Chapter 7

Population Growth, Famine and Economic Growth

Introduction

The aim of this chapter is to examine briefly some aspects of the demography of my field area. This discussion will lead into the focus of the next chapter, which aims to examine the organisation of production and labour, paying particular attention to the relationship between labour demand and household size and structure.

The concern with demography is relevant to this study for at least two reasons. On *a priori* grounds it would seem that susceptibility to famine is likely to increase with increased population. I have already discussed the high rate of population increase in Rajasthan generally, so this question needs to be considered. It is, however, interesting that, as the population of Rajasthan has increased since the last century, the drastic human consequences of famine have been less evident, so it may be that the *a priori* assumption is incorrect. It was just this sort of contradiction that stimulated an impressive study by Maclachlan (1983). In studying the organisation of agriculture in a south Indian village called Yaavahalli, he was struck by the fact that a drought related famine in 1877-78 caused very high mortality, whereas a very serious (although less serious) drought in 1965 caused much less suffering and no deaths directly related to famine in Yaavahalli itself. The puzzling thing was that the population in 1965 was much higher than in 1877-78. I will return to Maclachlan's argument in the next chapter. For the present the main point is that the *a priori* assumption that increasing population increases susceptibility to famine is not as certain as it appears.

A second reason for including consideration of demography is the connection between population growth and the apparent decline in the quality of natural resources, through desertification, in western Rajasthan. To the extent that there is an environmental crisis then the increased use of marginal land and overgrazing to meet the needs of increasing population are relevant.

Village Census Methodology

The most recent information on village population for Hinganiya comes from a village census of Hinganiya which I carried out in December 1985 and January 1986. The census was carried out as a series of semi-structured interviews, using a check list of questions. Information on population was compiled in the form of genealogical charts covering all residents of Hinganiya. I interviewed at least one member of each household (not necessarily the household head), or a member of a closely related household, in order to obtain data on population by sex and by age category. I use the term 'age category' because the actual age of children and youths in years was often simply unknown. I was forced to classify people in fairly broad categories based on 'social age' rather than on chronological age. The definitions used are as follows:

'Adult' - A person is counted as an adult when he or she fulfills either one of the following criteria:

- Married or previously married. For the purposes of this definition a child-marriage is not regarded as a marriage until the *mukhlawa* (the final ceremony before co-habitation) has taken place.

- Known to be (or thought by informants to be) over seventeen years old.

'Child' - A person is counted as a child if he or she has not completed all stages of the marriage process and is under seventeen years old.

'Full-time Resident' - A person is treated as a full-time resident when he or she is normally resident in the village.

'Part-time resident' - A person is treated as a part-time resident if he (the category, in practice, only includes males) is a member of a household resident in the village, but normally spends a substantial amount of time living and working elsewhere (in Jodhpur, in the Army, at school etc.).

Where a man owns land or property in the village, and perhaps visits occasionally, but is normally resident elsewhere with wife and children, he is not included in my census. I refer to such people as 'absentees'.

The census was taken over a rather lengthy period and is not intended to represent actual residence on a particular day. Rather, it represents *de jure* residents, those people who would normally be resident, wherever they might have been at the end of January 1986. (Although the census was collected over a period of approximately two months, it was amended as changes occurred in order to represent the situation at the end of January.) Middle-term visitors (such as married daughters returning to · spend a few weeks or months with parents) are, thus, not included. On the other hand, married women normally resident in Hinganiya but absent at

the time of my census visiting their parents or kin in their village of origin, are included.

The Growth of Village Populations

In Chapter 2, I discussed the general trend of a high rate of increasing population for Rajasthan in general and for western Rajasthan in particular. Within this general trend there were severe fluctuations connected with major famines. The same general pattern is evident in village level census figures, from 1891 to 1981.

The populations of the four villages from 1891 to 1981 are set out in Table 7.1. (I have, unfortunately been unable to obtain village populations for 1951.[1]) An overall increase from 1891 to 1981 occurred in all four villages. In fact the overall increases are about threefold, ranging from two and a half times to four times increases for the various villages. This is consistent with a statement by Malhotra and Saha (1985) that population in the Thar Desert increased threefold between 1901 and 1981.

