

CHAPTER V

AGRICULTURE

GENERAL CONDITION

ACCORDING to the census of 1901, 56 per cent of the population of the district are employed, or directly interested, in agriculture. This percentage is remarkably low,¹ being less than that in any other district in the Province, except Hooghly and Howrah, which show 53·8 and 42·3 per cent., respectively, of their populations as engaged in agriculture. This is accounted for to a certain extent by the fact that Nadia has a relatively high urban population but the main reason is the infertility of the land. The soil varies but little all over the district; except for the tract known as the Kalantar, and some portions of the Kushtia and Ranaghat Subdivisions, it is almost universally a light sandy loam, possessing but little fertilising power, and incapable of retaining moisture. In earlier days, before the rivers had completed their work of land making, the district was far more liable than it is now to considerable inundations, which, although they might destroy the crop which was actually standing at the time of their visitations, brought with them a coating of silt, which ensured an excellent outturn for the following crop. This enrichment of the soil, however, no longer takes place as frequently as it is used to, and as the very light manuring which is applied is insufficient to compensate for the loss occasioned to the soil by cropping,

1. The Collector states that he doubts the accuracy of these figures: he would put the percentage at about 80, as many day labourers are directly interested, in agriculture, and rely on field work for a living: he thinks that 56 per cent., probably represents only those who actually hold lands on lease, *utbandi*, *jama* or otherwise.

there can be little doubt that the land is getting less and less capable of giving a good return.¹ This is particularly noticeable in the steady diminution which has been taking place of late in the net area cropped in the district, which means that it is becoming increasingly necessary to allow the land to lie fallow for longer periods between croppings. During the last five years for which statistics are available, the average area of culturable waste other than fallow was about 348,000 acres; of current fallows, about 400,000 acres; and of net cropped land, about 520,000 acres; in other words the net cropped area was only about 41 per cent. of the total culturable area. The corresponding percentages in the two sister districts of Khulna and Jessore for the same years were about 74 and 89, respectively. The only conclusion that can be drawn from these figures is that the soil in Nadia is not sufficiently fertile to enable the same percentage of the population to depend upon agriculture as would be the case were the district more favourably circumstanced in this respect than it is. Other reasons have been suggested, such as the precarious nature of the tenure under which a large proportion of the land is held, and loss of vitality and energy among the inhabitants owing to repeated attacks of malaria; but though these may be contributing causes, there seems little doubt that the main reason why the percentage of the population engaged upon agriculture is so comparatively low in Nadia is that the land is, on account of its infertility, incapable of affording a livelihood to a large percentage.

The physical characteristics of the district are almost uniform throughout, and the agricultural conditions vary but little. The only tract of any size which presents any marked differences from the general average is that known as the Kalantar. This tract commences in the Murshidabad district, comes into Nadia through the gap on the western

1. The abandonment of indigo cultivation has also reduced the fertility of the land; it is reported that bumper crops of paddy were obtained when it was grown in rotation with indigo.

boundary between the Bhagirathi and the Jalangi, and stretches through the district in a south-easterly direction. It is about 16 miles long and 8 miles broad. It is low-lying, and the surface soil has hardened into a comparatively stiff black clay, which, under favourable conditions, produces a good crop of *aman* rice, but is too water-logged for any autumn crop, and is unsuitable for regular winter crops. The inhabitants of this tract, being dependent upon the one crop, which is liable in some years to be swept away by violent floods, and in other years, when the monsoon fails, to die for want of moisture, are naturally more exposed to famine than those of the other parts of the district, where a second crop may afford some compensation for loss of the first.

No irrigation is practised in the district, the chief reason being that the surface is so uniformly level as to afford little or no scope for canals and distributaries.

PRINCIPAL CROPS

As elsewhere in lower Bengal, the most important crop is rice, but Nadia differs from all other districts in depending far more upon the autumn variety than upon the winter variety. In this district the autumn rice crop occupies 69 per cent. of the normal net cropped area; this percentage is more than double that of any other district in the province, except Sambalpur, in which it is 47. Winter rice covers 23 per cent. of the normal net cropped area. No summer rice is grown. *Rabi* crops, of which the most important are (1) gram and (2) other *rabi* cereals and pulses, occupy 56 per cent. of the normal net cropped area; jute occupies 14 per cent.; while sugarcane is comparatively unimportant, occupying only 2 per cent. The reason why the total of these percentages exceeds 100 is that so large a proportion as three-fourths of the total cropped area is twice cropped. It is said that more than a thousand different varieties of rice are grown; many considerable villages have a variety of their own, and old varieties are constantly being replaced by new

ones. In a report issued by the Director of Agriculture it is remarked that "paddy is perhaps the best instance known of the variations which plants have undergone under cultivation. Originally an aquatic grass, the one characteristic which it has most persistently retained amidst all the changes brought about by differences in climate, soil and mode of cultivation, is the need of a large quantity of water for its proper growth.*** It is the belief of the raiyats that, give the paddy but this one thing needful, it will grow in any soil and under any climate. Indeed the facility with which it adapts itself to the different classes of soil from the stiffest clay to the lightest of sands, and from the peaty to the saline, is simply wonderful. Compared with the advantages of a proper supply of water, all other questions in its cultivation, namely the quality of the seed used, the nature of the soil on which it is grown, the manures applied, and the mode of cultivation adopted, are things of very minor importance."

