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**RELATIVE PRODUCTIVE EFFICIENCY OF DIFFERENT TENURE CLASSES
IN SELECTED AREAS OF BANGLADESH**

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I. INTRODUCTION

The present size-tenure structure of Bangladesh agriculture is generally considered responsible for underutilization of resources, particularly labour, for low productivity, for slow adoption of improved technology and its inefficient utilization [1, pp. 15-36; 5, pp. 5 and 187; 9, pp. 52-53]. There is inadequate empirical knowledge about the nature of resource use efficiency in Bangladesh. Recently two researchers presented quite contradictory conclusions about the allocative efficiency of a given sample of farms from two areas of Bangladesh. Zaman [10] classified the farms according to tenure, measured their relative efficiency and concluded that the existing tenure systems were not only efficient but socially desirable. Hossain [6] classified the farms of one area according to acres of land cultivated, measured their relative efficiency and concluded that smaller farms were relatively more productive and a policy aimed at redistributing land in favour of smaller farms will increase productivity, growth and employment.

These researchers have proved what they independently set out to prove. A politician looking for a clue to avoid taking any positive policy in relation to land will find it convenient to point to these disagreements among professional economists. To one who does not know that the different conclusions relate to same group of farms, the results will appear puzzling though theoretically possible.

To one who knows about the data source, the conclusions will appear as an evidence of the fact that things may look differently depending on the view point taken.¹

Evidence presented in this study suggest that (a) farm classification on the basis of tenure may be more appropriate than size classification on the basis of land or any other single input category, (b) relative efficiency of different tenure classes may differ depending on which criteria one uses for measuring efficiency.

II. SOURCE OF DATA

One hundred farms selected purposively in clusters from each of the districts of Mymensingh, Rangpur and Dinajpur provided one year data during crop year 1973/74 for

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¹ For other limitations of their data and method of analyses, see [7; 8, Chapter 2].

this study. The selected districts were taken as typical growing areas for three important cropping systems in Bangladesh viz., rice-jute, rice-tobacco and rice-sugarcane respectively. The selected clusters were treated as 'open segments' so that all farm families living within the physical boundary of a cluster were considered as sampling units. A farm was defined as an operational unit in which resources were combined for production purposes irrespective of whether they were owned, rented or hired. As such, absentee owners and landless workers were not considered as sampling units.²

III. CHARACTERISTICS OF DATA

Size-Tenure Distribution

Distribution of farms and farm area classified on the basis of two alternative measure of size, acres owned and acres cultivated, are shown in Table 1. Chosen class intervals are purely subjective but the same size classes are used for all regions to facilitate comparison. While these alternative measures are adequate to understand the pattern of ownership and the pattern of cultivation separately, neither of them is adequate to understand fully the nature of relationship between ownership and cultivation and the cause of divergence between them. These phenomena can be better explained by tenurial classification with sub-classification on the basis of class sizes (Table 2). A farm may belong to different size classes depending on which criteria and how many size groups one uses, but it will belong to only one tenure class.

Four tenure classes were identified in the sample: (1) part-operators, those cultivating part of their land and renting out the rest; (2) owner-operators, those cultivating all their land; (3) part-tenants, those owning some land and renting in additional land; (4) tenants, those renting in all the land they cultivate. Three important features of combined size-tenure distribution emerge from the collected data: (1) A substantial majority of farmers in Mymensingh were owner-operators, a substantial proportion in Rangpur were part-tenants and a substantial proportion in Dinajpur were part-operators. (2) Part-operators were generally large and part-tenants generally small by both measures of size in all three regions but the degree of divergence between tenure classes, within and between regions, was smaller when cultivated area was taken as the measure of size. (3) None of the farmers in Mymensingh owned or cultivated more than 10 acres; none in Rangpur owned or cultivated more than 16 acres; 15 per cent of farmers in Dinajpur owned more than 15 acres; 6 per cent of farmers in Dinajpur owned no cultivable land.³

In Dinajpur, part-operators rented out 57 percent of their land compared to 49 percent in Rangpur and 27 percent in Mymensingh. On the other hand, 51 percent of land cultivated by part-tenants in Rangpur was rented in compared to 40 percent each in Mymensingh and Dinajpur (Table 3). Half crop sharing without sharing of inputs was the dominant form of rental arrangement in all three regions (Table 4). In fact the scanty evidence of cash renting and input sharing (mostly seeds) was found in the relatively backward region of Mymensingh rather than in the other two regions where use of water and fertilizers were more prominent. This evidence, though inadequate, may suggest that

² The author now believes that information about absentee owners and landless workers should have been collected and analyzed in detail.

³ The Dinajpur sample seems to be representative only in terms of size measured by cultivated area.

cash renting and input sharing may be less prevalent where concentration of land ownership and competition among tenants for renting land are greater.⁴

Average Size of Farm and Degree of Fragmentation

An average farmer in Dinajpur owned more than three times as much land as an average farmer in Mymensingh and Rangpur but an average Dinajpur farmer cultivated only twice as much land compared to the other two regions (Tables 5 and 6). Intra-regionally, the ratio of land ownership by part-tenants, owner-operators and part-operators was approximately 1:2:4 but the ratio of cultivated land did not exceed 1:2 between any two tenure classes in any region.

None of the farms in any region was a consolidated holding i.e. all the farms consisted of more than one fragment. Degree of fragmentation measured by the number of fragments per acre was highest in Mymensingh and lowest in Dinajpur; between tenure classes degree of fragmentation decreased with increased in size.

Family Size and Fixed Labour Supply

The average size of a farm family was not very different among the regions but in all three regions, owner-operators and part-operators generally had a larger family than tenants and part-tenants (Table 7). About 40 percent of the male members were under 12 years of age and more than 50 percent under 16 years. Female members do not normally participate in field work. Therefore, no detailed information was kept about them.

In case of 66 percent of farms in Mymensingh, 56 percent in Rangpur and 72 percent in Dinajpur, 100 percent of the members of working age⁵ were available for farm work, whether or not farming provided full time employment.⁶ (Table 8). For the rest of the farms, farming was not a full time business in the sense that one or more members of working age of these families were engaged, partly or fully, in one or more other activities, e.g., business, teaching and other salaried employment. Excluding those engaged in non-farm activities, on average 50 percent of the total male members and about 80 percent of the members of working age were available for farm work; the proportion was relatively smaller for part-operators and owner-operators compared to tenants and part-tenants (Table 9).

The number of members available for farm work was converted into standard man-units assuming 2 members of 12-16 age group as equivalent to one-man-unit. Then man-units of annually hired labour were added to the family man-units to obtain the total supply of fixed labour. Only 17 percent of the farms in Mymensingh had annually hired labor compared to 29 percent in Rangpur and 46 percent in Dinajpur (Table 10).

⁴ Zaman [10] found ample evidence of input sharing, particularly fertilizer cost sharing, in comparable areas of Mymensingh and Dinajpur in 1969. It cannot be ascertained whether the evidence of this study indicates a post-independence change of direction in the nature of land and rent market. For a theoretical and empirical discussion on the relationship between technology, wage rate and incidence of sharecropping, see, [3].

