

Population and Nutrition in the Year 2000

By

JEAN-MICHEL VAN GINDERTAEL

ANY period in history has meaning only because of the people who live in it. The year 2000, which is only 32 earth-sun revolutions away, is likely to be marked by the number of people, by a huge increase in the human family. According to the best available evidence, the present world population of 3,500 million will by then have doubled.

This will of course not be earth's first population shock wave—we can point, for example, to the peopling of the empty lands of North America or Siberia in modern times or, in reverse, to the vast depopulation caused by the Black Death in the Middle Ages. But now the increase is on such a scale that the whole of mankind will be involved—all of us, no matter what corner of the globe we inhabit.

This new solidarity is perhaps but the counterpart to the threat of massive destruction by atomic weapons, but, no matter whether the human race is on the brink of annihilation or of further multiplication, this sense of solidarity exists.

The world's population has been increasing steadily for centuries, but the growth is accelerating. According to the experts, the world's entire population was only about two or three hundred million at the beginning of the Christian era. It took 16 centuries, i.e., until the Renaissance, to double in size. But by 1850 the total had reached 1,000 million, and 2,000 million by about 1930. The pace continues to quicken, creating an impetus condemned by many as foolish and unconsidered, for they argue that the earth cannot feed an infinite number of mouths. Even now, in the year 1968, only a few privileged countries enjoy an abundant or indeed overabundant food supply.

It may however be wrong to

see the problem in a pessimistic light, for it has not been demonstrated that our planet will be unable to nourish a much larger population. The British economist Colin Clark has asserted that, by making the most of science and technology, it would be possible to produce enough amino-acids to sustain 45,000 million people. This figure is challenged by other authorities, however, for a world population of such dimension would throw unbearable strains of a different nature on our resources. Not only would it be necessary to cultivate every inch of available land—further space would have to be found, in itself agriculturally unproductive, for new towns, new roads, all the other bits and pieces needed on account of man not living "by bread alone." It must not be forgotten, however, that there are many countries today which cannot develop their agriculture efficiently because of low population density. It is not always the most densely-populated countries which have nutrition difficulties. Malnutrition occurs in New Guinea, for example, where there is only one per square kilometre, as well as in scantily-populated areas of South America and Africa. On the other hand, densely populated countries like Belgium and Holland have ample food supplies.

The equation linking overpopulation and hunger can only be understood if a number of other essential factors are taken into account. These factors include the level of economic development, education, climate, and the quality of the soil. There are also some highly industrialized countries which rely largely on food produced elsewhere. But a developing country which has to make huge purchases of wheat or other foods abroad in order to meet the needs of her people, inevitably weakens her foreign exchange position thereby

putting a brake on her own industrial and agricultural development and puts off the day when she will be independent of foreign economic aid. The food situation in many countries is also worsened by religious taboos, by lack of nutrition education and by vast though preventable wastage (rats, for example).

Education has a very important part to play. Too often we find malnutrition, even hunger, in regions where in theory food should not be scarce. When, for some local reason, there is a ban on eating eggs or fish or certain kinds of meat, people often substitute things which are low in vitamins, iron and amino-acids, and therefore are not sufficiently nutritious. Very often these dietary deficiencies aggravate the condition of persons already weakened by parasitic diseases, such as bilharziasis and ankylostomiasis. In Africa, for example, deficiency diseases, such as kwashiorkor, are widespread. Their early stages have been diagnosed in 30 per cent of children in the weeks following weaning, and they cause thousands of deaths every year.

Fortunately, modern science is potentially capable of meeting the challenge of a population of 6,000 million or 7,000 million by the year 2000. But to do so, total world food production would have to be increased by 170 per cent. and products of animal origin by 200 per cent. The production increase required in the developing countries, where nutritional deficiencies are most frequent, would have to be of the order of 500 per cent. (i.e. six times the present output).

There would also have to be a radical adjustment (will it ever be achieved?) of world trade sweeping away the present division between "rich" and "poor" countries. We could take another step in the right direction if consumers could be

persuaded to change their food habits to some degree. Governments could make an important contribution by subsidizing certain food products which are rich in protein. Groundnuts, oilseed and even some industrial residues now used in their raw state as cattle fodder could be specially treated for human consumption.

