Chapter 2

DYNAMICS OF RURAL SETTLEMENTS

An anatomy of rural settlements in the active delta in Bengal which now constitutes Bangladesh indicates that the pattern of settlement in a typical village has been linear and dispersed compared to nucleated village in the moribund delta which is now included in the state of West Bengal. A village in Bangladesh has been mainly "open" whereas the typical village in other parts of South Asia has been "corporate". This does not mean that all villages in Bangladesh region have been similar. It is not unlikely that an individual village may diverge from the general pattern in some aspects. Nevertheless it is possible to generalize about statistical uniformity of rural settlements. What Hicks observed about statistical uniformity in economics is equally relevant here: "We do not claim, in our demand theory for instance, to be able to say anything useful about the behaviour of a particular consumer, which may be dominated by motives peculiar to himself; but we do claim to be able to say something about the behaviour of the whole market – ... Economics is rather specifically concerned with such "statistical behaviour" (Hicks 1969, pp. 3-4).The focus of this analysis is, therefore, on the general pattern of rural settlements in Bengal.

Broadly speaking, there are two major schools on the determinants of the structure of rural settlements: (1) psychological and (2) economic. The psychological school maintains that the structure of a village is shaped by the villagers' attitude towards life. Opinions, however, differ on the attitude of villagers. According to moral economists like Scott, the peasants tend to cooperate with each other

and the corporate village is the expression of this cooperative attitude towards life. Another school maintains that the peasants do not trust each other and consequently they prefer to live in open villages.

The moral economists assume that villagers are risk-averse and influenced primarily by considerations of safety-first. In their opinion, corporate villages are designed to insure the members of a village against a likely subsistence crisis. Such villages encourage labour exchange, the use of communal property for the subsistence of orphans and widows, rent reduction on crop failure and pervasive internal social controls of the better-off (patrons) to provide for the minimum needs of the poor (clients). The underlying principle is that "all should have a place, a living, not that all should be equal" (Scott 1976).

Scott's generalizations are based on his investigations on the rural settlements in Annam in Indo-China. He exaggerates the ability of the villagers in undertaking collective action which seldom succeeds in generating effective insurance or welfare arrangements. Scott's findings are not corroborated in other parts of Indo-China. Samuel Popkin (1979) reports from Cochinchina that peasant villagers find it very difficult to organize collective action.

A diametrically opposite view of peasant psychology is presented by George Foster, an anthropologist, who takes his primary materials from Mexico. This view is variously known as the "Image of Limited Good" or "scarcity-consciousness" or "peasant-pie" approach. This school assumes that peasants believe that the good fortune accessible to them is strictly limited. In such a society, all transactions are viewed as zero-sum games where the gain of one party results in the corresponding loss of another party. Because of distrust, envy and suspicion, cooperation among peasants is very rare (Foster 1965). The corporateness of such villages is likely to be low.

In view of wide diversity of structure for rural settlements, it is hazardous to generalize Foster's findings on Mexico to all peasant societies. Foster himself admits that peasants in threatened circumstances might seek maximum cooperation (1965, p.301). Consequently, corporate villages came into being in many areas.

The economic explanation on the structure of rural settlements is based on the theory of public choice which provides useful insights into non-market decision making. The underlying assumption of this approach is that the existence and efficiency of political, economic and social institutions depend on their economic benefits and costs.

Institutions in essence are contractual arrangements among individuals for efficient provision of public goods such as security and minimization of negative externalities (effects of one's action on third parties). Such contractual arrangements tend to succeed where the benefits of a social contract exceed the costs of its negotiation and enforcement. However, the outcome of such arrangements may be uncertain where there is divergence between the public and private benefit and the parties to the contract do not trust each other.