⁵ All male members aged 12 years and over, excluding the old who were unable to perform farm work, were considered as belonging to the working age. Twelve years is average primary school leaving age in Bangladesh and for majority of the children of farm families that also is the end of schooling altogether as evidenced by participation rate of 12-16 age groups (Table 4).

⁶ Full time employment means achieving certain standard of work duration. The Bangladesh Planning commission has assumed 240 days of farm work as equivalent to full employment for a man-unit [5,p.184].

Relatively greater proportion of part-operators used annually hired labor compared to other tenure classes in all three regions and they also hired greater number of man-units per farm.

Fixed Capital

Work animals, tools and equipment were the main components of fixed capital.⁷ Bullocks were the main source of power in all three regions; a few farmers in Diyajpur also used buffaloes. Sixteen percent of the farms in Rangpur had no work animals compared to 6 percent in Mymensingh and 1 percent in Dinajpur (Table 11). A substantial majority of farmers in all three regions owned one pair of animals. Observed differences between tenure classes in the estimated average value of animals might be mainly due to differences in quality of animals but inter-regional differences could not possibly be fully attributed to quality differences alone.

Work animals accounted for about 80 percent of total fixed capital in Mymensingh and Dinajpur and about 60 percent in Rangpur (Table 12). Inter-regional differences in the value of capital are due to both differences in quality and price per unit.

Enterprise Combinations and Yields

Average acres of various crops produced and proportion of farms producing are shown in Table 13. Boro rice (IRRI varieties were produced in Rangpur and Dinajpur) in Mymensingh, boro and tobacco in Rangpur and boro and wheat in Dinajpur were the irrigated crops covering 3.1 percent, 16.4 percent and 13.7 percent of the total cropped acreage in the respective regions (Table 14).⁸ In Rangpur; 20 percent of the total cropped acreage was devoted to cash crops (jute and tobacco) compared to 10 percent in Dinajpur (sugarcane) and 8 percent in Mymensingh (Jute). Dinajpur farmers devoted a smaller proportion of land to aus rise but they produced wheat, not produced in the other two regions.

In Rangpur, each acre of cultivated land was used 1.8 times during the year compared to 1.6 times in Mymensingh and 1 time in Dinajpur (Table 15). Intra-regionally, Mymensingh and Rangpur produced quite different patterns in cropping frequency between tenure classes. Both intra-and inter-regional differences in cropping frequency appears to be related to differences in the availability of fixed labour and fixed capital.

Apart from work animals, most farms had milk cow, young calves, goat and few farms also had sheep (Table 16). Since little fodder was produced, these animals were kept mostly on crop by products.

Average per acre yield of different crops and their respective coefficient of variations shown in Table 17 suggest that no tenure class could be considered more efficient than any other in terms of yield rates of all the crops produced although one or the other tenure class might appear more efficient in relation to a particular crop.

⁷ Conventionally a part of the dwelling house is included in fixed capital computation. This was not done in this study because use of any fixed proportion for all farms would be unrealistic and determination of actual proportion for each farm separately would be extremely arbitrary therefore meaningless.

⁸ Dinajpur farmers used deep tube-well water for irrigation; Rangpur farmers used low-lift pump for irrigating IRRI rice but manually dug well for irrigating tobacco; Mymensingh farmers used 'don', a locally made manually operated wooden equipment, for lifting water from a near by canal.

Average yields of aman and boro rice were significantly higher in Rangpur compared to the other regions.

An important limitation of yield data with respect to part-tenant farms is that separate records were not kept for crops produced on owned and rented land; therefore their relative yield rates could not be shown. However, the value of output paid as rent for the rented land was recorded and this will be used for measuring relative efficiency of owned and rented land. Output data for working animals, particularly milk output data, was incomplete and inaccurate, therefore, excluded from further analysis. This, however, remains another limitation of this study.

Gross Value of Crops and Byproducts Produced

Estimated average value of crops and byproducts produced per farm and per acre are shown in Table XVIII. Each crop was valued at constant price.⁹ Except sugarcane, all prices were approximately average of two weeks during the peak harvesting season of each crop; sugarcane price was fixed by the Sugar Mills Corporation which is the monopoly buyer of all sugarcane grown in predefined mill zone.

Value of output per acre and similar other measures are considered as measures of average performance [4, p.54]. The following features emerge from Table 18. (a) Part-operators appear to be relatively more efficient in all three regions whether output is expressed on the basis of cultivated or cropped acreage; relative position of other tenure classes change when one or the other criteria is used as the basis of measurement. (b) Comparison of output per cultivated acre and double the amount of rent paid by part-tenants or received by part operators (since rent paid or received represent approximately half of the value of output produced on the rented land) indicated that in all three regions greater amount of output was produced per unit of owned compared to rented land. (c) Inter-regionally, Rangpur farmers produced more output per acre compared to other two regions but the difference is smaller when cropped acreage is used as the basis. Higher output has resulted partly from more frequent or intensive use of land and partly from yields of aman and boro rice.

The above features should, however, be interpreted with qualification because value of output per acre and similar measures are only partial measures of efficiency. In the present case, differences in the value of crops produced per (cultivated or cropped) acre will give true measure of relative efficiency of tenure classes if they have produced same crops and used equal quantities of non-land inputs (of same quality) per acre. This was not the case in reality; (a) higher output rate of part-operators might have partly resulted from the fact that they retained better quality land for self-cultivation and rented out lower quality land. (b) Higher productivity of owned compared to rented land is consistent with a *priori* economic theory if there are no differences in land quality and if higher output result from better attention given to owned rather than rented land. (c) There is the problem of deciding whether cultivated or cropped acreage should be used as the basis of expression. Cropped acreage represent the degree of utilization of cultivated acreage, therefore may appear to be more appropriate. This may not always be true. For example, sugarcane being a perennial crop contributed to lesser intensity of cropping in Dinajpur compared to Mymensingh but Dinajpur farmers appears more efficient when

⁹ The following per maund prices various crops were used: aman rice @ 60 Taka, boro rice, aus rice and wheat @ 80 Taka, jute @ 75 Taka, tobacco @ 170 Taka and sugarcane @ 5 Taka.

cropped acreage is used as the basis. On the other hand, Mymensingh farmers produced 1.4 times greater output per cultivated acre compared to Dinajpur farmers. Sugarcane seems to be an important contributory factor in this difference because sugarcane accounted for 16 percent of the total cropped acreage but 28 percent of total value of crops and byproducts. (d) Farms used different quantities of non-land inputs per acre. Therefore, output expressed on the basis of any single input category is inadequate for measuring actual relative efficiency.

Gross Value of Output, Gross Farm Income and Gross Margin

In this study, gross value of output, gross farm income and gross margin are defined thus:

Gross value of output=Gross value of crops and byproducts produced + Miscellaneous earning including casual sale of labour and bullock power.¹⁰

Gross farm income=Gross value of output +Rent received – Rent paid.

Gross margin=Gross farm income- Variable costs.

