Chapter 8

Labour Demands and the Household

Introduction

Coming to grips with the organisation of labour is crucial to understanding the workings of any agrarian system. In this chapter I wish to examine the organisation of labour in Hinganiya paying particular attention to the ways it is related to reducing the risks of drought.

Maclachlan (1983) has suggested that one response to population growth in a high famine-risk environment is agricultural intensification and argues that one way to intensify labour inputs is through the organisation of the household to maximise the availability of male labour. This chapter will explore the situation in Hinganiya to see whether a similar argument applies there. In fact, I will argue that analysis of labour demand does not support an argument for intensification based on large households and maximising male membership. On the contrary, large households, while being of value during peak labour periods, present a problem for subsistence for the rest of the year, and throughout bad years. Large households, where they exist, have other functions, particularly in terms of delaying partition of land.

As I am rejecting Maclachlan's model as not being applicable to Hinganiya (and as Maclachlan would make no claims that it should be), there is some risk that I am taking a straw man approach in discussing it in some detail and in using it to frame this chapter. That is not my intention. Given the high population and the existence of some large households which tend to have large landholdings (and thus are likely to need considerable labour), there are substantial reasons for taking the possible applicability of the model seriously. The analysis enables us to identify the alternative functions of large households.

In his study of the organisation of agriculture in Yaavahalli, Maclachlan, following Boserup, sees agricultural intensification as a response to population growth. He does not present a detailed argument about the causes of population growth. As far as his major argument is concerned population growth is seen as a given, as part of the problem to be dealt with rather than as part of the solution. Reorganising households to maximise male labour is a way of intensifying labour in the context of

high population. There is no sense in which the solution is seen as a permanent one. The current levels of high population are a new phenomenon and the situation will change.

Maclachlan modified Boserup's approach to intensification in insisting that it should be defined as 'energetic output per worker per unit of time' (p. 201) rather than simply as increased labour per unit of time. This change of emphasis accommodates his concern with the differing application of male labour and female labour: labour 'is organized in such a way as to exploit the greater physical strength of adult males' (p. 93) because men are, on average, stronger in terms of 'isometric muscular strength and aerobic work capacity'. Maclachlan argues that the organisation of labour inputs into production takes account of the relative advantages of male strength in specific types of work. It is not that women cannot do particular tasks, it is just that (according to Maclachlan) they cannot do them as quickly as men. As agriculture becomes intensified the time factor becomes most crucial.

Maclachlan's main concern is with the ways in which the intensification of agriculture is organised within the household. He argues that the joint family household is locally regarded as an ideal and that its value is explained by the 'elders' in terms of the advantages held by joint families in organising efficient and intensive agriculture. Maclachlan claims that this indigenous theory is supported by his own data and analysis. He also argues (following his arguments about the differences between male and female labour) that it is particularly important to have at least one adult male in a household.

It is not my intention to assess the validity of Maclachlan's analysis of his own data in any detail. I must say, however, that I find it fairly convincing in most respects.[1] I am interested in examining the extent to which Maclachlan's view of the importance of the joint family and male labour is of value in understanding the organisation of labour and the structure of households in Hinganiya.

In the rest of this chapter I will be attempting to answer the following question: how are household size and structure related to the demand for labour, if at all? The procedure will be to begin with an analysis of

---

1 Maclachlan goes to quite a lot of trouble to defend his view of the part the sexual division of labour plays in his analysis, presumably because it is rather controversial. Much of the defence seems to be unnecessary. Maclachlan does not claim that the sexual division of labour is based on fundamental differences in the genetic basis of behaviour. He is simply arguing that much of the sexual division of labour derives from the pragmatic allocation of labour resources in terms of different capacities for 'isometric muscular strength and aerobic work capacity' (p.83) arising from sexual dimorphism. Far from being a rationalisation for sexual inequality, the study explains how the sexual division of labour may have developed, without resorting to genetic determinism.

statistics on household size and structure, on the assumption that larger landholdings are likely to require more labour. I will examine the relationships between landholding and household size and structure (particularly adult male numbers). This analysis will show that there is, on average, a direct relationship between landholding size and household size. This, however, is largely due to a small number of large households distorting average household size upwards for larger landholdings. I will then examine labour demands to see how they influence household size.

Household Size and Structure

Household size and structure in Hinganiya do not conform to any expectations of large joint households which are raised by Maclachlan's study. Very large households are quite rare and only about 40% of households are composite households. Few of these are complex joint families.

Taking household size first, Table 8.1 sets out the frequency distribution of households of various sizes. Two sets of figures are provided: one shows household size including both full-time and part-time resident members, while the second shows household size counting full-time residents only. In this discussion I will concentrate on the figures which include both full-time and part-time resident members.

