

CHAPTER - I

I N T R O D U C T I O N

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INTRODUCTION

Agricultural geography as a branch of economic geography is the science of that part of the earth's surface formed by agriculture, seen both as a whole and in its parts, in its outward appearance, in its inner structure and in its intricacies (Otremba 1960, p. 25).¹

As one of the component discipline of economic geography agricultural geography combines elements and methods of geography, economics and agricultural science. One of the chief objectives of agricultural geography is to examine the spatial differences in the various manifestations of agriculture.²

Much of that by which man lives oozes out of land. And much of the material abundance that characterizes developed countries is due to the past support and current contributions of agriculture. The underdeveloped countries too will benefit from it and make rapid strides forward corresponding to the care they lavish on and show concern for the development of nature's bounties of soil, plants, animal and water. It will not be exaggeration to say that agriculture is very much the cause of prosperity of a nation or a country.

Agriculture is, however, important in a more fundamental sense. The most important and perhaps the all-embracing reason

that place agriculture very high up in the mechanics of development is that this being the only industry existing in an underdeveloped country, the beginnings of economic development can be made largely with it and because of it. This it does in several ways, all impinging upon the factors that promote increase in national income as also the capital formation.³

First agriculture by providing food (in addition to raw materials for industries) enables worker to engage themselves in the production of durable producers' goods. The second concerns labour supply. No economic activity, much less non-agricultural activity can do without labour. And non-agricultural activity has no source for labour except the one that is located in agriculture. This is wholly true in initial stages when industrial or urban areas are conspicuous by their total absence and therefore none is to be found residing outside farms.⁴ Another, the third contribution that agriculture can make towards economic growth consists of surpluses for investment in building developmental infrastructure like roads, railways, electricity etc. and industries producing capital goods. The role of agricultural sector is of such a key importance in the initial stage of development that without it nothing can be done or initiated. The fourth aspect of agriculture in relation to its contributions

to economic development pertains to its capacity to produce exportables. Last but not the least is the provision of extended market for the sale of industrial goods that becomes possible with the increase in farm incomes and therefore purchasing power of the farm people. What agricultural development does directly in adding economic development is important enough. But of no less significance is the increase in the opportunities for productive employment that becomes possible within the rural sector itself.^{5,6}

The importance of agriculture lies not merely in providing various factors helpful for economic growth but also in that it does so with very small inputs. The costs of ensuing that agriculture should do what it can do are minimal. Also most of these resources are available within underdeveloped countries.

Agriculture can contribute a lot in economic development, there is no doubt of it. It is also true to say that agriculture too benefits from development and in particular from industrialisation of the country. Such gains that accrue to farm people are many and varied. Absorption of the surplus rural population reduces the number of dependents upon land which increases incomes of agriculturist and opens up the possibilities of more profitable deployment of land. Material life and the incentive to work are increased with the availability of nonfood consumer goods which farmers demand at higher levels of incomes.

The study of agrarian conditions pertaining to any spatial unit has therefore an important bearing on the developmental programme that may be taken up for its growth. The authors has therefore, made an attempt in this thesis to study the agricultural resources of Hooghly, a district of West Bengal. The selection of the district for the study is somewhat interesting in the sense that it is developed both agriculturally and industrially. In spite of its being one of the most industrialized districts of West Bengal agriculture is the mainstay of the people. Industrial sector of the district is somewhat dependent on agrarian sector as jute textile one of the important industries of the district receives supply of raw jute from agriculture. Industrial workers also have their supply of food from the same sector. The agrarian sector is also somewhat influenced by the industrial sector. Large number of unemployed and underemployed from rural areas find employment in industries.

The agricultural prosperity of a spatial unit is dependent on the physical background that it possesses and some other infra-structural facilities and socio-economic conditions. The investigation of agrarian condition of an area therefore requires a thorough examination of all those factors. It is only then possible to highlight some of the suggestion, to be taken

