

THE BENGAL FAMINE

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THE BENGAL FAMINE: THE BACKGROUND AND BASIC FACTS

BY PROFESSOR P. C. MAHALANOBIS, F.R.S.

I AM grateful to the East India Association for the opportunity to draw attention to certain aspects of the Bengal famine of 1943. A comprehensive report on the famine prepared by the Commission, presided over by Sir John Woodhead, was published by the Government of India last year. It is not necessary to go over the same ground again. The present paper, in fact, does not deal with the famine itself but attempts to give a general appreciation of economic conditions both before and after the famine.

NATURE OF THE MATERIAL

Even before the famine, information about the economic life of the rural population of Bengal was meagre. The census and other official statistics related mostly to the Province as a whole, and usually had no reference to different socio-economic strata. Reliable data relating to the famine itself were simply not available. Various attempts were made to gauge the intensity of incidence of the famine, but these were based mainly on general impressions. In this situation in March, 1944, it was decided that an extensive sample survey should be organized by the Indian Statistical Institute under my technical guidance with the collaboration of Professor K. P. Chattopadhyaya of the Calcutta University. Work on a small scale was started in May, 1944. The Government of Bengal gave some financial assistance, but owing to the delay in receiving sanction it was the end of July, 1944, before the work could be taken up on an adequate scale. The field survey continued till the beginning of February, 1945, under the general supervision of Professor Chattopadhyaya, with the help of a large number of voluntary workers and some paid investigators. The Government of Bengal, unfortunately, lost interest in the enquiry after it was started, and the original programme had to be curtailed for lack of funds. The analysis of the material was also delayed for the same reason.

The enquiry covered nearly 16,000 families selected at random from 386 villages in 41 (out of 86) administrative sub-divisions, scattered all over the Province. The sample was stratified on the basis of intensity of incidence of famine conditions in different sub-divisions as assessed by Government. Unfortunately, the results of the sample survey deviated in certain instances quite appreciably from the official classification, which meant that certain gaps were left in the data, especially in regions which were believed by Government to have been only slightly or not affected, but which, in fact, were appreciably affected, by famine conditions. Regions seriously or moderately affected were, however, adequately represented in the sample.

The margin of error was reasonably small and of the order of 4 per cent. or 5 per cent. of mean values in the cases studied. On the whole, the results supply a fairly reliable picture of economic conditions in Bengal before and after the famine. A report on certain portions of the material has been recently published in a paper on "A Sample Survey of the After-Effects of the Bengal Famine of 1943," by P. C. Mahalanobis, Ramkrishna Mukherjea and Ambika Ghosh in *Sankhya*, the *Indian Journal of Statistics*, Vol. 7, Part 4, April, 1946. The present paper is based largely on the above report; I have also used some of the material given in my earlier paper on "The Organization of Statistics," in the *Proceedings of the National Institute of Sciences of India*, September, 1943.

It will be convenient to start with a general picture of Bengal and its people based on census and other official publications. The statistics, however, are known to have appreciable (but undetermined) margins of error, and it will be safer to deal in round figures.

POPULATION AND FOOD SUPPLY

The area of the Province is about 70,000 sq. miles, comprising 86 administrative sub-divisions. The population in 1941 was about 61.5 millions. The rate of growth

in the preceding decade was a million per year; and 300,000 per year on an average during the 70-year period between 1872 and 1911. An increase of half a million each year in the near future is a safe guess. Setting off the increase in population between 1941 and 1943 against excess deaths in the famine year, one may speak of a population of about 61 millions just after the famine out of which 6 millions lived in urban and 55 millions in rural areas. The number of rural families (in the census sense of persons having food from the same kitchen) is estimated at 10.2 millions with an over-all average of 5.4 persons per family.

The official figure for the total area under cultivation is about 25 millions of acres, including double-cropped lands; but there are reasons to believe that the actual area is appreciably larger. Rice is the staple food as well as cash crop accounting for about 88 per cent. or 90 per cent. of the total cultivated area; jute is the next important money crop with a normal acreage of about 7 per cent. or 8 per cent. of the cultivated area. The area under *aman* (the chief winter rice) was probably 18 or 19 millions of acres before the famine. The average yield of rice is believed to be about 10 maunds (or, say, 820 lbs.) of rice (not in husk) per acre, giving an average out-turn of about 8.5 million tons of rice per year. Production and consumption of wheat or other cereals are negligible.