The average household size is 6.46 and, in fact, households with six members are most common. Six also represents the median size, since there are exactly as many households with less than six members as there are with more than six members (twenty-six of each). There are only two households which could be described as very large, and only three households have more than ten members. On the other hand, four households have only two members and fifteen have four or less. Thus, while household sizes cover a fairly broad range, very large households are less common than very small ones.

Table 8.2 gives a breakdown of the frequency distribution of household sizes by caste. The crucial point is that almost all large households are Rajput or Bishnoi households.

Table 8.1

Frequency distribution of households by numbers of members

No. of members	*No. of Households* (a) both Full-time and Part-time	(b) Full-time only
17	1	-
16	1	2
15	-	-
14	-	-
13	-	-
12	1	-
11	-	-
10	5	4
9	6	5
8	4	5
7	8	6
6	15	12
5	11	17
4	10	4
3	1	7
2	4	5
Total households	67	67
Average No. of members per household	6.46	6.01

Table 8.2

Distribution of household sizes by number of households and caste

(both full-time and part-time members)

Size of Household	*No. of Households* Rajputs	Bishnois	Jat	Meghwal	Nayak	*Total*
17	1	-	-	-	-	1
16	-	1	-	-	-	1
12	-	1	-	-	-	1
10	3	1	-	-	1	5
9	3	3	-	-	-	6
8	-	2	-	-	2	4
7	4	-	1	-	3	8
6	3	3	-	2	7	15
5	2	7	-	1	1	11
4	5	1	-	2	2	10
3	1	-	-	-	-	1
2	1	2	-	-	1	4
Total No. Households	23	21	1	5	17	67

Turning to household structure we find that forty of the sixty-seven households (60% of the total) consist either of a nuclear family only, or of a single parent and his or her children only. The other twenty-seven households (40% of the total) are some form of composite household. In Table 8.3, which gives a breakdown of household *types* by frequency and caste, I have presented composite households as two types: (A) nuclear families or families consisting of a single parent and offspring plus only one other person (such as the wife of the son of the household head or the mother of a household head) and (B) either nuclear or single parent families with two or more other people. It should be noted that ten of the composite households are of type A.

Table 8.3

Household type by caste

Type	Bhati	Soda	Total Rajput	Bishnoi	Jat	Meghwal	Nayak	Total
Single parent with offspring	0	1*	1	2*	0	0	1	4
Nuclear	8	2	10	12	1	5	8	36
Composite A	6	0	6	0	0	0	4	10
Composite B	5	1	6	7	0	0	4	17
Total	19	4	23	21	1	5	17	67

* = One household head is female

Definitions:

Single parent with offspring: Household consists of single parent (as household head) and his/her offspring only.

Nuclear: Household consists of married couple and their children only.

Composite A: One of above types plus one other person.

Composite B: One of above types plus two or more other persons

Thus, most households are households with a single parent, nuclear family households or near nuclear family households. Further, some of the larger composite households (type B) consist of nuclear families with a combination of two or more widowed mothers or grandmothers or unmarried siblings of the household head. The concern, in these cases, is with looking after people who have no place in a nuclear family, rather than with maintaining a labour supply. Households consisting of complex joint families (i.e., those including two or more married couples) are relatively rare, even within the composite type B.

A further point to notice about larger households and households with a joint family structure is that both of these features tend to be associated with caste. Table 8.2 shows that most of the larger households are Rajput or Bishnoi households: the three largest households are Rajput or Bishnoi and only one of the fourteen households with more than eight members comes from a caste other than Rajput or Bishnoi. Unlike the other castes, whose household sizes tend to the lower half of the range, Rajput and Bishnoi households range from the smallest to the largest.

The presence of the few large households among the Rajputs and Bishnois influences the average size of households by caste (as set out in

Table 8.4). The higher average for Jats is of no importance, there being only a single household. I would also be rather wary of making too much of the small average size of Meghwal households. One household has recently split from a parent household and the low average is, thus, partly a result of life cycle factors and of the small numbers of households involved. If the recent split had not occurred the average household size for the Meghwals would be 6.25. All of this means that there is little that can be done with a comparison of the average household size between castes. What is important and what needs to be explained is the fact that *the few large households* (barely enough to affect the averages) *are restricted to two castes.*

I will now explore household size and structure on another dimension: how are they related to the size of landholding? The most obvious point is that larger landholdings tend to be related to larger average household size. In Table 8.5, the relationship is summarised. The range of household sizes is indicated for each category. In order to identify situations in which the upper end of the range is represented by a single household I have also indicated the size of the second largest household. In Category 1 the second largest household is eight, the same as the upper limit of the range. This indicates that there are two households with eight members in Category 1.

