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978-1-107-40686-5 - Resources ANI Population: A Study of the Gurungs of Nepal

Alan Macfarlane

Excerpt

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## I

## Demography and anthropology

Few people would now dispute Paul Ehrlich's statement that 'The explosive growth of the human population is the most significant terrestrial event of the past million millenia'.<sup>1</sup> Nor is it easy to argue with McNamara's view that the population problem is 'by half a dozen criteria, the most delicate and difficult issue of our era – perhaps of any era in history. It is overlaid with emotion. It is controversial. It is subtle. Above all, it is immeasurably complex'.<sup>2</sup> At the regional level we have endorsement from Gunnar Myrdal who spoke of the 'population explosion in recent years, which constitutes by far the most important social change in South Asia, overshadowing everything else that has happened'.<sup>3</sup> A brief look at a few well-known figures will remind us of the current situation.

Population figures before about 1650 are notoriously inaccurate, but a rough guess has been made in table I.1.

There are other ways of putting such figures. Each day world population increases by over 200,000 persons; by the end of this century, on present projections, it will be increasing by 500,000 every day. It took a million years for world population to double, from about 2½ million to 5 million in 6000 B.C. By the end of this century we will be adding such a 2½ million every 5 days. By the year 2000 there are projected to be about 7½ billion human beings on the earth. A number of countries now have 3 % and 4 % annual growth rates, thus

TABLE I.1 *Doubling times*

Date	Estimated world population	Time for population to double
B.C. 8000	5 million	1500
A.D. 1650	500 million	200 years
A.D. 1850	1000 million	80 years
A.D. 1930	2000 million	45 years
A.D. 1975	4000 million	
Estimated doubling time around 1970: 35–7 years		

Source: *Population, Resources, Environment: Issues in Human Ecology*, 2nd edn., by Paul R. Ehrlich & Anne H. Ehrlich, p. 6. W. H. Freeman & Co. Copyright © 1972.

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their population doubles every twenty years or less. A rate of 3 % growth, a little higher than that of current world growth, means a thousand-fold increase over two centuries. Over a longer period, the increases are even more astonishing. If one hundred persons had been alive in 5000 B.C. and had increased at less than *half* current world rates, in other words at 1 % per annum, there would currently be 2.7 billion persons per square foot of land surface on the earth.<sup>4</sup> It is with such principles in mind that we can understand, for example, how Java has grown from approximately 4 million in the year 1800 to roughly 70 million in 1970, and will, at current rates, have some 4 billion in the year 2100; thus roughly equalling the whole of world population at present.<sup>5</sup>

Historians of pre-industrial England have recently recognized the enormous effects of population growth on social and economic institutions. Lawrence Stone has commented that 'Population pressure has replaced the wicked enclosing or rackrenting landlord as the *diabolus ex machina*. . . It was demographic growth which stimulated the change to a market economy. . . It was relentless demographic growth which multiplied the number of villagers until the pressure on the land became acute. . .'<sup>6</sup> Yet we may wonder how such growth compares with that in currently developing countries. It would seem that between 1500 and 1640 English population doubled, an average growth of just 0.5 % p.a.<sup>7</sup> Many countries in Asia and Africa and Latin America are now increasing at over 2 % p.a. and doubling in 35 years rather than in 140. If historians have diagnosed shattering effects from such a relatively small rate of growth, we would expect that anthropologists, often doing fieldwork in societies where very much greater changes are occurring, would have noticed far greater repercussions. Furthermore, we might expect that living for a while in societies where birth, marriage and death are so clearly very important would have made observers interested in demography. Extensive analysis of the social framework of reproduction, kinship, marriage and sexual behaviour, did, indeed, emerge. It is one of the most revealing indications of the blinding effects of a theoretical system that fieldworkers should have almost entirely managed to miss the most important social change that was occurring in the society around them. A brief analysis of how this omission occurred throws some light on the current state of anthropological research. It is also necessary, since it may help anthropologists to apply themselves to a task of unparalleled importance. We are rapidly moving towards a population catastrophe which will make past plagues and two world wars seem insignificant by comparison. Any contributions which can be made to mitigate this disaster would be acceptable; it is too late completely to avoid it.

