CHAPTER IV

AGRARIAN STRUCTURE

INTRODUCTION

In 1951 the United Nations defined agrarian structure as the institutional framework of agricultural production. It includes, in the first place, land tenure, the legal or customary system under which land is owned; the distribution of ownership of farm property between large estates and peasant farms or among peasant farms of various sizes; land tenancy, the system under which land is operated and its product divided between operator and owner; the organization of credit, production and marketing; the mechanism through which agriculture is financed, the burdens imposed on rural population by governments in the form of taxation; and the services supplied by the governments to rural population, such as technical advice and educational facilities, health services, water supply and communications.[1] Daniel Thorner defined agrarian structure as network of relations among various groups of persons who draw their livelihood from the soil.[2] According to Sunil Sen, "By agrarian structure, we

---

1. Land Reform: Defects in Agrarion Structure as obstacles to Economic Development, United Nations, New York, 1951, P.4-5.

2. Daniel Thorner, Agrarion Prospects in India, University Press, Delhi, 1956, P.2.

mean the institutional framework of agricultural production, which includes land tenure system, distribution of ownership of land between large landowners and small peasants, tenancy system, the burdens imposed on the peasants by the government and the landowners."[3] Stavenhagen offered the definition as "agrarian structure is generally understood to mean a set of institutions, norms (both written and unwritten) and social, political and economic relationships governing the access to and use of land as a productive resource."[4]

The central question of economic development of a country is how well a society can produce and distribute material welfare. In countries where agriculture is the main source of livelihood, man's relation with land is the most important factor that affects allocation of resources, incentives for improvement and innovation and distribution of income. From the point of view of the problem at hand, namely poverty, it may be stated that, agrarian structure affects the pace of agricultural growth and the spread effect. It affects growth and its percolation and thereby affects changes in the level of poverty.

---

3. Sunil Sen, Agrarian Relations in India, 1793-1947, New Delhi, 1979, P.1.

4. Abu Abdullah, Modes of Production and Agrarian Structure — An Exploratory Analysis, Chr. Michelsion, Institute, Working Paper, N.(4 Bergen, 1978, P.1.

In an agrarian society land creates an important basis for social cleavages. Those who own land not only maintain a better standard of living than those who do not own it, but the former can exercise a direct control over the livelihood of the latter because of the scarcity of land. Therefore, in the context of agrarian society, landownership is a vital factor. It is seen from the definitions of agrarian structure given above that central focus of most of the definitions is land. Therefore, it may be told that agrarian structure of a country is a related component of various aspects of land like landownership land distribution etc. Perhaps for this reason Andre Beteille considered "ownership, control and use of land" as a starting point in the study of agrarian structure.[5]

Now coming to the agrarian structure of Bangladesh, we study the agrarian structure of the country under the following five headings: (1) Size of agricultural holdings; (2) Fragmentation of land holdings; (3) Distribution of land holdings; (4) The nature of tenancy; (5) Phenomenon of landless labourers. It may be mentioned that we discuss these issues only in so far they have a bearing on the problem under study namely, relationship of poverty to agrarian structure. The present chapter consists of four sections.

---

5. Andre Beteille, Studies in Agrarian Social Structure, Oxford University Press, Delhi, 1974, P.1.

These are : (1) Tenancy, (2) Landlessness, (3) Impact of Agrarian Structure on Growth, (4) Growth and its Percolation.

1. TENANCY

Tenancy is a system of holding a piece of land by a non-owner farmers for a particular period on payment of particular amount of rent for the contract period of holding that piece of land. The extent of tenancy can be seen from two angles. In the first case, the proportion of cultivators dependent on hired land out of total number of cultivators and in the second case proportion of hired land out of total owned land. According to the land occupancy survey (LOS) of 1977 proportion of tenant households out of total farm households was 38.8 per cent. Proportion of land cultivated by tenants was 22.9 per cent of total owned land excluding homestead land.

The traditional tenancy system is in operation in Bangladesh. It means that large landowners extract surplus by renting out land to the small and marginal farmers i.e. to the weaker classes who cling to the tiny holdings. Many factors are associated with existence of traditional tenancy in the country. These are discussed below.

In Bangladesh, pressure of population on already over-crowded land is increasing day by day as a result of which tiny land holdings are becoming tinier, making human labour

cheaper than capital. According to the 1983-84 Agricultural Census Report, small farm households owning upto 2.49 acres of land, constituted 70.3% of the total farm households but owned 29% of the total land operated; the medium farm households owning upto 7.49 acres of land constituted 24.7% of the total farm households and shared about 45% of the total farm area. The large farm households who own land more than 7.5 acres constituted about 5% of the total farm households but had more than one fourth (25.9%) of the farm area.[6]

The above figures indicate that small farmers though larger in number own little land to cultivate and use their labour and form a bigger section of labour surplus households. Therefore, in Bangladesh economy with a backward agrarian technology labour is the dominant input of production. The small and marginal farmers are better endowed with this input. Due to small and uncertain labour market and dwarf size of the non-agricultural sector, these small and marginal farmers have limited alternatives to use their excess labour outside their own farms. In order to maximize their family incomes they use their labour intensively in the land they own or rent in. As a result yield per acre of smaller farms is greater than on larger farms. This has been shown by a study conducted by Mahabub Hossain in Mymensingh and Dinajpur

---

6. The Bangladesh Census of Agriculture and Live-stock: 1983-84, Vol.1, Bangladesh Bureau of Statistics, 1986, P.32.

Districts of Bangladesh.[7] This induces large farmers to rentout land to small and marginal farmers. There are also some other factors behind renting out land by the large landowner such as (i) traditional social values inhibit the big landowners from self cultivating land; (ii) renting land in small parcels to a number of tenants, the land owner may create a group of people who can be used to support them in village politics, local conflicts and win them in election; (iii) landowner may not be able to find the right number of hired labour at the time of necessity which may hinder production and thinking the situation ahead landowner may prefer to rent out his land; (iv) Many landowners prefer to rent out land to avoid problem of supervision in case of cultivation of land by hired labour. In case of cultivation to be done by hired labour adequate supervision plays an important role for maximum utilisation of hired labour. Adequate supervision needs experience also.

There are also some factors behind renting in land by the small and marginal farmers instead of working as hired labour. These are: (i) due to unforseen circumstances like vagaries of nature and the cultivators' decisions, there are uncertainties of selling one's labour in the market every day. Therefore, people may like to avoid the risk of working as

---

7. Mahabub Hossain, "Agrarian Structure: Some considerations of Equity, Productivity and Growth" in Wahiduddin Mahmud (ed), Development Issues in an Agrarian Economy-Bangladesh, Centre for Administrative Studies, 1981.

hired labour and would prefer to take land on rent where he can use his labour on his own way; (ii) casual employment implies a standard time of work but if somebody takes land on rent he can work for longer time as at his own farm; (iii) in South Asian societal setting sharecroppers enjoy superior status than wage labourers. Therefore, for psychological and social reasons one would prefer to rent in land than work as wage earner.