These figures show that there is a positive relationship between household size and landholding. There are, however, inconsistencies in the pattern: Category 4 landholders have slightly smaller households, on average, than Category 3 landholders. The two largest households (seventeen in Category 5 and sixteen in Category 3) have a strong distorting effect. If the largest household in each of categories 5, 4 and 3 is not considered the averages drop to 7.33, 6.67 and 6.89 respectively. The differences within those three categories are really not very important. The difference between these three categories and the nil landholding category and Categories 1 and 2 are, however, important. What seems to be happening is that small landholdings discourage the formation of large households, but there seems to be no necessary relationship between large landholdings and large households. If large landholdings do not *necessarily* require large households, then what is the relationship between household size and structure and agricultural labour demands?

Table 8.4

Hinganiya - Average household size and average landholding by caste

(including both full-time and part-time members)

Caste	Population	No. of Households	Average size of Household	Average land-holding per Household (ha)
Rajput	155	23	6.74	9.67
Bishnoi	143	21	6.76	8.38
Jat	7	1	7	7.84
Meghwal	25	5	5	3.04
Nayak	104	17	6.12	1.75
Total	433	67	6.46	

Table 8.5

Landholding category and household size

(including both full-time and part-time members)

Category	Area	No. of Households	Average Size	Range of Sizes	Second Largest Household
5	20+	4	9.75	6-17	9
4	10-<20	16	7	2-12	10
3	5-<20	10	7.8	2-16	10
2	2-<5	15	5.6	2-10	7
1	<2	17	5.53	2-8	8
Nil	0	5	5.2	4-9	5
	Total	67	6.46		

Average for categories 2-5 omitting largest holdings

[5] 7.33 [4] 6.67 [3] 6.89 [2] 5.29

I will now turn briefly to consideration of the numbers of adult men per household. This is important in terms of Maclachlan's argument that, in Yaavahalli, the major problem of household organisation is to provide adequate male labour for the heavy work involved in farming.

Sixty-two of the sixty-seven households in Hinganiya have two or less full-time adult male members. Only five households have more. Of these, two households are Rajputs (each with three) and the other three households are Bishnoi households (see Table 8.6). The three biggest Bishnoi households, in terms of adult males, have three, four and five members.

Table 8.6

Hinganiya - Full-time adult males per household, by caste

No of F/T Adult Males	No. of Households							Total House-holds
	Bhati	Soda	Total Rajput	Bishnoi	Jat	Meghwal	Nayak	
Nil	3	2	5	1	0	1	7	14
1	9	1	10	13	1	3	9	36
2	6	0	6	4	0	1	1	12
3	1	1	2	1	0	0	0	3
4	0	0	0	1	0	0	0	1
5	0	0	0	1	0	0	0	1
Total	19	4	23	21	1	5	17	67

Table 8.7(A) sets out the number of full-time adult males per household by landholding category. There are, in fact, fourteen households with no full-time adult males at all, and thirty-six households have only one full-time adult male. Only five households have more than two full-time adult males. The occurrence of households with large numbers of adult males tends to be uncommon in landholding categories 1 and 2 and to be more common in categories 3, 4 and 5.

If seasonal labour heavily influences the number of males then the number of part time males should also be considered. Table 8.7(B) gives the number of all males (full-time and part-time) per household by landholding category. Even when part-time males are counted there are still two households with no adult males at all and thiry-nine households have only one male.

Table 8.7(A)

Number of households in various landholding categories by number of full-time adult males

Category	Ha.	Nil	No. full-time adult male members 1	2	3	4	5	Total
5	20+	-	1	3	-	-	-	4
4	10-<20	2	8	4	1	-	1	16
3	5-<10	-	6	2	1	1	-	10
2	2-<5	3	11	-	1	-	-	15
1	<2	7	8	2	-	-	-	17
	Nil	2	2	1	-	-	-	5
Total No. of Households		14	36	12	3	1	1	67

Table 8.7(B)

Number of households in various landholding categories by number of adult males

(both full-time and part-time)

Category	Ha.	Nil	No. adult male members 1	2	3	4	5	Total
5	20+	-	-	2	2	-	-	4
4	10-<20	1	6	6	2	-	1	16
3	5-<10	-	5	1	3	1	-	10
2	2-<5	1	12	1	-	1	-	15
1	<2	-	14	2	1	-	-	17
	Nil	-	2	3	-	-	-	5
Total No. of Households		2	39	15	8	2	1	67

When we examine the number of adult males (full-time and part-time) and the number of adult females it is clear that households in Category 3 or above tend to have more adults of both sexes (Table 8.8), whereas the lower landholding categories have less adults generally, but noticeably less full-time males. Below landholdings of five hectares, full-time adult male labour seems to be inessential, or at least to have lower priority than alternative income. Nevertheless, despite the higher averages for full-time males in categories 3,4 and 5, it is important to note that there are two households with no full-time men in those categories. Further, not all of the men who appear in the tables are capable of doing physical labour anyhow. For example, in the the largest household and the household with the most land in Hinganiya, there are two full-time adult men and one part-time (in the army). One of the full-time men is, however, very old and does no work at all.

