grows at a more rapid rate even under the existing structure of land tenure, such a small increase in productivity does not appear to be a robust argument in favour of a redistributive reform. Furthermore, this small increase in the total product would be achieved only under the most favourable condition of the victims not retaliating to protect their interest.[64]

If they do, the resulting turmoil could easily impose substantial costs on the nation in terms of lost output, wounded incentives and human suffering. One has to very seriously consider whether it would be advisable to run such a risk for so little a gain.

Even if enough land were available for a meaningful redistributive reform, the effectiveness of such a reform would be transitory. Given the rate at which the peasant households are growing, and thanks to the Muslim law of inheritance, the same situation (in relative terms) would be recreated within a decade or so and the whole exercise would have to be repeated. Land reform of the kind favoured in Bangladesh has any meaning only in the context of an overall social reform designed to propel the economy in a certain target direction. Without it, these land reform measures are not likely to be conducive to either a prosperous agriculture or stable economic growth.

A redistributive land reform will have multifarious effects all of which may not be beneficial to the rural poor. These effects relate to (a) wage labour; (b) marketed surplus; (c) input price; and (d) land price. The small farmers are believed to employ more labour than the large farmers. If land is redistributed in favour of the small farmers, it is likely to increase the demand for labour. If this increased demand is met by an increase in the intensity of family labour use, the demand for wage labour may decline leading to a fall in the equilibrium real wage. If this is the case, the pious intention of the Land Reform Committee of raising the real agricultural wage can be achieved only at the expense of rendering a large section of the agricultural labourers unemployed. However, if the increased demand for labour by the small farms is met largely by hired labour, then the demand for such labour will increase. In this case the real wage will increase even without a minimum wage

legislation. What will actually happen depends very much on the elasticity of demand for hired labour in the small and large farms and the initial difference in labour-use between these farms.

A redistributive land reform might increase the total product of agriculture, but its effect on marketed surplus is not clear. The small farmers usually spend larger fraction of their income on agricultural products (particularly food) than the large farmers. The increase in the income of the small farmers due to reform will increase their consumption of agricultural products, which, if greater than the increase in the total product, will reduce the marketed surplus. To get some idea of the probable magnitude of change in the marketed surplus after reform, let us again assume that there are only two types of farms, small and large. The marketed surplus under the existing tenure system, M_o, may be expressed as $M_o = I^s(z^s + vz^l)$ where I is the agricultural income and the superscript i = s, l refers to small and large farms respectively, $z^i = 1-(f^i e^i)/a^i$, f^i is expenditure on agricultural output (mainly foodstuff) of the ith farm as a proportion of its total expenditure, e^i is the ratio of total expenditure and total income and a^i is the ratio of agricultural income to total income, and v is the ratio of the total agricultural output of the large and small farms. The marketed surplus after the redistributive reform, $M_r = I^s (1+ h) z^s$ where $h=1/a$ = the ratio of the total area of the large and small farms. The change in marketed surplus after the reform $\Delta M=1^s(1+4)-(2^s+V2^l)$. Hence the rate of change $\Delta M/M_0=(1+4)/Z^5+VZ^l)-1$.

Now, the *Household Expenditure Survey* of 1988-89 suggests that f^s 0,71, $F^l=0.60$, $e^s=0.91$ and $e^l=0.83$. Rahman and Hossain study indicates that $a^s=0.68$ and $a^l=0.86$.[65] we have v=hu where u = the ratio of land productivity of the large and small farms=1/y = 0.83 using Hossain's estimate the census of

Agriculture and livestock 1983-84 putsh=0.04. Then the estimated rate of change in marketed surplus after reform $\Delta M/M_0$- -0.302, i.e. it declines by about 30.2 percent. At the 1989-90 gross value added in agriculture, a redistributive reform would reduce marketed surplus by about 6.1 billion taka or about US $ 156 million. Since the demand for marketed surplus is generated mostly in the urban areas, it is unlikely to fall markedly implying an excess demand for agricultural output (primarily food). Such an excess demand would put upward pressure on the food price. To prevent the price of food, the principal wage good, rising sharply the government would be forced to increase food imports. This will worsen the already serious balance of payments position of the country. If the food price actually rises and the worsening balance of payments leads to a devaluation of the home currency, the country may find itself in the grip of a spiraling structural inflation.[66]

The small farmers believed to use purchased material inputs (e.g. fertilizer) more intensively than the large farmers. Hence, a redistributive land reform many increase the demand for purchased inputs. This well have an expansionary effect on the industries producing these inputs. However, if the supplies of these inputs are not perfectly elastic, unit prices will rise. This many reduce the intensity of use of these inputs and somewhat dampen the increased productivity of the small farms.