While data regarding dependence of various groups of cultivators on land rental market as a tenant or as a landlord is not available at the national level, similiar data from two areas of Bangladesh may be used here to examine the situation.

Table - 1

Importance of Tenancy to Different Landownership Groups, 1974

Ownership Groups (Acres)	Phulpur		Thakurgaon	
	Percent of farms		Percent of farms	
	Rent in	Rentout	Rent in	Rentout
1	2	3	4	5
Upto 2.0	60.9	Nil	76.8	Nil
2.0 to 3.5	32.1	3.6	70.6	5.8
3.5 to 5.0	35.8	7.2	44.4	Nil
5.0 to 7.5	4.8	14.3	25.0	62.5
Over 7.5	Nil	50.0	8.3	91.7

Source : Mahabub Hossain, Agrarian Structure and Productivity in Bangladesh. Unpublished Ph.D. Thesis, Clare College, Cambridge, 1977, P.98.

It is clear from the above table that in case of both areas, dependence on rental markets as tenants is inversely related with the size of the ownership. As it is observed from the table that significant majority of farms owning up to two acres of land were tenants but they were less and less in the upper landowning groups. Similarly in case of both areas, an overwhelming majority of farms owning more than 7.5 acres of cultivable land were landlords and were less in proportion in the lower groups.

In Bangladesh reverse type of tenancy is also observed. It means that marginal farmers rent out their small piece of land to the richer households and hire themselves out as wage labourers. That happens when the marginal landowner due to the economic hardship can not maintain cost of cultivation of the land. On the other hand, following the inflow of modern inputs in the rural areas medium and large farmers started to rentin land in larger proportion. They do so in order to realize commercial profit.

Data regarding reverse tenancy at the national level is not available. A survey of two villages conducted by Atiur Rahman provide some data in this regard. The villages surveyed are Gopinathpur village of Jamalpur District and Hatshahpur village of old District of Bagra. The Author identified Gopinathpur as village 1 and Hatshahpur as village 2.

Table - 2

Renting in/out of Land : 1972-81

Land Ownership Groups	Percent of Households Renting in some Land		Percent of Households Renting out some Land	
	1972	1981	1972	1981
1	2	3	4	5
Village-1				
1.Less than 2.5 Acres	16.38	16.44	6.03	10.52
2.7.51 and above	7.14	13.33	60.00	36.66
Village-2				
1.Less than 2.5 Acres	13.81	51.21	9.09	10.34
2.7.51 and above	0	12.50	100.00	62.50

Source : Atiur Rahman, Peasants and Classes - A Study in Differentiation in Bangladesh, University Press Limited, 1986, P.158.

From the above table it may be observed that in 1981 in village 1, 13.33% of the top landownership with more than 7.50 acres rented in some land, The proportion was 12.50% in village 2. These proportions were lower in 1972. That means proportions of big landowners who rented in land increased during the period from 1972-1981. At the same time proportions of households who rented out land in the poorer landowning group (i.e. land owning less than 2.5 acres)

both in village 1 and village 2 increased over the period from 1972-81. The proportion of households renting out some land in the top group declined in village 1 and village 2.

Tenant households consist of owner-cum-tenant households and pure tenant households. Data available from various censuses and surveys show that while the proportion of owner-cum-tenant households out of total farm househods decreased from 37.6 per cent in 1960 to 28.1 per cent in 1978, proportion of pure tenant households increased from 1.6 per cent in 1960 to 7.4 per cent in 1978.[8] This situation of decrease of owner-cum-tenant and increase of pure tenant households also is confirmed by data from other sources. For example, it is found from data compiled by Alamgir[9] that the percentage of owner-cum-tenants in total

---

8. (1) Pakistan, 1960 Census of Agriculture (Vol.1 East Pakistan), Karachi, Government of Pakistan, 1969, Table IV, P.31; (2) Bangladesh, Master Survey of Agriculture in Bangladesh, (Seventh Round, Second Phase), Dhaka, Govt. of Bangladesh (Reprint), 1972, Table 11, P.11-12; Quoted in F.T. Jannuzi, and J.T. Peach, Bangladesh: A Profile of the countryside, USAID, 1979, P.18; (3) Summary Report of the 1977 LOS of Rural Bangladesh, Bangladesh Bureau of Statistics, Table IV; (4) Summary Report of the 1978 LOS, Bangladesh Bureau of Statistics, Table IV.

9. Mohiuddin Alamgir, Bangladesh: A case of below Peverty Level Equilibrium Trap, Bangladesh Institute of Development Studies, Dhaka, 1978, P.112.

farm households declined from 37 per cent in 1960 to 27 per cent in 1974 and the average size of their landholdings (operational) declined from 4.3 acres in 1960 to 4.0 acres in 1974. On the other hand, the average size of farm of pure tenants remained stable at 2.4 acres while their share of total farm households increased from 2 per cent to 6 per cent during the same period. Similar data have been compiled by Abdullah et al.[10] which tells about the increase of incidence of pure tenancy in terms of both percentage of farm households and area operated by them between 1960 and 1967-68. From this, it may be concluded that during this period some owner-cum-tenant households has lost their land and become landless tenants. Therefore, Abdullah et al. suggest, "it would appear that some kind of process was indeed at work during these years, working towards eliminating the hybrid category of owner-cum-tenant, mainly to the benefit of pure tenancy."[11]

2. LANDLESSNESS

Considering wide prevalence of Landlessness in Bangladesh and also considering the fact that landlessness is a matter which is often considered to be both the causes

---

10. Abu Abdullah et al., "Agrarian Structure and the IRDP - Preliminary Considerations", Bangladesh Development Studies, Vol.IV, N.2, 1976, P.210-211.

11. Ibid., P.211.

and symptom of chronic poverty, insecurity, indebtness and powerlessness of the majority of the households,[12] consisting of a "Heterogeneous group of landless workers, tenants and sharecroppers, marginal cultivators, and poor artisons and labourers".[13] We intend to put some light on this issue in this section.

Landless labour which is the focus of our discussion of this section was practically unknown during the feudal period because private property was not institutionalised and the dispossession of land through sale, mortgage, will and gift was not permissible.[14] Landlessness in the Indian sub-continent started to occur with institutionalisation of private property by the British after colonialisation of India.