Reliable consumption figures are not available; the official estimate is 344 lbs. per head per year. Home-grown supply varied considerably, leading to a gross excess or deficit of a million and a half tons in individual years. This is normally balanced by export or import from outside the Province. The net import was about 100,000 tons on an average during the 7 years 1933-34 to 1939-40 for which data are available. The home-grown supply of rice had thus become already inadequate when war broke out.

OCCUPATIONAL DISTRIBUTION

This is as far as one can go with official statistics, which relate mostly to the Province as a whole. The sample survey, fortunately, supplies a more detailed picture. The occupational distribution in rural areas may be first considered. Agriculture in a broad sense was the occupation of about 40 millions, or 72 per cent. of the total rural population of 55 millions. This was made up of the "agriculture" group proper of about 18 millions (32.7 per cent.), consisting of *ryots* or peasant proprietors, who actually cultivate their own land or land taken on lease, but do not work as hired labour; about 9 millions (16.8 per cent.) in the group "agriculture and labour," who not only cultivate their own land or land taken on a share basis, but also work as agricultural labourers; another 9 millions (16.5 per cent.) of "agricultural labourers" who do not own any land; and 3.3 millions (6 per cent.) of "non-cultivating owners," consisting of owners of large holdings; as well as widows and invalids who have their land cultivated by hired labourers or on a share basis. Among other rural groups mention may be made of "crafts" (about 6.8 per cent., or 3.8 millions) following various village industries, "trade" (about 6.7 per cent. or 3.7 millions), minor professions and service (about 6.8 per cent. or 3.7 millions), and "fishing" (1.4 per cent. or about 80,000).

LAND POSITION BEFORE THE FAMINE

Rural Bengal in 1943 was thus primarily agricultural, and yet the land position was extremely precarious. About 36.2 per cent., or more than one-third of all rural families, did not own any rice land, while about 40.5 per cent., or two-fifths, had less than 2 acres. Now, in the opinion of many economists and agricultural experts, the subsistence level is usually taken to be 2 acres of rice land per family on an average. About 76.7 per cent., or three-fourths of all rural families, thus owned rice land less than the subsistence level. The over-all average for the Province as a whole was 1.8 acre of rice land per family.

The point to be emphasized, then, is that, in the case of 76.7 per cent., or three-fourths of all families, the amount of rice land owned was on the border line or even below the subsistence level. The position was, however, further aggravated by inequalities of distribution geographically as well as among different socio-economic groups. A number of sub-divisions were distinctly worse off in having a larger

number of families owning less than 2 acres; and the present survey showed that the incidence of the famine was usually most severe in these sub-divisions. This is, of course, just what is to be expected. Regions in which there were more families with rice land below subsistence level were naturally more vulnerable to the famine.

TRANSFER OF RICE LAND DURING THE FAMINE

During the period April, 1943, to April, 1944, about 260,000 families had sold their rice land in full, and had thus lost their only or chief means of livelihood; about 660,000 had sold their rice land in part, and about 670,000 had mortgaged their rice land. In other words 1.5 million families (or one-fourth of the number which had owned rice land before the famine) had either sold in full or in part or had mortgaged their rice land.

Sales in full were most important in families owning less than 2 acres; about a quarter of a million were obliged to do this and had lost their chief means of livelihood. On the other hand only about 20,000 in the middle group (out of 1.62 millions owning between 2 and 5 acres) and less than 4,000 (out of 88,000 families owning more than 5 acres) sold all their rice land.

