

CHAPTER - III

DRAINAGE SYSTEM AND AGRICULTURE

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The redistribution of atmospheric precipitation takes place through the drainage network of a region. The drainage system not only determines the amount of surface water available at a given point in space but also influences the position of the ground water table. The natural availability of surface and sub-surface water is of vital importance from the standpoint of cultivators who are helpless before the uncertain behaviour of the atmospheric precipitation but can translate it to his advantage only by controlling and utilizing the surface and sub-surface water. Even in the most rudimentary form of cultivation the farmers use his labour and intelligence to exert some amount of control on surface drainage; level plot with water retaining walls are the basic examples of such control. It is, therefore, necessary that the surface drainage must be tamed first in order to make a fuller utilisation of the water resources for the benefit of agriculture. In this chapter the object of discussion will be how and why the surface drainage system of Hooghly has been tamed.

The drainage of Hooghly is maintained by several principal rivers.

In more senses than one the rivers of the Hooghly district provide a key to its geography, regional economy, socio-political pattern, cultural heritage and history. The entire district is a gift of these waterways notably the Damodar group, though at present the Bhagirathi is more important especially as a splendid avenue of communication. The Damodar groups of rivers rises from the Khamarpat Hills of Chotanagpur plateau and enters the district from the west and north. Sudden and very high flood discharges, notorious destructive capacity, a dense dendritic network of numerous non-perennial tributaries and dry shallow wide river beds characterize this river system. Both the Damodar and the Bhagirathi groups are remarkable in another way namely their tendency to take prodigious jumps by cutting through narrow necks of land for straightening and shortening their courses. This phenomenon in the case of the Damodar has often resulted in the abrupt dereliction of prosperous riparian settlements which form today an interesting ingredient of social and cultural landscape specially the agrarian practice of the district.

Since the Damodar and the Bhagirathi groups are both deltabuilding in nature it is necessary to divide the plains of Hooghly into hydrographical regions before attempting a

general description of each of these river systems. Broadly speaking the regions are four in numbers, namely the Ghia - Kunti basin north of Seoraphuli-Tarakeswar Railway line and the area south of the same Railway line between the Damodar and the Hooghly encompassing almost the whole of the Serampore Sub-Division and parts of Haripal and Singur thanas. Important rivers of these two areas are the Damodar, Saraswati or Kunti, Ghia, Kana Nadi or Kana Damodar, Kausiki, Behula, Kantul etc. The third region comprising the entire Pursurah P.S. and the Western parts of Dhaniakhali, Tarakeswar, and Jangipara Police stations is the Damodar basin proper and the fourth and the largest section consisting of almost the whole of the Arambag Sub-Divisions (excepting Pursurah) is known as the trans-Damodar area which is drained by the Darakeswar, Rupnarayan, Ranerkhal, Tarajuli, Kana Dwarakeswar and Mundeswari.

The river system of this district includes firstly the large rivers which are only three in number, secondly the smaller streams and lastly the village channels. The oscillations of the large rivers often extensive and violent have determined the physiography of the district and give rise to the smaller streams. The smaller streams are generally tributaries of the larger rivers and as a general rule takes a southern movement from the north. These smaller streams, fairly numerous in numbers are mainly responsible for the drainage of

the district. The three large rivers are the Hooghly forming the eastern boundary of the district, the Damodar separating the Arambag Sub-Division from the rest of the district and the Dwarakeswar dividing the district into two distinct parts according to their natural configurations. Among the smaller streams those worth mentioning are the Behula, the Kananodi, the Kunti (also called Mogra Khal or Kananadi) the Saraswati, the Kausiki, the Kanadamodar the Madaria, the Beria or Sankhibanga, the Mundeswari, the Kana Dwarakeswar, the Sankara, the Jhum Jhumi, the Amodar and the Tarajuli. There are also numerous village channels acting as the drains of the village low lands usually joining the larger streams in the rains but going blind into winter and summer.

The Hooghly : The river Hooghly more commonly known as the Bhagirathi forms the eastern boundary of the district. It is so fairly well-established that this was originally the main channel of the Ganga which on account of somewhat large scale earth movement swung to the east and now flows down the Padma. The Western Bank of the river is fairly high. Prosperous urban centres have sprung up alongside the river centering round the different industrial and commercial establishments. Wherever the bank is not occupied by houses it is covered by thick vegetation except of course where chars have been thrown up. It is a tidal river and the tides run up to Guptipara.