The logic of including casual sale of labour as a component of gross output is that farmers may use these fixed resources for producing crops on owned and/or rented land and/or hire out to other farms. For owner-operators, gross output and gross income are the same because they do not pay or receive any rent. The intermediate measure of gross income is necessary because under landlord tenant situation, output of the rented land is divided before gross margin and profit are calculated. In the present case, part-operators received rent for the land they rented out and part-tenants and tenants paid rent for the land they rented in. In other words, part-tenants and tenants received rent for their non-land resources. Gross margin represents a return for the services of land owned, fixed labor and fixed capita. Gross margin being a return mostly over cash or out-of-pocket expensed farmers are sometimes assumed to maximize this rather than profit in the short-run [2, p. 240].

Average values of gross output, gross income and gross margin per farm are shown in Table 19. Relative share of these three income measure vis-a-vis share of various resources by tenure classes are shown in Table 20. Of the three different measures of land, cultivated and/or cropped acreage should be considered when gross output is compared with other resources. An acre owned is the relevant land input measure when gross income or gross margin is taken as the dependent variable.

Relative efficiency of different tenure classes may be judged by (a) comparing the relative shares of gross output and corresponding inputs, or (b) comparing gross income and/or gross margin and corresponding inputs. According to the first criteria, very little differences in efficiency is observed between tenure classes because relative share of gross output appears to have a consistent relationship with the relative shares of corresponding inputs. According to the second criteria, owner-operators appear to be relatively more efficient. The first criteria indicate relative efficiency in production between tenure classes but it cannot indicate relative efficiency of production from owned and rented land in case of part-tenants. The second criteria indicates relative efficiency in production and distribution as well because it expresses gross income or

¹⁰ Output of non-working animals would also form part of gross output but could not be included because of unavailability of accurate information.

gross margin as a function of the amount of resources owned by each tenure class.¹¹ From the standpoint of policy, the second criteria are more important.

Variable Costs

The most striking feature of the structure of variable costs was observed to be the dominance of wage costs for casually hired labour, particularly in Rangpur (Table 21). Amount of labour hired depended on the combination of crops produced, man-units of fixed labour available on the farm and prevailing wage rate (Tables 22, 23). Tobacco and aus rice in Rangpur and sugarcane in Dinajpur demanded relatively more labour in relation to their share in the total cropped acreage; the unusually high amount of labour use in aus rice was due to heavy weed infestation following heavy rains. (As shown earlier, the yield rate of this crop was also very low in Rangpur).

In all three regions, wages were paid either in cash or cash plus meals. All wage payments which included meals were converted into cash equivalent by taking the wage the farmer would pay if the meals were not served. Wages of child and woman labour, if any, were converted into standard wage rates by taking 2 children and 1.5 women days respectively as equivalent to one man-day. Inter-regional differences in wage rates has positive relationship with differences in cropping frequency implying that increased cropping frequency provided increased work opportunities as well as higher wages. The coefficient of variation refers only to inter-farm differences in average wage payments during the year and do not take into account seasonal variations in wage rates paid by each farm.

Most of the seeds were home grown and were valued at constant prices, the prices being the average price paid by those who purchased seeds. Combination of fertilizers applied was the major source of inter-farm differences in per unit fertilizer costs because prices were different for nitrogenous, phosphatic and potashic fertilizers. Very little fertilizer was applied in Mumensingh but in Rangpur and Dinajpur, fertilizer application was concentrated on two crops: in Rangpur, 71 percent of total fertilizer was applied to tobacco and another 15 percent to IRRI rice; in Dinajpur, 59 percent of total fertilizer was applied to sugarcane and another 39 percent to IRRI rice and wheat. Rates of fertilizer application per acre are shown in Table 24.

Miscellaneous costs included hire charge and fuel costs for mechanical irrigation, cost of hiring bullock power, cost of pesticides and insecticides and 8 percent interest on half of the value of total variable costs. Actual interest payments made during the year were not included because (a) it could not be ascertained whether the payments were made for any loan which was actually used prior to the period under investigation; and (b) it could not be ascertained whether the funds borrowed during the period under investigation were fully used for production purposes during that period.

During the year of the survey, relatively smaller proportion of part-operators borrowed money in comparison to other tenure classes but in Dinajpur they were the

¹¹ These conclusions were confirmed by results of functional analyses. Two different forms of Cobb-Douglas function were used. First, a production function model assuming all production factors as variables whereby allocative efficiency is measured by comparing the estimated marginal value products and corresponding factor costs or price. Second, a profit function model which expresses a farm's maximized profit as a function of fixed inputs and prices of variable inputs. For details, see [8, Chapters 2 and 4].

largest average borrowers (Table 25). Complete information about the amount of borrowing by sources was available only for Dinajpur. Out of total borrowing of 65,775 Taka, 54.1 percent was received from the Bangladesh Krishi Band (BKB), 17 percent from the Sugar Mills Corporation (SMC), 15.2 percent from Cooperatives and 13.7 percent from private money lenders. Fifty five percent of the total credit was received by part-operators, 21.7 percent by part-tenants, 20.2 percent by owner-operators and 2.6 percent by tenants. Majority of the part-operators borrowed from BKB and SMC (Table 26); in fact, none of them have borrowed from private sources even when they borrowed from more than one source. On the other hand, tenants and part-tenants borrowed mainly from private sources.¹²

Actual interest rates paid for credit from private sources could not be computed. It is, however, reasonable to assume that private credit was more costly than institutional credit and to that extent, use of uniform 8 percent rate for all farms for computing total variable costs constituted a downward bias in the estimates for part-tenants and tenants.

IV. FACTORS INFLUENCING PRESENT RESOURCE USE PATTERN

The degree of efficiency with which resources are used on farms depends on a large number of interacting factors constituting an agricultural system. Some of these factors are internal to the farm, others external. Interrelationship among these factors is neither unidirectional nor linear. Therefore, various factors are variously responsible for the perpetual existence of the existing tenure systems and property relations and for their low level of efficiency.

Labor and bullock power are the main ingredients of traditional technology and larger farms have to hire labour, casually or annually, and maintain larger number of work animals if they are to cultivate all their land themselves. On the other hand farms are highly fragmented: some larger farms in Rangpur and Dinajpur owned land miles away in different villages. Given these conditions, there seems to be a technical limit of the efficient size of a cultivating unit. From the evidence of this study, this limit appears to be 15 acres (in most cases 10 acres) since none of the farms in any of the three regions cultivated more than this amount of land. By implication, it was economic to rent out land in excess of that limit. Since large number of small farmers competed to rent land, land owners could dictate rental terms to their advantage. They could also exploit tenants by limiting the amount of land rented to a single tenant, by continuously changing tenants, by not sharing non-land inputs, by forcing tenants to accept lower than market wage rate but exorbitantly higher than market interest rate. Although exact quantitative evidence with respect to all these aspects of tenant exploitation could not be provided in this study, the author observed while conducting the survey that these elements of tenant exploitation existed in the study areas.

Some land owners, not all of them large, rented out part or whole of their land because they had non-farm activities. Some of them have strong urban connections but they do not abandon completely the rural connection because land is a highly secured long-term investment and farm income is a necessary supplement to small non-farm

¹² Only one farmer in Dinajpur reported to have earned interest on loans. This is definitely an under reporting possibly because of low social value attached to interest earnings.

income of many families for maintaining a reasonable standard of living. For such land owners, efficiency may not be the prime consideration in their motivation to own land.