Table 8.8

Average numbers of adults per household by landholding category

	Average Numbers			
	Adult Males			Females
Category	Full-time	Part-time	Total	Total
5	1.75	0.75	2.5	2.75
4	1.5	0.31	1.81	1.69
3	1.7	0.3	2	1.9
2	0.93	0.27	1.2	1.2
1	0.7	0.53	1.23	1.35
Nil	0.8	0.6	1.4	1.2

So far, I have been analysing the size and structure of households in Hinganiya in terms of data on the distribution of features by landholding size and caste. The main patterns are summarised below.

- Sixty percent of all households are single parent or nuclear family households. Various forms of composite household make up the other forty percent. Very large households are rare.

- Larger households and composite households are most common among the Bishnois and Rajputs.
- Average household size tends to increase with the size of landholdings. However the distribution of households of various sizes *within* the landholding categories suggests not that larger landholdings encourage the development of larger households so much as that smaller landholdings hinder the development of larger households.
- The presence of full-time adult males is not a *sine qua non* for the existence of a household. While there is a tendency for households with large numbers of men to be more common in the higher landholding categories, there are also households with few or no adult men in the larger landholding categories.

I will now move away from statistics into somewhat more descriptive ethnography[2] informed by the following questions:

- How do labour demands affect household size and structure?
- As large households are not always related to large landholdings, why do large composite households sometimes develop?
- What other factors affect household size and structure?

Labour Demands Related to Agro-pastoralism

(a) Labour Demands of Agriculture

The pattern of seasonal activities was discussed in Chapter 6. The most obvious characteristic of labour requirements is that they are highly seasonal and highly variable between good and bad years. The only time when the demand for agricultural labour is likely to approach, equal or, perhaps, outstrip supply is for a few weeks during the harvest season. Labour requirements for planting and ploughing are also concentrated into a brief period, but, overall, less labour is required than during the harvest. Weeding is carried out occasionally, but can always be deferred if labour is not immediately available. It is not a continuous activity in the period between planting and harvest. In fact, before the *bajra* harvest there is often a lull in activity.

---

2 Although much of this discussion depends on rather detailed consideration of statistics from a single small village, I do not claim that it is a rigorous statistical analysis. Rather, my intention is to present a descriptive analysis, supported by statistics.

It seems unlikely that people would respond to the labour demands of a few peak weeks by forming large households which would be otherwise unnecessary, unless there was no other way to obtain labour. How are labour needs met?

For the poor farmers it is a fairly simple matter. Harvesting *bajra* from a few hectares can be done in a few days using household labour. Both women and men are involved in cutting the *bajra*, and it is only the task of carrying heavy head loads of cut stalks which is almost invariably done by men. The time frame within which the harvest must be carried out is wide enough to enable the small landholder to work for others in the meantime. Cooperative labour involving other households in a household cluster is another option. The advantages of using this sort of labour rather than forming larger households is that labour needs can be met without creating extra mouths to feed during the busy times of the year.

Larger farmers have more of a problem obtaining the labour needed to bring in the harvest within the appropriate time frame. Depending on the availability of work on a given day, reported wages varied from Rs 4 to Rs 10 per day during my fieldwork. While I am acutely aware that what people say they pay or are paid is highly unreliable (often the wages reported by employers and employees are inconsistent), there is no doubt that the levels of pay vary according to demand. Both men and women are hired.

If, for a specific brief period, labour becomes short there are two ways to get around the shortage. Firstly, it is possible to start earlier (work parties usually do not start until at least 10 a.m.) or to work later. Working into the night is not really an option in harvesting *bajra* (a job which needs to be done when there is daylight), but related tasks such as transporting or storing *bajra* can be done at night. A second option is hiring outside labour. As the timing of the harvest varies according to micro-environmental conditions it is quite possible for a peak period of demand in one village to coincide with a slacker period elsewhere.

In terms of the specific demand for male labour, there are comparatively few jobs in agriculture which women and men do not both do. However, there are some specifically male tasks and these, as in the case of the village studied by Maclachlan, tend to be tasks which are perceived to require considerable strength. Men do the ploughing, carry the heavy head loads of harvested heads of *bajra* and do the work associated with heavy transportation. (Harvesting *bajra* stalks tends to be done by men, since it is heavy work, whereas harvesting the crop itself is done by both males and females.) The work of carrying harvested *bajra* does not require a large male work force. A working party of six or seven could work during harvesting with only one or two men to do the male-specialist tasks. There is no reason why the rest should not be women and

it is quite common for working parties to consist predominantly of women. As their wages are less and they work just as quickly as men at cutting, this is hardly surprising.