Extent of Landlessness

In this section we shall focus on the growth of landlessness in Bangladesh over time from data available from various sources. But due to fragmented and scattered

---

12. Radha Sinha, Landlessness: a Growing Problem, FAO, Rome, 1984, P.1.

13. M.J. Esman and Associates, The landlessness and near landlessness in Developing countries, Cornel University Press, N.Y.,1978, P.ii, Quoted in Radha Sinha, Op.cit., P.1.

14. Tarachand, Society and State in Mughal Period, Government of India Press, Delhi, 1961, P.48-49; A.K.Nazmul Karim, Changing Society in India and Pakistan, Oxford University Press, Pakistan, 1956, P.102-106.

nature in time and space and immensely divergent methodologies of the studies from where data are available it is very difficult to discuss any trend of landlessness. However, this can give an idea regarding change of landlessness in the country over periods of time.

We start with examination of numerical magnitude of landless class after abolition of zamindari system. Immediate after State Acquisition and Tenancy Act (EBSATA), first population census which provides data regarding landless agricultural labour out of total agricultural labour force was in 1951. In fact, it was first population census in East Pakistan too. One thing should be made clear that agricultural labourers might or might not be landless. Though it may be assumed that in most cases they are landless, there may be a good number who may have some land but are forced to supplement their farm income by income from labour. In present day terminology they are the 'near-landless'. In any case, the category of agricultural labourers actually overestimate the size of the landless population. On the other hand, it may underestimate it. The latter would occur when categories like sharecoppers and tenants are excluded. Afterwards population censuses were in 1961, 1974 and in 1981. But while 1961 and 1974 Censuses provide data on landless agricultural labourers, no such information is available from 1981 Census. Thus landless agricultural labourers out of total agricultural labourforce during the three points of time i.e. 1951, 1961 and 1974 may be compared. This can be

observed from the following table:

Table - 3

Landless Agricultural Labourers

Census Years	Landless Agricultural Labourers as Percentage of Total Agricultural Labour Force
1	2
1951	14.3
1961	18.9
1974	24.9

Source : For 1951: Population Census Report 1951. Quoted in Q.K. Ahmad, Assessment of Rural Landlessness in Bangladesh (Draft), FAO, 1984, P.10. For 1961 and 1974: Bangladesh Population Census Report (National Volume), 1974, Bangladesh Bureau of Statistics, Table 44, P.44; Q.K. Ahmad, Op.cit., Table 31, P.21.

From the above table it is seen that landless agricultural labourers out of total agricultural labour force increased from 14.3% in 1951 to 18.9% in 1961 and then finally to 24.9% in 1974. Another source indicates that as a proportion of cultivators the landless labourers increased substantially. The increase in the absolute number of landless labourers was staggering; in one-and-a half decade since 1951 (i.e. 1951-1967/68), they increased by two-and-a quarter times (from 1.51 million in 1951 to 3.40 million in 1967/68), an annual compound rate of growth of 5 1/4 per cent.[15]

15. A.R.Khan, "Poverty and Inequality in Rural Bangladesh", Poverty and Landlessness in Rural Asia, International Labour Organization (ILO), Geneva, 1977, P.156.

The Agricultural Census of 1977 provide detailed district and division wise data of landless class. The Census estimated number of households of landless agricultural labourers in the country and then calculated their percentage in the rural areas. In this survey it was defined that Households of agricultural labourers consist of those households who do not operate any land but whose main source of income is from agricultural labour.[16] The Census did not mention anything in this connection regarding the ownership status of the household. This definition of landlessness differs from those which defines landlessness on the basis of ownership status of the households. For example, in definitions of landlessness on the basis of ownership status include sharecroppers and tenants who do not own any land. But as per the definition of 1977 Agricultural Census they would be excluded from landless class as they operate certain amount of land. However, according to 1977 Agricultural Census percentage of landless agricultural labour households in the rural areas was 29 per cent.

The next major survey providing comprehensive data base on landlessness was conducted by the Bangladesh Bureau of Statistics jointly with the USAID in 1977 under the name of Land Occupancy Survey (LOS). Another survey of this kind

---

16. Report on the Agricultural Census of Bangladesh 1977 (National Volume), Bangladesh Bureau of Statistics, 1981, P.22.

was conducted in 1978 after 18 months of the first one. The surveys were conducted in 137 villages in 1977 and in 128 villages in 1978.[17] They deserve the representativeness of a relatively widely based national level data. In these surveys landless families were divided into three groups. These are: Landless- I having no homestead or other land; landless-II owning homestead only but no other land; landless-III owning some agricultural land upto 0.5 acre other than homestead. According to 1977 LOS, 11.07, 32.79 and 15.29 percentages of households were in the category of Landless-I, Landless-II and Landless-III respectively. In 1978, the percentages were 14.69, 28.79 and 21.29 respectively. It should be added here that landless-II (i.e. households owning homestead only but no other land) includs landless-I (i.e. having no homestead or other land.)[18]

Therefore, in 1977 about 33 per cent of rural households were either absolutely landless or had at best the ownership of only the homestead land. Taking into consideration the rural households owning agricultural land upto 0.5 acre (landless-III), the extent of rural landless households rose upto (32.79 + 15.29)= 48.08 per cent in 1977. This 48.08

---

17. For further details of methodology and quality of data including the procedure of selection of villages, Please see, F.T.Jannuzi and J.T. Peach, Op.cit., Appendix A, P.95-103.

18. Ibid. Table D-III, Appendix D, P.112; Table-IV, Appendix E, P.123.

per cent of households are termed as functional landless households. In 1978 the percentage of households who were absolutely landless or had at best the ownership of only the homestead land were about 29 per cent while the percentage of functional landless became 50.08 per cent in 1978.