Khan has suggested that larger farmers resort to sharecropping because they do not have enough capital (internal surplus) to finance their farm business [9, p. 135]. However, capital shortage alone seems to be an inadequate explanation for lack of self-cultivation and adoption of improved technology by part operators for three reasons: (1) Inadequate internal surplus may be the effect rather than the cause of being a part-operator. (2) Some farms have adequate internal surplus but they use it for buying more land or invest in non-farm business possibly because non-farm business is more rewarding and secure. Those who do not have adequate internal surplus from farming may possibly draw on their non-farm earning, if any. Normally, movement of capital from non-farm to farming is rare. (3) even if internal surplus from both farm and non-farm sources are inadequate, farmers can raise capital by borrowing. Evidence presented earlier suggested that larger farmers had greater access to institutional sources of credit.

In reality, capital shortage is a more serious limitation for part-tenants and tenants to increase the amount of their land ownership because they do not have adequate security to borrow from institutional sources, therefore fall back on their landlords for credit at high rates of interest. Moreover, no institutional credit is provided for purchasing land. This however, does not create any problem for the larger owners because they can purchase land with internal surplus and then borrow, if need be, to finance the farm business.

Small size of farms and fragmentation constitute a serious obstacle to rapid adoption and efficient use of improved technology and consequently perpetuate the existence of sharecropping. The popularly known seed-fertilizer technology associated with green revolution is generally assumed scale neutral. Within the context of Bangladesh, this seems to be an unrealistic assumption, particularly with respect to mechanical irrigation which is the major ingredient of this technology. Very few farms in Bangladesh are large enough to independently use even the smallest mechanical irrigation low-lift pump. Those who are large enough to be able to use it cannot practically do it because their farms are fragmented. Most mechanical irrigation sources are at present supplied by various government departments on hire basis to groups of farms: some of these groups are organized cooperatives, others are loose associations formed specifically for hiring equipment. Despite joint use, only 30-50 percent of the capacity of all mechanical irrigation sources are currently utilized [5, pp. 140-52] and small size and fragmentation of farms are, among others, important factors responsible for this.

Specific policies (or lack of it in some respects) of subsequent governments with respect to land ownership, rural organizations and technology are also responsible for the perpetual existence of the present systems of property relations and their low level of efficiency.¹³

¹³ For a critique of the government policies in relation to land rural organizations and technology, see [8, Chapter 5].

V. CONCLUSIONS

Evidence presented in this study suggested that for measuring relative efficiency of different groups of farms, tenurial classification was more appropriate than size classification on the basis of land or any other singly input category. It was found that different tenure classes achieved different levels of efficiency but owner-operators were the most efficient. That means, taken as a whole, the farms did not achieve optimum level of efficiency in using resources from the point of view of the society. Relative inefficiency of tenure classes involving sharecropping (part-operators, part-tenants and tenants) implies that the existing pattern of resource ownership and property relations are improper for attaining higher level of efficiency.

Development policy implies government policy. Since objectives and methods of governments differ according to ideologies, specific policy actions could not be recommended on the basis of the findings of this study. However, the findings indicated that any government with a genuine desire to develop the agricultural sector should initiate an agrarian reform programme by correcting the present maldistribution of land, labour and capital resources and by reorganizing the government institutions serving agriculture.

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Table1: Distribution of Farms and Farm Area by size for the Selected Regions

Size Class	Mymensingh		Rangpur		Dinajpur	
	Farms	Farm Area	Farms	Farms Area	Farms	Farm Area
Percent						
Acres owned						
0-0.99	12	2.8	25	3.4	7	0.1
1.0-2.49	30	13.7	32	15.2	15	2.6
2.5-4.99	33	36.8	24	25.0	15	5.3
5.0-7.49	21	36.4	7	12.8	16	9.1
7.5-9.99	4	10.3	4	10.0	9	7.6
10.0-19.99	a	a	8	33.6	23	13.9
20.0 and Over	a	a	a	a	15	43.4
Small ^b	54	27.7	72	32.1	62	25.4
Large ^b	46	72.3	28	67.9	38	74.6
All Farms	100	100.0	100	100.0	100	100.0
Acres Cultivated						
0-0.99	5	1.1	8	1.5	a	a
1.0-2.49	31	14.3	36	18.9	7	1.9
2.5-4.99	39	41.6	40	41.5	32	18.7
5.0-7.49	23	38.1	10	17.8	31	28.7
7.5-9.99	2	4.9	3	7.5	12	16.1
10.0-19.99	a	a	3	12.8	18	34.6
20.0 and Over	a	a	a	a	a	a
Small ^b	52	26.2	66	32.5	63	47.2
Large ^b	48	73.8	34	67.5	37	52.8
All Farms	100	100.0	100	100.0	100	100.0

a. None.

b. Respectively less than and more than average of each sample.

Table2: Distribution of Farms According to size and Tenure for the selected Regions

Region and Tenure Class	Size Class in Acres							Total
	0-0.99	1-2.49	2.5-4.99	5-7.49	7.5-9.99	10-19.99	20 +	
Number of farms according to acres owned								
Mymensingh								
Part-operators	a	a	1	2	2	a	a	5
Owner-operators	5	18	28	19	2	a	a	72
Part-tenants	7	12	4	a	a	a	a	23
All Farms	12	30	33	21	4	a	a	100
Rangpur								
Part-operators	a	1	5	3	1	5	a	15
Owner-operators	6	14	12	4	3	3	a	42
Part-tenants	19	17	7	a	a	a	a	43
All Farms	25	32	24	7	4	8	a	100
Dinajpur								
Part-operators	a	1	1	4	5	20	15	46
Owner-operators	a	2	4	6	3	3	a	18
Part-tenants	1	12	10	6	1	a	a	30
Tenants	6	a	a	a	a	a	a	6
All Farms	7	15	15	16	9	23	15	100
Number of farms according to acres cultivated								
Mymensingh								
Part-operators	a	1	1	3	a	a	a	5
Owner-operators	5	18	28	19	2	a	a	72
Part-tenants	a	12	10	1	a	a	a	23
All Farms	5	31	39	23	2	a	a	100
Rangpur								
Part-operators	a	3	7	5	a	a	a	15
Owner-operators	6	14	12	4	3	3	a	42
Part-tenants	2	19	21	1	a	a	a	43
All Farms	8	36	40	10	3	3	a	100
Dinajpur								
Part-operators	a	3	8	16	6	13	a	46
Owner-operators	a	2	4	6	3	3	a	18
Part-tenants	a	1	18	7	3	1	a	30
Tenants	a	1	2	2	a	1	a	6
All Farms	a	7	32	31	12	18	a	100

a. None.