Sometimes they go beyond the district and move up to Nabadwip. Bores go as far as Bansbaria which is 45 km. from the Howrah bridge. The mean level of the water is very much affected by tides and bores. It carries down an immense volume of flood water during the rains. The chars and islands become mostly submerged in the rains and the breadth of the river expands to more than a mile. In the summer the river shrinks in breadth and also the height of the water levels falls considerable. It is navigable all through the year. Large boats can ply easily but streamers can negotiate the river upto Tribeni only in the height of the monsoon. The days when large ships came up to Hooghly and Chinsurah have become a thing of the past. Several small streams have joined the river from the west though very little they have added to its water. These streams are the Behula, Kana Nadi, Kunti Nadi , Baidyabati Khal, Serampore Khal and Bally Khal.

The Damodar : This is the next large river in the district. It is a hill river having its origin at some 2000 feet above sea level in the Palamau Hills, Bihar. Rushing through Burdwan district it moves south to enter into the district of Hooghly. At this stage (near Jamalpur) two distributaries the Kana and the Kana Damodar branched out from it and some two miles before entering the Hooghly district the

river again gets bifurcated into the Mundeswari and Damodar. The total length of the river in the district is about 28 miles. The river has no connection with the great deltaic river. Only it falls into the Hooghly near its mouth. Most of the distributaries thrown up by the Damodar have now silted up. It is liable to sudden and terrible floods whose destructive force works great havoc on the country side. In the older days both banks of this river were protected by a system of embankments. In 1859 the Government demolished the embankments on the West bank and raised and strengthened those on the east bank and its ravages are confined to a limited tract on the west. After heavy rains it, does not cease to threaten to over-top the embankments to its east. Its notoriety is not only limited to causing devastating floods but also to the frequently with which it likes to change its course. The river is not navigable at all and in the rains the liability to sudden havoc making floods render navigation impossible. It is closed to navigation in the hot and cold season also. The river is unaffected by tides or bores and no char islands are formed in its bed. The banks are well defined and high. Cultivation often extends upto their margins. But on the western bank due to deposition of sand by frequent inundation land has become sterile. But rabi crops can fairly be grown when silt is deposited and water is drained off.

The discharge brought down by the present Damodar river diminishes by more than half from its bent at Salalpur (above Krishnapur in the Burdwan district) where the surplus flood water partly gets spilled over the country forming hanas i.e. breaches in the bank or embankment of a river and is partly discharged through other channels such as the Banka, the Kana Nadi, the Kana Damodor and the Madaria Khal on the left and the Mundeswari and the Kana Dwarakeswar on the right. In 1865 a great flood burst through the right bank of the Damodar at Begua or Bego in the Burdwan district and eventually joined the Mundeswari, till then a passive drainage channel of minor importance. The Mundeswari carrying now a much larger volume of water joined the Kana Dwarakeswar (which is also known as Kana Nadi) and instead of flowing eastward into the Damodar Khal forced its way into the Rupnarayana opposite Ranichak carrying a large influx of water in the flood season. As a result the main channel of the Damodar below Begua has shrunk perceptibly. The spill carries all the top water of the Damodar into the Mundeswari while the bottom water with a full complement of coarse sand moves along the lower Damodar.

There was a number of spill channels to the east which were blocked off by the left embankment. Their old courses are still visible and some of them function even now as drainage