Labour demands in the agricultural season can be met by domestic labour (for smaller landholders) and by hired labour (for larger landholders). While paid work is readily available during a good harvest, the long slack periods and the uncertainty of the harvest do not constitute a stable level of demand for labour.

I will return to the question of the specific demand for male labour after discussing the labour demands of pastoralism.

(b) Labour Demands of Pastoralism

While agricultural labour demands alone do not encourage high population growth or the formation of large households, the economy is an agro-pastoral one, so I will now discuss the implications of the labour needs associated with livestock management to household size.

Management of large livestock (that is, of camels, cattle and buffalo) presents a continuous and fairly intensive labour demand throughout the year, particularly in terms of feeding and watering. The demand is somewhat reduced in the agricultural off-season, when large animals may be allowed to wander. While work associated with large livestock may be done by men when they are free (mostly outside of the farming season), it is done by women, older men or children at other times. Stall feeding is common, and often relieves the need for labour to be set aside for herding. The task of collecting fodder for stall feeding is easier during the agricultural season, because of the luxuriant growth of various sources of fodder. Having more than one or two large animals requires a considerable commitment of labour.

Small livestock management (sheep and goats) requires more or less continuous labour during the day, although the animals are penned at night. The labour requirement for herding is, however, not for heavy or specialist labour. Small children can look after flocks and one or two shepherds can manage the joint flocks of several households. Stall feeding of small livestock is generally restricted to young or sick animals. Only in the case of people with no more than one or two fully grown sheep or goats is it practical to stall-feed. Larger numbers need to be herded. Small livestock are not allowed to wander unprotected, because of the risk from predators, their lack of homing instincts and, I assume the risk of theft. Labour demands related to small livestock are generally greater in the rainy (agricultural) season because supervision needs are

greater.[3] (Stall feeding of larger livestock is actually easier during the rainy season.)

If livestock ownership has large labour demands this could be reflected in a tendency for households with large numbers of livestock to be large ones. However, before this can be explored it is useful to see whether landholdings are related to livestock ownership.

Analysis of the numbers of livestock of the two types (large livestock and small livestock) owned by people in the various landholding categories shows separate patterns for large and small livestock (see Table 8.9). The average number of big livestock tends to decline with the decreasing size of landholdings, while the numbers of small livestock seem to be basically unaffected, fluctuating in an apparently haphazard manner.

Table 8.9

Average numbers of large livestock and small livestock per household classified in landholding categories

Category	Large Livestock	Small Livestock*
5	9.5	9.75
4	7.69	1.44
3	5.8	11.3
2	2.13	8.67
1	1.24	12.47
Nil	2.8	0.2

* excluding animals under one year

Large Livestock	*Small Livestock*
cattle, buffalo, camels	goats, sheep

[3] This discussion leaves aside the question of labour associated with herd migration in time of drought. I have already explained (Chapter 6) that this is usually done by hired shepherds or in combined co-operatively shepherded herds. It would, therefore have little bearing on demand for household labour in the village. In any case, when migration to escape drought is necessary, little agricultural labour is likely to be needed.

The pattern regarding big livestock is fairly easily explained. Large animals are quite expensive and require quite large amounts of fodder. Not only does landholding size affect the financial capacity to purchase livestock, but fodder largely comes from agricultural by-products, particularly during periods of drought. Thus, while grazing land is not *directly* an issue (since grazing is unrestricted outside of the agricultural season) land ownership greatly facilitates ownership of large livestock, because agricultural land is a major source of fodder for stall-feeding.

On the other hand there is no clear relationship between the numbers of small livestock and landholding. In Table 8.9 the figures for categories 1,2,3, and 5 do not demonstrate any particular pattern. Variations are caused by the distribution of a small number of people who own particularly large flocks. The very small numbers of small livestock in Category 4 seems quite anomalous, but there is a simple explanation for this: ten of the sixteen households in the category are Bishnois and Bishnois have a religious prohibition against raising sheep or goats (although one Bishnoi household owns one sheep). This distorts the average drastically. The five landless households own only a single goat between them. Again, this appears anomalous as part of the overall pattern, but the fact that three of the households are small households with part-time household heads and that the other two households are Bishnois explains the distribution.

Ownership of land is not a major factor in managing/owning small livestock. During much of the year grazing on farming land is quite unrestricted, since no crops are in danger. Further, grazing provides manure so farmers are quite happy to have their land grazed by flocks owned by other households. During the agricultural season grazing occurs on common land and fallow fields. If there has been enough rain to make crops grow then there will be ample fodder on these available fields.

Within the context of a relationship between wealth (landholding) and large livestock owning, labour demand affects the ability of a given household to look after animals. Adult male labour is not essential, but it is useful. While younger children can handle some of the work, handling cattle tends to require the experience of adults or adolescents (male or female), particularly when animals are being tethered and so on.