An interesting explanation for the corporate structure of Japanese villages was provided by Hayami. He views the village "as a community which undertakes collective action to supply public goods and to internalize production externalities" (Hayami 1981). He hypothesized that the basic compulsion underlying the corporateness in the structure of rural settlements is the relative scarcity—the scarcity of non-labour resources relative to labour. Because of the market failure, the problem of scarce resource allocation cannot be resolved through price-mechanism. He compared the "loosely-structured" villages in Thailand with "tightly-structured" villages in Japan and suggested the following hypotheses:

1. Land was abundant in Thailand and there was no compulsion to enforce property rights. Japanese villages which experienced strong population pressures needed effective organization to protect and define property.
2. Water in some areas may be a critical resource. However, water is not considered a scarce resource unless ecological conditions are conducive to control or reallocation of water by human efforts. The control of annual flooding in Thailand was beyond the means of Thai villagers. Consequently there was no cooperation of Thai farmers for water control. By contrast, rice farming in Japan developed in the terraces and intermountain basin. Effective water control by villages in such terrain is possible by harnessing small streams. Hayami, therefore, argues that the need for group action to construct, maintain and operate irrigation system was a major compulsion for the development of tightly structured social system in Japanese villages.
3. In Thailand rice can be grown almost any time throughout a year. In Japan rice is grown in a short time in summer months. The Japanese villages needed strong organizations to adhere to

the tight schedule required for close cooperation in the timing and sequence in the use of labour and water.

Popkin (1979) explains lack of corporateness of villages in Cohin-china in terms of economic benefits and costs. In his view, members of traditional peasant communities are primarily interested in their own selfish interests rather than group interests. He underscores the fact that the structure of villages is not determined by actual social benefits and costs but by perceptions of costs and benefits of participants. The peasants perceive that village-scale scheme to insure against risk fails because free-riders, who are not eligible for such benefits, usurp the benefits of group action without sharing the costs. Consequently, peasants seek subsistence guarantees in smaller groups such as a family. In such an environment where the villagers are sceptical about benefits of group action, the villages tend to be loose and open.

Economic theories of Hayami and Popkin illustrate the fact that determinants of costs and benefits of group action may vary from region to region. As Robert Wade (1985) suggests, the economic benefits and costs of a village organization in the same region may vary significantly with small differences in topography, cropping patterns, resource endowment etc. Basing on his field work in Andhra Pradesh, he enumerated six broad factors for successful collective action:

1. Type of common-pool resource. The likelihood of successful organization increases if the common-pool resource is clearly defined and small so that it can be effectively managed.
2. The cost of exclusion. If the costs of exclusion (such as fencing) are high, there are stronger incentives for successful collective action.
3. Relationship between the common-pool resource and user group. The following factors contribute to effective collective action (a) greater overlap between the location of the common-pool resource and the residence of the users (because the users take more interest in the use of this resource), (b) greater demand and the indispensability of the resource for survival, and (c) knowledge of the sustainable yields of the common pool resource.
4. User group. Successful cooperation is contingent on the cohesion of the groups (smaller groups tend to be cohesive), the

relative power of the beneficiaries of the common-pool resource and the existence of arrangements for discussion and punishment for rule-breaking.

5. Noticeability. Ease of detection of rule-breaking free-riders is an essential condition for successful cooperation.
6. Recognition of local rights by the state. The inability of the state to enforce private property rights encourages organization at grass-roots level.

The economic models presented by Hayami, Popkin and Wade clearly suggest that no generalization on the structure of village is feasible. It is essential to understand the physical as well as social environment in which rural settlements operate.

The first attempt to explain the openness of villages in Bangladesh was made by Browne, a nineteenth century administrator in Bengal. He attributed the weakness of village institutions in eastern districts of Bengal to frequent migrations of the peasants. He was of the opinion that owing to underpopulation in eastern Bengal, the peasants in these areas were "as migrating as swallows and (they) usually change the place of residence at that time of year when heaviest instalments of land revenue fall due" (Quoted in Van Schendel, p. 213). There are three weaknesses of this theory. First, underpopulation is not unique to eastern Bengal alone. The density of population in South Asia was low in the pre-British period. In Irfan Habib's (1969, p. 34) assessment. the extent of cultivation in Moghul India was "about half of what it was about the beginning of this century in the middle Gangetic basin of central India". Morris D. Morris described the subcontinent as "a virgin land as late as 1800" (1963, p. 609). According to Palit, total acreage under cultivation in Bengal at the time of the Permanent Settlement in 1793 was only 3 million acres whereas the cultivated area in Bengal in 1867 was estimated at 70 million acres(1975, p. 154). If Browne's hypothesis is correct, open villages would be predominant in other areas of South Asia also. Secondly, in the long run, it was counterproductive for landlords to charge exorbitant rent which forced the peasants to flee away. In a labour-scarce economy, such landlords would not be able to attract sufficient number of tenants. On the other hand, migration involved costs and inconveniences. The tenants would not like to migrate if rent is reasonable. The flight of farmers to escape exorbitant rent is not likely to be an enduring feature of any rural society.