That the anthropological record is unsatisfactory has been pointed out by a number of writers, including anthropologists. Some time ago Myrdal commented that the 'rapidly accumulating village surveys show an astonishing

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lack of interest in local health conditions, or in demographic changes and their social and economic consequences'.<sup>8</sup> Recently, Geoffrey Hawthorn has written that 'With a small handful of creditable exceptions, social anthropologists have not been given to collecting statistics, or to collecting data over any period of time, and both are necessary for a demographic picture'.<sup>9</sup> The anthropologist Burton Benedict concludes that 'the information we have about population regulation in simple societies is extremely poor. Very few anthropologists have been concerned with this problem . . . The quantitative data they have collected on population growth or decline have not been very systematic or complete, nor have the data been collected in such a way as to make comparisons from society to society possible'.<sup>10</sup> The contribution by social anthropologists up to 1968 was disappointing.<sup>11</sup> The voices of the profession indicated little interest: the *Biennial Review of Anthropology, Man*, the *British Journal of Sociology*, the *Association of Social Anthropology* collections, none of these included, to that date, more than the most occasional reference to anthropological work on population. It is true that *Notes and Queries in Anthropology* suggested fieldworkers collect 'urgently needed' material 'for the study of the relation between demographic conditions and social institutions'.<sup>12</sup> Yet if we look at more recent textbooks, for example those by Beattie or Lienhardt,<sup>13</sup> we do not find the subjects 'demography' or 'population' in the indexes. It is not surprising, therefore, that when Hauser and Duncan produced an inventory of important work on demography there should be chapters on 'Physical Anthropology and Demography', 'Genetics and Demography', 'Sociology and Demography', but nothing on social anthropology and demography.<sup>14</sup>

If we turn to specific monographs produced by social anthropologists during the last two generations the lack of interest is also apparent. This is openly admitted by fieldworkers. Colin Turnbull has written that 'as a social anthropologist myself I am very aware that our interests have led us in other directions, and that our time in the field tends to be occupied in trying to grapple with problems more directly related to those interests, and that it simply is not possible to devote the time to the kind of minute detail and data collection that would be required for effective demographic study'.<sup>15</sup> Instances of neglect could be multiplied indefinitely, so that it is somewhat invidious to pick on cases, but three examples may be cited. Obeyesekere in his work on Madagama land tenure noted (on p. 305) that there were 79 people in the village in 1911; in 1961, we learn (on p. 8) there were 289. Yet this 400 % increase in fifty years is nowhere discussed.<sup>16</sup> Stirling remarks of his Turkish village that 'population has apparently expanded rapidly in the last generation and is still increasing', yet the causes or effects of this change are not discussed.<sup>17</sup> Bailey admitted that due 'partly to an oversight, while in the field I did not seek past

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population figures for the village' and explicitly abdicates the right to analyse demographic factors.<sup>18</sup> Other anthropologists have recognized the need for social anthropology and demography to complement each other, but have usually not been able to effect this.<sup>19</sup>

There are a number of exceptions to this picture. Early work by Daryll Forde<sup>20</sup> and Krzywichi<sup>21</sup> in compiling some fairly simple statistics was complemented by the material of Fortes and Richards in Lorimer's collection on *Culture and Human Fertility*.<sup>22</sup> Firth, Borrie and Spillius published useful material on the demography of Tikopia,<sup>23</sup> as did Mitchell on the Yao<sup>24</sup> and Roberts on the Dinka.<sup>25</sup> Nag collected most of the data together from the Cross Cultural Files,<sup>26</sup> and Ardener contributed to the study of infertility.<sup>27</sup> This almost exhausts the list of direct contributions by social anthropologists, the only other major exceptions being Mary Douglas' analysis of 'Population control in primitive groups'<sup>28</sup> and Benedict's summary of speculations on the demography of small-scale societies.<sup>29</sup> During the years since 1968 the population crisis has deepened but, despite a growing spate of work on population, the anthropological contribution has not been considerable. A major intensive community study of family planning, the Khanna project, has been effectively criticized by a young anthropologist.<sup>30</sup> A good deal of time and money has been spent on large-scale conferences.<sup>31</sup> A useful collection of work edited by Harrison and Boyce contains a good critique of family planning in Mauritius by Benedict, some helpful work on the demographic features of the Mbuti and Ik by Turnbull, and a stimulating essay by Kunststadter which I shall discuss later.<sup>32</sup> A number of essays by Goody on inheritance and heirship also have demographic implications.<sup>33</sup>