channels during the monsoon. One of these is the Gangur or Behula which rises in the Burdwan district and bifurcates into two streams near Baidyapur in the Kalna subdivision of the Burdwan district. The northern branch traversing a circuitous route meets the Bhagirathi near Somra while the other branch flows in a south-easterly course across the district and falls into the Magra Khal a km. west of Naya Sarai. Another channel of this type is the Kana Nadi which branches off from the Damodar near Naya Sarai, 3 miles (4.83 km) above Triveni. The total length of the stream is about 50 miles (80.5 km) of which 44 miles (70.84 km) are within the district of Hooghly. The upper reach upto Gopalnagar is known as the Kana Nadi which is annually flushed from the Eden canal, the central part is known as the Kunti Nadi and the lower portion as Magra Khal. The channel retains some flow of water all the year round. After a study of old maps O' Malley came to the conclusion that by Rennell's time this branch of the Damodar had decayed and that the process of its siltation was accelerated by the course it was forced to take, its easterly flow being barred by the high banks of the Saraswati.¹ In a chart prepared in 1701 the Kana Damodar is marked as a river for large ships but by Rennell's time it had ceased to be a big river. Its mouth has since been silted up but its former importance is indicated

by the extensive marshes on both sides and by the populous villages dotting its banks.

The Khari, the Banka and the Brahmani are also now deprived of spills due to the Damodar left bank embankments; Van den Broucke's map (1660) depicts the Banka as a big stream carrying a large volume of the Damodar water. M. Peron's map (1780) of inland navigation represents it as a navigable river for the best part of the year. But a recent field survey (1956) describes the Banka as a trifling stream² with a dry sandy bed in its upper reaches. The life cycle of these "beheaded streams"³ has been greatly disturbed by the construction of Damodar embankments. Some writers believe that "certain amount of entrenching of river beds of the Khari and Banks to the east of Burdwan points towards the possible proof of elevation of this area. Moreover the existence of terraces of the river sides especially in the Khari leads to the same conclusion".⁴

William Wilcocks, however, had a very different opinion about these spill channels, "beheaded streams" and "blind" rivers. Thus in the Damodar area we have a number of channels which are called "Kana Nadi", "while in Hooghly we have three separate "Kana Damodar" "Kunti Nuddee" and "Kintool Nuddee" all old artificial works".⁵ He was convinced that there were

excavated for irrigational purposes - a view which does not, seem to be tenable.

Ages ago the Damodar used to flow directly into an epicontinental sea - an extension of the Bay of Bengal. As the Gangetic delta formed the main western branch of the Ganges namely the Bhagirathi intercepted the Damodar groups of rivers which were forced to form subsidiary deltas higher up their courses. The Damodar has now no sea-face though its out-fall rivers, the Bhagirathi and the Rupnarayana are subject to tides. Its deltaic action is not dependent on the tides but starts much higher up at place where it can no longer carry excess charge of sand that it brings down from the hill and so drops it on the bed. This reduces the depth and width of the river valley forcing the stream to break its banks and debouch on to the plains through myraids of spill channels and hanas giving rise to deltaic formation. For example the most moribund deltaic tract of the Damodar i.e. the Banka-Behula-Gangur-Ghia Basin of the north east has now no connection with the parent river though in the past these spill channels used to carry a large portion of the main current. The eastern and south eastern part of this delta is characterized by old dying, weed-choked and meandering streams - the land of Kana rivers. Along the Damodar channel itself especially to its

west is the land of the hanas which fall into the Deb Khal network which traverses a shallow depressions running parallel to the main river to its south and west and overgrown with benā grass. Today the Damodar delta is a land of seven 'Kana' rivers and the villagers laconically remark that their land is infested by blind, choked and dying rivers (Kānā, bojā and majā).

A study of subsoil geology reveals that there are no continuous layers of sand, silt or clay of recent geological age in the inland delta and that the detritus brought down by the Damodar and the Bhagirathi are intermixed at all places as is proved from the infiltration of clay-pans of varying thickness in the beds of sand or silt. This establishes that the Bhagirathi, the Damodar and their spill channels have been shifting their courses and in the process of such migrations have formed the inland delta.