Finally, the direction of cause and effect relationship between migration and openness is not unambiguous. Migration will be difficult from a corporate village which would take preventive measures against migration. It may, therefore, be a consequence of openness of village, rather than its cause.

Another plausible explanation for lack of corporateness of the village in Bangladesh may be provided by the frontier thesis propounded by Turner in the context of the history of the USA. In Turner's view, the frontier always attracts the rebels, heretics and malcontents. The continuous migration of malcontents from the centre keeps alive the individualistic spirit in the frontier (Turner, 1953). Life on the frontier is free, informal and easy. Frontier might promote open villages for two reasons. First, the immigrants to frontier tend to be restless, defiant of authority and highly individualistic. Such an environment discourages the formation of corporate institutions. Secondly, settlements in the frontier are new. Anthropological studies in Bengal delta show that such new settlements in the frontier are inhabited by middle and lower jatis with evenly distributed land-ownership and minimal social interaction (Mandelbaum 1990, p. 339).

Eaton has used the frontier paradigm to explain the medieval history of Bengal. In his view, "Bengal was the terminus of a continuous process of Turco-Mongol conquest and migration. It was, in short, a frontier zone" (1994, P. XXIII). Eaton accepts the "safety-valve" version of Turner's frontier thesis that postulates that order is preserved in the centre by pushing off the malcontents and disaffected social elements to the frontier. In Eaton's words; Bengal became a "dumping ground for Delhi's social undesirables". He refers to expulsion of a thousand criminals by Sultan Jalal-al-Din Khalj (1290-96) to Bengal in the hope that they would be forced to dwell in Lakhnauti and would not trouble the neighbourhood of Delhi any more (1994, p. 41). Eaton, however, differs from Turner on two issues. First Turner's thesis is based on only geographical frontier. Eaton recognizes three frontiers: agrarian frontier (that divided settled agricultural communities from the forest), political frontier (that separated a distinct political entity from the rest of South Asia) and Islamic frontier (which separated Muslim from non-Muslim communities). Secondly, Turner's frontier is fixed. Eaton's frontier is moving.

On closer examination it appears that the frontier paradigm cannot satisfactorily explain the history of Bangladesh region. First,

the frontier is a relative phenomenon. The frontier conditions cannot last indefinitely. When the frontier is colonized, it becomes indistinguishable from the centre. Historical records indicate that different parts of deltaic Bangladesh had been continuously inhabited for more than two thousand years. There is, however, no significant difference between the social and political institutions in the old settled areas and those in the new areas in the Bangladesh region.

Secondly, Bengal was not an empty land like the American West. Bengal had the highest density of population in 1872 (see Table 7) among the provinces in the British India. There are strong reasons to hypothesise that Bengal had higher density of population than other areas of South Asia in the past also.

Table 7. Density of population in India by province, 1872

Province	Density of population per square mile
Ajmer Marwar	145
Assam	78
Bengal	433
Bihar and Orissa	318
Bombay	132
Central Provinces and Berar	99
Coorg	106
Madras	219
NWFP and Punjab	155
United Province of Agra and Oudh	391

Source : Census of India, 1911.