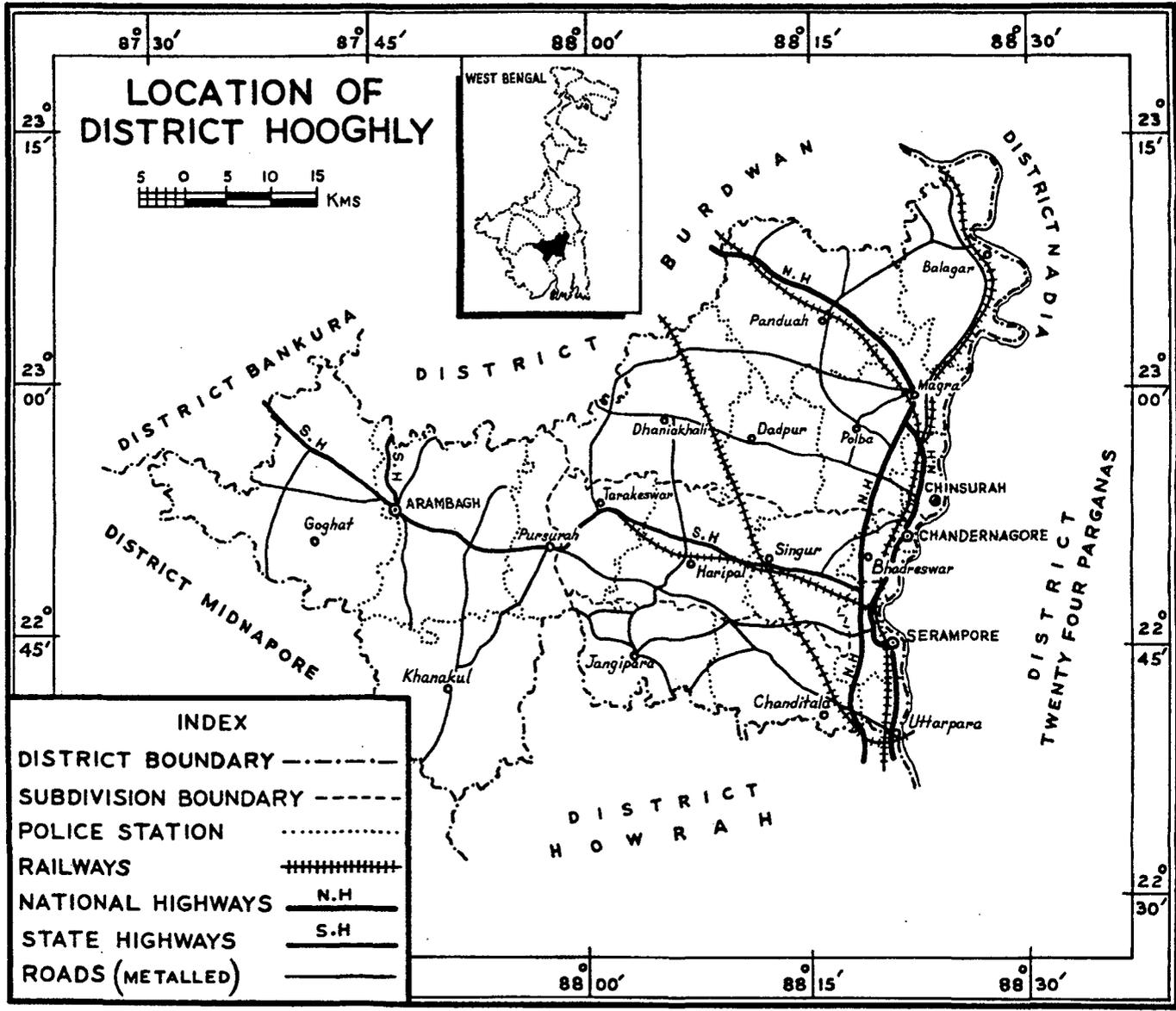


Fig. 1

for future planning for agricultural development. The author has therefore examined carefully several physical factors controlling agriculture in the district particularly climate, soil and drainage. The author has taken into consideration various aspect of agriculture viz. landuse, cropping pattern, productivity, yield of various crops the effect of green revolution on agriculture. In the discussion of all these aspects the author has not only analysed the existing conditions relating to their spatial variation but also their temporal variation. The careful examination of all these conditions have revealed some of the problems in the agrarian sector. The author has critically pointed out those and have suggested some of the remedial measures for enhancing further improvement of the agriculture in the district.

Location and area

Located in West Bengal the district of Hooghly extends between $22^{\circ}38'32''$ (right bank of the Rupnarayan river) and $23^{\circ}01'20''$ (Guptipara Char on the Bhagirathi river) north latitudes and between $87^{\circ}30'20''$ (Tilari village of the Goghat police station) and $88^{\circ}30'15''$ (Bhabanipur char on the Bhagirathi river) east longitudes. It is bounded on the east by the meandering Bhagirathi. Except on the east, the boundaries, barring short distances

covered by the Rupnarayan to the south-east, the Damador to the south and the Dwarakeswar and the Tarajuli to the north west are artificial. The adjoining districts are Burdwan to the north, Bankura to the north west, Midnapur to the west and south west and Howrah to the south.