Table3: Distribution of Farms and Farm area Owned, Cultivated and Rented by Tenure for the Selected Regions

Region and Tenure Class	Farms	Area Owned	Area Cultivated	Proportion of	
				Owned Area Rented Out	Cultivated Area Rented In
Per cent					
Mymensingh					
Part-operators	5	9.3	6.4	27.2	a
Owner-operators	72	79.3	75.7	a	a
Part-tenants	23	11.4	17.9	a	39.4
All Farms	100	100.0	100.0	2.5	7.1
Rangpur					
Part-operators	15	35.0	18.0	48.8	a
Owner-operators	42	48.3	48.2	a	a
Part-tenants	43	16.7	33.8	a	50.8
All Farms	100	100.0	100.0	17.1	17.2
Dinajpur					
Part-operators	46	78.6	53.5	57.0	a
Owner-operators	18	11.7	18.4	a	a
Part-tenants	30	9.7	23.2	8.9	40.0
Tenants	6	a	4.9	a	100.0
All Farms	100	100.0	100.0	44.8	14.2

a, None.

Table4: Distribution of Farms by Rental Arrangements for the Selected Regions

Rental Arrangement	Mymensingh		Rangpur		Dinajpur		
	PO	PT	PO	PT	PO	PT	Tenants
Number of farms							
Cash rent	1	6	1	a	3	2	a
Crop& Input Share	a	4	a	a	a	a	a
Crop Share Only	4	13	14	43	43	28	6
All Farms	5	23	15	43	46	30	6

PO. Part-operators. PT. Part-tenants. a. None.

Table5: Average Acres Owned, Rented and Cultivated per Farm and Number of Fragments per Farm and per Acre by Tenure for the selected Regions

Region and Tenure Class	Average Acres per Farm				No. of Fragments per	
	Owned	Rented Out	Rented In	Cultivated	Farm	Acre ^a
	1	2	3	4=1-2+3	5	6
Mymensingh						
Part-operators	2	1.04	b	4.38	17.0	2.8
Owner-operators	3.57	b	b	3.57	14.3	4.0
Part-tenant	1.60	b	1.04	2.64	10.7	4.1
All Farms	3.24	0.08	0.24	3.60	13.4	3.9
Rangpur						
Part-operators	7.32	3.57	b	3.75	10.9	1.5
Owner-operators	3.60	b	b	3.60	10.0	2.8
Part-tenants	1.21	b	1.25	2.46	7.8	3.2
All Farms	3.13	0.54	0.54	3.13	9.2	2.5
Dinajpur						
Part-operators	16.69	9.51	b	7.18	28.5	1.7
Owner-operators	6.31	b	b	6.31	13.3	2.1
Part-tenants	3.14	0.28	1.91	4.77	19.9	2.3
Tenants	b	b	5.00	5.00	16.2	3.2
All Farms	9.76	4.46	0.87	6.17	19.8	1.9

- a. Owned in case of part-operators and owner-operators and cultivated in case of part tenants and tenants. Average for the total sample adjusted in the like manner.
b. None.

Table6: Man-land Ratio by Tenure for the selected Regions

Region and Tenure Class	Acres Owned per Head			Acres Cultivated per Head		
	All Family Members	Male over 12 years.	Male over 16 years.	All Family Members	Male over 12 years.	Male over 16 years.
Mymensingh						
Part-operators	1.02	3.34	4.30	0.79	2.43	3.13
Owner-Operators	0.51	1.51	1.79	0.51	1.51	1.79
Part-tenants	0.25	0.72	0.99	0.44	1.19	1.64
All Farms	0.47	1.41	1.73	0.50	1.48	1.82
Rangpur						
Part-operators	0.96	3.05	4.07	0.50	1.56	2.08
Owner-operators	0.43	1.47	1.86	0.43	1.47	1.86
Part-tenants	0.20	0.51	0.61	0.42	1.03	1.24
All Farms	0.41	1.30	1.62	0.43	1.30	1.62
Dinajpur						
Part-operators	2.08	10.63	12.18	0.91	4.57	5.24
Owner-operators	0.91	3.77	3.92	0.91	3.77	3.92
Part-tenants	0.50	1.50	2.14	0.77	2.27	3.24
Tenants	a	a	a	1.03	2.73	3.76
All Farms	1.27	5.55	6.78	0.88	3.51	4.28

a. None.

Table7: Average size of Family and Age Distribution of Male Members by Tenure for the Selected Regions

Region and Tenure Class	Number of Members			Proportion of Male Members ^a			All
	Male	Female	Total	Under 12	12-16	Over 16	
Mymensingh	2.60	3.60	6.20	30.8	15.4	53.8	100
Part-operators	4.08	3.74	7.82	42.2	9.2	48.6	100
Owner-operators	3.57	2.78	6.35	37.8	17.1	45.1	100
Part-tenants	3.89	3.51	7.40	40.8	11.1	48.1	100
All Farms							
Rangpur					15.1	45.8	100
Part-operators	3.93	3.53	7.46	38.9	11.4	42.0	100
Owner-operators	4.60	3.64	8.24	46.6	10.9	54.5	100
Part-tenants	3.63	2.86	6.49	34.6	11.8	47.3	100
All Farms	4.08	3.29	7.37	40.9			
Dinajpur							
Part-operators	4.22	3.93	8.15		67.5	32.5	100
Owner-operators	3.72	3.38	7.10		56.7	43.3	100
Part-tenants	3.97	3.40	7.37		63.0	37.0	100
Tenants	2.83	2.83	5.66		52.9	47.0	100
All Farms	3.97	3.61	7.58		36.3	36.3	100

- a. Since information on age was not fully accurate, this distribution and subsequent computations made on this basis should be interpreted too rigidly.

Table8: Proportion of Farms having Non-Farm Activities by type of Activities and Tenure for the Selected Regions

Region and Tenure Class	Proportion of Farms Having Members in				Total
	None	Business	Service	Studentship	
Mymensingh					
Part-operators	60	20	20	A	100
Owners-operators	65	14	13	8	100
Part-tenants	70	22	4	4	100
All Farms	66	16	11	7	100
Rangpur					
Part-operators	27	40	27	6	100
Owners-operators	56	33	5	6	100
Part-tenants	66	25	3	6	100
All Farms	56	31	7	6	100
Dinajpur					
Part-operators	74	22	2	2	100
Owner-operators	72	16	6	6	100
Part-tenants	70	23	7	a	100
Tenants	67	33	a	a	100
All Farms	72	22	4	2	100

a. None

Table9: Proportion of Male Members Available for Farm work by Age Group and Total Man-units of Fixed Labour Available per Farm by Tenure for the Selected Regions

Region and Tenure Class	% Members Available				Man-units Available			Hired as % of Total
	All Male	12-16 Yrs	Over 16 Yrs	All Over 12 Yrs	Family	Hired	Total	
Mymensingh								
Part-operators	49.2	71.1	70.0	71.4	1.14	0.04	1.54	26.0
Owner-operators	45.8	76.2	48.6	84.9	1.78	0.24	2.12	11.3
Part-tenants	47.9	77.0	75.4	77.6	1.48	0.02	1.50	1.3
All Farms	46.0	77.8	55.8	83.9	1.67	0.20	1.87	10.7
Rangpur								
Part-operators	36.9	60.4	50.0	63.9	1.30	1.20	2.50	48.3
Owner-operators	36.5	68.6	51.9	73.1	1.55	0.73	2.28	31.7
Part-tenants	56.7	86.6	85.0	88.9	1.89	0.05	1.94	2.4
All Farms	44.4	75.1	64.9	77.7	1.66	0.51	2.17	23.5
Dinajpur								
Part-operators	29.4	78.9	30.0	86.1	1.21	1.00	2.21	45.2
Owner-operators	37.1	82.6	33.3	84.5	1.37	0.42	1.79	23.3
Part-tenants	44.3	83.8	90.5	80.9	1.33	0.27	1.60	16.7
Tenants	54.1	83.6	80.0	85.0	1.33	0.00	1.33	0.0
All Farms	36.5	82.4	71.9	84.7	1.29	0.62	1.91	32.4