A redistributive land reform with a ceiling legislation is very likely to reduce the demand for land by preventing the large farmers from buying land and by reducing the demand of small farmers for land. Hence the price of land also likely to fall. This means a reduction, at last temporarily, in the asset-value of holdings of all farmers. This reduction in the asset value of land is likely to hurt the marginal and small farmers more than the

large farmers. If an emergency arises which requires the sale or mortgage of part of the land owned by the small farmer, he would now have to sell or mortgage a greater part of the land. Income earned from the remaining land would be lower and consequently his ability to repurchase or regain the control of the land would also be lower.

One of the most attractive aspects of redistributive land reform is its equity effects. It is believed that a more egalitarian distribution of land will reduce inequality in income distribution and lead to a more cohesive society. However, a closer examination reveals that any income inequality due to ownership of only one particular asset, agricultural land, is to be discouraged. The extent of income inequality of the agricultural households has recently been studied by Hossain.[67] He found that the large farmers earned just over three times the income earned by small farmers, the average income of both groups (Tk.56,156 and Tk 18,305) being quite modest.[68] Such an inequality hardly calls for any redistributive policy intervention.

However, it may be argued that the average income of the large farmers, as defined by Hossain, does not really show the level of income enjoyed by the really large farmers who would be the target of a redistribtive land reform. We have done some rough calculations to arrive at an estimate of the income of such large farmers. For this purpose we assume that the quality of land of all farmers are of uniform quality and all farmers cultivate the land with the same intensity. It is further assumed that the large farmers use only hired labour on their farms. It has been shown by Hossain that the share tenants hardly receive any more than their alternative wage income from the rented land.[69] Then, it seems plausible to assume that about one-half of the

produce of the average land may be regarded as the return to land.

Now, the gross value of crop production per acre in 1987-88 was Tk 9,110 in current prices. Hence, the average return per acre of land may be estimated at Tk 4,550. Therefore, the total income of a large farmer who owns, say, a 25-acre farm, is about Tk 113,75. A rural household having an income of this magnitude usually has a large family. According to the Report of the *Bangladesh Household Expenditure Survey* 1983-84, the richest section of the rural households with an income in excess of Tk 96,000 per annum has on average 11 family members. Assuming that the family size of the 25 acre farm household is also 11, the average per capita income of these households is Tk.10,341 per annum. The average family size of the poorest section of the rural households who has an annual income of less than Tk 12,000 is 3.8 according to the same *Report.* The annual per capita income of these households works out to Tk 2544. Thus, the per capita farm income of a 25-acre farm household is about 4 times greater than that of the poorest households. Such a spread in income of rural households hardly calls for a radical redistributive land reform. Indeed, the inequality in income distribution in rural areas is less severe than that in urban areas. In the absence of any suggestion for a corresponding attenuation of income of the urban elite, the ceiling legislation amounts to a trimming (or even destruction) of only the rural elite. This would allow the urban elite to expand its power and control over the rural sector without any local competition.[70]

There is frequently a suggestion that the distribution of land has become more concentrated in the rural areas over time.[71] Two measures which are used widely in the analysis of land (or income) distribution are proportions and the Gini coefficient. If

Table 5: Pattern of Land Ownership

	1951				1981			
	Small	Medium	Large	Total	Small	Medium	Large	Total
Number of households	55 (41.0)	56 (41.8)	23 (17.2)	134 (100)	140 (74.5)	33 (17.6)	15 (8.0)	188 (100)
Population	179 (33.0)	238 (44.2)	123 (22.8)	539 (100)	704 (62.1)	278 (24.5)	151 (13.3)	1133 (100)
Total land owned (acres)	64.2 (11.3)	234.1 (41.1)	270.8 (47.6)	569.1 (100)	117.9 (27.0)	143.4 (32.8)	175.7 (40.2)	436.9 (100)
Land per household (acres)	1.17	4.18	11.77	4.25	0.84	4.34	11.77	2.32
Land per capita (acres)	0.36	0.98	2.20	1.06	0.17	0.52	1.16	0.39