The major development in the last six years has been in 'ecological anthropology', an approach which has a self-conscious interest in population factors as one of the central features of ecological balance. Outstanding among the contributions here are Geertz's work on Java<sup>34</sup> and work on New Guinea by Rappaport, Clarke, Waddell, Brookfield and Brown.<sup>35</sup> Other pioneering work, particularly by Parrack, Lee, Vayda, Wagley and Sahlins, following the earlier work of Barth, is conveniently collected in the reader edited by Vayda.<sup>36</sup> A somewhat similar approach is adopted in Ekvall's essay in a collection significantly titled *Population Growth: Anthropological Implications*.<sup>37</sup> This collection indicates the growing interest in the subject, as does a collection of essays presented at the second demography seminar at Port Moresby.<sup>38</sup> The subject of the relation between population and resources which preoccupies 'ecological anthropology' is an impetus to more sophisticated demographic work. So is the rapid development of neighbouring disciplines concerned with population, particularly historical demography,<sup>39</sup> genetics,<sup>40</sup> the sociology of fertility,<sup>41</sup> the ecology of animal behavior,<sup>42</sup> as well as 'ecology'

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as a subject in its own right.<sup>43</sup> Yet, despite this theoretical impetus and the practical necessities forcing a growing interest, there are still very considerable obstacles to major work on social demography on the part of social anthropologists. Until these difficulties are located and removed, progress is unlikely.

For the purposes of argument we may isolate four major obstacles to a union between demography and anthropology. Three out of four of them posed very serious difficulties, which will be apparent in the following discussion of Nepalese demography. The first problem is the basic assumption, implicit in most anthropological work, that population growth is unimportant as a variable. The second is the basic difference between the disciplines of anthropology and demography; one is characteristically static and the other dynamic. Thirdly, anthropology tends to be qualitative and demography quantitative. Fourthly, there is the technical difficulty of establishing ages in many non-literate societies.

The assumption that demographic factors are unimportant, or beyond analysis, is very deep-rooted. It partly stems from the Malthusian premise that economic organization is the determining variable and population growth and structure the dependent one. Anthropologists tend to make the same assumption with regard to social structure and mentality as 'determinants' of population structure. It is no coincidence, as we shall see, that they have contributed more to the analysis of the factors affecting demographic growth than to the analysis of the *consequences* of features of population. This is a self-confirming hypothesis. If little interest is shown in collecting the data for analysing population, demography appears to have little significance. Yet the brief survey which we shall shortly make of some possible causes and consequences of population patterns amply illustrates that they are both a cause *and* a consequence of social structure, economic organization, attitudes. Furthermore, in the models discussed in the conclusion to this work, we shall see that the counter-Malthusians, notably Boserup, have presented a strong case for making us believe that demographic growth is often an independent variable – with economic change as its consequence. If this is more broadly interpreted, it suggests that we should look at population patterns as a determinant of social and mental structure as well as determined by them. Thus population is not an epiphenomena of 'real' features like kinship and marriage and hence of secondary interest. On the other hand it is not an entirely independent variable, biologically determined and without any feed-back from social or economic factors. The interplay between population patterns and the elements more usually analysed by anthropologists is very powerful, though subtle. Although population growth cannot be grasped as *the* explanation of all social, economic or political change, it is clearly one of the most powerful

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forces shaping the world today. Hence it deserves especial attention from anthropologists. It is susceptible to such attention since the facts of birth, marriage and death are socially determined, and so come within the view of social anthropologists.

As Wilbert Moore, among others, has pointed out, demography is explicitly concerned with change over time.<sup>44</sup> Speculations can only be made when it is possible to see alterations in fertility, mortality, or other demographic phenomena, over a period of time. Most anthropological studies during the last several decades, however, have tended to be static cross-sections of a particular society at the point in time at which the society was visited by a field-worker.<sup>45</sup> The absence of written history seemed to make this a necessity and the functionalist and structuralist approaches make a virtue of this necessity by devising explanations in terms of *present* functions and structure. Again there was a self-confirming element in this process. Historical material was consciously or unconsciously ignored because it was considered unimportant to the theoretical framework. It is likely that interest in the history of non-industrial societies which has grown amongst anthropologists in the last two decades will make it easier for them to incorporate demographic factors into their analysis. Such incorporation will prove to be of great benefit. It is clear that many of the major achievements of anthropology were connected to the functionalist hypotheses, yet such interpretations found it very difficult to deal with change over time. Other, more flexible, models are increasingly needed on which to hang observations of a more historical kind. Some of these can be supplied by demographic investigations which have always been attentive to the time element. Again, Wilbert Moore has made the point: namely that the dynamic element intrinsic in demographic work helps to force anthropology from its static plain.<sup>46</sup>

