

Working Paper 126

**The Lahaul Potato Society:
The Growth of a Commercial Farmers' Organisation in
the Himalayan Valleys**

**Pari Baumann
Bhagwan Singh**

February 2000

Overseas Development Institute
Portland House
Stag Place
London
SW1E 5DP

Acknowledgements

This research study would not have been possible without the cooperation and assistance of the Lahaul Potato Society. The paper was written by Pari Baumann, Research Associate with the Overseas Development Institute, and Bhagwan Singh, former Managing Director of the Lahaul Potato Society.

The project was funded by the Ford Foundation. However, the views and opinions expressed in this document do not reflect the Ford Foundation's official policies or practices, but are those of the authors alone.

Printed by Chameleon Press, London SW18 4SG

ISBN 0 85003 458 2

© Overseas Development Institute 2000

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the publishers.

Contents

1. Introduction	5
1.1 Methodology	5
1.2 A Framework for analysis of cooperatives	6
1.3 The evaluation of cooperative performance	8
2. The Physical and Social Context of Production Systems in Lahaul	9
2.1 Introduction	9
2.2 Traditional production systems	9
2.3 Initial organisation of formal societies	14
2.4 Diversification of the farming system and the socio-economic structure of Lahaul	15
2.5 Conclusion	16
3. The Objectives, Structure, By-laws and Resources of the Lahaul Potato Society	17
3.1 Introduction	17
3.2 The objectives and by-laws of LPS	17
3.3 The structure and infrastructure of the Society	17
3.4 Democratic representation and participation in the decision-making process	18
3.5 Resources	20
4. Potato Production, Marketing, Research and Extension	21
4.1 Introduction	21
4.2 The potato production process	21
4.3 Marketing channels	22
4.4 Price and quality	23
4.5 The private market for potato	24
4.6 Market trends	25
4.7 Financial viability of production at the household and the collective level	26
4.8 Research, extension and technology development	27
4.9 Conclusion	30
5. Institutional Evolution of the Lahaul Potato Society	31
5.1 Introduction	31
5.2 Diversification in activities and services provided by LPS	31
5.3 Monitoring and accounting	33
5.4 Conflict resolution	34
5.5 Conclusion	35
6. The Political and Administrative Context of the Lahaul Potato Society	37
6.1 Introduction	37
6.2 Historical relations between Lahaul and the government	37
6.3 The government and the cooperative structure	38
6.4 Summary	41
7. Institutional Constraints and Possibilities of the Lahaul Potato Society for the Future	42
7.1 Introduction	42
7.2 The emergence and evolution of rural civil society in Lahaul	42
7.3 Possible constraints on the operation of LPS in the future	44
7.4 Summary and conclusion	45
8. Conclusion	46
8.1 The emergence and evolution of the Lahaul Potato Society	46
8.2 Research and extension	47
8.3 Efficiency, equity and empowerment	48
References	53

Maps		Map 1	Himachal	
Pradesh	10			
Map 2	Valleys of Lahaul			11
Tables and Figures				
Table 1	Average pattern of seed multiplication			21
Table 2	Potato rates paid to members			26
Table 3	Productivity and economics of major crops in Lahaul			27
Table 4	Exemplary household budget			27
Figure 1	Major links between the Society and cooperative government institutions			4
Figure 2	The seed sector			52
Appendices				
Appendix 1	List of Interviewees			49
Appendix 2	Some Chronological Landmarks in the Development of the Society			50
Appendix 3	Generation Control in Seed Production			51
Acronyms				
BOD	Board of Directors			
CPRI	Central Potato Research Institute			
DOA	Department of Agriculture			
GOI	Government of India			
ICAR	Indian Council for Agricultural Research			
LPS	Lahaul Potato Society			
MLA	Member of Legislative Assembly			
NACF	National Agricultural Cooperative Federation			
NCDC	National Cooperative Development Corporation			
NDDB	National Dairy Development Board			
RCS	Registrar of Cooperative Societies			
SSC	State Seed Certification			

1. Introduction

This study of Lahaul Seed Potato Growers Cooperative Marketing Ltd was undertaken to complement and build on two existing research/development projects in which ODI is involved. The first is the process of monitoring in support of institutional change in agricultural research and extension in Rajasthan. The second is a broader research project financed by the UK's Department for International Development which has been critically examining the technology-related activities of formal farmers' organisations in various countries throughout the world.

Optimism about the role farmers' organisations can play is based on two broad arguments. The first argument concerns their potential function as: (i) an interface between the formal research environment and the field reality of the farmer; (ii) a means through which the rural poor can exert pressure on public sector and non-governmental agencies; and (iii) an active force in generating and implementing research. The second argument rests on their potential developmental impact in increasing efficiency/effectiveness in the dissemination of research, promoting equity in the implementation of programmes, and empowering people through their direct involvement in this process (Bebbington et al., 1994). However, the extent to which farmers' organisations are actually able to fulfil their potential in these two areas has tended not to be examined in detail. This research (and the related studies) goes some way to remedying this problem.