Note: 0.01-2.50 acres = small, 2.51-7.50 acres = medium, and above 7.5 acres = large. Figures in parentheses are percentages.

the same (or a smaller) proportion of households (people) at the upper end of the distribution are found to own an increasingly larger proportion of the land, the land distribution is said to have become more skewed or concentrated. Similarly, a large value of the Gini coefficient is associated with a worsening distribution. The implication usually derived is that a relatively small group of people has become increasingly richer at the expense of those down the scale. However, it should be clearly understood that these measures convey very little information about the absolute magnitude of land ownership or the standard of living of the rural people in a country where the total availability of land is almost constant, but the population is increasing at a fast rate. It is quite possible that over time a smaller proportion or rural households may come to own a larger proportion of the land, or the Gini coefficient may register an increase, and yet the plight of these households may significantly worsen. This point merits some elaboration in view of the frequent lamentation about a worsening land distribution in the countryside.

Table 5, which has been put together from Table IIA in Rahman, shows a familiar pattern.[72] The large land-owing households, who constituted 17.2 percent of the total land owning households in the village (16.7 per cent of all households) in 1951, owned 47.6 per cent of the total land. The small land-owners, who comprised 41 per cent of the landowning households (39.9 per cent of all households) owned only 11.3 per cent of the land. The average amount of land owned by the large landowners was about 10 times greater than the average land holding of the small landowners. After 30 years, the large owners constituted only 8 per cent of the landowning households, but owned 40.2 per cent of the land, while the small owners who comprised nearly three-quarters of the households owned only slightly over one-quarter of the land. The average

amount of land owned by the large owners in 1981 was nearly 14 times the average size of holdings of small owners. These (and other similar) findings were interpreted by Rahman to mean that "the concentration of land in the **hands of a few** increased" (p.81) and "richer households have been enlarging their share of the ownership/control of agricultural land **at the expense of** the poorer ones" (p.51, emphases added). However, none of these conclusions are warranted from his findings. He seems to have used the findings selectively which led him to err in some of his conclusions.

Rahman did not adequately address two very significant trends in rural Bangladesh which have important bearing on his analysis. These are: (1) larger landowners, on average, have larger family size and (2) population has increased dramatically during the period. The average family size of the large owners in 1981 was twice that of the small owners. Assuming that age and sex composition of households of different size group are roughly the same, this fact alone would imply that the large owners would need about twice the amount of land owned by the small owners to be on the same level of well-being.[73] A comparison of the amount of land owned by the households does not convey much information regarding the level of well-being unless the family size is roughly the same. To avoid this problem, one could compare the per capita land ownership of different size groups. The last row of Table 5 presents the figures on per capita land. It is immediately evident that the per capita land ownership declined markedly for all size groups. The rate of decline was about the same for medium and large landowners (about 47 per cent). While the rate for the small owners was only marginally higher (about 52 per cent).[74] A broadly similar rate of decline had ensured that the relativity of per capita land ownership between different size groups did not change

significantly. In 1951, the medium and large landowners owned
respectively 2.7 and 6.1_a. times more land per capita than the
small owners. After 30 years these ratios changed to 3.1 and 6.8.
These figures would hardly support the view that rich has
become richer at the expense of the poor. The relative well-being
of different size groups does not appear to have changed
appreciably over this period. But the absolute level of well-being
of all groups have registered a marked decline. There is a clear
process of pauperisation of the entire peasantry.

This process of pauperisation is not due to any distribution
malaise as frequently asserted, but can be attributed primarily to
population growth. During this 30-year period, the population of
the sample village rose by more than 110 per cent. Even if the
land distribution in 1981 remained exactly the same as in 1951,
such an increase in the population would imply that per capita
land holding of the small owners would be reduced to 0.17 acres.
Interestingly, this was about the per capita land of the small
owners in 1981. The population in the small size group actually
quadrupled between 1951 and 1981. This could be due to both an
increase in the population of the households who were small-
owners in 1951, and any large and medium landowners falling
into the small category over time due to subdivision of
landholdings or sale. The landholdings of the small owners
increased during this period by 83.6 per cent. Both medium and
large landowners lost land very substantially. Some of the land
they lost was acquired by the small landowners.[75] Thus, contrary
to the assertion of Rahman, it was the poorer households which
were growing in importance at the expense of large and medium
landowners.