One point may be added here about the comparability of data between 1977 LOS and 1978 LOS. This can be explained with the statement of MahabubHussain who wrote "the results of 1977 and 1978 surveys are used by some to show that landless and land concentration in Bangladesh are increasing rapidly. It is argued that within a period of 18 months, the percentage of households, having no land increased from 11 to 15 per cent and households who are functionally landless increased from 48 to 50 per cent. Every one with experience of rural surveys in Bangladesh knows that it is extremely difficult to get accurate information on land-ownership from the respondents, however well trained and motivated the enumerators are.....Thus the differences in findings may be partly due to better reporting in the survey of 1978. This suspicions gains ground when one looks at the total amount of land recorded by the two surveys. The total number of rural households is estimated at 11.85 million by 1977 survey and 12.03 million by 1978 survey (an increase of 1.5 per cent). The amount of land owned is estimated at 19.35 million acres in 1977 and 20.81 million in 1978. This shows an increase of 7.5 per cent in land-

ownership for the country as a whole, which is absurd because very little land reclamation has taken place in this country. Obviously the 1977 survey under-estimated the amount of land owned because of under reporting by some households. The total area under farm holdings is estimated by the agricultural census of 1977 at 21.96 million. Thus, the 1978 survey figure of 20.81million acres of land owned by rural households seems closer to the census figure than 19.35 million acres estimated by the 1977 survey."[19]

In line with the 1977 and 1978 LOS, 1983-84 Agricultural Census has also estimated the percentage of landlessness categorizing into Landless-I, Landless-II and Landless-III. The percentages are 8.7, 19.6, 28.2, respectively. But the Census report regarding comparability with 1977 and 1978 LOS mentioned "Due to some limitations in the Census questionnaire and consequent tabulation, the census data could not be tabulated strictly in a comparable manner. However, landless-I is comparable. The other two categories are not comparable because, (i) different definition of homestead area were applied in the survey and the census, (ii) it was not known whether the 'other' land as described in the LOS was cultivated or not, and (iii) the landless-III under

---

19. Mahabub Hossain, "A Note on the Trends of Landlessness in Bangladesh", The Bangladesh Development Studies, Vol.XIV, June, 1986, N.2, P.95.

Census includes homestead area within 0.5 acre whereas LOS excludes homestead area."[20]

Now we shall see the percentage of landless-I households in 1983-84 Agricultural Census compared to 1977 and 1978 LOS. Landless-I in 1977 and 1978 were 11.07 per cent and 14.69 per cent respectively while in 1983-84 it was 8.7 per cent. It has been explained before regarding the difference between 1977 and 1978 LOS. Regarding the difference of percentages between 1977 and 1978 LOS in the one side and 1983-84 Agricultural Census in the other, the Census report itself has mentioned "LOS was a very small sample (3%) and therefore contains a high sampling error".[21] The report added, "The rate of non-sampling error could be high because some local sample households might have introduced themselves to the enumerators sent from Dhaka to be completely landless in case they had a very insignificant land."[22] It may be added here that 1983-84 Agriculture Census report, along with three categories of landless, included another category of landless e.g. landless-II which is not available in LOS. As per Agricultural Census, Landless-IV indicates households having homestead area and cultivated area .51 to 1.00 acre (owned or taken from others). In 1983-84 there were 12.3 per cent landless-IV households.[23]

---

20. The Bangladesh Census of Agriculture and Livestock: 1983-84, Op.cit., P.69.

21. Ibid. P.69.

22. Ibid.

23. Ibid.

3. IMPACT OF AGRARIAN STRUCTURE ON GROWTH

There are some aspects of agrarian structure of the country which act as an obstacle to improvement in productivity of agriculture. One of the obstacles is the share-cropping system.

Share-Cropping

Sharecropping is the most common form of tenancy in Bangladesh. According to 1977 LOS 89 per cent of total tenanted land was under share tenancy.[24] Therefore, impact of share-cropping on growth is an important aspect. We shall examine this aspect here.

The insecurity of tenure and unfavourable terms and conditions in case of share-cropping practised in Bangladesh agriculture put disincentive effect on share-cropper in regard to adequate investment for agricultural development. Tenurial relationships are normally fluid and insecure based mostly on oral agreements. According to 1977 and 1978 LOS 70.9% and 62.4% respectively of the tenant households had share-cropping arrangement contracts which had lasted for three years or less. The terms and conditions are utterly unfavourable to the tenant so that the average tenant hardly gets more, and sometimes even less, return on his labour than he would get

---

24. Nazrul Islam, "Another attempt of land reform and its impact". Samaj Nirikkhan, N.9, 1983, P.32.

alternatively by selling his labour power in the market at the prevailing wage rate.[25] The share-cropper has to pay half of the crop to the landowner. According to the 1977 LOS, 93.3% of all tenant and owner-cum-tenant households reported payment of fifty per cent of the crop.[26] But the share-croppers have to bear full risks of production, own and supply most of the means of employment such as draft animals, plough and other agricultural implements. The share-croppers also bear almost the full cost of inputs e.g. seed, fertilizer, pesticides and irrigation facilities. The following table shows the ratios of inputs supplied by landowner and the tenant households in case of share-cropping arrangements.

Table - 4

Proportion of Supply of Agricultural Inputs by Landowner and Tenant Households, 1977

Item	Landowner Per cent of Total	Share-cropper Per cent of Total	Total
1	2	3	4
Seeds	0.59	99.41	100
Fertilizer	0.36	99.64	100
Irrigation facilities	0.03	99.97	100
Pesticides	0.22	99.78	100

Source : Summary Report of the LOS of Rural Bangladesh, 1977, Op.cit., Table VIII.

25. Stefen do Vylder, Agriculture in Chains - Bangladesh: A Case Study in Contradictions and Constraints, Zed Press, London, 1982, P.119.

26. F.T. Jannuzi and J.T. Peach, Op.cit., P.20.

From the table it can be seen that seed, fertilizers, pesticides and irrigation facilities are provided by share-cropper in more than 99% cases. As for institutional credit, land as collatoral is essential. Further due to bureacratic banking system the share-cropper particularly the pure tenants generally do not have access to institutional credit. Another tendency which has been unfavourable to the share-croppers is their replacement by hired labour. It happens mostly in those cases where tube-well irrigation has come into existence. The share-croppers who used to work the land before it was irrigated are evicted. With modern irrigation land owners find it more beneficial to organize production an irrigated land with wage labour, even when the share-croppers may be willing to accept as little as 25% instead of normal 50% of the crop as their share.[27] It is clear that share-cropping system in Bangladesh is an exploitative type of arrangement. Under this system of share-cropping tenants may not be interested in investment on leased-in land but may rather prefer to lease in more land, or in the absence of that, accept wage employment to augment their income G. Myrdal presented a similar argument when he wrote, "It is thus not irrational for a share-cropper

---

27. E. Jansen, "Choice of Irrigation Technology in Bangladesh", The Journal of Social Studies, Vol.1, N.5, 1979, P.16, Quoted in Stefen de Vylder, Op.cit., P.121.

to spread his efforts as widely as possible, either by renting more land if he can do so, by accepting wage employment to supplement his income in lieu of intensifying cultivation on his present plot."[28] Jannuzi and Peach said, "unless input costs are shared between land owner and share-cropper in (at least) the same proportions as the rental share, then a share-cropper will tend to use less of any given variable input than an owner-cultivator."[29] M.R. Zaman argued that share-croppers' limited access to sources of institutionalised credit is a serious constraint to investment in new agricultural technology. He added that unless the credit facilities are extended to them or it is made mandatory on the landowners to pay a part of the costs of modern inputs, in advance, the share-croppers will remain handicapped with respect to efforts at increasing productivity. The inability of share-croppers to get an access to credit facilities will not only affect the introduction of modern inputs on the share-cropped land but will also have effects on the land they own. Since share-cropping involves 25 to 50% of farmers in Bangladesh, inability of such a large percentage of farmers to finance