Yet anthropologists did not fail to contribute much to demographic analysis merely because of outworn theories. There are practical difficulties of a very considerable kind in undertaking good work on non-literate societies, and the shortcomings of the following analysis of the Gurungs illustrate some of these. Serious demographic work requires not only data over a long period, but *quantitative* data over a long period, as well as in the present. The normal fieldwork situation means that evidence gathered from informants tends to be impressionistic and non-statistical. The description is usually either of what *ought* to happen or what *is thought* to happen, rather than what actually, if counted, happens. This deficiency also afflicted economic anthropology, but could be partially overcome by even a single fieldworker who was prepared to undertake a great deal of counting of transactions, assets, relationships.<sup>47</sup> Economic anthropologists also had the advantage that historical records of land and taxation are much more likely to exist than the raw materials for

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demographic history, namely the registration of births, deaths and marriages, and household censuses. This is reflected, for instance, in the fact that the data in the 'Resources' discussion below is much more extensive than that under 'Population'. Demographic anthropologists rarely find such records and, furthermore, their data is much less concentrated than that of economic or social analysts. In a community of a thousand individuals there will be, on average, only about one hundred vital events, that is births, marriages and deaths, in the one year of an anthropologist's visit. Fluctuations in rates in such a small community are enormous, and professional demographers would place very little reliance on such a small, non-random, sample. Any attempt to break down such events, by age or socio-economic status, would soon make the statistics meaninglessly small. Yet the very foundations of anthropological methodology rest on the intensive, face-to-face, study of very small communities. To take one single aspect, demography, and study it over a much wider area and time span would undermine the foundation of the discipline, the study of the multi-stranded interconnectedness of human life, and dissipate its aims. Yet the concentration on one community makes it impossible, without historical figures, to measure even the most simple demographic features, such as whether a community is growing or declining, and at what speed.<sup>48</sup>

Another practical difficulty is the absence of accurate age-reporting in many non-literate societies. More and more the study of demography requires accurate ages; particularly age at marriage, age-specific fertility and age-specific mortality. The difficulty is highlighted by the various techniques which anthropologists have devised to deal with lack of knowledge. There is the method of constructing a calendar of major events that have occurred in a local community over the last fifty or so years and then attempting to find out how particular vital registration events are related to it.<sup>49</sup> 'Was X born after or before the Great Flood?' for example. Female ages are particularly important; Forde tried to deduce age structure from female age grades<sup>50</sup> and Reining and Richards attempted to estimate age at puberty from the physical growth of breasts.<sup>51</sup> Various tests were developed by demographers to see how accurate any statistics of age were.<sup>52</sup> Sometimes an investigator was fortunate enough to study a society which had some calendar of its own; for example the Lepchas of Sikkim studied by Gorer had adopted the twelve-year Tibetan animal cycle and each individual knew under which animal sign he was born.<sup>53</sup> It was the presence of a similar system among the Gurungs of central Nepal that made it possible to undertake some of the demographic study reported in this work.

The basic demographic data around which the social and economic factors are to be woven might be thought to be out of the reach of social anthropologists.

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That this is not entirely the case has been shown by several small but notable studies, for example those by Firth and Mitchell already cited, and another by the demographer Carrier on the Rungus Dusun. Carrier was prepared to limit himself to a tiny sample, only 185 persons in all, yet still expected to obtain worthwhile results by asking how often people had married, how previous marriages had been terminated, the number, sex and age of children still alive of each woman and the age at death of women now dead.<sup>54</sup> The advantages of studying such a small community, even for demographic analysis, are very great. 'Microdemography' can combine some meaningful estimates of general demographic trends with intensive study of the social and economic correlates of such trends, and can still make a very useful contribution to population studies. As the Nashes have observed, the major demographic patterns of a society 'rest on a combination of social, cultural, and psychological factors which can only be uncovered through the intensive methods of the field anthropologist'.<sup>55</sup> The discussion of the relation between resources and population in central Nepal will illustrate some of the severe limitations of demographic work but will also, it is hoped, show that some analysis is possible.