Concluding Remarks

The principal motive for redistributive land reforms is almost always political. Such reforms were undertaken in the past usually by new governments which came to power after some violent social upheaval. One of the overriding concerns of these governments had been to gain quick legitimacy to establish a stable administration. The redistributive reform model was very attractive in this regard as it could be executed with hopefully the minimum disruption in the economy. The victims were relatively few in number and already politically emasculated so that they were unlikely to put up an insurmountable resistance. The number of potential beneficiaries could be large, but more importantly, such a measure would be popular with a great majority of the people. The government would be perceived to have taken strong measures in favour of the general masses without really having taken any one in the long run. Indeed, in most agrarian societies characterised by poverty and skewed land ownership, few other measures would enjoy more popular support and earn quicker political legitimacy for the new government. Hence, in both socialist and non-socialist countries, new governments which gained power through prolonged, and often violent, struggle were inexorably drawn toward the redistributive reform model in order to gain quick legitimacy and establish themselves as popular rulers of these countries.

Redistributive land reform has hardly ever led to its stated objective of the establishment of a prosperous and independent peasantry in either socialist or non-socialist countries. Most of the non-socialist countries advocating redistributive land reform have adopted the family farm as the role model of prosperous peasantry. Ironically, even in countries like Japan, where land reform is widely believed to have been most successful, small scale farm management has not led to a dynamic agriculture, but

rather to increased differentiation between agriculture and industry in terms of productivity and income. The small family farms have over time become more dependent on the state (for protection through tax-subsidy schemes) and on off-farm employment indicating that the farm size was not large enough either to earn a sufficient income for the growth of a prosperous peasantry or to provide employment opportunities for all labour of the farm. As Ledesma[76] perceptively observes "because of the restrictions on the maximum size of land ownership and on the transferability of reform lands, the result of land reform in these countries, as in Japan in particular, has not been to establish a free and independent owner farmer system" but as Ogura prefers to call it a "cultivator proprietorship system under the paternalism of the state."

By far the most important outcome of redistributive land reform has been the destruction (or at least severe limitation) of the rural elite and the establishment of small peasant proprietorship dependent on the state, that is to say, on the political and administrative bureaucracy which are ultimately controlled by the urban elite. These small farms have not been able to develop as dynamically prosperous farms independent of bureaucratic patronage (although land productivity rose for a period in some countries); nor have they been able to provide sufficient income or employment opportunities to farm families leading to disguised tenancy in some countries and off-farm employment in most. The real gainers have been the urban elite and the bureaucracy who have secured a firm control over rural population.

Notes

1. See M. Hossain, "Farm size, tenancy and land productivity: An analysis of farm level data in Bangladesh agriculture, "*Bangladesh Development Studies*, 5 (July 1977): 285-348;

Government of Bangladesh, *Report of the Land Reform Committee.* (Dhaka 1983).

2. See the papers by Q. K. Ahamed, "Land reform for social transformation in Bangladesh with special reference to Land Reform Committee Report," paper presented at the National Seminar on Land Reform in Bangladesh, Dhaka (1983); M. Hossain, "Desirability and feasibility of land reform in Bangladesh," in Alamgir M. K. (ed.), *Land Reform in Bangladesh* (Dhaka: Centre for Social Studies 1981): 93-122 and M. A. Zaman, "Land reform in Bangladesh, "Mimeo (Land Tenure Center, University of Wisconsin 1976).

3. An exception is the seminal paper by A. Abdullah, "Formulating a viable land policy for Bangladesh -What do we need to know?", *Bangladesh Development Studies,* 6 (1978): 355-386.

4. E. O. Heady, "Economics of farm leasing systems", *Journal of Farm Economics.* 29 (August 1947): 659-678; D. G. Johnson, "Resource allocation under share Contracts," *Journal of Political Economy* 58 (April 1950): 111-123; A Marshall, *Principles of Economics,* 9th Ed., (London: Macmillan: 1961).

5. See S. N. S. Cheung, *The Theory of Share Tenancy,* (Chicago: Chicago University, 1969); J. C. Hsiao, "The Theory of share tenancy revisited", *Journal of Political Economy,* 83 (October 1975): 1023-1032; J. D. Reid Jr. "Sharecropping and agricultural uncertainty," *Economic Development and Cultural Change* 24 (1976): 549-576.