---

28. G. Myrdal, Asian Drama: An Enquiry into the Poverty of Nations, Vol.II, Penguin Press, London, 1968, P.1066.

29. F.T. Jannuzi and J.T. Peach, Op.cit., P.151.

adequately the costs of better farming practices will greatly reduce the chances of achieving the overall increase in agricultural productivity in Bangladesh.[30] According to an Asian Bank Study there is a strong case for tenurial reforms whenever tenants are tenant-at-will and are in constant danger of eviction. Under such circumstances productivity is likely to be raised by ensuring security of tenure and compensation for investment in leased land.[31] Ladejinsky adds weights to this agreement saying, "Insecurity of tenure combined with high rent adversely affect agricultural productivity, not to speak of tenants welfare. If this situation is to be reversed, a situation must be created that leads to a reasonable ratio between the farmers share in the effort and costs of production and his share in crop produced".[32]

---

30. M.R. Zaman, "Share Cropping and Economic Efficiency in Bangladesh", Bangladesh Economic Review, N.1, 1973, P.161.

31. Rural Asia: Challange and Opportunity, A Study Sponsored by the Asian Development Bank, Manila, Federal Publications, Singapore, 1977, P.234. Quoted in Hasnat Abdul Hye, Agrarian Reform for Bangladesh - The Continuing Debate, Bangladesh Administrative Staff College, Dhaka, 1982, P.9.

32. Wolf Ledejinsky, Agrarian Reform as Unfinished Business, Oxford University Press, 1977, P.356-357, Quoted in H.A.Hye, Ibid., P.9.

Disincentive effects of share tenancy can be assessed if performance on owned land compared to rented land under the same cultivator (owner-cum-sharecropper) is examined. The following table based on a survey conducted in 16 villages gives as idea about it.

Table - 5

Adoption of Modern Varities (MV) on Owned and Rented Land for mixed Tenant Farmers by Season : 1982

Seasons	Owner-cum-tenant farmers	
	% of owned land under MV	% rented land under MV
1	2	3
Aus	38.8	36.1
Aman	42.1	35.1
Boro	82.6	89.0
All seasons	49.8	46.5

Source : Mahabub Hossain, Nature and Impact of Modern Technology in Bangladesh, International Food Policy Research Institute, Washington, DC, 1987, (Draft), P.115

It is seen from the table that in all seasons taken together, tenants allocated smaller amount of land under MV in rented land compared to their owned land. Seasonwise, during the aman and aus seasons, the tenants allocated smaller portion of their rented land under the MV crops compared to the owned land. The above situation supports the hypothesis

of disincentive effects of crop sharing arrangements. Only during the boro season the tenants grow MV more. On the rented land compared to owned land. This may due to a stipulation by the landowner that the land can be rented only if it is cultivated with modern varieties. From this, another conclusion may be drawn that if the share-tenant were allowed to make production decisions freely, he would allocate less of labour and other inputs in the rented land and hence would produce less than can be produced from the same land by optimum utilisation of labour and other inputs. It has also been shown by some other researches that the productivity per unit of land is higher for an owner-cum-tenant on his own land than on the land he is cultivating on a share-cropping basis.[33]

In the crop sharing system landlords also receive only part of the total produce. Therefore, the landlords will generally not be interested in supplying capital equipment to the tenants or in undertaking productive investment on leased out land unless he can stipulate complementary input use and are able to vary share rental to their advantage.

---

33. Mahabub Hossain, "Desirability and Feasibility of Land Reform in Bangladesh", in M.K. Alamgir (ed), Land Reform in Bangladesh, Centre for Social Studies, 1981, P.107-108; Abdus Sattar Mandal: An Economic Analysis of Resource use with respect to farm size and Tenure in an area of Bangladesh; Unpublished dissertation, Wye College, University of London, 1979, Quoted in Elrik G. Jansen, Rural Bangladesh - Competition for Slarce Resources, Bergen, 1983, P.178.

Data collected by Rahman from two survey areas of Bangladesh namely Phulpur thana of Mymensingh District and Kotwali thana of Comilla District show the extent of participation in productive investment on land by landlords and tenants. Due to non-availability of recent data, old data have been used. But the present situation is not far different from what can be seen from the table.

Table - 6

Extent of Participation by Landlords and Tenants in Productive Investment in Rented Land, 1974/75

Area	Percent of landlords who invested on rented land	Percent of tenants who invested on rented land	Productive Investment per Acre on rented Land as compared to owned land (%)	
			Landlord	Tenant
1	2	3	4	5
Phulpur (Mymensingh)	12.5	13.0	13.3	28.1
Comilla	16.7	19.1	26.8	31.2

Source : Atiqur Rahman, "Surplus Utilisation and Capital formation in Bangladesh Agriculture", The Bangladesh Development Studies, Vol. VIII, N.4, 1980, P.39.

It can be seen from the above table that only a small proportion of landlords and tenants made productive investment on rented land. Per acre investment on leased land both by the landlords and tenants were low in comparision with

per acre investment on their owned land. It is clear that participation in Productive Investment on rented land is low-both in terms of proportions of landlords and tenants making such investments and the magnitude of investment compared to that in their owned land. Thus evidence supports the view that the existing share cropping system in Bangladesh may have disincentive effect in terms of lower productive investment by landlords as well as tenants.

Inspite of the fact that large farmers have surplus and also have preferencial access to cheap credit markets, their performance in respect of investment for capital formation in agriculture is not satisfactory. The large farmers usually use their surplus for land purchase and sales, for corspicuous consumption like expenditure on social ceremonials and construction of houses, for investment in trade and business. On the other hand, small farmers and tenants utilize a larger portion of their surplus for productive investment in agriculture compared to large landlords. It has been shown in the following table-7.

Thus from the above discussion, it may be concluded that the transfer of surplus from small farmer to large farmers through share-cropping system, slows down the growth of capital formation and technological improvement in agrarian economy of Bangladesh.