Table 7.1
Village populations according to censuses 1891-1981

	Village			
	Hinganiya	Kur	Knokhariya	Kukunda
1891	163	405	158	370
1901	98	315	124	304
1911	49	402	105	280
1921	67	282	73	245
1931	102	422	114	281
1941	140	534	189	397
1961	196	674	334	697
1971	229	1014	490	768
1981	409	1312	653	1084

Note: Population figures are based on decennial censuses of Marwar State (1891-1941) and of India (1961-81). Figures from 1891 to 1931 were extracted from a retrospective summary in Census of Marwar, 1931; figures from 1941 are from Census of Marwar, 1941 and subsequent figures are from Census of India 1961b, 1971 and 1981a.

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[1] I have been unable to locate the relevant volumes in any of the collections I have searched. I suspect village level data was not published at all for the ex-Princely States in the turmoil of transition which was occurring in the early 1950s.

In addition to the general trends the fluctuations in population are interesting. In each village there were decreases from 1891 to 1901, coinciding with a general decrease of 23.4% for Marwar in the same period and with the serious famines in the second half of the decade. Yet between 1901 and 1911 one village (Kur) experienced an increase, while the others experienced decreases. This occurred in the context of a general increase of population for Marwar of 6.3%. Further, from 1911 to 1921 Hinganiya experienced an increase, the other three experiencing decreases in the context of an overall 10.5% decrease for Marwar in the same period. (Trends for Marwar from 1891-1901, 1901-1911 and 1911-1921 have been calculated from figures in the Census of Marwar 1931b.) The occurrence of decreases in population is usually related to death or migration due to drought. But, why is it that a decrease occurred in some villages, while an increase occurred elsewhere in the same period? The point of mentioning this is to emphasise that general demographic changes occur in the context of significant local variations. For example, the anomalous increase in Hinganiya from 1911 to 1921 is probably related to the arrival of the ancestors of the present Soda Rajput inhabitants, who are reported to have settled about sixty years ago. Other factors, such as the failure of a well, may lead to a crisis situation when everything is normal elsewhere.

The decreases in population, either at a village level or at the level of Marwar State (or, now, Jodhpur District) do not necessarily indicate high mortality, although the major sequence of famines from 1896 to 1900 caused high mortality in western Rajasthan (Kachhawaha 1985). During that famine the brothers of the ancestor of all the Meghwals in Hinganiya left due to the drought and went to live in Mewar (now Udaipur District), leaving a single household of Meghwals in the village. That this sort of permanent crisis migration was fairly common among the other castes is evident in the 70% reduction in Hinganiya's population from 1891 to 1911. It was only in the 1930s and 1940s that the populations of the four villages recovered to the 1891 levels. From this point population seems to have expanded rapidly, despite the occurrence of famines.

The huge increase in Hinganiya from 1971 to 1981 is highly suspect. The decadal percentage increase for 1971-1981 was 78.6%, whereas comparison of the 1981 figure with my 1986 figure (433) represents a five year increase of 5.87%. Obviously a natural increase of 79% in ten years is impossible, and there is no local account of major immigration during that period. I have no explanation for the discrepancy, although I assume that it must relate to an error in the 1971 census, as the 1981 census is fairly consistent with my 1986 findings.

The major pattern here is that this century has been characterised by a huge overall increase, despite setbacks due to famine in the first decades of the century. Interestingly, it is at about the time of the incorporation of

the State of Marwar into modern India that the population increase becomes consistent. It is possible that it may have been the implementation of land reform, combined with improved economic conditions under the Indian Republic, that took the brakes off population control. I will return to this point later in this chapter.

The other important point arising from these figures is the importance of migration in adjusting population. The role of shorter term migrants is highlighted in a breakdown of village population, which specifically identifies part-time residents. The details are in Table 7.2. Just under 26% of all adult males are part-time residents, including nearly half the Nayak men and nearly a third of Rajputs. This pattern, in which village populations include a number of people (almost always males) who have an ambiguous residential status, is a common one in western Rajasthan. I have described these people as part-time residents, although they could also be described as having dual residence.[2] I will examine this form of migration further in Chapter 9 and show how it is connected with drought.

Discussion

I have very briefly outlined some of the demographic characteristics of my field area, with particular reference to Hinganiya. In terms of overall population trends the main point is the occurrence of an apparent acceleration of growth rate some time after the 1941 Census. Essentially this amounts to stabilisation of the death rate, which had previously fluctuated widely due to famines. This brings us to a debate about the relationship between economic development and population growth.