6. D. M. G. Newbery, "Risk-sharing, sharecropping and uncertain labour markets", *Review of Economic Studies* 44 (October, 1977): 585-594; J. E. Stiglitz, "Incentives and risk sharing in sharecropping", *Review of Economic Studies* 41 (April 1974): 219-255.

7. R. E. B. Lucas, "Sharing, monitoring and incentives:
    Marshallian misallocation reassessed", *Journal of Political
    Economy* 87 (June 1979): 501-520; M. G. Quibria and S.
    Rashid, "Sharecropping in dual agrarian economies: A
    synthesis", *Oxford Economic Papers* 38 (March, 1986): 94-
    111.

8. G. D. Jaynes, "Production and distribution in agrarian
    economies", *Oxford Economic Papers* 34 (1982): 346-367.

9. W. Hallagan, "Self-selection by contractual choice and the
    theory of sharecropping", *Bell Journal of Economics* 9 (1978):
    344-354; D. M. G. Newbery and J. E. Stiglitz,
    "Sharecropping, risksharing and the importance of imperfect
    information" in J. Roumasset et. al eds. *Risk, Uncertainty and
    Agricultural Development,* (New York: Agricultural
    Development Council 1979); F. Allen, "On the fixed nature of
    sharecropping contracts", *Economic Journal,* 95 (1985): 30-
    48.

10. See M. Hossain, "Farm size, tenancy and land productivity:
    An analysis of farm level data in Bangladesh agriculture",
    Bangladesh Development Studies, 5 (July 1977): 285-348.

11. Similar findings were also reported by Mandal (1980) and
    Talukder (1980).

12. See A. Shahid and H. W. Herdt, "Land tenure and rice
    production in four villages of Dhaka district", *Bangladesh
    Development Studies* 10 (1982): 111-124.

13. See M. A. Taslim, "Allocate efficiency of cropshare
    cultivation: interpreting the empirical evidence," *Pakistan
    Development Review* 28 (1989): 233-250.

14. It is indeed remarkable that so many people believe in the
    alleged efficacy of redistributive land reform when the

evidence is ambiguous or even contradictory. As Herring (1983) noted "Not only is there limited decisive empirical evidence.... but the evidence available to policy makers who have recommended or legislated tenurial reform has been even more conspicuously absent, ambiguous or contradictory. For example, the only study of productivity differences available when the government of Ceylon legislated the Act in 1958 showed yields on tenant farms higher, not lower, than those on owner-cultivated farms of similar." p. 24.

15. See A.Bhaduri, "A study in agricultural backwardness under semi-feudalism," *Economic Journal* 83 (March 1973): 120-137

16. S. Gangopadhyay and K. Sengupta, "Interlinkages in rural markets," *Oxford Economic Papers* 38 (March 1986): 112-121; A. K. Ghose and A. Saith, "Indebtedness, tenancy adopting of new technology in semi-feudal agriculture," *World Development* 4 (April 1976): 305-319; D. M. G. Newbery, "Tenurial obstacles to innovation," *Journal of Development Studies* 11 (July 1975): 263-77.

17. C. Bell and T. N. Srinivasan, "Interlinked transactions in rural markets: An empirical study of Andhra Pradesh, Bihar and Punjab", *Oxford Bulletin of Economics and Statistics* 51 (February 1989): 73-84; A. Rudna and P. K. Bardhan, "Terms and conditions of sharecropping contracts: An analysis of village survey data in India", *Journal of Development Studies* 16 (1980): 48-64; M. A. Taslim, "Tenancy and interlocking markets: Issues and Some Evidence", *World Development* 16 (June 1988); and M.A. Taslim and F.U. Ahmed, "Nature, terms and conditions of share contracts in Bangladesh agriculture," *Research Report* (Bureau of Economic Research, University of Dhaka 1990).

18. See for example M. K. Alamgir, "Towards land reform in Bangladesh, "in M. K. Alamgir, ed. *Land Reform in Bangladesh*, Centre for Social Studies, Dacca (1981); Q. K. Ahmed, 'Land reform for social transformation in Bangladesh with special reference to Land Reform Committee Report", paper presented at the National Seminar on Land Reform in Bangladesh, Dhaka (1983); *Report of the Land Reform Committee*. (1983).

19. See M. Hossain, *Nature and Impact of the Green Revolution in Bangladesh*, Research Report 57 (Washington: International Food Policy Research Institute 1988).