Table10: Proportion of Farms having Annually Hired Labour and Man-units Hired Farm by Tenure for the Selected Regions

Tenure Class	Proportion of Farms Hired			Man-units Hired per Farm		
	Mymensingh	Rangpur	Dinajpur	Mymensingh	Rangpur	Dinajpur
Part-operators	20	67	70	1.0	1.8	1.4
Owner-operators	21	40	39	1.2	1.8	1.1
Part-tenants	4	5	23	0.5	1.0	1.1
Tenants	a	a	b	a	a	a
All Farms	17	29	46	1.1	1.8	1.3

a. Not applicable, b. none.

Table11: Proportion of Farms having Work Animals Number of Animals per Farm and Value per animal by Tenure for the Selected Regions

Region and Tenure Class	% Farms Having Animals					Number of Animals per Farm ^a	Value per Animal, Taka
	None	1-2	3-4	5+	Total		
Mymensingh							
Part-operators	20	40	40	a	100	2.40	433
Owner-operators	5	63	27	5	100	2.47	423
Part-tenants	4	83	13	a	100	2.09	343
All Farms	6	66	24	4	100	2.38	407
Rangpur							
Part-operators	7	86	7	a	100	2.00	977
Owner-operators	24	50	14	12	100	2.29	899
Part-tenants	12	81	7	a	100	1.65	827
All Farms	16	69	10	5	100	1.97	885
Dinajpur							
Part-operators	a	59	30	11	100	3.07	726
Owner-operators	a	78	22	a	100	2.39	619
Part-tenants	a	90	7	3	100	2.37	620
Tenants	17	66	17	a	100	2.00	517
All Farms	1	72	21	6	100	2.67	671

a. Including non-owning ones.

Table12: Average Value of Fixed Capital per Farm by Tenure for the Selected Regions

Region and Tenure Class	Work Animals		Tools & Equipments		Total	
	Taka	%	Taka	%	Taka	%
Mymensingh						
Part-operators	1,040	62	636	38	1,676	100
Owner-operators	1,045	79	272	21	1,317	100
Part-Tenants	715	89	84	11	799	100
All Farms	969	80	247	20	1,216	100
Ranger						
Part-operators	1,953	46	2,293	54	4,426	100
Owner-operators	2,055	66	1,079	34	3,134	100
Part-tenants	1,366	65	747	35	2,113	100
All Farms	1,743	61	1,118	39	2,861	100
Dinajpur						
Part-operators	2,225	78	644	22	2,869	100
Owner-operators	1,478	78	411	22	1,889	100
Part-tenants	1,467	74	506	26	1,973	100
Tenants	1,033	85	183	15	1,216	100
All Farms	1,791	77	533	23	2,324	100

Table13: Average Acres per Farm and Proportion of Farms Producing Different Crops by Tenure for the Selected Regions

Region and Tenure Class	Aman	Aus	Boro	Jute	Tobacco	S. Cane	Wheat	Others	Total
Acres per farm									
Mymensingh									
Part-operators	3.47	1.82	0.35	0.62	a	a	a	0.09	6.35
Owner-operators	2.97	2.03	0.16	0.46	a	a	a	0.08	5.70
Part-tenants	2.24	2.03	0.18	0.39	a	a	a	0.06	4.90
All Farms	2.84	2.02	0.17	0.46	a	a	a	0.08	5.57
Rangpur									
Part-operators	3.20	2.15	0.45	0.68	0.85	a	a	a	7.33
Owner-operators	2.80	2.14	0.21	0.47	0.78	a	a	a	6.40
Part-tenants	1.60	1.39	0.21	0.32	0.48	a	a	a	4.00
All Farms	2.34	1.82	0.24	0.44	0.66	a	a	a	5.50
Dinajpur									
Part-operators	3.85	1.41	0.17	a	a	1.28	0.83	0.16	7.70
Owner-operators	2.69	1.31	0.07	a	a	0.75	0.64	0.09	5.55
Part-tenants	2.16	0.72	0.11	a	a	0.83	0.58	0.16	4.56
Tenants	3.08	1.22	0.67	a	a	0.45	0.26	0.07	5.75
All Farms	3.09	1.17	0.17	a	a	1.00	0.68	0.14	6.25
Percent farm produced									
Mymensingh									
Part-operators	100	100	40	82	a	a	a	40	
Owner-operators	100	100	26	92	a	a	a	17	
Part-tenants	100	100	30	100	a	a	a	13	
All Farms	100	100	28	93	a	a	a	17	
Rangpur									
Part-operators	100	100	47	80	100	a	a	a	
Owner-operators	93	100	26	64	100	a	a	a	
Part-tenants	100	100	48	63	100	a	a	a	
All Farms	97	100	39	65	100	a	a	a	
Dinajpur									
Part-operators	96	65	17	a	a	98	41	24	
Owner-operators	100	83	6	a	a	78	67	28	
Part-tenants	100	63	10	a	a	93	67	30	
Tenants	100	83	50	a	a	100	67	20	
All Farms	98	69	15	a	a	93	62	26	

a. None or negligible quantities included in others category.

Table14: Proportion of Cropping and Cultivated Acreage Covered by Different Crops by Tenure for the Selected Regions

Region and Tenure Class	Aman	Aus	Boro	Jute	Toba-cco	S.cane	Wheat	Others	Total
Percent of cropped acreage									
Mymensingh									
Part-operators	54.7	28.7	5.5	9.7	a	a	a	1.4	100
Owner-operators	52.1	35.5	2.8	8.2	a	a	a	1.4	100
Part-tenants	45.8	41.4	3.6	8.0	a	a	a	1.2	100
All Farms	51.0	36.3	3.1	8.2	a	a	a	1.4	100
Rangpur									
Part-operators	43.6	29.3	6.2	9.3	11.6	a	a	a	100
Owner-operators	43.7	33.5	3.3	7.3	12.2	a	a	a	100
Part-Tenants	40.0	34.6	5.2	8.1	12.1	a	a	a	100
All Farms	42.6	33.0	4.4	8.0	12.0	a	a	a	100
Dinajpur									
Part-operators	50.0	18.4	2.2	a	a	16.6	10.7	2.1	100
Owner-operators	48.5	23.7	1.2	a	a	13.5	11.5	1.6	100
Part-tenants	47.4	15.4	2.6	a	a	18.3	12.8	3.5	100
Tenants	53.6	21.2	11.6	a	a	7.9	4.5	1.2	100
All Farms	49.4	18.7	2.7	a	a	16.0	11.0	2.2	100
Percent of cultivated acreage									
Mymensingh									
Part-operators	79.2	41.6	8.0	14.2	a	a	a	2.1	145
Owners-operators	83.2	56.9	4.5	12.9	a	a	a	2.2	160
Part-tenants	84.8	76.9	6.8	14.8	a	a	a	2.3	186
All Farms	83.5	59.4	5.0	13.5	a	a	a	2.3	164
Rangpur									
Part-operators	85.3	57.3	12.0	18.1	22.7	a	a	a	196
Owner-operators	77.8	59.4	5.8	13.1	21.7	a	a	a	178
Part-tenants	66.7	57.9	8.7	13.3	20.0	a	a	a	167
All Farms	74.8	58.1	7.7	14.1	21.1	a	a	a	176
Dinajpur									
Part-operators	53.6	19.6	2.4	a	a	17.8	11.6	2.2	107
Owners-operators	42.6	20.8	1.1	a	a	11.9	10.1	1.4	88
Part-tenants	45.3	15.1	2.3	a	a	17.4	12.2	3.4	96
Tenants	61.6	24.4	13.4	a	a	9.0	5.2	1.4	115
All Farms	50.1	19.0	2.8	a	a	16.2	11.0	2.3	101