By superimposing the present Damodar network on the rivers shown in Rennell's map only the trend lines indicating the changes that have taken place over the last 200 years become discernible. In Rennell's map two old courses of the river Damodar are seen - one bifurcates from Selimabad flows in a south - south easterly direction and then takes a north - north easterly course finally meeting the Bhagirathi near Naya Sarai

and the main course flowing in a southerly direction past Amta and falling into the Bhagirathi. Another bed of the old Damodar is still seen from below Burdwan which has an easterly direction till it joins the Bhagirathi near Kalna following approximately the course of the present Gangur river.⁶

A study of the lower reaches of the Damodar clearly reveals the swinging nature of the river. In 1550 (after De Barros's map) the main flow of the river was restricted to the present Kana Damodar channel. In 1660 van den Broucke showed that the principal current was flowing through the "Maja Damodar" and joining the Rupnarayan near the present Bakshi Khal. A large quantity of Damodar waters then came down the present Gangur and Behula channels finally falling into the Bhagirathi near Kalna. The other branch coursing past Amta and known as the Mandal Ghat river was no bigger than an ordinary Khal in 1690. About that time the Kana Damodar was deteriorating very rapidly and the chart of 1720 and 1730 represent it as a very narrow stream. During Rennell's time (1764) the bed level of the Kana Nadi had risen and he showed this river as the old bed of the Damodar. Du. Gloss (Rennell's Assistant) in 1776 mentioned the Damodar flowing past Amta as the lower Damodar. In 1823 and 1840 the big floods having a discharge of more than 4,50,000 cusecs at Raniganj flowed

through the Amta channel of the Damodar. This evidently shows that between 1700 and 1850 the Damodar flood-waters had been flowing alternately through the channel skirting Amta, the Kana Damodar (a derelict stream now) the Kausiki and Kunti Nadi which are now mere trickles and often unrecognizable. The last big change occurred with the opening of the Begua channel some 4 miles (6.4 km) below Jamalpur in 1865. At present most of the Damodar flood-waters flows through this channel which is known as the Kaki river below Muchihana, and thereafter through the Mundeswari, finally falling into the Rupnarayan.

It is clear from the preceding account that up to the 16th century the main flow of the Damodar was confined to the Kana Damodar. In the 17th century it was along the Banka - Behula - Gangur line. In the first half of the 18th century it used to drain through the Kana Nadi, the Kunti Nadi and the Kana Damodar but during the second half the Amta course of the lower Damodar came into prominence, but this was also silted up and finally the drainage line shifted to the Kaki and the Mundeswari Channel.

The Dwarakeswar : The third largest river, the Dwarakeswar enters the district between Mandalghati and Mahiari villages and forms its north-western boundary for about 7 miles (11.3 km). After flowing for about 14 miles

(22.5 km) through the district it divides into two branches below the village Bali - Dewanganj in Khanakul P.S. The western branch called the Jhum Jhumi after a course of 3 miles (4.8 km) enters the Ghatal subdivision of Midnapur and falls into the Silabati while a minor distributary of the Jhum Jhumi running east unites with the Sankra a few miles above Bandar. The eastern branch, the Sankra flows south-east through the Arambag and Khanakul Police Station and at Bandar unites with the Silabati to form the Rupnarayan. The Kana Dwarakeswar, the ancient and the main channel of the Dwarakeswar (vide Valentijn's map of 1670) branches off a few miles north west of Arambag town and flows in a south-easterly direction to meet a braided channel (the Damodar Khal) of the Mundeswari at some distance within the same subdivision.

The beds of Dwarakeswar as well as of its branches is sandy and varies from half a mile to a quarter of a mile in width. It is navigable only during the rainy season when country boat ply down to the Rupnarayan. For the rest of the year it is formidable at most places. The river is not embanked in its northern part where the banks are fairly high varying from 6 to 15 feet. From Bali-Dewanaganj on the west and Mubarakpur on the east there are embankments for some seven miles (11.3 km) while two other embankments, extend from the point

at which the river bifurcates joining each other again a little above Chapsa. The eastern embankment from Mubarakpur has been breached at several places and gives little protection to the villages on that side.

The Rupnarayan : The Rupnarayan is formed by the junction of the Silabati with the branches of the Dwarakeswar near Bandar. It runs south-east for 8 miles (13 km) forming the district boundary and a few centuries back used to be joined at the extreme south-east opposite Ranichak by the Kana Dwarakeswar.

The Debkhal, the Amodar, and the Tarajuli Khal : Other tributaries of the Dwarakeswar worthy of mention are the Deb Khal, the Amodar river and the Tarajuli Khal. The Deb Khal enters the district at Salikona from the Vishnupur subdivision of the Bankura district and flowing a tortuous course almost paralalled to the Dwarakeswar joins it a few miles below the point of off take of the Kana Dwarakeswar. The Amodar coming from the Joypur police station of the Bankura district flows south-east through the Goghat police station past Bhitagarh and Garh Mandaran and after joining the Tarajuli Khal near the district boundary finally debouches into the Jhum Jhumi branch of the Dwarakeswar in the Ghatal subdivision of Midnapur district.