20. M. Asaduzzaman, "Adotion of HYV rice in Bangladesh", *Bangladesh Development Studies* 7 (1979): 23-52; M. A. Taslim and F. U. Ahmed, "Nature, terms and conditions of share contracts in Bangladesh agriculture", Research report (Bureau of Economic Research, University of Dhaka 1990).

21. It is difficult to understand why the misconception persists despite ample evidence to the contrary. Perhaps the root of the belief lies in subjective ideas rather than objective deductions. As Herring (1983) put it so eloquently, " ... cognitive paradigms are likely to be quite impervious to dissonant empirical evidence. This is true partly because paradigmatic thinking screens out, dismisses or provides alternative explanations for seemingly disconfirming information and partly because the roots of the paradigms are ideological...", p. 24.

22. See M. Hossain, *Nature and Impact of the Green Revolution in Bangladesh*, Research Report of 57 (Washington: International Food Policy Research Institute 1988); and M. A. Zaman, "Land Reform in Bangladesh", Mimeo (Land Tenure Center, University of Wisconsin 1976).

23. See M. A. Quasem, "Factors affecting the use of fertilizers in Bangladesh", *Bangladesh Development Studies* 6 (1978): 331-338.

24. See A. J. Ledesma, "Land Reform programs in East and South-East Asia: A comparative approach" mimeo. (Land Tenure Center, University of Wisconsin 1976).

25. See Iftekhar Ahmed, "Technical change and labour utilisation in rice cultivation", *Bangladesh Development Studies* 5 (1977): 359-366; M. Muqtada, "The seed- fertilizer technology and surplus labour in Bangladesh agriculture", *Bangladesh Development Studies* 3 (1975): 403-428.

26. This is only a lower bound since there could be many households in a particular size group which remained in the same size group even after renting out a part of their land. For example, a household which owns 2.3 acres of land and rents out 1 acre will be included in the same diagonal entry.

27. See M. A. Taslim, "An analysis of the tenancy market in Bangladesh agriculture", unpublished Ph. D. dissertation (Melbourne : La Trobe University 1987).

28. Large landowners frequently lease out the land to several tenants in order to minimise the risk of default or poor performance. See M. A. Taslim, "Multiple leasing under cropshare tenancy: A note on *Agricultural Economics* 4 (January 1990): 91-98, for a discussion of the reasons of multiple leasing.

29. See A. K. Ghose, " *Agrarian reform in developing countries* (Croom Helm. 1983) ; 103.

30. For a discussion of the factors that influence the decision to lease, see M. A. Taslim and F. U. Ahmed, "An analysis of

land leasing in Bangladesh agriculture", *Economic Development and Cultural Change* (1992), forthcoming. ·

31. See A. Abdullah, "Formulating a viable land policy for Bangladesh - What do we need to know", : *Bangladesh Development Studies* 6 (1978): 355-386.

32. See Hossain (1981) and Report of the Land Reform Committee. (1983). A substantial fraction of the leased land is rented out by small and medium landowners to medium and large tenants. Curiously, it is never asked how the same 'exploitative' terms and conditions of cropsharing survive even in these transactions.

33. See Government of Bangladesh *Statistical Yearbook 1989*, (Dhaka: Bangladesh Bureau of Statistics 1990).

34. 1 US $ = Tk 37 approx. in 1987-88.

35. See Government of Bangladesh, *Statistical Yearbook 1989*, (Dhaka: Bangladesh Bureau of Statistics, 1990).

36. In the past agricultural prices have been deliberately held down when industrial prices spiraled upward.

37. This is not to say that all tenants will suffer. If the share payable to the landlord remains at its stipulated lower level, the tenants who succeed in renting just the amount of land as before will be benefited. But all those tenants who fail to rent any or the same amount of land as before may have their income reduced. Assuming that the yield rate does not change, the total income of all tenants will increase only if the absolute value of the elasticity of supply of rental land with respect to tenant's share is greater than unity.

38. See D. G. Johnson, "Resource allocation under share Contracts," *Journal of Political Economy* 58 (April 1950): 111-123; M. A. Taslim, "Short term leasing, resource

allocation and cropshare tenancy", *American Journal of Agricultural Economics*. 71 (August 1989): 785-790 and "Labour market dualism, threat of eviction and cropshare tenancy," *Journal of Agricultural Economics* 43 (January 1992).