a. None or negligible quantities included in others category.

Table15: Number of Man-units and Work Animals Available per Cultivated Acre and Frequency of Cropping by Tenure for the Selected Regions

Region and Tenure Class	Available per Acre		Acres Cropped per		Cropping Frequency ^a
	Man units	Work Animals	Man units	Pair Animal	
Mymensingh					
Part-operators	0.35	0.55	4.12	5.29	1.45
Owner-operators	0.59	0.69	2.82	4.62	1.60
Part-tenants	0.57	0.79	3.25	4.70	1.86
All Farms	0.55	0.70	2.96	4.67	1.63
Rangpur					
Part-operators	6.67	6.53	2.93	7.33	1.95
Owner-operators	0.63	0.64	2.80	5.60	1.78
Part-tenants	0.79	0.67	2.07	4.85	1.67
All Farms	0.69	0.63	2.53	5.59	1.76
Dinajpur					
Part-operators	0.30	0.43	3.63	5.02	1.07
Owner-operators	0.28	0.38	3.43	4.65	0.88
Part-tenants	0.34	0.50	3.07	3.85	0.96
Tenants	0.27	0.40	4.53	5.74	1.15
All Farms	0.31	0.43	3.48	4.68	1.01

- a. Defined as acres cropped/acres cultivated. Cropping frequency multiplied by 100 is called intensity of cropping. Both measures indicate the degree of utilization if cultivated acreage.

Table16: Average Number of Milk Cows, Young Calves and Goat per Farm and Proportion of Farms having them by Tenure for the Selected Regions

Region and Tenure Class	% Farms Having				Number per Farm			Value per Farm, Taka
	Cows	Calves	Goats	None	Cows	Calves	Goats	
Mymensingh								
Part-operators	40	20	80	a	0.6	1.6	1.6	630
Owner-operators	51	57	67	14	0.7	0.9	1.6	484
Part-tenants	30	39	57	a	0.3	0.6	1.4	318
All Farms	46	51	65	16	0.6	0.8	1.6	458
Rangpur								
Part-operators	93	93	53	a	1.4	1.7	1.3	1,412
Owner-operators	62	57	40	17	1.1	1.6	2.4	1,255
Part-tenants	49	51	44	23	0.6	0.7	1.3	619
All Farms	61	60	44	17	0.9	1.2	1.7	1,006
Dinajpur								
Part-operators	78	80	54	11	1.5	2.7	1.5	1,518
Owner-operators	50	72	61	6	0.7	1.8	1.9	826
Part-tenants	53	67	57	13	0.7	1.4	2.0	798
Tenants	a	67	50	17	a	0.8	0.8	314
All Farms	61	74	56	11	1.0	2.1	1.7	1,105

a. None.

Table17: Average and Coefficient of Variation Yield per Acre of Major Crops by Tenure for the Selected Regions

Region and Tenure Class	Aman	Aus	Boro	Jute	Tobacco	S.cane	Wheat
Yield per acre in Maunds							
Mymensingh							
Part-operators	17.4	13.5	33.8	15.2			
Owner-operators	16.6	12.8	31.7	14.5			
Part-tenants	15.4	13.3	30.4	14.9			
All Farms	16.4	12.9	31.5	14.6			
Rangpur							
Part-operators	25.8	8.6	60.0	14.9	14.7		
Owner-operators	21.8	9.2	60.6	14.3	15.3		
Part-tenants	23.4	9.5	60.4	15.2	15.3		
All Farms	23.1	9.3	60.4	14.8	15.3		
Dinajpur							
Part-operators	16.7	12.2	29.4			424.1	12.7
Owner-operators	13.6	11.5	28.0			416.7	12.7
Part-tenants	13.2	11.2	28.3			449.2	12.1
Tenants	12.3	12.1	29.8			440.0	12.7
All Farms	14.8	11.8	29.1			431.6	12.5
Coefficient of Variation							
Mymensingh							
Part-operators	21.8	22.2	2.4	9.9			
Owner-operators	21.4	28.9	16.7	14.5			
Part-tenants	11.7	18.0	14.5	8.7			
All Farms	21.3	27.1	15.6	13.0			
Rangpur							
Part-operators	31.8	10.1	a	16.1	10.2		
Owner-operators	27.9	13.0	3.3	11.9	9.1		
Part-tenants	36.7	11.6	9.9	11.2	7.2		
All Farms	33.3	12.9	7.6	12.8	8.5		
Dinajpur							
Part-operators	52.1	32.0	25.5			12.7	30.7
Owner-operators	33.1	40.9	a			9.1	33.8
Part-tenants	42.4	24.1	41.3			10.3	46.3
Tenants	37.4	32.2	71.8			10.1	34.6
All Farms	48.6	33.0	42.0			11.7	36.8

a. Only one farm produced.

Table18: Value of Crops and Byproducts Produced per Farm and per Acre and Rent Received and Paid per Acre by Tenure for the Selected Regions

(Take)

Region and Tenure Class	Value of Crops & Byproducts per			Rent per Cultivated Acre	
	Farm	Cultivated Acre	Cropped Acre	Received	Paid
Mymensingh					
Part-operators	7,444	1,700	1,172	491	a
Owner-operators	6,038	1,691	1,059	a	a
Part-tenants	5,208	1,973	1,063	a	764
All Farms	5,918	1,741	1,063	b	b
Rangpur					
Part-operators	12,282	3,275	1,675	161	a
Owner-operators	9,406	2,613	1,470	a	a
Part-tenants	6,362	2,586	1,590	a	217
All Farms	8,529	2,725	1,550	b	b
Dinajpur					
Part-operators	9,370	1,305	1,230	262	a
Owner-operators	6,424	1,018	1,157	a	a
Part-tenants	5,378	1,127	1,179	229	416
Tenants	6,083	1,217	1,057	a	580
All Farms	7,444	1,211	1,191	b	b

a. None.

b. Not applicable.