The area of the district as furnished by the survey of India is 3149 sq. kilometres. The 1971 census however puts it at 3145.0 sq. km. The discrepancy of 4.4 sq. km cannot be readily reconciled and the anomaly may perhaps be attributed to the difference in the modes of computation of the figures.⁷

The district consists of four subdivisions namely Hooghly (Sadar), Chandernagore, Serampore and Arambagh. Chinsurah is the headquarters of the district and of Hooghly (Sadar) Sub-division. The district comprises twenty police stations at present against 19 prior to 1965 when Dadpur police station was carved out of the Polba P.S. in Hooghly (Sadar) Subdivision. The Hooghly subdivision has thus seven police stations : Chinsurah, Balagarh, Mogra, Panduah, Polba, Dadpur and Dhania-khali, Chandernagore has five : Chandernagore, Bhadreswar, Haripal, Singur and Tarakeswar; Serampore has four : Serampore, Uttarpara, Chanditala and Jangipara and Arambagh has four : Arambagh, Pursurah, Khanakul and Goghat.

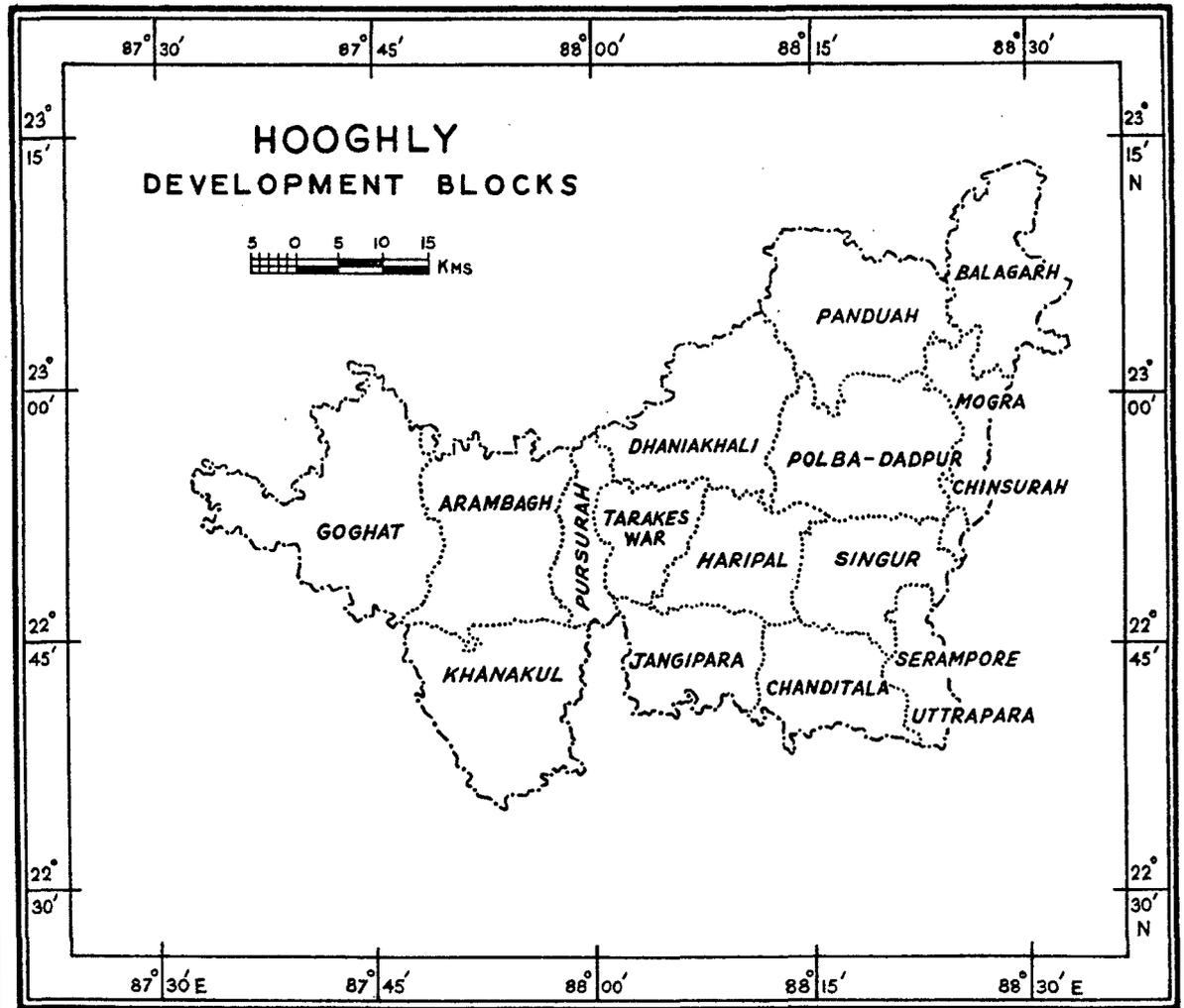


Fig. 2

The district comprises 17 blocks namely Goghat, Pursurah, Arembagh, Khanakul, I & II, Chanditala I & II, Tarakeswar, Haripal, Singur, Jangipara, Serampore - Uttarpara, Chinsurah-Mogra, Balagarh, Panduah, Dhaniakhali. Excepting Chandernagore police station all the P.S. have constituted the blocks. Chandernagore is entirely an urban area.

Physical make-up

Successful cultivation presupposes some suitable ecological conditions. Almost the entire area except the triangular portion west of the Darakeswar comprising the Goghat thana the district of Hooghly is a flat-alluvial plain intersected by a number of sluggish rivers and stream. On the vast aggradational surface the only marked topographical variations are those associated with the numerous shifts and diversions of the rivers, an unequal aggradation rendering some surface above flood level and others below water table. The slopes of broad interfluves or doab are barely, if at all perceptible, the only noticeable relief being the flood plain bluffs and embankments. Thus the entire district may be divided into two main natural divisions - the up lands and the plains, the river Darakeswar acting as a divide between the two. The upland confined within the triangular projection of the district on the west of the Darakeswar is undulating. The elevated surface is drained by numerous small

streams all of which ultimately debouch into the Dwarakeswar. Swamps are less common here while patches of scrub jungles are more frequent.