39. This dilemma is yet to be resolved in the cropsharing literature. If the tenants are given security of tenure, current production will suffer but the tenants may be encouraged to invest in the rented land. If there is no security of tenure, they may be forced to farm the rented land efficiently but they will not undertake any investment in the land from which they could be evicted.

40. For a discussion see K. Bharadwaj, *Production Conditions in Indian Agricultural: A Study Based on Farm Management Surveys*, University of Cambridge, Department of Applied Economics, Occasional Paper No. 33, Cambridge University Press (1974).

41. See. A. K. Sen's papers "An aspect of Indian agricultural, *Economic Weekly* Annual Number (1962): 243-66 and "Size of holdings and productivity," *Economic Weekly*, Annual Number (1964).

42. See J. N. Bhagwati and S. Chakravarty, "Contribution to Indian economic analysis", *American Economic Review* 59, Part 2, Supplement (September 1969): 2-73; A. Rudra, "Marginalist explanation for more intensive labour inputs in smaller Farms", *Economic and Political Weekly* 8 (June 1973): 989-94.

43. See M. Hossain,. "Farm size, Tenancy and land productivity: An analysis of farm level data in Bangladesh agriculture", *Bangladesh Development Studies*, 5 (July 1977): 285-348.

44. Zaman had earlier used this hypothesis to explain the lack of any inefficiency of the tenant farms. See M. R. Zaman, "Sharecropping and economic efficiency in Bangladesh", *Bangladesh Economicic Review* 1 (April 1973): 149-172.

45. See Iqbal Ahmed, "Farm Size and labour Use: Some alternative explanations", *Oxford Bulletin of Economics and Statistics* 43 (1981): 13-88.

46. See papers of M. A. Taslim, "Supervision problems and size-productivity relation in Bangladesh agriculture", *Oxford Bulletin of Economics and Statistics* 51 (February, 1989): 55-72 and "The explanations of the inverse size- productivity relation in agriculture: A critical review", *Bangladesh Development Studies* 18 (1990): 87-98.

47. Empirical evidence in favour of the inverse farm size-productivity relationship is far from conclusive. Hossain (1977) and Ahmed (1981) found that the small farms achieved that higher yield rates than the large farms. In his paper "Farm size, land yields and the agricultural production function: An analysis for fifteen developing countries", *World Development* 13 (April 1985): 513-534; G. A. Cornia on the other hand failed to establish any systematic difference in the yield rate achieved by farms of different size. He argued that the inverse relation was more likely to hold in land -abundant countries like some Latin American and West Asian countries of his sample than in land-scarce countries like Bangladesh. In fact, there was a marked tendency of the degree of (land) productivity difference between small and large farms to decline as the density of population increased. The findings of Taslim (Supervision problems and size-productivity relation in Bangladesh agriculture") also appear to corroborate this. The inverse relation existed among all categories of farms in the relatively land-abundant district of Rajshahi, but there was a

positive size-productivity relation in the densely populated district of Comilla.

48. An inverse relation in agriculture could also be caused by diseconomies of sale and differential quality of the land. However, there has not been much support for these explanations mainly because of a lack of empirical support.

49. See the *Report of the Land Reform Committee*, 1983.

50. The Land Reform Committee did want to introduce a minimum wage.

51. Also see R. J. Herring, *Land to the tiller: The political economy of agrarian reform in South Asia*, New Haven: Yale University (1983); Abhijit Sen, "Market failure and control of labour power: Toward an explanation of structure and change in Indian agriculture", Part 1 and 2. *Cambridge Journal of Economics* 5 (1981): 201-228 and 327-350.

52. A similar conclusion can also be drawn in the case of land redistributed among landless workers. It would increase the number of small distressed farmers who would be willing to accept a very meagre return on their labour.

53. See Iqbal Ahmed, "Farm Size and labour Use: Some alternative explanations", *Oxford Bulletin of Economics and Statistics* 43 (1981): 73-88.

54. If land is redistributed among the landless workers, the total demand for labour will fall, but this may be offset by a reduction in the supply of hired labour.

55. If the greater use of hired labour on the small farms leads to an increase in supervision problems then the increase in productivity would be lower.

56. See Abijit Sen, Market failure and control of labour power: Toward an explanation of "structure" and change in Indian agriculture,' Parts 1 and 2.