Demographers are of the opinion that South Asia's population remained more or less stationary during two thousand years that intervened between the ancient and modern period and that 'the long-run trend would be one of virtual fixity of numbers' (Davis 1951, p. 24). In pre-industrial societies high birth rate was offset by high death rates resulting in stationariness of population. The high density of population in Bengal in the nineteenth century, therefore, is likely to be a continuation of the past pattern rather than an aberration. The natural presumption from demographic trends is that the density of population in ancient and medieval Bengal was higher than that of other regions of South Asia in the corresponding periods. It is true that Bengal continuously received immigrants from the

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north. However, there are two misconceptions about immigration to Bengal delta. First, historians (e.g. Eaton) exaggerate the magnitude of immigration to Bengal. Compared to the total population settled in the area, the percentage of immigrants at any time is not likely to be very high. This is why, immigration could not alter the basic mould of culture and language in the area. Secondly, immigration is not unique to Bengal. There had been similar immigration to other areas of South Asia.

Historical evidence clearly suggests high density of population in Bangladesh region in ancient and medieval times. Inscriptions in ancient Bengal refer to vibrant life in innumerable rural settlements. On a close scrutiny of land transfer documents in the fifth century A.D., Nihar Ranjan Roy concluded that some villages started experiencing shortage of adequate cultivable land owing to population pressure and this compulsion prompted the settlement of new villages (1400 B.S., p. 284). Ma Huan, the Chinese traveller who visited eastern Bengal during the period 1409-1412, noted that the density of population in Bangladesh region was "very high" (Mukhopadhya 1966, p. 472). De Barros, the sixteenth century Portuguese historian stated that the population of Gauda city "is so great and the streets so thronged with the concourse and traffic of people, especially of such as come to present themselves at the King's court, that they cannot force their way past one another" (Ali 1985, Vol. IB, p. 950). The fourteenth century Moorish traveller Ibn Batuta left the following description of rural areas along the river Meghna in eastern Bengal: "We travelled down the river for fifteen days between villages and orchards just as if we were going through a bazaar" (Ibn Batuta 1969, p. 271). As early as 1807 Dr. Francis Buchanan portrayed the demographic situation in Bengal in the following manner: "That the population should be enormous is not wonderful. The notions of both Hindu and Mohammadans inculcate in the strongest manner the duty of women to propagate the species and I may venture to say that the injunction is complied with as far nearly as human nature would admit. A maiden at the puberty would be looked down upon by the natives with disgust and contempt, but few indeed are left in this humiliating situation" (Quoted in Beverley 1872, p. 83). These historical sources clearly suggest that there is no reason to presume that Bengal would be more thinly inhabited than other parts of South Asia. There were, of course, forests and accreted lands in the fringes of settled areas in Bengal. There is, however, no doubt that the

majority of the people in Bangladesh region during last one thousand years lived in previously settled areas and not in newly cleared forests or fresh reclaimed land.

Finally, Eaton's concept of moving and multiple frontiers is not at all coherent. The concept of Islamic frontier is vague. It is defined as the divide between Muslim and non-Muslim communities. There were two Islamic frontiers in north India (one along the frontier of Pakistan and the other along Bangladesh border). Furthermore, similar divide existed not only between regions but also in most rural settlements. Political frontier in Bengal did not act as the "safety valve" for the socio-political order in South Asia. The malcontents driven from the north to Bengal in most cases were not satisfied with their existence in Bengal. They always tried to reoccupy Delhi. Bengal was, therefore, not a dumping ground of the rebels but a threat to Delhi's political order. The agricultural frontier in most of the areas in South Asia was not fixed, it moved in different regions at different times. There were always large tracts of uncultivated land in all regions of South Asia. The frontier in this sense is not at all unique to Bengal.