AUTUMN RICE OR AUS

The autumn rice or *aus*, is also known as *bhadoi* rice, after the name of the month in which it is harvested. As already stated it is by far the most important crop which is grown in the district. It requires less water than the other varieties of rice, and in fact it cannot be grown on land which is liable to be flooded during the rains to a depth of more than two feet, as it does not grow to a height of more than three or three and-a-half feet, and it does not possess the power of accommodating its growth to the depth of the water surrounding it, as do the long stemmed varieties. Cultivation of the land for it commences as soon as the early showers permit of ploughing and the seed is sown broadcast in April or May. As soon as the young plants have attained the height of 5 or 6 inches, the field is harrowed with a view to somewhat thin out the crop, and also to prepare the way for the first weeding. During May and the first half of June it is most necessary to keep the fields clear of weeds, and it is the amount of labour required in this operation which makes the *aus* a

more troublesome crop even than the transplanted *aman*. Under favourable conditions the crop is ready for the sickle in August or September. The rice yielded is of coarse quality, and difficult to digest; it is used by the lower classes only. The outturn is less in weight, and fetches a lower price than that afforded by the *aman* crop, but it provides the raiyat with a foodgrain, and his cattle with fodder, at a time of the year when both are scarce. Moreover it is off the ground early enough to permit of the preparation of the land for the *rabi* or winter crop, which gives it another advantage over the *aman*. The normal outturn of *aus* rice in Nadia is 12 maunds per acre, which compares favourably with the figures for other districts, notwithstanding the infertile nature of the soil; but this result is only obtained by allowing the soil far more frequent and prolonged periods of rest than are necessary elsewhere. *Aus* paddy is one of the best cleaning crops for lands which have become badly infested with weeds; and it is occasionally grown for this purpose. It is specially useful for ridding from *ulu* grass land on which it is desired to plant out an orchard.

WINTER RICE OR AMAN

The crop of next importance to the district is the winter rice or *aman*. It is in this class that the most varieties occur, and it furnishes all the finest qualities of rice. The preparation of the land for this crop begins early in the year. In April or May the seed is sown very thick in a nursery, and when the seedlings make their appearance another field is prepared into which to transplant them. For this purpose it is necessary to repair the embankments round the field so that it shall retain all the rain which it receives. It is then repeatedly ploughed up until the surface is reduced to thick mud. The seedlings are then taken out of the nursery and transplanted into rows about nine inches apart, where they are left to mature, the only subsequent operation being one or two weedings in the latter part of August. The crop is harvested in November or December. The most critical period for this crop is

when it begins to blossom in the latter part of October. If there is not sufficient moisture at this time, no grain will form in the ear. The soil most suited to the *aman* crop is one that contains a large admixture of clay. In Nadia *aman* rice is nearly the sole crop in the Kalantar, and it is also grown fairly extensively in the Kushtia Subdivision. The normal yield is about $13\frac{1}{2}$ maunds of rice per acre, which is less than what is obtained in the other districts of the Presidency Division.

JUTE

The cultivation of jute has been steadily increasing of late years, and this crop now occupies 14 per cent. of the normal net cropped area. Generally speaking, it does well on lands which are suitable for *aus* rice. The preparation of the land for this crop begins as soon as sufficient rain to moisten it has fallen. It is first ploughed twice or thrice and then allowed to rest for a time, while the cultivator manures it with cow-dung and any other fertilizing agent upon which he can lay his hands. It is ploughed again in May, and the surface rendered as fine as possible, after which the seed is sown. When the seedlings are five or six inches in height, a harrow is passed over the field with a view to thinning out the plants where they are too thick, and also to assist in the absorption of moisture by breaking up the surface of the ground. The first weeding does not take place until the plants are about a foot high; every effort is then made to entirely eliminate the weeds, and if the work is well done no further weeding is required. The crop matures in August or September, and it is then cut and tied up in bundles about 15 inches in diameter, which are steeped in the nearest stagnant water for about a fortnight until the stalks have become sufficiently decomposed to admit of the extraction of the fibre from them. In performing this operation the stem is broken near the root, and the broken portion drawn off; the protruding end of the fibre is then grasped, and, by gradual pulling and shaking, the rest of the fibre is extracted from the stalk. It is

then well rinsed in water, and hung up on bamboos in the sun to dry. Jute is an exhausting crop to the land, and cannot be grown on the same plot for two years in succession. Some of the loss to the land is made up by scattering on the surface the leaves of the plant which are stripped from the stalks before they are steeped.