A cautious optimism thus seems justified. Certain amino-acids can already be manufactured synthetically, though in small quantities, but we are still a long way from the point where they could usefully be incorporated in actual diet. Studies have also been made of the possibilities of using plankton, seaweed, yeasts, even bacteria operating on chemical products with a petroleum base. Sea farming also offers interesting possibilities. During a recent conference on development, it was suggested that large-scale breeding grounds be established where fry would be safe from their natural enemies, and fed until big enough to fend for themselves. They would then be released in the fishing grounds. Since the fishing fleets of all nations have equal rights in these grounds outside territorial waters, systematic restocking would have to be carried out within the framework of international agreement.

Some experts at the conference even suggested that the sea-bed which, to all intents and purposes, is a vast compost heap, might be exploited. Remote-control harrowing equipment might be used, or even compressed air, which would turn over the sediment and bring rich, nutritive materials closer to the surface.

But it is not enough simply to find more food. Man also needs shelter, education, welfare and a social life. He needs not only the means, but also a reason to live. All this may still be within the bounds of achievement in a world of 7,000 million people, as predicted for the year 2000. But all our hopes would be submerged if the present geometric rate of progression were to continue: some 40 years later there would be a population of 12,000 million. Children now being born may well live to see

the year 2040.

The mind has difficulty in grasping such possibilities, and many may dismiss the figures as mere abstractions. We try to persuade ourselves that some providential *deus ex machina* will slow down the world's population growth over the next decades, we argue that, as regards developed countries, the birth rate is reasonable in the United States, moderate in France, and insufficient in such countries as Belgium and Hungary. It does appear that the rate of increase in the industrialised countries started flattening out as soon as a certain level of economic development and social well-being was reached. But by a quirk of fate it is in those countries where existence is most precarious that the population is expanding most rapidly.

A number of explanations have been advanced by sociologists. The most persuasive is based on the steady improvement of man's health over the past hundred years. This is perhaps to be ascribed not so much to medical progress as to general advances in hygiene, ranging from the purity of water to working conditions in factories, without forgetting the important role of compulsory schooling for all children. In the absence of statistics, we have no means of knowing the full ravages of mother and child mortality before the beginning of the twentieth century. What we do know, however, is that even in recent times in Europe, it was taken for granted that of a family of six or seven brothers and sisters, three or four would die in childhood.

On the other hand, in any economy where child labour was quite legal and children were exploited without the slightest scruple—see the pages of Dickens—the large family offered a primitive kind of social security at a time when official systems were non-existent. Farms were unmechanized, and needed armies of workers, while in the cities the apprenticeship system was a substitute for schooling, and relieved the father of a family of his material responsibilities as early as possible.

While this social pattern has almost vanished in the developed countries, such is far from being the case in the economically less advanced countries which are desperately trying to catch up the hundred years' advance that industrialization and increasing social justice have bestowed on North America, Europe, the USSR, Japan, Australia and New Zealand. But until industrialization arrives, the developing countries adhere to the traditional family pattern, even though we are now in an era where a child born anywhere in the world has a better chance than ever before of achieving his normal life-span.

That infantile mortality is decreasing is obviously to be welcomed, and we must see to it that over the next decades a common standard of health is achieved for all mankind, something which is far from being the case at present. The fact remains that health work is ahead of economic development, and if this gap persists, it will be detrimental to both.

It took India hundreds of years, from the dawn of her history until the present day, to bring her population to 500 million. But if the population continues to increase at its present rate, another 500 million will have been added between now and the end of the century, i.e. in about 30 years. It is hard to imagine the gigantic investments needed to create a viable economy that would yield adequate reinvestments in the form of housing, hospitals and roads for a population that has doubled in size. Yet even if all the aid now available from the highly developed nations were devoted to India alone, it would still not be enough to meet present needs.

Should there be fewer children? Some countries say yes as far as they are concerned. In other countries where the population pyramid is already out of shape and where the progress of medicine by increasing the average life-span threatens to make it top heavy there should be more children. Birth control is advocated in some countries, condemned in others, and in yet others is a matter of indifference.

(Contd. on page 123)