An analysis of rural settlements of South Asia suggests three main compulsions for a strong corporate life in the rural settlements: (1) protection against foreign invaders, (2) protection against wild animals, and (3) provision of public services such as irrigation. Public security is a very important public good in areas which experience frequent incursions from outside. Tribes, clans and village communities very often provide security to its members. In Delhi region, villages of any size used to build a protective mud wall around the village. Occasionally watch towers were built to protect their walls. The Jats in Meerut division maintained for centuries a regional council for common defence and administration of governmental affairs over hundreds of Jat-dominated villages. There were nine levels of Jat organization, a social unit at each level is made up of smaller units of the level just below it (Mandelbaum 1990, pp. 282-283). Strong social institutions were also maintained by the Rajputs, Marathas and Sikhs. The need for common defence was one of the potent factors of village solidarity. As Baden-Powell observed: "In unsettled times, cultivation is hardly possible except within the reach of some chief's fortress or other place of refuge; and in those provinces where the open level country has allowed village settlements, the families keep together for mutual help. Each group

has to be prepared to defend itself against sudden attack. Accordingly, in many parts of India the village dwelling place has been built with mud walls and stout gates within which the cattle may be secured and the cultivators find refuge against a foray" (1896, p. 67). Bengal did not experience similar compulsions for defence at the grass-roots. This region was far from the direct routes of invaders to the subcontinent who entered through the North West. The initial fury of the invaders usually dissipated when they reached Bengal. Consequently, the demand in Bengal for security against foreign invaders is likely to be lower than that in other parts of South Asia. However, there are two reasons to hypothesize that villagers in west Bengal needed stronger organization than their counterparts in south and east Bengal. First, the nature of terrain in eastern and southern areas of Bengal discouraged prolonged occupation of the invaders. "Its swamps and marshes were uninviting, its unending maze of rivers and creeks are not easy to negotiate. The land approaches to it from the west were not so many... The Bengali rainy season was a terror for northern invaders" (Imam 1982, p.75). As compared to other parts of South Asia, depredations of invading armies and predatory hordes were less frequent in eastern and southern Bengal. Secondly the village in west Bengal was nucleated whereas the typical rural settlement in eastern and southern Bengal was linear and dispersed. It is easier to defend a nucleated settlement than a dispersed and linear settlement. In view of low probability of invasions and high costs of defence, it was not cost-effective to organise grass-roots defence organizations in south and eastern Bengal.

It is often hypothesized that a village in the vicinity of forests tends to be corporate for two reasons. First, the unity of villagers is often needed to drive away the wild animals that cause wide-spread losses to life and property. Secondly, communal action is needed to clear the dense forests for human habitation.

Historical sources refer to occasional attacks of wild animals in different parts of Bengal. Nevertheless, the design of houses in the settled areas in Bangladesh region clearly suggests that wild animals were not considered a major threat to life and property. In areas where threats of wild animals are critical, houses are built on stilts. In eastern and southern Bengal, houses were always built on the ground and not on stilts. It is, therefore, likely that the need for communal protection against wild animals was not strongly felt in Bangladesh region.

Eaton emphasizes the importance of "superior organizational skills and abundant manpower" which were necessary for transforming the region's formerly thick jungles into rice fields" (1994 p. 210). Eaton, however, does not differentiate between various types of forests which existed in different parts of Bengal. Broadly speaking, there were three types of forests in this region: (1) Hill forests, (2) Inland forests and (3) Littoral forests. The inland plains forests are parts of tropical moist deciduous forests which are locally known as *sal* forests. There were extensive *sal* forests throughout Bengal zone. The remnants of *sal* forests in Bengal delta could still be found in Dhaka, Tangail, Mymensingh, Rangpur, Dinajpur, Rajshahi and Comilla. It is easy to clear such forests. Apart from cutting trees, fires could be used in the dry season to burn the undergrowth. (GOB 1992, p. 10). Wood ash resulting from such fires also fertilize the surrounding land. Thus it is feasible to clear *sal* forests on individual initiative. Hill forests contain mixtures of many tropical evergreen and tropical deciduous trees occurring in association with bamboo jungles. It is counterproductive to clear the forest covers of the hills (Khan 1982, pp 39-41). Usually the valleys in such forests are cleared for cultivation. The experience of the Bengali migrants to Assam in early 20th century clearly indicates that no communal organization was needed for cultivation in the valleys of the hill forests. The experience of the settlement of Bengali immigrants in Assam was recounted by the Census Commissioner in 1921 in the following manner:

"Whither there is wasteland thither flock the Mymensinghias. In fact the way in which they have seized upon the vacant areas in the Assam valley seems almost uncanny. Without fuss, without tumult, without undue troubles to the district revenue staffs, a population which must amount to over half a million has transplanted itself from Bengal to the Assam valley during the past twenty five years. It looks like a marvel of administrative organization on the part of the Government, but it is nothing of the sort, the only thing I can compare it to is the mass movement of a huge body of ants" (Quoted in Hazarika 1994. p. 7). The history of the Bengali immigrants in Assam strongly suggests that clearing of lands in similar hill forest areas of Bengal was possible at low cost and on individual initiative. However, it is not easy to clear the mangrove forests that flourished in southern areas of Bengal. Such forests cannot be burnt and they renew themselves automatically. It was not sufficient to clear lands, it was also essential to embank the newly reclaimed land to protect it

from salinity intrusion. Drinking water was not easily available. This is why, tanks had to be dug for supply of drinking water. The settlement in mangrove forests therefore, needed considerable outlay. This did not necessarily call for strong communal organizations. The landlords in Barisal district provided the finance for clearing of forests in the area through a process of sub-infeudation. As a result, strong or cohesive institution at the grass-roots level did not grow in the reclaimed areas in south Bengal. The houses in the villages in Barisal were scattered and there was very little of collectivist life. The above analysis clearly suggests that the existence of forests in and around Bangladesh region did not encourage the formation of corporate rural settlements. The benefits of collective organization were low compared to its costs.

The perennial supply of water is an essential precondition for the survival of any human settlement. However, the relationship between the structure of human settlement and the source of water supply is complex. The existing theories on this relationship suffer from two shortcomings. First, because of the wide currency of the theory of oriental despotism, existing theories focus exclusively on the nexus between artificial irrigation and the structure of the state. Consequently the relationship between the source of water and the grass-roots social institutions was neglected in the available literature. Secondly, existing theories concentrate on artificial irrigation only and do not take into account the sources of water for daily use such as drinking and bathing.

Historical sources refer to the active role of state in constructing large irrigation schemes in ancient and medieval South Asia. Sudarshan Lake in South Gujrat which had a long history of 800 years of service to agriculture, Bhojpur lake built in the middle of the 11th century, and the canals built by the Nandas in Orissa clearly indicate that the State encouraged artificial irrigation in different parts of ancient India. Udayasagara reservoir in Mewar, Vijayanagara and Kamthana tank in South India, Jamuna canal of Firuz Tughluq, Nahar-i-Behest and Shah Nahr canals of Shahjahan and "Begari wah" canal in Sind attest to the construction and maintenance of artificial irrigation systems. Despite these large state-managed irrigation systems, there are two reasons to presume that village institutions played a significant role in providing artificial irrigation. First, most lands in South Asia were irrigated from small local sources rather than from large state-sponsored works. Daniel Thorner rightly

argues, canal networks have never been the outstanding feature of Indian crop production and Indian agriculture primarily depended on rainfall, local wells or ponds of the villages (Thorner 1966). However, historical evidence on small and local sources is scanty. Mukhia rightly points out "the rarity of references to such small-scale means of irrigation need not suggest the actual scarcity of these means", (1994, p. 74). Embanked reservoirs to store rain water which were locally known as tanks provided irrigation water to much of south India. A survey in Mysore in 1866 reported that 59.7 percent of land in Mysore was under tank irrigation (Stein 1994). Some of these tanks were large and necessitated the intervention of the state. Apart from Mysore, tanks were extensively used in Tamil Nadu, Andhra Pradesh, Gujrat, Malwa and Bundelkhand. The artificial irrigation system in South India was described by the distinguished historian K.A. Nilkanta Sastry in the following manner:

> "The importance of irrigation was well understood from early times, dams were erected across streams and channels taken off from them wherever possible. Large tanks were made to serve areas where there were no natural streams, and the proper maintenance of tanks was regularly provided for. The extension of agriculture was encouraged at all times by granting special facilities and tax concessions for specified periods to people who reclaimed land and brought it under cultivation for the first time" (1966, p.328).