The fact that large households find it easier to manage large numbers of big livestock is apparent from case by case comparison of big livestock numbers and household size. Large households do not necessarily own large numbers of big livestock, but those households with large numbers of big livestock are almost invariably larger households. Only one household with less than eight members owns ten or more big livestock. This household, with four members, owns fourteen big livestock, including eleven cattle and three camels. The household is part of a

particularly coherent and cooperative household cluster, consisting of four Bishnoi households living in a single *dhani.* In this situation cooperative labour is readily available.

Thus, labour demands are a factor in managing big livestock, although membership of a cooperative household cluster may allow smaller households to meet labour needs. On the other hand the labour demands in managing small livestock are a less evident constraint.

The main problem with the agricultural season is that flocks need to be supervised more closely, although even in the off-season small livestock are not allowed to wander in the same way that big livestock are allowed to wander. While small livestock require constant supervision, the herding is not labour intensive, since one shepherd can look after fifty or sixty animals with ease. In fact no single household in the village owned a flock large enough to require more than one shepherd. Households can amalgamate flocks. In any case, the work is often done by small children, who tend to amalgamate flocks so they can play together. Among the Rajputs, the shepherds are usually small girls, since many Rajput boys go to school. In other castes, where school attendance is not particularly common, even for boys, either girls or boys can do the work.

Small livestock are penned at night. Consequently, for goats, the main labour demand comes from the relatively small demands related to herding flocks during the day. Milking of goats is not done systematically. If milk is required (and cow milk is unavailable) a lactating goat is simply milked on the spot. (Working parties are often accompanied by a tethered goat, which is milked whenever tea is to be made.) No one with large numbers of goats would systematically milk all of them twice a day.

Sheep, on the other hand, present a workload quite separate from the moderate demands of herding. Firstly, they are comparatively susceptible to diseases, so providing adequate shelter and tending sick sheep requires considerable time. Secondly, they are shorn twice a year and this again is time consuming. Large scale sheep raising tends to be a specialist activity. Of the total of 240 adult sheep (1985/86) 198 were owned by four households, whereas the 278 goats were spread far more evenly amongst all non-Bishnoi households. The largest sheep owner owned 80 animals, the largest goat owner only 33. The explanation for the focusing of sheep ownership in a comparatively small number of households is related to specialist labour requirements.

Adult male labour is not necessary for herding sheep. However, expertise is very much necessary for other aspects of tending sheep. and the work cannot be left to children. Consequently it is often just as easy for the men to do everything, including herding, themselves. Women, whose domestic responsibilities are not incompatible with agricultural

work, are not able to spend a whole day in the fields with livestock. Of the four households owning more than 25 adult sheep, all are nuclear family households. In all except one case, the male labour for shepherding is provided from within the household. In the case of a Nayak sheep owner, his sheep are looked after by another Nayak when he is in Jodhpur. Interestingly, all the four households are relatively small landholders: one household owns just over 5 ha, one owns 2.5 ha and the other two own less than 2 ha of agricultural land.

(c) Labour Demands and Household Size and Structure

In summary, the main points about labour demand are the following:

- Labour demand for agriculture is highly seasonal and variable between years as crops often fail.
- Demand specifically for male labour is comparatively limited. Most jobs can be done equally easily by men or women.
- Large livestock ownership requires some fairly large labour inputs, particularly during the agricultural season.
- Goat ownership is not demanding on adult time, since the work can be done by young children and cooperative herding is common.
- Sheep raising tends to be a specialist activity, requiring fairly continuous attention and expertise. While the work is not heavy, the consistent demands tend to rule out women from involvement, since they compete with domestic work. Nevertheless, the work can be done by a single man from a nuclear family household.

In order to examine the subtleties of labour demand it is useful to use the landholding categories as a framework, starting from categories 1 and 2. In defining these categories (Chapter 5), I used 2 and 5 ha of land respectively as thresholds. I also stated that those within the two categories depended on income earned outside their own landholdings. In this chapter I have suggested that labour requirements from such small landholdings can generally be met by domestic labour, leaving time for employment in someone else's fields. In practice, people in these categories will almost always accept employment, finding time for their own domestic requirements somewhere. Households in these categories do not require a full-time adult male member for all of the year (or, at least, they can do without one). During the agricultural season men may return from working in Jodhpur to work their land for a few months. Alternatively, they may simply return for a few brief periods of holiday. Some cooperation occurs between households in terms of small livestock herding and some members of a household cluster may even work land on behalf of other households within the cluster.

In the case of sheep-raising, male labour is quite important and sheep-raising tends to be a full-time occupation. However, there are only four households engaged in comparatively extensive sheep-raising.