D'Souza discusses the common assumption in demography 'that there is a negative correlation between economic development and population growth' (1986:77). In other words as an economy develops the rate of population growth declines. According to D'Souza's summary, the argument works in four stages:

• Prior to economic development a country has high birth and death rates resulting in a net slow rate of population growth.

• Sustained economic growth brings down the death rate leading to a faster rate of population growth, as the birth rate remains static.

• Population pressure leads to a fall in the birth rate, 'narrowing the gap between birth and death rates' (p.77).

• The birth and death rates again establish a balance, but this time at a lower level.

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2 Rosin (1968) deals with what I call part-time residents in terms of a differentiation between actual population and total possible population.

Table 7.2

Population of Hinganiya January 1986 by caste*

Caste	Full-Time Adult		Child			Part-Time Adult	Child		Overall
	M	F	M	F	Total	Male	Male	Total	Total
Rajput	28	39	36	39	142	11	2	13	155
Bishnoi	33	35	29	39	136	5	1	6	142
Jat	1	1	3	2	7	0	0	0	7
Meghwal	5	5	7	6	23	2	0	2	25
Nayak	11	24	36	24	95	9	0	9	104
Total	78	104	111	110	403	27	3	30	433

* = excluding absentes

This assumed process has, according to D'Souza, often been explained in terms of an economic decision making model which treats children as 'durable consumer goods for their parents' (p. 78). In other words, people in underdeveloped economies have large numbers of children because they provide labour and support to parents in their old age. With economic development, according to the economic decision making model, the value of children to their parents becomes less. On this model, rural western Rajasthan would be on the second step.

D'Souza claims that the economic decision-making model which is alleged to explain 'the negative relationship between economic development and population growth has not been systematically tested' (p. 78). He presents his own study of three villages in the Indian Punjab as evidence that there is no necessary relationship between economic development and population growth. He concludes that, in fact, economic development sometimes actually *encourages* the development of large families, by providing alternative economic opportunities. His own analytical model is

.that parents, rather than regarding children as consumer durables, are anxious about the career prospects of their children. If the parents try to restrict the size of their families it is not so much because they do not derive much economic benefits (sic) from their children but because thereby they hope to improve the career prospects of their children. (D'Souza 1986: 92-3)

The point I wish to emphasise is that the relationship between economic prosperity and family size is arguable. Economic prosperity is usually seen as being a stimulus for smaller families, but it can be seen as a stimulus for larger ones, at least in some circumstances.

In order to see whether there is any relationship between economic prosperity and family size in Hinganiya, I have attempted to make a comparison of numbers of children in different landholding groups. I adopted the strategy of looking at the surviving offspring of wives of present household heads (and women who are themselves household heads), because I wished to exclude very young married women and to get a figure as close as possible to the fertility of women who have had all or most of the children they are likely to have. Focusing on wives of household heads is a way of focusing on mature women. Recently married women are not likely to show much about lifelong fertility. For this reason it seemed useful to *minimise* the distortion caused by life-cycle factors by excluding the wives of junior members of joint households. This does not entirely solve the problem because nuclear family households, with relatively young women as wives of household heads do exist. Nevertheless, focusing on wives of household heads reduces the distortion.

In order to examine the relationship between fertility and landholdings, I have ranked all households into the landownership categories developed in Chapter 5. Taking the average number of surviving offspring of the wives of household heads for each of these landholding categories, there is a tendency for those with more land to have more children (see Table 7.3).

Although the differences between any one category and another are not statistically significant,[3] the overall pattern of trends for the five categories remains suggestive. There were no landholding categories which fell outside the overall pattern of average numbers of living offspring increasing with landholding size. Assuming that the *pattern* may be significant, analysis of fertility patterns (the basis of population growth) in Hinganiya lends some support to D'Souza's claim of a direct positive relationship between prosperity and the development of large families. However, the analysis of the implications of differences in prosperity in Hinganiya really is dealing with small differences within a generally economically depressed population. Any direct relationship may well be a result of the greater health disadvantages of the poor rather than of increased economic opportunities of the less poor. In a situation where the general mortality rate has fallen without compensatory declines

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[3] A test was carried out using the Scheffe procedure (a very conservative test), which showed no significant differences between any two categories at the .050 confidence level.