Wells were the major source of irrigation in north India. However, the costs of well construction varied according to soil type. Consequently, more wells were constructed where soil was favourable (Bayly 1992, pp 80-83). In most cases small scale irrigation needed group action at the village level. In fact, some villages like Dube's Shamirpet owed their origins to the construction of village tanks (Dube 1955, p. 23). The village level organization for supervising tanks in a typical south Indian village was described in the following manner: "At present there are three Neerudis in the village, two of whom are Malas and one a Madiga. It is their duty to look after the tank bund, particularly to keep a watch on the flood gates... They should also periodically check the water-level in the tank and keep the superior village officers informed" (Dube 1955, p. 52). Secondly, cooperation at the grass-roots level is very often required for the efficient operation of large-scale irrigation systems. For example, Wade studied the operation of the canal system in Andhra Pradesh. He asserts that mere existence of an irrigation system is neither a necessary nor a sufficient condition for

a corporate village. Collective organizations emerge in those villages where risks to operation of irrigation are high. Such risks would go up where costs of exclusion from common-pool resources are high. The main findings of Wade's field investigation may be summarized as follows:

1. In villages located near the tail end of irrigation channel, the risks to irrigation is high. Such villages need strong corporate leadership.
2. In dry villages with fine, water retentive soils there are high grazing risks which tend to generate "intermediate level corporate organization".
3. At the top-end irrigated villages, both irrigation and grazing is secure and the level of corporate organization is at the lowest level (Wade 1988).

The above analysis clearly indicates that many villages in north and south India needed corporate organizations either to construct and maintain local level small-scale irrigation projects or to operate efficiently at local level large-scale irrigation systems. Because of the abundance of rainfall and enormous flows through the mighty rivers, the need for artificial irrigation was not at all felt in Bengal, particularly in southern and eastern areas. In many northern Indian villages, limited cooperation was needed for the supply of water for drinking and daily use. For example Bayly reports that only feasible form of well in areas of light soil is stone well and the cost of a stone well was more than five times the supposed annual expenditure of the family of a middling cultivator (1993, p. 80). In such villages, all villagers could not afford a well. The villagers needed a corporate leadership for regular provision of water for daily use. Anthropological studies in Birbhum district in West Bengal indicate that all villagers did not have unlimited access to tanks and wells in the village. "The only form of discrimination in this matter arises from the fact that the people of the lowest castes use the ponds near their homes so that a distinction naturally arises between the ponds used by the lowest castes and those used by the members of other castes. A similar situation occurs in the use of wells. Until thirty years ago there were only two wells, one belonging to the Zaminder and the other to one of the Baidyas" (Fukutake 1967, p. 149). In most villages in southern and eastern Bengal, each homestead had independent source of water for drinking and bathing purposes. In the

deltaic areas of Bengal, the houses were built either on the natural levees of the rivers or on lands raised by earth-filling. The residents of the levees had easy access to water in the river. The households outside the levees had tanks of their own because tanks had to be dug for earth-filling whenever a new home was built on low lands outside the levees. Beyond the deltaic areas most of the households procured water from wells which were either owned communally or by village influentials. In such areas, ostracism resulted in the denial of access to the source of water which was essential for survival. These facts suggest that the source of water supply influenced the structure of village organizations in a number of ways. However, the villages in south and east Bengal were free from the constraints of water for virtually all purposes. As a result, the villages in these areas are likely to be open.

The experience of south India suggests that in many villages corporate organizations also arose to regulate grazing rights. The regulation of grazing rights was not at all urgent in the deltaic Bangladesh where major crops are grown in flooded lands during the rainy season.