This study of the Lahaul Potato Society (LPS) has three central objectives. First, it aims to consider the factors which explain the emergence and institutional evolution of the LPS. Second, it endeavours to evaluate the performance of the LPS in terms of efficiency and equity in the distribution of benefits and the effects of this on the empowerment of members. Third, it aims to isolate any lessons which can be drawn from the experience of the LPS and applied elsewhere in India or in other parts of the world.

1.1 Methodology

The study is based on fieldwork undertaken between July 15 and August 6, 1996. Most of the report was written in the field at that time. The principal methodological tool was extended informal interviews and the report is based largely on the information gathered in these interviews.

We interviewed key informants, such as former and present staff of LPS, private potato traders, member-politicians and government servants to get an overview of the institutional operation of LPS. These interviews also provided an insight into variations in perspectives between the various different categories of people who are involved at an organisational level with the LPS.

We also interviewed approximately 150 members of LPS from the Thod, Ghar, Pattan and Chandra valleys of Lahaul. Three broad directions of enquiry were followed:

1. The way in which LPS has contributed – or not – to the development of the farming system.
2. The participation of members in the democratic and decision-making processes of LPS and their awareness of how LPS operates.
3. Members' perceptions of the constraints and potential of LPS and their opinions about the role that LPS should play in agriculture and marketing in the future.

All but 12 of the interviews were conducted with groups of between 5 and 20 members.¹ Apart from the broad guidelines listed above, the interviews were unstructured so that the interviewees could themselves raise the issues about LPS performance which they felt were relevant. We found this to be the only feasible way of getting a cross-section of local perspectives from the different valleys. It was not possible to achieve any representativeness in these interviews in the time available. Few women sat in on these group interviews, and none spoke. To compensate for this absence of information from women, we interviewed several members of the Mahila Mandal (women's group) in Jispa.

We also conducted 12 individual interviews, 6 were with large farmers (3–4 acres) and 6 with small farmers (1–2 acres), in order to explore issues of equity and empowerment in the operation of LPS.

1.2 A Framework for analysis of cooperatives

India's Cooperative movement started officially in 1904 with the enactment of the Indian Cooperative Societies Act. The Government of India (GOI) has given cooperatives an important place in all Five Year Plans and has put in place rules and regulations for their operation. The policy objective has been to support cooperatives as instruments for rural development because of their potential capacity to mobilise resources for economic growth whilst encouraging social justice. However, the performance of cooperatives in India, as evaluated by these principal objectives of efficiency and equity, is highly variable. In the last ten years this has inspired many efforts to isolate the factors which explain differences in cooperative performance, and a debate on the policies which will allow them to fulfil their potential.

Two major research projects on cooperative institutions in India (Attwood and Baviskar, 1996; Shah, 1996) have isolated three main factors which influence cooperative performance: (i) the regional political economy; (ii) the socio-economic characteristics of cooperative members; and (iii) the design principles or design concepts of the cooperative. The authors, however, differ on the relative importance of these factors as explanatory variables. On the basis of their extensive fieldwork with flourishing cooperatives in western India Attwood and Baviskar (1996) conclude that the regional political economy is the single most important factor influencing cooperative performance. Shah, on the other hand, suggests that the design principles of a cooperative are the single most important explanatory variable, especially for cooperatives operating in the same region.

These three factors provide a useful framework for the analysis of the influences on cooperative performance, and for the separation of that which is particular to LPS and that which can be generalised. We shall return to consider the question of the relative importance of these factors, and whether they can in fact be considered in isolation, in the conclusion. In the remaining part of this section we shall briefly consider the nature of the influence these factors have on cooperatives.

The Regional Political Economy

The state in India has a powerful influence on farmers' organisations because it assumes responsibility for economic development and for the centralised allocation of scarce resources. As rural development is a state subject in the federal constitution of India, the particular nature of this influence varies. This is particularly evident in the case of cooperatives which operate within the framework of rules and regulations dictated by the state. Studies on the influence of the state on cooperatives have reached a broad consensus; cooperatives flourish only when they are free of direct political and administrative control (Attwood and Baviskar, 1996; Shah, 1996). State regulations have entangled cooperatives in

¹ Appendix 1 contains a list of interviewees and villages in which we conducted group interviews.

administrative problems and corruption inhibiting both efficient management and equitable distribution.