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. Thus the district of Hooghly can be said to be mainly the product of its rivers. The district is well watered by a number of rivers which include large rivers like the Bhagirathi, the Damodar and the Rupnarayan also known as Dwarakeswar in its upper reach and the smaller streams like the Behula, the Kananadi, the Kuntinadi, the Saraswati, the Kausiki, the Kanadamodar, the Madaria, the Mundeswari, the Kana Darakeswar, the Sankara, the Jhum Jhumi.⁸

The district is enriched with fertile alluvial soil of two different types, older alluvium and newer alluvium. Both are of recent geological age but part of the older alluvium might be of a late pliestocene age. The greater part of the Goghat thana in the western-most part of the district consists of older alluvium mixed with kankar and laterite debris which are the detritus of the Bankura upland. The rest of the district is mantled by newer alluvium mainly composed of sand, silt and clay brought by the rivers. The eastern part of the

district has been formed by the deposit of Bhagirathi, the western parts of Hooghly and Serampore Subdivisions by those of Damodar and the Arambagh Subdivision by the combined precipitates of the Damodar, the Mundeswari and the Darakeswar. The surface alluvium formed from the silt deposit of the Bhagirathi and its branch the Saraswati is of sticky clay, rather stiff, not easily permeated by water and hence hard to plough. Because of the larger accumulation of finer particles, particularly clay the soil contains a high percentage of Al_2O_3 , Fe_2O_3 and P_2O_5 but low content of N, MgO and CaO. The alluvium formed from the silt of the Damodar contains a large percentage of sand fraction but very little clay. It is loose and easily percolated and therefore more friable and non retentive of moisture. The tract further west consists of loamy alluvium, red in colour showing signs of mild laterization and moderate leaching with a subsoil of tenaceous clay. The red soil is generally deficient in nitrogen, phosphoric acid, humus, and lime but contains a reasonable amount of calcium and magnesium. The soils as a whole are fertile and are periodically enriched by fresh deposit of silt from the overflow of the rivers.⁹

The climatic condition of the district is also conducive for the successful operation of cultivation. The modified Gangetic

monsoon climate¹⁰ of the district is characterised by moderate temperature due to the nearness of the bay with cold weather means around 64° F and hot weather means between 80° F and 85° F. The rainfall is copious. The average annual rainfall in the district is 59.84". The annual rainfall in the district varies from 55.44" at Tentulia to 70.01" at Chanditala. The rainfall generally increases from south-west to north-east. The variation in rainfall from year to year was not very large during the last fifty years period of 1901 - 50.

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