Sales in part were proportionately least frequent in the lowest group (300,000 families, or 7.4 per cent., out of 4 millions owning less than 2 acres); and most frequent in the middle range (250,000, or 15.3 per cent., out of 1.62 millions owning between 2 and 5 acres), and quite frequent (110,000, or 12.5 per cent., out of 880,000) in the upper group owning about 5 acres of land. Families in the lowest group who sold their rice land were obliged to do so in full rather than in part. In the upper group, sales in part were mostly due to the very high price of rice land (sometimes 3 or 4 times higher than in normal times), which was a characteristic feature during the famine year. In the middle group, sales in part were probably due either to distress or to the desire to profit depending on the economic circumstances of individual families. On the whole, large numbers of poorer families lost all their land, while some of the richer families made large profits.

The occupational distribution of sales or mortgages is also significant. Mortgaging (7.2 per cent.) or selling rice land in part (9.9 per cent.) was heaviest, but sales in full were comparatively low (2.4 per cent.) among the group "agriculture," showing that there was general impoverishment, but not much of actual pauperization among the cultivating families owning their own land. The group "agriculture and labour," who both cultivate their own land and work as hired labourers, was much more seriously affected (6.0 per cent. sales in full, 7.7 per cent. sales in part and 7.6 per cent. mortgages), showing that impoverishment and pauperization was widespread in this section. The majority of "non-cultivating owners" were well off, so that the proportion of families selling or mortgaging land was low. The group "agricultural labour" and other non-agricultural groups had little of rice land, and did not naturally participate in sales or mortgages.

As already noted, geographical regions in which families owned, on an average, less rice land were more severely affected by the famine. Families owning less land were obliged to sell or mortgage more heavily, which further increased the inequalities of distribution of rice land in the Province.

The most significant fact to be noted is that 260,000 families (out of 6.5 millions owning rice land before the famine) had totally lost their holdings and had thus been reduced to the rank of landless labour. Another fact is worth noting. Out of about 710,000 acres of rice land changing hands during the famine only about 290,000 had been purchased back in the villages. Roughly 420,000 acres of rice land had thus passed to outsiders, possibly "non-cultivating owners" residing in urban areas. Among the cultivators and non-cultivating owners roughly half the land sold had been purchased back. But among families depending on employment as hired labourers only about 10 per cent. of the land sold had been replaced by purchase, so that the net loss was most severe in this sector.

PLOUGH CATTLE

The cattle position was not satisfactory before the famine. The sample survey showed that there were about 7.9 millions of plough cattle in 1943 with a share of

about 4½ acres of rice land per pair of bullocks, which, according to many economists, was only just adequate or fell short of requirements. Altogether 500,000 plough cattle had died, while about 940,000 had been sold; only about a fourth (350,000) had been replaced by purchase, so that the net loss was over a million (13 per cent.) during the famine, which was most serious. About 300,000, or 8.5 per cent., of rural families in Bengal had probably lost all their cattle, making it practically impossible for them to carry on agricultural operations on their own. The loss was proportionately heaviest among the two groups "agriculture" and "agriculture and labour," which were mainly concerned with agriculture.

One fact is significant. Sales of cattle largely exceeded purchases, showing that transfers must have taken place not merely from one rural family to another but that large purchases had been made by outsiders (possibly contractors for the supply of meat for army consumption).

ECONOMIC DETERIORATION

An attempt was made to estimate the extent of economic deterioration by the number of families which got transferred from an occupation at a higher economic level to one at a lower level. About 700,000 families had suffered a lowering of economic status with consequent decrease in earning power. Using 5.4 as the average size of the family, it appears that the economic position of nearly 4 millions of persons had deteriorated during the famine.

The rate of destitution (*i.e.*, proportion of persons living on charity) was 1.07 per cent. at the time of the 1941 census; corresponding statistics for 1941 are, however, not available as relevant tables were not compiled. Assuming that the 1931 rate had been maintained, the total number of destitute persons (on the basis of a rural population of 55 millions) should have been about 590,000 in January, 1943. The sample estimate was 750,000, showing that early in 1943 the number of destitutes had already increased by about 160,000. There was a further increase of about 330,000 between January, 1943, and May, 1944. At the normal rate of 1.07 per cent. the number of destitutes in May, 1944, should have been about 600,000; the sample figure was nearly 1.1 millions, showing that about half a million had become destitutes under war and famine conditions in Bengal.