Hyden (1980) has made a useful analytical distinction between ‘blueprint’ and ‘greenhouse’ cooperatives. The consensus in India has been that ‘greenhouse’ cooperatives, those which emerge out of local needs and initiatives, have been far more successful than those which have been imposed through a bureaucratic blueprint. In practice, even ‘greenhouse’ cooperatives have to operate within cooperative regulations and the wider political economy. The question of which factors determine the ability of a cooperative to operate successfully within its particular political region therefore remains to be addressed.

Socio-economic Characteristics of Cooperative Members

A part of the rhetoric of both state and populist support for cooperatives has been the claim that production in rural communities was historically based on cooperation and that this tradition can be harnessed by modern cooperatives. Critics of this notion have suggested that production in the past was in fact usually dominated by unequal power relationships. Whilst cooperation, and even collective action amongst different individuals and groups, did exist, this was not ‘normal’ but rather the product of specific circumstances. Traditional forms of cooperation did not necessarily promote equity, indeed they were often based on cooperation between socially and economically differentiated groups. If modern cooperatives are to be based on informal networks of cooperation, then a more realistic assessment of their strengths and limitations is necessary. Whilst it is not possible to explore the socio-economic factors leading to cooperation in Lahaul at great length, in this report we consider some of the broad characteristics which have influenced the evolution of LPS.

Design Principles

This aspect concerns the constitutions of cooperatives, which specify relations of ownership and control, and are the rules and regulations of routine administration. Shah (1996) asserts that design principles are the variable from which can be drawn the most immediate policy implications, since design principles can be established and replicated with relative ease. The design principle established as most important in recent studies is that cooperatives should be owned and controlled by their members as opposed to the state. Further, cooperatives flourish when each member has one vote regardless of the shares he/she owns, and cooperative shareholders must be able to hire and dismiss the management and discipline their employees. Attwood and Baviskar (1996) have also suggested that recurrent contributions from members are important as they increase members’ concern for capacity utilisation.

Summary

These are the broad terms of the debate about the factors which influence cooperative performance. In practice, the explanatory variables are interrelated. For example, the economic structure of the local community has a significant effect on the way in which it interacts with the regional political economy, and the design principles are heavily influenced by the interaction of both these factors. However, the isolation of the relative influence of explanatory variables is important when making comparisons and drawing conclusions about the replicability of the experiences of a cooperative – in this case the LPS.

1.3 The evaluation of cooperative performance

We have suggested that cooperatives, through the process of economic democratisation, have the theoretical potential to combine the efficiency and productivity of a firm with a concern for the welfare of their members. Efficiency and equity are therefore two of the main criteria which should be used to evaluate the performance of cooperatives. A third criterion, which is given different degrees of importance depending on political convictions, is the social and political empowerment of members. In practice few cooperatives can compete with the efficiency of private firms and few benefit all their members equally. It was difficult to make absolute statements about the achievements of LPS in fulfilling these criteria, so we concentrated on making relative assessments. However, we placed a particular emphasis on the role that LPS has had in empowering members, and the effect that this has had in promoting farmers' interests in research and technology development.

2. The Physical and Social Context of Production Systems in Lahaul

2.1 Introduction

The origin and institutional evolution of the LPS are best understood in the context of the physical environment of Lahaul and social responses to the material circumstances of production. Cooperatives entail risks, for example, that they may be blocked by outsiders or incur heavy losses through inexperience. They also entail costs, at the very least in terms of the time it takes to participate, to frame rules and to decide on how to monitor and enforce them. In Lahaul the physical environment and the relatively egalitarian distribution of land have traditionally inspired various forms of collective action which have in turn provided a social base for cooperation in the exploitation of market opportunities outside Lahaul. It was in fact the risks and costs of a private exploitation of market opportunities that led to the emergence of the cooperative movement.

This chapter will provide an overview of traditional production systems and explore the factors which contributed to the emergence of the cooperative movement.