Table19: Gross Value of Output, Gross Farm Income and Gross Margin per Farm by Tenure for the Selected Region

Region and Tenure Class	Crop	Others	Value per Farm (Taka)					
			Gross Output	Rent Received	Rent Paid	Gross Income	Variable Costs	Gross Margin
	1	2	3=1+2	4	5	6=3+4-5	7	8=6-7
Mymensingh								
Part-operators	7,444	a	7,444	805	a	8,249	1,123	7,126
Owners-operators	3,038	36	6,074	a	a	6,074	794	5,280
Part-tenant	5,208	53	5,261	a	795	4,466	567	3,899
All Farms	5,918	38	5,956	40	183	5,813	758	5,055
Rangpur								
Part-operators	12,282	188	12,470	575	a	13,045	3,784	9,261
Owner-operators	9,406	293	9,699	a	a	9,699	3,348	6,351
Part-tenants	6,362	554	6,916	a	271	6,645	2,068	4,577
All Farms	8,529	389	8,918	86	117	8,887	2,863	6,024
Dinajpur								
Part-operators	9,370	14	9,384	2,494	a	11,877	1,699	10,178
Owner-operators	6,424	79	6,503	a	a	6,503	1,106	5,397
Part-tenants	5,378	117	5,495	64	794	4,765	1,017	3,748
Tenants	6,083	132	6,215	a	2,902	3,313	1,229	2,084
All Farms	7,444	64	7,508	1,167	416	8,259	1,360	6,899

a. None

Table20: Relative Share of Fixed Resources, Output and Income by Tenure for the Selected Regions

Region and Tenure Class	% of Total									
	Farms	Land			Fixed Labor	Fixed Capital	Variable Costs	Gross Output	Gross Income	Gross Margin
		Owned	Cultivate	Cropped						
Mymensingh										
Part-operators	5	9.3	6.4	6.7	4.1	6.9	7.4	7.2	7.1	7.0
Owner-operators	72	79.3	75.7	74.0	77.4	78.0	75.4	73.4	74.2	75.3
Part-tenants	23	11.4	17.9	20.3	18.5	15.1	17.2	20.4	17.7	17.7
All Farms	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Rangpur										
Part-operators	15	35.0	18.0	20.0	17.3	22.2	19.8	21.0	22.1	23.1
Owner-operators	42	48.3	48.2	48.8	44.3	46.0	49.11	45.7	45.8	44.3
Part-tenants	43	16.7	33.8	31.2	38.4	31.8	31.11	33.3	32.1	32.6
All Farm	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Dinajpur										
Part-operators	46	78.6	53.5	56.6	53.7	56.8	57.5	57.5	65.6	67.2
Owner-operators	18	11.7	18.4	16.0	16.9	14.6	14.6	15.6	14.1	14.0
Part-tenants	30	9.7	23.2	21.9	25.2	25.5	22.5	21.9	17.2	16.1
Tenants	6	0.0	4.9	5.5	4.2	3.1	5.4	5.0	3.1	2.7
All Farms	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table21: Average Value of Variable Costs per Farm and Distribution among Components by Tenure for the Selected Region

Region and Tenure Class	Wages	Fertilizers	Seed	Others	Total Cost
Value in Taka per farm					
Mymensingh					
Part-operators	782	2	292	47	1,123
Owner-operators	471	15	276	33	794
Part-tenants	256	1	258	52	567
All Farms	437	11	272	38	758
Rangpur					
Part-operators	2,956	147	302	379	3,784
Owner-operators	2,533	119	258	438	3,348
Part-tenants	1,485	70	189	324	2,068
All Farms	2,146	102	235	380	2,863
Dinajpur					
Part-operators	825	137	625	112	1,699
Owner-operators	531	86	415	74	1,106
Part-tenants	441	97	378	101	1,017
Tenants	557	130	382	160	1,229
All Farms	641	115	499	105	1,360

Table22: Man Units of Fixed Labor Available and Man-Days of Labor Casually Hired per Cropped Acre by Tenure for the Selected Regions

Tenure Class	Mymensingh		Rangpur		Dinajpur	
	Man-units	Man-days	Man-units	Man-days	Man-units	Man-days
Part-operators	0.24	20	0.34	50	0.29	25
Owner-operators	0.37	13	0.36	50	0.32	22
Part-tenants	0.37	13	0.36	50	0.32	22
Part-tenants	0.31	8	0.48	46	0.35	22
Tenants	a	a	a	a	0.23	22
All Farms	0.34	12	0.39	49	0.30	24

a. Not applicable.

Table23: Average Daily Wage Rate for Casually Hired Labor by Tenure for the Selected Regions

Tenure Class	Mymensingh Taka/day	CV	Rangpur Taka/day	CV	Dinajpur Taka/day	CV
Part-operators	6.23	17.0	8.07	6.7	4.38	11.4
Owner-Operators	6.25	14.0	7.87	9.6	4.34	10.4
Part-tenants	5.98	15.5	8.06	9.4	4.40	9.3
Tenants	a	a	a	a	4.27	12.6
All Farms	6.10	14.2	7.98	9.2	4.37	1.3

CV. Coefficient of Variation.

a. Not applicable.

Table24: Average Quantities of Fertilizers Applied per Acre by Tenure for the Selected Regions^a

Tenure Class	Maunds Fertilizers Applied per Acre					All crops
	Rangpur			Dinajpur		
	Boro	Tobacco	All Crops	S.Cane	Boro &Wheat	
Part-operators	1.60	3.78	0.67	2.31	2.00	0.82
Owner-operators	2.06	3.40	0.64	3.29	2.03	0.61
Part-tenants	2.10	3.07	0.57	3.31	1.51	0.89
Tenants	b	b	b	3.48	1.61	1.06
All Farms	1.95	3.37	0.62	2.72	1.91	0.79

a. Excluding Mymensingh where only 16 farms applied small quantities of nitrogenous fertilizer.

b. Not applicable.

Table25: Proportion of Farms Borrowed and Average Value of Borrowing per Farm by Tenure for the Selected Regions

Region and Tenure Class	% Farms Borrowed	% Total Borrowing	Value per Farm, Taka	
			a	b
Mymensingh				
Part-operators	20	0.7	200	40
Owner-operators	67	70.5	418	278
Part-tenants	90	28.5	409	355
All Farms	69	100.0	412	284
Rangpur				
Part-operators	20	5.2	423	85
Owner-operators	48	56.1	681	324
Part-tenants	70	38.6	313	218
All Farms	53	100.0	458	243
Dinajpur				
Part-operators	74	55.5	1,074	869
Owner-operators	78	20.2	949	738
Part-tenants	73	21.7	649	476
Tenants	100	2.6	283	283
All Farms	76	100.0	865	658

a. Excluding non-borrowers.

b. Including non-borrowers.

Table26: Distribution of Farms by Source of Credit and Tenure for Dinajpur

Tenure Class	Source of Credit				MOS	Total Farms Borrowed
	Cooperative	BKB	SMC	P		
Part-operators	4	9	8	a	13 ^a	34
Owner-operators	1	5	3	1	4	14
Part-tenants	7	2	2	6	5 ^b	22
Tenants	2	1	c	3	c	6
All Farms	14	17	13	10	22	76

BKB. Bangladesh Krishi Bank

SMC. Sugar Mills Corporation

MOS. More than one source

p. Private

a. Mostly BKB

b. Mostly Private

c. None.