People in categories 1 and 2 are the main sources of agricultural labour within the village. The small average size of households is a result of the inability of landholdings to provide adequate income to support large households. The numbers of full-time adult males are small, this being directly a result of the generally small size of households.

In categories 3 and 4 the households are more or less self-sufficient in agriculture. Some quite large households occur, bringing up the average size. There are advantages in having large households, since they allow reduced dependence on hired labour and assist in large livestock raising. The importance of self-sufficiency in labour is evident in the fact that most of the households with three or more adult males fall into these categories. However, there are also disadvantages in having large households in that the members must be supported during the non-agricultural season and bad years.

If we turn to Category 5, we have four households which are high level employers of wage labour. Although all of these households have more than one adult male, old age, infirmity or military service mean that each household has only one effective full-time adult male resident available. In each case, while the households have labour resources for herding and most other requirements, the needs of the harvest season can only be met with the hire of labour. Thus, *in the very households with the largest labour demands, adult male labour is not available from within the household.*

In my opinion labour demand is simply not an adequate explanation for landholders in these categories having large households. There are several reasons for thinking this.

- The extra labour may be an asset during the agricultural season, but it is not necessary during the off-season and, in fact, becomes a liability because of the increased subsistence requirements.
- Many large landholders operate quite effectively without large households or large numbers of males.
- There are other ways besides large households to get around the problems of labour shortage. Hired labour is one possibility. While it is expensive it is less expensive than supporting unproductive household numbers during the long non-agricultural off season. Other possibilities are cooperative labour with other households.

There are peaks in agricultural activity and, at such times, landholders may find it difficult to meet labour demands. However, given that these peaks are few and brief, it is not surprising that permanent joint

households have not been the organisational response. The situation calls for a flexible response. Relatively small households with close ties to other households are a viable way to meet requirements. This is where the household cluster comes in. Household clusters are based on lineage connections. Within the cluster individual households operate rather atomistically, particularly in terms of consumption and expenditure. However, like atoms, they have connections to other units. The ties are most commonly used for the purposes of cooperative labour.

Cooperative labour can involve short term agricultural working parties. It can also involve relatively permanent arrangements, such as joint herding of small livestock under a single herdsman. Sometimes one household head will take responsibility for managing the agricultural affairs of the absent head of another household. One such case involved a resident household head (a Rajput) who takes responsibility for most of the day to day running of the affairs of a brother and son employed in Jodhpur. However, while this arrangement was relatively permanent and superficially looked like a supra-household economic unit, income and expenditure were not systematically pooled. Several household clusters of Bishnois, consisting of linked households resident in particular *dhanis*, involved similar routine cooperation in labour, while maintaining distinct household based ownership of land and livestock. This type of organisation, based on relatively small households with genealogical links to other households, is a highly flexible arrangment able to cope with short term labour needs.

In addition to this relatively formal lineage based cooperation, there are more routine and informal types of cooperation, which can be described as generalised reciprocity, or perhaps just as neighbourliness. It is common for someone passing by a field where work is going on to stop and help for a while. I have seen this occur between members of both high and low castes. On one occasion a party of people hoeing in one Rajput's field finished the work early and went off to work in the field of another worker (also a Rajput). Apparently no additional pay was involved and, more to the point, the Rajput employer saw it as 'mutuality' (using the English word).

The *adola* functions as a way of obtaining large amounts of labour for a short time. It is also possible to sub-let land to tenants, thus obtaining return, in the form of crops, without costs in the form of labour input.

(d) Large Households and Partitioning of Land

From the discussion so far, it does not seem at all likely to me that household size is a response to labour requirements. The issue becomes one of demography and in particular of the demographic effects of the life cycles of household growth and development. Large households will

usually have to split in future. In fact, the existence of some smaller households within these categories reflects previous splits. Presumably, in the next generation, the small households will grow and, in turn, split, sharing their land in smaller holdings. In that generation the new households will fall into a lower landholding category.

As suggested in Chapter 5, I believe that the difference in the sizes of landholdings *partly* reflects the extent to which individuals have delayed, or not delayed, the partitioning of land. Some households have already done so and exist as households within household clusters, holding smaller shares of land than they originally held. Other household heads have simply maintained the size of their holding by delaying partition. Thus, household size within categories 3 and 4 is partly a matter of life cycles and the present household sizes represent a statistical snapshot, made at a particular point in time.

There is one point I wish to emphasise very strongly here. Large households and the delaying of partition are not a permanent solution to the problem of land partition. In fact, for most farmers, the problem did not exist before land reform because they did not own land. Prior to land reform the problem was almost solely a problem for the *jagirdars*, who got around it by the rule of primogeniture. Land reform occurred quite recently. Current landholders may, in fact, have been tenants or landholders before land reform. It seems likely that those who have already partitioned land were originally larger holders, who felt that the smaller sub-divided shares would still be viable. Those who have held on foresee even smaller shares in the next generation. What we have is a situation in which individual household heads are attempting to cope with the particular circumstances of their own households at a particular point in history (less than 40 years after land reform). Their individual household circumstances depend on many factors, including the land gained through land reform, the number of male siblings in their own, their fathers' and their children's generations, and so on.