57. See Iftekhar Ahmed, "Technical change and labour utilisation in rice cultivation", *Bangladesh Development Studies*, 5 (1977): 359-366.

58. The standard of living may improve if the farm family has unemployed labor. But once such labor is exhausted, living standard would stagnate.

59. A. Bhaduri, H. Z. Rahman and AL Arm, "Persistence and polarisation: A study in the dynamics of agrarian contradiction", *Journal of Peasant Studies* 13 (April 1986): 82-89; M. A. Taslim, "Tenancy and interlocking markets: Issues and Some Evidence"; M. Hossain, *Nature and Impact of the Green Revolution in Bangladesh*, Research Report of 57 (Washington: International Food Policy Research Institute 1988).

60. If all these farms were to be converted in three-acre farms, an additional 14.44 million acres of land would be required.

61. Some authors have actually gone to the extent of suggesting that such an egalitarian reform should be undertaken. The absurdity of the suggestion should be apparent from the fact that such a reform would directly and forcibly expropriate well over one-quarter of the total farm households who also happen to be the most resourceful and powerful of the rural community. Only a political party with a murderous intent or suicidal psyche would contemplate such an act. By a stroke of a pen, reasonably well-off and respected farmers would suddenly be reduced to the status of wage laborers. It would be utterly naive to assume that the affected people will accept it lying down. To succeed the program, the whole drama of

Soviet collectivisation will perhaps have to be restaged in a similar tragic way.

62. Government of Bangladesh, *Report of the Bangladesh Household Expenditure Survey: 1983-84*, (Dhaka: Bangladesh Bureau of statistics 1988). This survey shows that the average number of earning members in a 25 acre (or higher) farm family is 5.0 while that in a small farm family (2.5 acres or higher) is only about 1.5.

63. See the papers by M. Hossain,. "Farm size, tenancy and land productivity: An analysis of farm level data in Bangladesh agriculture", *Bangladesh Development Studies*, 5 (July 1977): 285-348 and *Nature and Impact of the Green Revolution in Bangladesh*, Research Report of 57, (Washington: International Food Policy Research Institute 1988): 146.

64. Two other assumptions implicit in the arguments for reform is that the beneficiaries of the reform (presumably landless or marginal farmers) would be as skilled in farming as the small farmers and that they would have non-land inputs like bullocks and agricultural equipment to cultivate the land. Since both these assumptions are suspect, it is doubtful whether any significant increase in output could be achieved through redistributive reform.

65. H. Z. Rahman and M. Hossain "Re-thinking rural poverty: a case for Bangladesh", Research Report, (Dhaka: Bangladesh Institute of Development Studies).

66. See M. A. Taslim, "Inflation in Bangladesh: A reexamination of structuralitst-monetarist controversy", *Bangladesh Development Studies* 10 (1982): 23-52.

67. See M. Hossain, *Nature and Impact of the Green Revolution in Bangladesh*, Research Report of 57, (Washington: International Food Policy Research Institute 1988).

68. Per capita income inequality would be even more modest considering the fact that the family size of the large farmers is greater than that of the small farmers.

69. M. Hossain, "Desirability and feasibility of land reform in Bangladesh, "in M. K. Alamgir (ed), *Land Reform in Bangladesh* (Dhaka: Centre for Social Studies 1981): 93-122.

70. Indeed, this could be a hidden objective (and outcome) of land reform.

71. See for example M. Hossain, "Desirability and feasibility of land reform in Bangladesh", in M. K. Alamgir (ed), *Land Reform in Bangladesh,* (Dhaka: Centre for Social Studies1981): 3-122; A. Rahman, "Land concentration and dispossession in two villages of Bangladesh", *Bangladesh Development Studies* 10 (1982) : 51-84; and *Report of the Land Reform Committee* (1983).

72. We have chosen Rahman's paper to illustrate the point above for the reasons. First, the paper is rich in inter-temporal data that provide a reasonably clear picture of what has been happening in the countryside. Second, the data do not seem to be inconsistent with the national scene. Third, the kind of analysis done and conclusions reached by Rahman are representative of the works of a large segment of social scholars in the country.

73. We assume that the households did not have non-land income and that agricultural production was subject to constant returns to scale.

74. Even when the landless households are included among small owners, the rate of decline is about the same.

75. The greater part of the land lost by the medium and large landowners seemed to have been acquired by people who were not residents of the village.

76. See Ledesma, p. 38.