The society analysed below was not specifically chosen because of its potential as demographic fodder. But it does have certain features which make it both easier to investigate and especially worthy of such investigation. Firstly, as noted above, most informants know their ages accurately and this is of enormous importance. Secondly, the Gurungs have traditionally been one of the major tribes recruited into the Gurkha regiments of the Indian and British armies. The absence of a large proportion of adult males and the inflow of cash from the army are likely to have considerable effects on the demographic, social and economic patterns of the society. The consequences of this migratory labour will be one of the central features of the analysis.

Above all, ecology, the study of the relationship between man and his resources in a particular setting, is the general theme. The permanent settlement and proliferation of a hitherto nomadic tribe has altered the whole balance of natural resources in the area. To study this change it has been necessary to make as much use as possible of the meagre historical sources. With their aid it is possible to see that every feature of the society has been changing very rapidly. On the surface, a year's visit gives an impression of stability and permanence. In fact, changes which took many millenia to occur in other parts of the world have been concentrated into the last hundred years in Nepal. The pressures correlated with fertility and mortality are particularly stressed in the following analysis since I believe it is demographic fluctuations which underlie many of the social and economic changes in the area.

In the following chapters we will first survey Gurung economics. The



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long-term changes which have occurred and the present stocks of land and other resources will be described. The production and consumption patterns of this Himalayan society will be analysed in considerable detail in order to see how labour is allocated and whether households have surpluses or deficits in their ordinary household budgets. Having established the resource basis, we will turn to population growth and some of its causes and consequences. The complex interrelations between social structure, fertility and mortality will be examined in order to see why the Gurungs tend to have somewhat different demographic features from the lowland populations of Nepal. The possible ecological consequences of a doubling of population every thirty years will be discussed. The way in which the Nepalese evidence fits into more general models of demographic change will be discussed in the concluding chapter.

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## 2

## The Gurungs of Nepal

The Gurungs are a tribe living at an altitude of between four and seven thousand feet in central Nepal. The location of the tribe and of the villages where intensive study has been conducted is shown in Fig. 2.1.

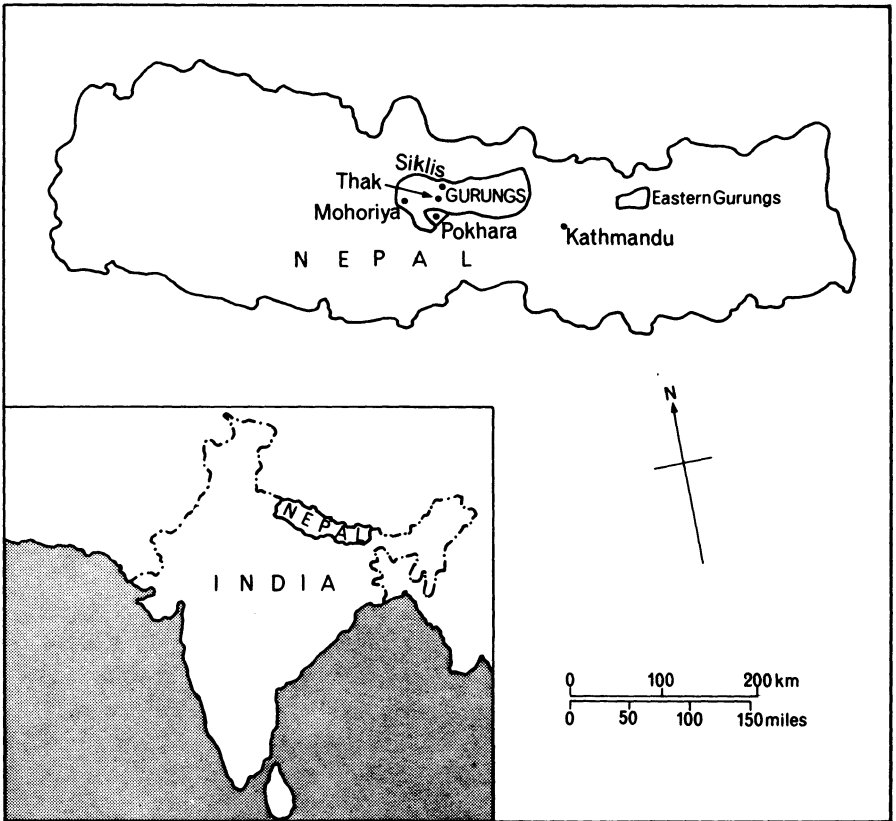


Fig. 2.1. Location of the Gurungs and of village studies. (Adapted from Pignède, *Les Gurungs*, p. 25, fig. 1.)

Fig. 2.2. Rice and maize fields down to the river.