Table - 7

Pattern of Surplus Utilisation in Bangladesh, 1974

Income, Surplus and Investment	Mymensingh			Comilla		
	Large Land Owners With More Than 7.5 Acres of Land	Small Land Owners With Landless Than 2.5 Acres	Tenants With Some Rented Land	Large Land Owners With More Than 7.5 Acres of Land	Small Land Owners With Landless Than 2.5 Acres	Tenants With Some Rented Land
1	2	3	4	5	6	7
1. Income (Taka/Household)	21998	5406	6769	22955	4839	5248
2. Surplus (Taka/Household)	9883	239	329	8761	336	473
3. Surplus % of Income	44.9	4.4	4.9	38.2	6.9	9.0
4. Surplus utilisation (as % of total surplus)						
(a) Non-productive investment (e.g.land purchase, acquisition of financial assets, acquisition of consumer durables, construction and repair other than agricultural, education, social ceremony, trade and business, miscellaneous)	87.6	36.0	30.3	82.3	49.1	62.8
(b) Productive investment (e.g.Agricultural implement, drought animals, irrigation, land improvement, agricultural construction, miscellaneous)	12.4	64.0	69.6	17.7	50.9	37.3

Source : Mahabub Hossain (1981), Op.cit., table-8, P.29.

Some Other Aspects of Agrarian Structure

There are some other aspects of agrarian structure of Bangladesh which hinder private investment in agriculture. These are (i) average small size of agricultural holding, and (ii) fragmented and scattered over wide area characteristics of the holdings. There is a decreasing trend of average size of holding in Bangladesh. As a result average size of holding decreased from 3.5 acres in 1977 to only 2.3 acres in 1983-84.[34] Thus average size of holding in Bangladesh is small and moreover it is also decreasing. Average number of fragments per farm holdings are shown in the following table:

Table - 8

Average Number of Fragments Per Farm Holdings in Bangladesh 1977 and 1983-84

Size groups (Acres)	1977	1983-84
1	2	3
1. Small holdings (under 2.5 acres)	5.9	4.6
2. Medium holding (2.5 acres to 7.49 acres)	11.5	11.3
3. Large holding (7.5 acres and above acres)	20.4	19.4
All holdings	9.6	7.0

Source : Socio-Economic Indicators of Bangladesh, Bangladesh Bureau of Statistics, 1986, P.192.

34. Bangladesh Census of Agriculture and Livestock: 1983-84, Op.cit., P.32.

The table shows that average numbers of fragments for all holdings together were 9.6 in 1977 and 7 in 1983-84. Average number of fragments in 1977 were 5.9, 11.5 and 20.4 respectively for small holdings, medium holdings and large holdings. These numbers were respectively 4.6, 11.3 and 19.4 in 1983-84. Such small holdings can not offer much scope for large and lumpy investment and can not economically employ modern farm machines and implements. Small and fragmented land holding creates obstacles against productive investment for agricultural growth.

Irrigation

There is another aspect of the impact of agrarian structure upon agricultural productivity around the water distribution for irrigation purposes. Bangladesh being a country of small and fragmented farms most of the irrigation methods practised in the country need joint and collective actions of farmers for their operation and maintenance. For example, only traditional lifting devices such as dhones and swing baskets can be managed by individual effort. A diesel powered Low-lift Pump (LLP) can irrigate 60 acres. Therefore, management and operation of LLP without joint collaboration of farmers is not possible. Construction and maintenance of tanks or small reservoirs; construction of large dams and canals need more collective efforts as they would need sufficient amount of investment in terms of land, labour and other necessary expenses. There are three types

of mechanical ground-water irrigation technologies practised in Bangladesh. These are Hand tube-wells (HTW), Shallow tube-wells (STWs) and deep tube-wells (DTWs). Among them HTW can irrigate 0.5 to 1 acre and can be used by individuals. STWs are of intermediate type and can irrigate 15 to 20 acres. These are installed both by government and by farmers. DTWs are powered by electric and diesel engines and can irrigate 60 acres or more. Therefore, efficient utilisation of DTWs requires an institutional means of allocating and distributing water among individual cultivators. They are invariably installed by the government with "irrigation groups", exercising subsequent operational control.

Lack of cooperation among the potential irrigators and the dominance of irrigation groups by a few powerful individuals with whom the interest of the rich class dominate, contribute to systematic under utilisation of DTWs. A 1977 survey of 115 DTWs in north-western Bangladesh, carried out by Rajshahi University researchers, found them to irrigate an average of 27 acres a piece - 45% of the minimum 60-acre command area assumed in the World Bank's Project appraisal.[35] A 1978 evaluation condlucted by the

---

35. M.A. Hamid, A Study of the BADC Deep Tube-well Programme in the North Western Region of Bangladesh, Rajshahi University, Department of Economics, Rural Development Series, No.7, 1977, P.33, Quoted in James K.Boyce, "A grarian structure and Agricultural growth in Bangladesh", Journal of Social Studies, N.31, 1986, P.11.

Department of Soil Survey of Rajshahi District found that only 30 out of 57 DTWs were operational, of these, 19 irrigated less than 30 acres. And only one irrigated more than 50 acres.[36] The Planning Commission reported that in 1976-77 only 46% of the 9,757 DTWs which had been sunk in Bangladesh were actually in operation; among these, the average irrigated area was 27.8 acres.[37] The Rajshahi University Survey reported that "The management committees of the irrigation groups are controlled by big farmers and where the small farmers are not cooperative, the big farmers, although few in number, are themselves utilising the wells.[38] The domination of the DTWs by few rich farmers negatively affects DTW capacity utilisation in several ways: (1) DTWs are sunk at locations which bring maximum coverage of the lands of the controlling group, rather than in a location which is optimal from the technical standpoint of maximisation of total irrigation coverage; (ii) favouritism in water allocation discourages the non-favoured cultivators from using DTW irrigation; (iii) in many cases the DTW controller uses irrigation water as an instrument to gain control of a

---

36. James K. Boyce, Op.cit., P.11

37. Ibid, P.11.

38. Ibid., P.12.

particular plot of land. The controller will deliberately withhold water to prove a land unirrigated. The price of unirrigated land is cheaper than the irrigated land. The controller will continue denying irrigation water until such time as control of the land can be obtained via mortgage, outright sale, or other means; in the meantime, the result would be underutilisation.

The exclusion of the small farmers from control or access to the DTW create social tensions. Joseph F. Stepanek, a USAID economist reported in 1979 that in one DTW project area, "Those farmers with influence have public wells located on their land. Those who have neither influence nor wells are becoming intolerant of the arbitrary windfalls enjoyed by a few." As a result, "half of the nearly 300 wells have been sabotaged with bricks and bamboo.[39] Thus such sabotages play a role also in under utilisation of DTW in the country.