The elaborate juggling of household numbers in the case of Nahar Singh (Case 2, Chapter 5), is an extreme case of a household head balancing the need to keep household numbers up (so as to meet land ceiling requirements) with the need to keep numbers of heirs down.

Is there a way out of this continuing cycle of partition? (It must be recognised that while there is a cycle of household development ending in partition, the division of landholdings is unidirectional, not cyclical.) One way is to develop alternatives to a dependence on land. I will return to this in Chapter 9. The size of some of the households is possibly related to the desire to beat the land ceilings. It should be noted, however, that once land has been partitioned similar strategies will not work again.

Conclusion

In this chapter I have been examining the relationships between labour demand and household size and structure. One reason for doing so has been to consider whether Machlaclan's model (intensification of agriculture, associated with large joint househholds, as a response to the risk of drought) applies to Hinganiya.

In fact, the model does not apply. If it did we would expect household size to closely correlate with landholdings (because more land requires more work). In fact, this happens in terms of average household size in each landholding category, but the variations in household size amongst the largest landholders and the relatively low degree of variation amongst the smallest, suggest an alternative explanation. I have suggested that small landholdings *restrict* household size, while larger landholdings *permit* larger households to form. Analysis of labour shows that labour demand is high only for very short periods and I have argued that the short term advantages of large households would barely justify the cost of supporting them during the long slack periods.

The purpose of this chapter has not only been to demonstrate that Maclachlan's model does not apply. If that was the case then the exercise would have been rather pointless. The value of the comparative analysis is that it has helped to identify important differences between the two situations and thus helped in developing an understanding of the dynamics of labour demand, household organisation and agricultural intensification. In fact, rather than refuting a Yaavahalli type situation in Hinganiya, the evidence suggests that almost the opposite argument applies. Labour demands are so episodic that there can be no particular advantage in having large joint households from the point of view of organising labour. Relatively atomistic small household units with lineage connections are at something of an advantage in these conditions. Short term cooperative labour, either on a lineage basis or through the institution of *adolas*, are ways of dealing with occasional peaks in labour demand. Large households may be able to take advantage of the situation at times of peak labour demands, but they actually form for other reasons. Among larger landholders the reasons are often connected with avoiding partition of land. Among poorer landholders, where they occur, composite households are frequently the result of a large mortality rate leaving people without support.

Nothing in this argument implies that Maclachlan got it wrong in Yaavahalli. There are apparent similarities in the situations of Hinganiya and Yaavahalli. In each case there are two major factors present: the risk of drought due to inconsistent rainfall, and an increasing population which somehow seems to survive when smaller populations were devastated by droughts in the past. There are also major differences.

Yaavahalli is an area of moderate average rainfall, although rainfall is inconsistent. In Yaavahalli the opportunity for intensified agriculture is provided by a water table which allows exploitation of underground water. The costs, in terms of labour, are high, but the opportunity exists. The result is that more than one crop a year can be grown and that failure of the monsoon does not lead to total failure of the crop. In Hinganiya the water table is too deep to be, under current conditions, economically exploited. Consequently, a fundamental precondition for the type of intensification which occured in Yaavahalli is missing.

In other villages near Hinganiya irrigation is possible and a process similar to that at Yaavahalli may have already started. At this stage, however, intensified labour seems not to be the key even in these cases. The water table is so deep that tube wells, rather than manually excavated wells, are viable. Intensification is a question of capital in such circumstances, not of increased and more efficient labour. In Kur, the ex-Thakur owns land with a well about 35 metres deep. In 1985-86 it enabled him to harvest crops, but by 1987 it had become virtually useless. The water table had dropped and the machinery to dig tube wells was not readily available and was very expensive. This farmer, unlike any in Hinganiya, could be classified as a capitalist farmer. If he, in more favourable conditions (the water table in Kur is higher than Hinganiya), could not obtain water, the poorer farmers in Hinganiya had no chance.

The argument I have presented about household organisation and labour demand is not intended to apply to parts of western Rajasthan where well irrigation is common. Rosin (1968) suggests that the relatively large size of Jat families (he uses 'family' the same way I use 'household'), in his field area, is important for labour supply. His work deals with an area on the edges of the Aravalli mountains, where well irrigation is a major factor. The similarities between my field area and his are important, but this difference is crucial.

For Hinganiya the answer to the question 'Why they did not starve?' is not in terms of intensified agriculture. In the next chapter I will attempt to answer the question for Hinganiya.