Table 7.3

**Number of surviving offspring of wives of household head
or female household head by landholding size category**

Category (land - ha)	Average living offspring	Range
5 (>20)	5.75	2-10
4 (10-<20)	4.87*	1-10
3 (5- <10)	4.8	1-7
2 (2-<5)	3.47	0-6
1 (<2)	3.53	0-7
Nil	2.6	1-5

* - One household head has two wives and one of these is not normally resident. If she is counted (no offspring) the average for category 2 becomes 4.59.

in the birth rate, the mortality rates (particularly child mortality rates) of the poorer people may have dropped less.[4] Rather than prosperity leading to increased fertility, we may have a case of greater poverty contributing to higher mortality. In other words, it is not so much a case of wealthy people having more children, but of the children of poor families surviving less often.

A further theme of debate is the relationship between population growth and labour requirements or labour inputs: does population increase because of increased need for labour, or do labour inputs increase because population has increased?

Boserup (1965) argued that the intensification of agriculture is a response to population increase. Geertz (1963), arguing along similar lines, concluded that the population increase in Java in the early nineteenth century resulted in a massive degree of intensification of agriculture. These writers treat agricultural labour as a dependent variable and population as the independent variable in the relationship between population and agricultural intensification. The population changes, so agricultural inputs, including labour, increase. Increasing population in Java was frequently seen as being the result of improved economic conditions under Dutch colonialism.

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4   Unfortunately, it is impossible to compare meaningfully the crude birth and death rates (number of births or deaths per thousand per year) for separate castes or landholding categories, because the populations are so small. Further, in the case of crucial factors such as infant mortality, it is impossible to obtain reliable data, largely because people are reluctant to talk about them.

Other writers have disagreed with the view that population growth is the independent variable. Bronson (1972), for example, argues that population increase occurs *in response to* increased labour demand. This labour demand model has been suggested as an alternative explanation of what happened in Java. White (1973) argues that increased labour demands resulting from the Dutch system of forced production led to increased population. Thus, population becomes the dependent variable.

Alexander, in a review of the debate in respect of Java, argues that the historical evidence for a vast increase in labour demands in the nineteenth century is far stronger than the evidence that population increased as a result of the benign effects of Dutch rule. He argues that Geertz's (1973)

. . .claim that Dutch labour demands could be met by rearranging work patterns is based on a substantial underestimate of the extent of labour expropriation by the Dutch. (Alexander 1984:364)

The possibility of increasing population in Rajasthan being a result of the large demands of the *jagirdars* is enticing. Unfortunately for this argument, the sudden surge in population growth in Rajasthan occurred in the 1940s to 1960s, at a time when the *jagirdari* system was breaking down. Land reform in the 1950s, in fact, saw the end of the system.

This suggests an alternative possibility: perhaps it was the labour demands of newly acquired land that led to the change. Again, I think this is unlikely, at least as far as the villages in my field area are concerned. The area under cultivation in Hinganiya changed little after land reform. In Chapter 5, I concluded that land reform, in Hinganiya, mostly changed the status of the people who were farming land, rather than transferring use rights on a large scale. If this is correct, then people were essentially farming what they farmed before and, possible reduced fallow periods aside, demands on labour would probably not have increased significantly. On the contrary, freed of the need to give a substantial proportion of production to landlords, the new landholders would have had far more to feed themselves with, without any increase in work, had the population remained constant.

The relationship between land reform and population growth has not been explored in detail. Jodha suggests that the introduction of land reform was one of the factors which 'unleashed the forces of population growth' (1985:258), but he does not explore the mechanism behind the relationship. From the context in which his statement is made, the implicit argument is that the results of land reform became part of a general improvement in economic conditions, which lead to population increase.

In the light of this sort of argument, I am forced to return to a fairly conventional view of population growth. As economic growth, connected

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with incorporation into India (at first merely in terms of incorporation into the economy of British India and later into the Indian state) occurred in the 1940s to 1960s, mortality rates decreased without a comparative reduction in birthrates. An important factor in declining mortality was probably the increased capacity of the state to deal with drought and famine.

Labour demand is rejected as an explanation for population growth in this chapter. However, this does not mean that increased labour demand, or increased labour inputs, could not have developed as a consequence of, or a response to, population growth. This possibility will be explored in the next chapter.