The quality of the jute grown in the Nadia district is inferior to that grown in the districts north of the Ganges. One reason for this is that in the latter districts the best lands are devoted to the crop, whereas in Nadia and other districts in the Presidency Division less care is taken in this respect; a further explanation as regards Nadia itself lies in the inherent infertility of the soil. The best jute has its fibres in long thick clusters, soft and fine, yet strong, of a white glistening colour and free from particles of the bark or wood. The inferior qualities have a coarse red fibre. The length or shortness of the stem is said not to affect the price; only its fineness, cleanness and silkiness are looked to.

RABI CROPS

Rabi crops generally are sown in October and early November, and reaped in March. The most important of these are gram, the normal acreage of which is 80,000, representing 14 per cent. of the normal net cropped area; and those which fall under the head of "other *rabi* cereals and pulses," such as peas and *masuri*: these latter occupy 10 per cent. of the normal net cropped areas. Wheat has declined in importance, and its normal acreage is now only 23,100. Barley is only grown on 7,500 acres. The normal outturn of the *rabi* crops in Nadia is rather under the average outturn in the other districts of the Presidency Division.

OTHER CROPS

Crops producing oilseeds occupy, between the different varieties, about 22 per cent. of the normal net cropped area. In some parts, especially in the Chuadanga Subdivision, the cultivation of chillies (*capsicum frutescens*) and turmeric

forms an important feature of the rural industry, and the peasant relies upon it to pay his rent. Indigo, the manufacture of which was once the most important industry in the district, now occupies only about 1,000 acres. About 20,000 acres are devoted to orchards and market-gardens. Generally speaking, the quality of the mangoes is not good, and in some parts of the district, especially in the Kalantar, even the common mango does not do well.¹ The cultivation of potatoes is extending especially in the south of the district near the railway line, in which parts other garden produce is freely grown (where the conditions of the soil permit) and exported to Calcutta.

CULTIVATION GENERALLY

So long ago as in 1872 the Collector reported that the proportion of spare land capable of being brought under cultivation was small, and probably as scarce as in other district in Lower Bengal. The proportion of such land is still smaller now, and consequently there is room for very little extension of cultivation. Moreover, little or no improvement in the methods of agriculture is observable, and but little progress in the way of the introduction of new or better varieties of crops.

RAINFALL

The character of a harvest depends, within certain wide limits, more on the seasonable distribution of the rainfall than on its absolute quantity. Although a well marked deficiency in the rainfall will certainly entail a deficient crop yield, yet the magnitude of the deficiency will depend on the distribution of the rain which fell. In the month of Baisakh (April-May) there should be light showers to facilitate the preparation of the land and supply moisture for the sowing of the *aus*. During the month of Jaistha (May-June) rain is not required, but in Asarh (June-July) there should be heavy falls to give plenty of moisture for

1. The cultivation of good mangoes from grafts is increasing, and many of the *amindars* now have good mango orchards.

the young *aus* crop, and to permit of the sowing of the *aman* seed in the nurseries. Heavy rain with intervals of fine weather for transplantation of the *aman* seedlings and for weeding is required during the month of Sraban (July-August). During Bhadra (August-September) longer intervals of fine weather are required to facilitate the reaping and threshing of the *aus* crop. Showers at intervals of about a week are required in Aswin (September-October), and lighter and less frequent showers in Kartik (October-November). There should be no rain in Agrahayan (November-December), but showers in Magh (December-January) are useful; a proverb which is frequently quoted in the district runs "*jadi barshe magher shesh dhanya raja punya desh,*" if it rains at the end of Magh, rich will be the king and blessed the county. No rain is required in the last two months, Phalgun and Chaitra.

CATTLE

The local cattle are very inferior; the pasturage available for them is deficient both in quantity and quality, and no care is taken to improve the breeds by selection or otherwise. The prices are low, averaging about Rs. 25/- for a cow and Rs. 30/- for a bullock. The practice of employing buffaloes in agricultural operations has become in recent years much more common than it used to be, as one pair of them can do the work of two pairs of the miserable local bullocks. The price of a buffalo is about Rs. 40/-.

OTHER DOMESTIC ANIMALS

The local breed of ponies is wretched; the average price is about Rs. 37/-. Goats are fairly common, but are not as a rule kept as a means of making a livelihood. Sheep are occasionally imported, but are rarely bred in the district. Pigs are kept by Bunas, and some of the lowest castes of Hindus.

VETERINARY WORK

The District Board expends about Rs. 1,000/- per annum on its Veterinary establishment.