The Tarajuli Khal also rises in Bankura and skirting the north western boundary of the district flows through it and then skirts the south western district boundary to join the Amodar six miles (9.7 km) below Hazipur. Both these rivers have the usual characteristics of hill streams namely rapid currents, banks of hard soil, gravelly beds which can be seen through the clear water and features of soil erosion in the valley basins. Except in the rains they are fordable throughout the year.

The Saraswati :- The Saraswati is another river with a glorious past. In ancient days it was a very important river as the port of Saptagram was located on its bank. The bed probably silted up during the 16th century and now-a-days except during the rains the current flows in a miserable trickles. It is an abandoned channel of the Hooghly.⁷ It branches out of the Hooghly near Tribeni and trickles south across the district flowing south east for a mile and a half and then turning south paralalled to and within three miles (4.8 km) of the main river. Following a curved course within Howrah district it reaches the Hooghly near Sankrail. The bed of the Saraswati has been silted up and only during the rains it looks like a stream worth mentioning. All its glory is past.

It is connected with the Kana and thereby receive water supply from the Damodar also. A hundred years ago it was a dead river represented merely by a chain of pools. But water was let into it in connection with the Eden Canal scheme by a cut from the Kana Nadi near Gopalnagar. Though very much silted up now, its banks are fairly high (3 to 4 mt.) and are still densely populated especially towards the south where are several large villages such as Borai, Baksa, Chanditala, and Kalipur flanking its channel.

Bali Khal : Below Tribeni several creeks fall into the Bhagirathi after draining the interior of the district. The southernmost of them is the Bally Khal which forms the southern boundary of the district for several kilometres. It drains the Dankuni marsh and is now used as the outfall of the Dankuni Drainage channel. In its lower reaches it is not fordable and is navigable throughout the year. Both the beds and banks are clayey furnishing excellent materials for brick manufacture, numerous units of which have come up along its bank.

Lakes and marshes : Today there are no lakes in the district but a number of large catchment basins are seen in which water accumulates during the rains forming the marshes.

These swamps contain some water even in the summer months. Most of these marshes are to be found in Panduah, Polba, Chanditala, Jangipara, Uttarpara, Pursurah and Khanakul Police stations and some of them are of considerable size eg. Khanyan marsh between the old silted up channels of the Damodar in Panduah P.S., the swamp between the Ghia and the Kana Nadi, the Dankuni marsh lying between the Saraswati and the Bhagirathi and presently divided into numerous segments by roads and railway embankments, the marsh between the Damodar Khal and the Kana Dwarakeswar in Khanakul P.S., the Kumirmora Bil lying to the west of the light railway line between the Kalachhara and Jangalpara railway stations, the southern Khanakul Marsh below the confluence of the chaubis Bighas Khal and the Kata Khal at Baligari and the Sultanpur Bil at the confluence of the Amodar and the Tarajuli.

Drainage : The only drainage works lying entirely in the district are those designed for the drainage of the Dankuni marshes. These marshes which are about 12 miles long (18 km) from north to south are situated in the Serampore subdivision. They consist of a chain or series of Jhils, i.e., swamps wholly or partially covered with water which lie between the Hooghly and Saraswati rivers. The total area of land between these

river is about 70 square miles (157 sq. km) of which 8 square miles (18 sq. km) drain direct into the Hooghly, while 62 square miles (140 sq. km) form a basin in the central part of which are the Dankuni Jhils occupying an area of 27 square miles (61 sq. km). This latter area was not only a reservoir for the rainfall which falls over the 62 square miles (140 sq. km) but the lowest part was 9 feet (2.7 metre) below high-water level during the rainy season; and prior to its being drained, when the Hooghly was in floods, the tides flowed through the Baidyabati and Bally Khals and raised the level of water in the Jhils to 15 feet (4.5 metre) in the month of August, the beds of the jhils being about seven feet above mean sea-level. The area of cultivated land varied with the season, the minimum being 10 square miles (22 sq. km) and the maximum 27 square miles (61 sq. km) but a part of this doubtful zone was irregularly cultivated with cold weather crops.