This underutilisation is associated not only with DTW. Underutilisation problem is also associated with the publicly owned STWs. The planning commission reported operational STWs in Bangladesh to irrigate an average of 4.9 acres in 1976-77.[40] It may be mentioned that total

---

39. Joseph F. Stephanek, Bangladesh-Equitable Growth, Pergaman Press, New York, 1979, P.129.

40. James, K. Boyce, Op.cit., P.14.

capacity of a STW is 15 to 25 acres.[41]

Thus from the above discussion on water control it is borne out that unequal and fragmented agrarian structure of Bangladesh is an obstacle to collective action around the use of various irrigation measures. Problems in collective action contribute to the underutilisation of deep tubewells and shallow-tubewells which are very commonly used in the country. In many places manually operated hand tube-wells (HTW) for irrigation offer a more appropriate technology for ground water irrigation. It does not require collective action. The ability of smaller cultivators to afford HTWs and utilise them with family labour provides a strong equity argument for the promotion of HTW. But in the long run, however, full ground water development up to the limit afforded by annual recharge capacity would increase water-table oscillation, substantially reducing the ultimate HTW irrigation potential, in favour of STWs and DTWs.[42] Thus unequal agrarian structure of Bangladesh would create problems in proper water distribution in agriculture, thereby hindering agricultural growth potential of the country.

---

41. For more details for underutilisation of DTW, and STW and concerned aspect of the problem, James K. Boyce, Op.cit., P.1-18.

42. James K. Boyce, Op.cit., 15.

Conclusion

Now from the discussion on the impact of agrarian structure on agricultural growth performance it may be concluded that "Bangladesh agriculture seems to be in a low level productivity trap."[43] Most of the rural people depend on agriculture. For the small, marginal and landless rural people, crop sharing is a means for their survival. But it has been seen from the discussion above that share-cropping in Bangladesh context plays a negative role discouraging adequate agriculture investment and hindering productivity of agriculture. Present land distribution pattern and physical characterists of land holdings are not conducive to adoption of capital intensive techniques which are important for organizing production on capitalistic lines to enhance productivity of agriculture. Inequitous agrarian structure is an impediment to proper water distribution for irrigation which is an important component for agricultural development.

4. GROWTH AND ITS PERCOLATION

Distributional Effects of New Farm Technology

In Bangladesh growth oriented strategy of Green Revolution was initiated in the mid sixties. The Green Revolution was initiated in the belief that growth would

---

43. Mahabub Hossain, "Present agrarian structure and agricultural growth in the post partition period", Studies in Rural History, Bangladesh Ithihas Samit", 1979, P.130.

serve the problem of poverty through trickle down method. But this growth oriented Green Revolution strategy had very limited success. The new technology has been found to be more acceptable to larger farmers than the smaller ones and in areas where the Government has participated heavily in various institutional changes and large scale investment projects.[44]

In a micro survey in phulpur and in Comilla of Bangladesh, it has been seen that there is a positive relationship between farm size and adoption of HYV. That is adoption of HYV increases with the increase in size of farm. The following table-9 shows the relationship. It should be mentioned here that extent of adoption of HYV new technology can be measured in either of the two ways e.g. (1) by the proportion of households who have adopted the technology, (2) by the proportion of land devoted to HYV cultivation.

From the table it is seen that adoption of HYV in terms of farms or households increases with the increase of farm size both in case of Phulpur and Comilla.

---

44. Atiqur Rahman (1981), "Adoption of new technology in Bangladesh Agriculture: Testing some Hypothesis", in Wahiduddin Mahmud (ed), Op.cit., P.55-56.

Table - 9

Proportion of Farms Adopting the HYVs : Phulpur, Comilla, 1974/75

Size of Farms	Percent of Farms Adopting HYV	
	Phulphur	Comilla
1	2	3
1. Small	14	79
2. Medium	60	94
3. Large	73	100

Source : Atiqur Rahman (1981), Op.cit., P.61

In India also a number of studies made in the sixties to examine the distributional effects of new farm technology showed that new agricultural strategy with emphasis on the use of package of modern inputs and practices, had a built in bias towards the promotion of inequalities.[45]

Regarding the role of modern technology in agriculture on the rural poor it is generally assumed that with the application of HYV technology, labour input requirements

45. P.K. Bardhan, "Green Revolution and Agricultural Labourers", Economic and Political Weekly (EPW), Special number, July 19, 1970, P.1239-1246 and by the same Author, "Green Revolution and Agricultural Labourers - A Correction", EPW, November 14, 1970; B.K. Chaudhury "Income Disparity and HYV", EPW, Sept.26, 1970, P.A90-96; R.K. Sau, "Resource Allocation in Indian Agriculture", EPW, September 25, 1971, A106-116.

per acre will increase as a result of which demand for labour will also increase. Moreover, with the increase of income of the farmers with the introduction of new technology, family labour would be substituted by hired labour. As a result of these factors, wage rates of the agricultural labourers will increase. Thus employment, wage rates and the absolute share of labour in output may increase as a result of introduction of new technology.

But practically impact of growth from modern technology in agriculture is felt much more on the increase of land and labour productivity which is appropriated mainly by the higher income groups than on the generation of new employment or increase in the wage rate from which poor may gain. Agricultural growth may fail to increase the demand for hired labour due to low output elasticity of employment. This may happen when growth induces mechanisation reducing labour demand (e.g. in irrigation DTWs and LLPs in place of Swing baskets) or when growth induces substitution of family labour for hired labour. Clay and Khan (1977) review most of the empirical studies on the output-employment elasticity of foodgrain production that carried out in Bangladesh, and some neighbouring countries, and concluded that, depending on particular circumstances, the figure will normally lie between 0.2 and 0.5. That is, for a 100 per cent increase in production as a result of adopting HYV technology the demand for agricultural labourer

will go up between 20 and 50 per cent.[46] If the government figures are reworked using the range of output employment elasticities suggested by Clay and Khan, the effect of the intensive HYV oriented rural development strategy on unemployment in the intensive IRDP Thanas will be either to hold it approximately constant at 30 per cent (elasticity = 0.5) or for it to increase to 33 per cent (elasticity = 0.2) over the first five years of the programme.[47] About the role of HYV in solving the unemployment problem as a whole, clay puts it "Even with sustained rates of growth in cereal production unprecedented in Bangladesh experience, the HYV strategy, the main plank of the agricultural development programme will even on the most optimistic assumptions....generate additional demand for labour.... that is not significantly different from the minimum estimates of the expansion of the above supply..."[48] Thus from the above analysis it is understood that the role of HYV in combating the unemployment problem among the disadvantaged section would not be very promising.

---

46. E.J.Clay and M.S.Khan, Agricultural Employment and Underemployment in Bangladesh, Bangladesh Agricultural Research Council (BARC), 1977, Dhaka, Mimeo. Quoted in Steve Jones "A Critical Evaluation of Rural Development Policy in Bangladesh", in Rural Poverty and Agrarian Reform (edited by), Steve Jones et al. Allied Publishers Private Ltd., New Delhi, 1982, P.102.