The economic realities behind corporate villages were often obscured by ideological propaganda. The *Brahmadeya* village in the Coromandel is a case in point. The *Brahmadeya* literally refers to a gift to Brahmans, specifically a grant of village income and management to Brahmans. There are two traditional explanations on the origins of the *Brahmadeya* villages in south India. First, it is argued that Brahman-dominated villages were imposed by the Pallava dynasty to perpetuate the Brahmanical order. Secondly, an alternative explanation maintains that peasants voluntarily accepted the domination of Brahmans. In reality, such villages were a reaction to internal security crisis which threatened the dominance of the existing peasant communities by the invading tribes (Kalabhra) and disrupted the existing order by the new immigrants (Stein 1994, pp. 81-85). The ideology of these Brahman dominated villages was provided by the devotional temple-centred forms of ritual. Some of the corporate villages might have been established by the state in the frontier areas to maintain order. Kautilya in his *Arthasastra* refers to formation of such villages. The experience of the *Brahmadeya* villages also suggests that some of these villages acted as "central place villages" by influencing the smaller or satellite villages to conform to social norms (Stein 1994).

The above analysis suggests that a wide variety of factors deter mine the degree of corporateness of village institutions. However, none of the factors which promoted corporateness in other areas of South Asia were present in the deltaic areas of south and eastern Bengal. The economic benefits of corporate institutions in rural settlements in areas which now constitute Bangladesh have been limited. There was no compulsion for management of common-pool resources like water or grazing rights. The threats of foreign invasion, internal insecurity and wild animals had been limited. On the other hand, the costs for group action for participating individuals are high because free-riders who do not share the costs can easily usurp the benefits. Free-riding tends to be less if ostracism from the village organization entails significant hardships. Compared to other areas of South Asia, ostracism in deltaic Bengal region was merely a nuisance and not a major threat to survival. The deltaic Bengal had abundant virgin lands which could be easily cleared and which were very fertile. In other areas of South Asia, virgin lands were very often marginal. Unlike their north Indian counterparts, the households in the Bangladesh region were self-sufficient in respect of water-supply. Because of the ease of new settlement, ostracism lost much of its sting in deltaic Bengal. The costs of corporate institutions far exceeded the benefits. Finally, the coercive power of a corporate village tends to be high when it is surrounded by corporate villages. In such an environment, ostracised individuals do not dare to defy the village authority in the fear that they would not be acceptable in other corporate villages (Popkin 1979, p. 43). Where a mixture of corporate and open villages exist, the coercive power of corporate village organizations is likely to be low because an ostracised individual can easily start a new life in a loosely structured rural settlement.

Historical evidence of last one hundred years suggests that the degree of corporateness of rural settlements in Bengal zone was much lower than that of north and south Indian villages. It also indicates that the degree of corporateness varied from eastern areas to western areas of Bengal. The census reports in the late nineteenth century Bengal record that villages in west Bengal particularly in Burdwan division and the areas adjoining Bihar were better organised than those in eastern Bengal. These reports are corroborated by the field work of anthropologists who report that settlement pattern of villages in west Bengal was nucleated whereas the structure of

rural settlements in the deltaic areas was linear and diffuse. These studies also indicate that village leadership was stronger in nucleated villages than in linear settlements (Mandelbaum 1990). There are two reasons to presume that similar pattern in the structure of villages prevailed in the past. First, historical records suggest that villages in west Bengal were larger than those in east Bengal. Secondly, there are several reasons to expect higher corporateness of villages in west Bengal compared to those in the east. First virgin lands in western areas were less fertile and water supply was less adequate in the summer. The setting up of a new household on individual initiative was therefore, more expensive in the western areas than in the eastern areas. The existence of a number of corporate villages in nearby Bihar influenced the villages in adjacent areas in west Bengal. Some of these villages were in reality satellite villages of larger rural settlements in the west. Moreover, foreign invasions were more frequent in western areas than in eastern areas. The benefits of defence organizations were therefore, higher in western Bengal. These factors caused a divergence in the pattern of structure of rural settlements in east and west Bengal.

In short, the villages, in north and south India were corporate whereas those in Bengal were loosely structured. However, there was regional difference in the degree of loosely-structured villages in Bengal. They tended to be less loose in the western areas and more loose in the eastern areas of Bengal.