Relation between drainage and agriculture

The drainage net work of the district has profound impact on agricultural activities in a number of ways. The three big rivers namely the Bhagirathi, the Damodar, and the Dwarakeswar and their numerous distributaries together with

minor rivulets and village channels play an important role in providing the irrigated water both in the Kharif and the Rabi season. Though most of the small rivers and distributaries almost dry up during the winter months yet the bigger one particularly the Bhagirathi and its affluents serve useful purpose of irrigation. Lift irrigation is widely practiced in the Bhagirathi, and Behula, which are associated with tidal flow. In 1980-81 River Lift irrigation accounted 7.47 per cent to total irrigated area. In Balagarh and Khanakul blocks a considerable portion of arable land is irrigated by river lift irrigation method.

The area covered by the canal network of the D.V.C. spreads over 12 police stations of the district comprises more than 1,458 villages. Besides, the Kangsabati Project commands a total area of 46,800 acres located **within the police station** of Goghat and Arambagh. The D.V.C. canals run for a total length of 250 miles (375 km) within the district and operate in the police stations of Panduah, Dhaniakhali, Polba, Haripal, Tarakeswar, Jangipara, Chanditala, Singur, Mogra, Balagarh, Chinsurah, and Bhadreswar. The Eden Canal and the Damodar Canal the two pre D.V.C. canal have now merged with the D.V.C. irrigation network. The D.V.C. has also renovated the channels of the Saraswati and the Ghia, remodelled some of the branches,

and distributaries of the old canal systems and linked up the old beds of the Kana Damodar, the Kana Nadi and the Kausiki through the construction of numerous channels and distributaries. Thus the rivers and canals today contribute 60 per cent to the gross irrigated area.

Drainage and Settlements

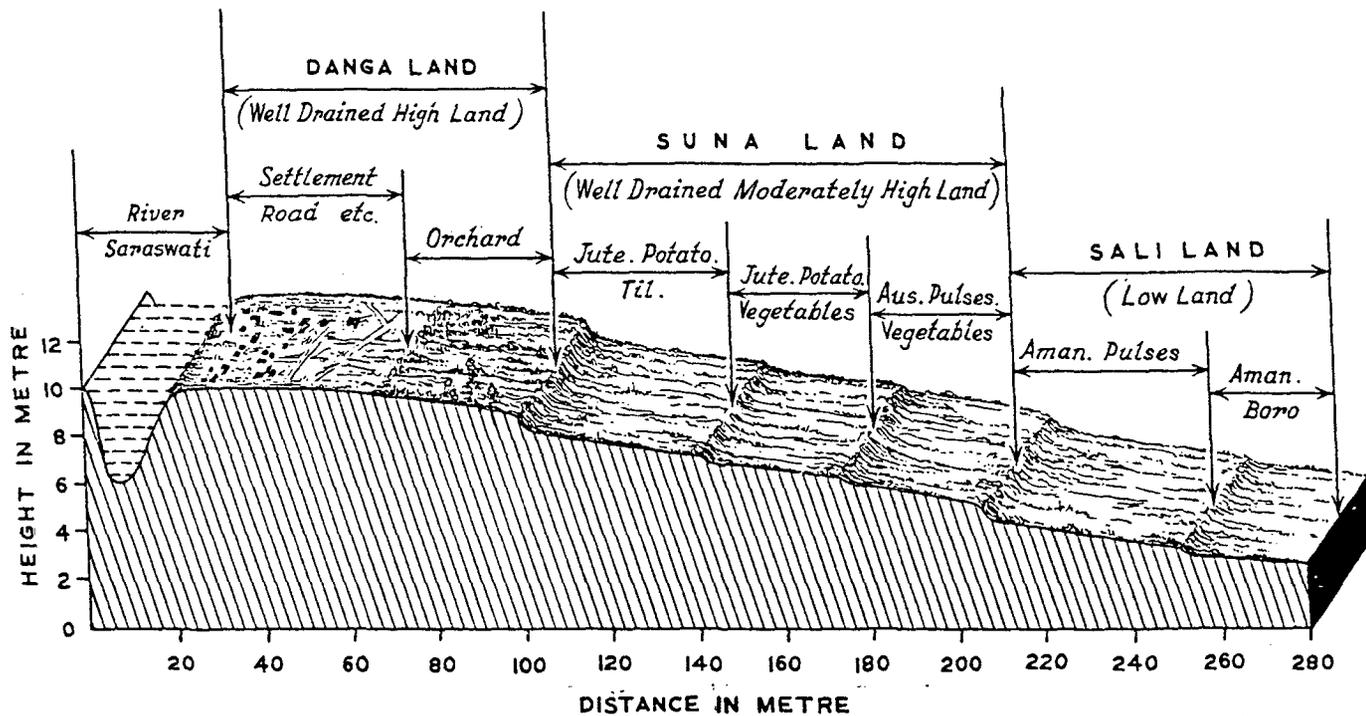
The history of civilization is replete with instances showing the growth of human settlements in proximity to rivers providing a constant supply of potable water and facilities of locomotion along their channels. In selecting the sites the settlers naturally preferred the banks of rivers which caused the least flood damage. The same principles have also been generally followed in the Hooghly district where linear settlements have grown along the rivers with low flood hazards. Prosperous agricultural villages are found mainly along the Damodar, the Bhagirathi, the Saraswati and other placid rivers. Today populous villages are more concentrated along the Bhagirathi, the present course of the Damodar, the Madaria Khal, the Kana Damodar, and the Kunti Nadi, the Maja Damodar and the Dwarakeswar. Important habitations on the Mundeswari are rare because of high flood potential of the river. The change in the river courses has also influenced the development of settlement. The occurrence of populous villages in the district has always been closely linked with the changes in the river courses.