In actual numbers, landless labour had contributed the largest share of new destitutes; other groups in decreasing order of importance were "agriculture," "agriculture and labour," "craft," "fishing" and "trade." "Non-cultivating owners" and persons engaged in "transport" or "husking paddy" were least affected. Proportionately to their total numbers, the groups most seriously affected were "fishing," then landless "agricultural labour" and "craft." This fits in quite well with known conditions in Bengal. Owing to destruction of boats and interruptions in communications families living on fishing and village crafts had suffered very severely.

It is worth noting that economic deterioration was more important than destitution among the two groups "agriculture" and "agriculture and labour" which had land of their own, while the reverse was the case among the landless labour and other non-agricultural groups. Economic deterioration was relatively more important among families living by "trade," "transport," "non-agricultural labour," "service" and "craft," while destitution was relatively more important among families "husking paddy" or "fishing." Non-cultivating owners of land were, of course, least affected. Evidently families which owned land or could live on their assets or those who could secure employment as hired labour (of which there was acute shortage owing to war conditions) were better able to resist destitution, while families in a more precarious position had succumbed more easily to famine conditions.

The chief cause of destitution was death of earning members of the family, and, next in importance, sickness or unemployment of the earners. Compared to the age distribution of destitutes in January, 1943, before the famine, the largest proportion of new destitutes had come during the famine period from younger age groups. The proportion of destitute women was greater than destitute men, especially in the age groups 15 to 50 years. All this has created serious socio-economic problems.

ACCELERATED CHANGES

Even in the pre-famine period (January, 1939, to January, 1943) the proportion of families suffering economic deterioration and destitution (6·8 per cent.) was much larger than the proportion which had improved their economic status (3·3 per cent.); the position of about 1·1 per cent. was not clear. This shows that economic deterioration had started definitely in the pre-famine period, which culminated in the famine itself.

Rates of economic change became far more rapid during the famine. Improvement in economic position during the famine was relatively twice as great as that in the famine period, showing that it had become easier in certain ways to become rich more quickly. This was, however, set off by a three times greater rate of economic deterioration and twelve times greater rate of destitution. The famine period was thus one of accelerated economic changes. Improvement of economic conditions was more rapid, but was restricted to a comparatively small number of families. Deterioration and destitution had become even more violently accelerated, and were shared by a much larger number of families. Roughly 85 per cent. of the families, however, maintained their *status quo*, showing that a large degree of economic inertia had persisted even under famine conditions.

GENERAL REVIEW

The general picture is quite clear. Certain regions were very seriously affected by the famine; others to a moderate extent; still others only to a slight extent. This shows that large regional differences had existed even in normal times, which became further accentuated during the famine.

The poorer sections of the community, especially landless labour, fishermen and village craftsmen, were most severely affected, and many were rendered destitute. Families in middle economic groups who had some land of their own or other assets were naturally less vulnerable. Families in the upper groups were more or less immune and had sometimes even prospered.

There is clear evidence to show that economic deterioration had started even in the pre-famine period; a comparatively small number of families were improving their economic position, while a far larger number were suffering deterioration or destitution. During the famine period the whole process was much accelerated, but the general nature of the changes remained the same. A small number of families became richer, but a much larger number were impoverished or rendered destitute. The famine of 1943 was thus not an accident like an earthquake or a flood, but the culmination of economic changes which were going on even in normal times.

Recently the United Nations Economic Council has decided to set up a special committee to study the problem. I speak as a statistician, and I found that although I approached all classes and races of people I found that my efforts failed to induce the Government of Bengal to take the problem seriously. I feel that facts will not prevent famine, but they help one to take certain measures in time and I do hope that some of the tools which are available will be used in future. My survey was started with a grant, the Government took ten weeks to decide to make that grant; we sent in reports and in September, 1945, we wrote a letter and I received a reply in March, 1946, which showed that they had forgotten they had given a grant towards the making of the survey. They asked for a report and I sent it to them two days before I left. Statistics are a minor detail, but they do help, and I accepted your invitation because of that.