47. Steve Jones, Op.cit., P.102.

48. E.J.Clay, Employment Effects of the HYV Strategy in Bangladesh. A Rejoinder, Agricultural Development Council, 1978, Dhaka, Mimeo. Quoted in Steve Jones, Op.cit., P.102.

Regarding the disadvantageous position of the rural poor in the adoption of green revolution, it is argued that HYV require big amount of investment for purchase of package of costly inputs as fertilizers, water and pesticides. Therefore, the big and middle farmers have better command over resources and skills and can bear risk and they adopt the new technology earlier and more intensively than the small and marginal farmers. The poor farmers can not participate in taking advantage of the new technology because they have low resource base and they have inadequate access to financial institutions from which working capital can be borrowed on reasonable terms. They are also not in a position to grasp the technical knowledge essential for adoption of new technology in agriculture. To quote T.J. Byres, "The new strategy to the extent that new and reliable high yielding seeds can be provided to water - assured areas along with fertilizers and pesticides, creates profit possibilities of an unprecedented kind. These are to be sure, limited to regions with assured irrigation, and within those regions the dice are heavily loaded in favour of rich peasants. The increase in working capital requirements brought about by the new seed-fertilizer-water-pesticide package is great and the new profit possibilities are, therefore, confined to those cultivators with large personal resources and/or access to credit on reasonable terms. Since peasants and share-croppers

(who may be one and the same) are excluded because of lack of resources and lack of acceptable collateral."[49] The HYV seeds, chemical fertilizers and pesticides are said to be scale neutral in the technical sense as they are perfectly divisible. According to Bell, "This neutrality is relevant either to a world of perfect certainity or one in which all producers, whatever their size follow decisions rules which are independent of the scale of output (Maximizing the expected value of outcomes is an obvious example."[50]

Negative Farm Size Relation

One thing in connection with the adoption of HYV according to farm size may be added here that in Bangladesh some micro surveys and census results are available which give evidence of negative relation between farm size and HYV cultivation. That is smaller the farm size larger the proportion of area under the adoption of HYV technology. The following table containing the result of Agricultural Census of Bangladesh, 1977 gives informations in this direction.

---

49. T.J.Byres, "The dialectic of India's Green Revolution", South Asian Review, Vol.5, N.2, 1972, P.104, Quoted in Bhanwar Singh, Agrarian Structure, Technological Change and Poverty, Micro Level Evidence, Agricole Publishing Academy, 1985, P.37.

50. Clive Bell, "The Acquisition of Agricultural Technology: Its Determinants and Effects", Journal of Development Studies, Vol.IX, N.7, October, 1972, P.137.

Table - 10

Extent of Adoption of HYV Rice in Bangladesh, 1977

Farm Size Group	Percent of Total Gross Cropped Area
1	2
1. Small (below 2.5 acres)	9.4
2. Medium (2.5 - 7.5 acres)	6.8
3. Large (above 7.5 acres)	5.7
4. All farms	7.0

Source : Report on the Agriculture Census of Bangladesh, 1977, Op.cit., 1981, P.29.

Now, even if the proportion of small farms' adoption of HYV is more than that of the medium and large farms inspite of their minimum package of inputs permitted by their resource constraints and their disadvantageous position in the green revolution arena, it is very difficult to conclude from this about the gap of income between the small farmers on the one side and the medium and large farmers on the other. Since the distribution of farms is highly skewed, the gain obtained from the HYV in the lower size group of farms is widely distributed among large number of small farms while the gain in the higher size group is confined to relatively fewer farms. Moreover, the resource base of the larger farmers is stronger than that of the small farmers. Medium and large farmers own much more land than the small farmers, thus the absolute amount of land under HYV crops is higher in case of medium

and large farms than that of the small farms as a result of which total benefit appropriated from HYV technology by the higher farm size groups would be more than that of the small farm size groups. In addition, in case of medium and large farms, the whole or major part of the income is generally derived from farming, while in case of the small farmers, farm income generally forms a smaller proportion of the total income, the major part being derived from the non-farm sector or from wages of agricultural labour. While the large farms can increase their farm income tremendously through intensive use of land and intensification of inputs both in case of local and HYV varieties, the small farms are generally deprived of similar opportunities to increase their income from farming due mainly to inadequacy of land, insufficiency of credit, absence of irrigation facilities and high risks involved in the programs. In case of share croppers most of which are small farmers, introduction of new technology has changed the relative position of landlords and share-cropper in favour of the former. In usual share-cropping arrangements the sharecropper has to bear the costs of inputs as well as to take the risks. Thus, the introduction of HYV rice has increased both his costs and his risks. It has, of course, increased his income. But of the total increased net income the landlords has received 70% without any risk and the share-cropper has received only

30%.[51] The costs and returns studies published by the Ministry of Agriculture show that the tenant gets more for his labour in the production of high yielding varieties compared to the traditional varieties, but the land owner gets a higher share (compared to that in traditional varieties) than the tenant.[52] Thus inspite of an increase in absolute income of the tenant, income disparity between the tenant and the land owner increases as a result of adoption of new technology in agriculture of Bangladesh.

Growth Against the Poor

There are some ways through which growth may stand against the poor. Seeing agricultural enterprise more profitable, the large farmers may want to evict the tenants and want to bring his leased out land under own cultivation. The inflated surplus of the large farmers may be used to buy out land of the marginal and small farmers forcing them into destitution. Growth may increase the demand of agricultural

---

51. R. Townsend, "Landowner and Labour Returns from Rice Cultivation in Bangladesh and the Effect of HYV Cultivation", A paper presented to the international seminar on socio-economic implications of introducting HYVs in Bangladesh, Bangladesh Academy for Rural Development (BARD), Comilla, April 9-11, 1975. Quoted in Rizwanul Islam, "Trends in Rural Income Distribution in Bangladesh", in Wahiuddin Mohmud (ed), Op.cit., P.13.

52 Q.K. Ahmad and Mahabub Hossain, Rural Poverty Alleviation in Bangladesh — Experiences and Policies, FAO, 1984, P.30-31.

inputs and make their price out of the reach of the small and marginal farmers. Thus, it is argued that net result is a rapid increase in the inequality of income and asset distribution.

Conclusion

Thus while from the discussion of earlier section we saw that agrarian structure of Bangladesh hinders adequate growth in the agrarian sector, from analysis of the present section we can see that agrarian structure not only hinders adequate growth, but due to inequities in the agrarian structure, whatever growth occurs accrues largely to the landowning rich class and its percolation to the landpoor peasantry is very limited.