Hydrological condition of the land and the crop pattern :

In addition to contributing irrigated water and sites for the settlements the drainage network of the district has also contributed much to the building up of the vast alluvial track enriched with rich soil. Due to unequal deposition of alluvium by the rivers variation in relief of a microscale has been resulted which again greatly controls the existing hydrological condition. The land gradually slopes away from the levee of all the rivers. As a result different categories of land according to their decreasing height from the levee can be identified. Level survey done by the author in two mouzas namely Noapara and Taherpur pertaining in Singur Police Station by the side of the river Saraswati has revealed three level surfaces gradually decreasing in elevation from the levee of the Saraswati. These three types of land viz. High, medium and low are locally known as danga, sona and sali land respectively. As the hydrological condition of these various types of land is somewhat different, the type of crop grown there and their degree of intensity of use for crop cultivation varies considerably.

Danga Land : Fig. 9 ground profile drawn on the basis of survey reveals that the highest land i.e. the danga land is situated just by the side or on the levee of the

RELATION BETWEEN HYDROLOGICAL CONDITION AND CROP PATTERN



Vertical Scale 1 cm = 2 Metre

Horizontal Scale 1 cm = 20 Metre


 GROUND PROFILE

Fig. 9

river Saraswati. Such land is well drained and devoid of any inundation by rain. As such this land is mostly utilized for habitation purpose. The remaining portion of such land is used for orchard crops, bamboo groves etc.

Sona Land : This is well drained medium high land. It is not subjected to inundation by rainfall excepting in the year of flood. Such land is intensively cultivated with the application of manure and irrigated water. Most of the lands are double, or triple cropped. Even certain part is used for growing of four crops. The usual crop combination practiced on such land are jute, aman, vegetables or jute, vegetables, potato, or jute, potato, oilseed or aus, vegetables potato.

Sali land : This is the lowest lying land being subjected to natural inundation. Soil is clayey in character. Such type of land is generally monocropped dominated by aman paddy. In the presence of irrigated water such land is used for cultivation of boro paddy. Cultivation of rabi crops like vegetables wheat, potato do not find suitable condition on such type of land as muddy condition of such land prevent them to be tilled for rabi crops. Aman paddy finds suitable condition for its growth on such land because this land is subjected to inundation during rains. Because of such inundated condition such land is not suitable for the cultivation of either jute or aus paddy.

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