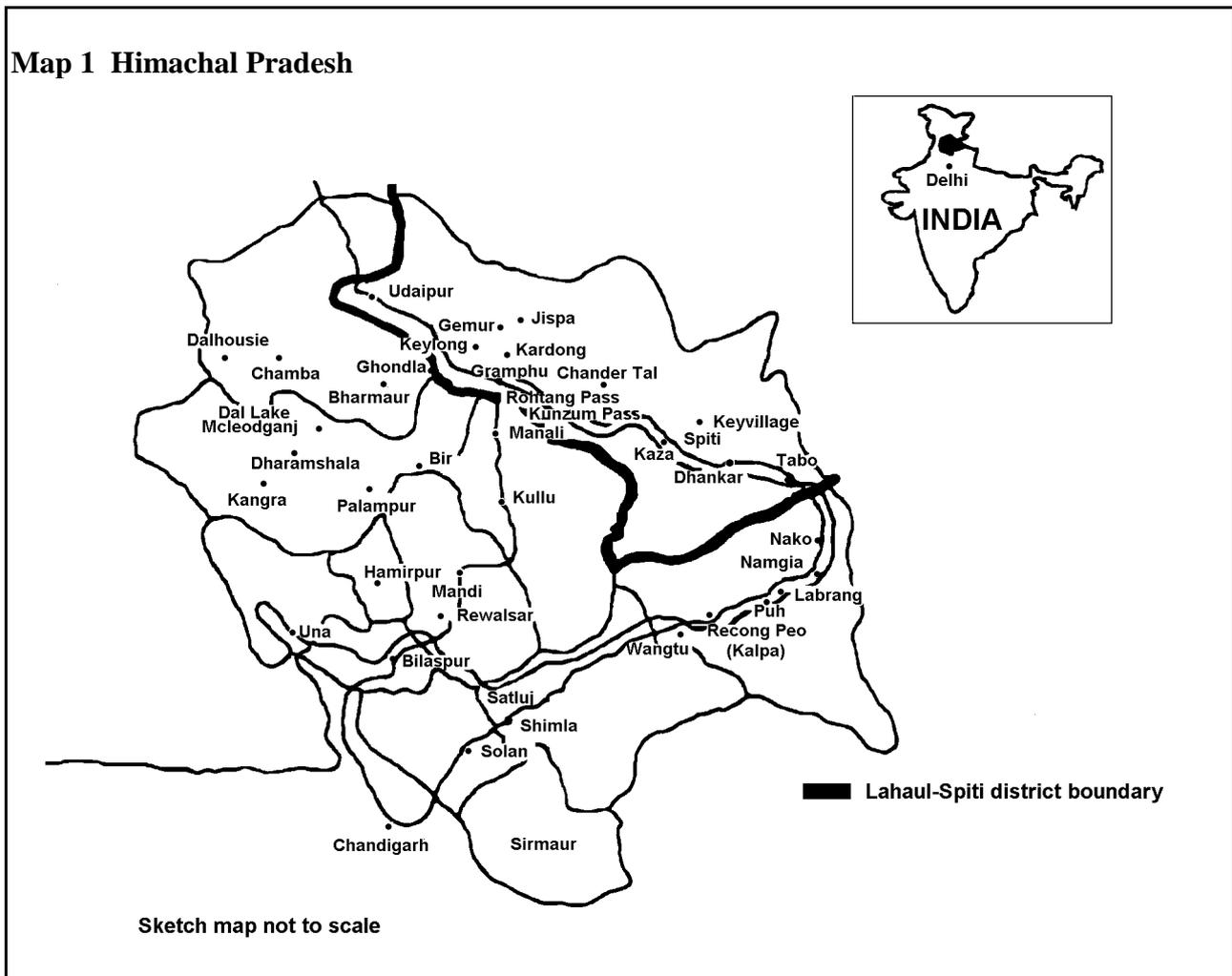
2.2 Traditional production systems

Lahaul-Spiti is the largest geographical district in Himachal Pradesh with an area of 12,210 km². It is also the least populated, with a total population of 31,294, and a population density of 2 per km² (Government of Himachal Pradesh, 1991). It is located in the northern part of Himachal Pradesh and shares a border with Jammu and Kashmir and an international boundary with Tibet (see Map 1). It is a dry, temperate zone, also called a cold desert, with summer precipitation of less than 200mm, and heavy snowfall in the winter. Minimum daytime temperatures are 6.7°C in August and -17.8°C in February. Its mountain ranges rise to a mean elevation of 5,480 metres, with the lowest point being Rohtang Pass. This pass provides the main entry into the area, although even this is covered by snow from November to June rendering the area virtually inaccessible (Government of Punjab, 1975).

The distinguishing topographical features of Lahaul² are the narrow river valleys which cut through the high mountain ranges. There are five major river valleys which divide Lahaul. Along the sides of these valleys, but mostly lying on plateaux above the river, are narrow strips of cultivable land on which the villages are located. Each village is located near a glacier from which it harvests water for irrigation (essential in the cold and dry climate). In the higher elevations there is scant vegetation. Most of the villages are located around 3,000 metres and the wild vegetation here includes junipers, blue pine and birch as the indigenous trees of Lahaul, as well as alpine grasses, flowers and shrubs.

It is unclear when the first human settlements appeared in Lahaul, but the area had been used as summer grazing grounds and valued for its nutritious grasses (locally called *niru*, *mat* and *morar*) for many centuries. The graziers came to Lahaul from all sides; Kullu, Tibet, Ladakh, Chamba, Mandi and Kangra, and eventually settled down in different valleys. The different ethnic groups are called *Rus*, (meaning bone) reflecting not only their different blood ties, but also their diverse ethnic origins. They did not traditionally intermarry.

² This study is concerned only with Lahaul. Spiti is a separate geographical and social entity and the Society does not operate there.



Source: Himachal Tourism

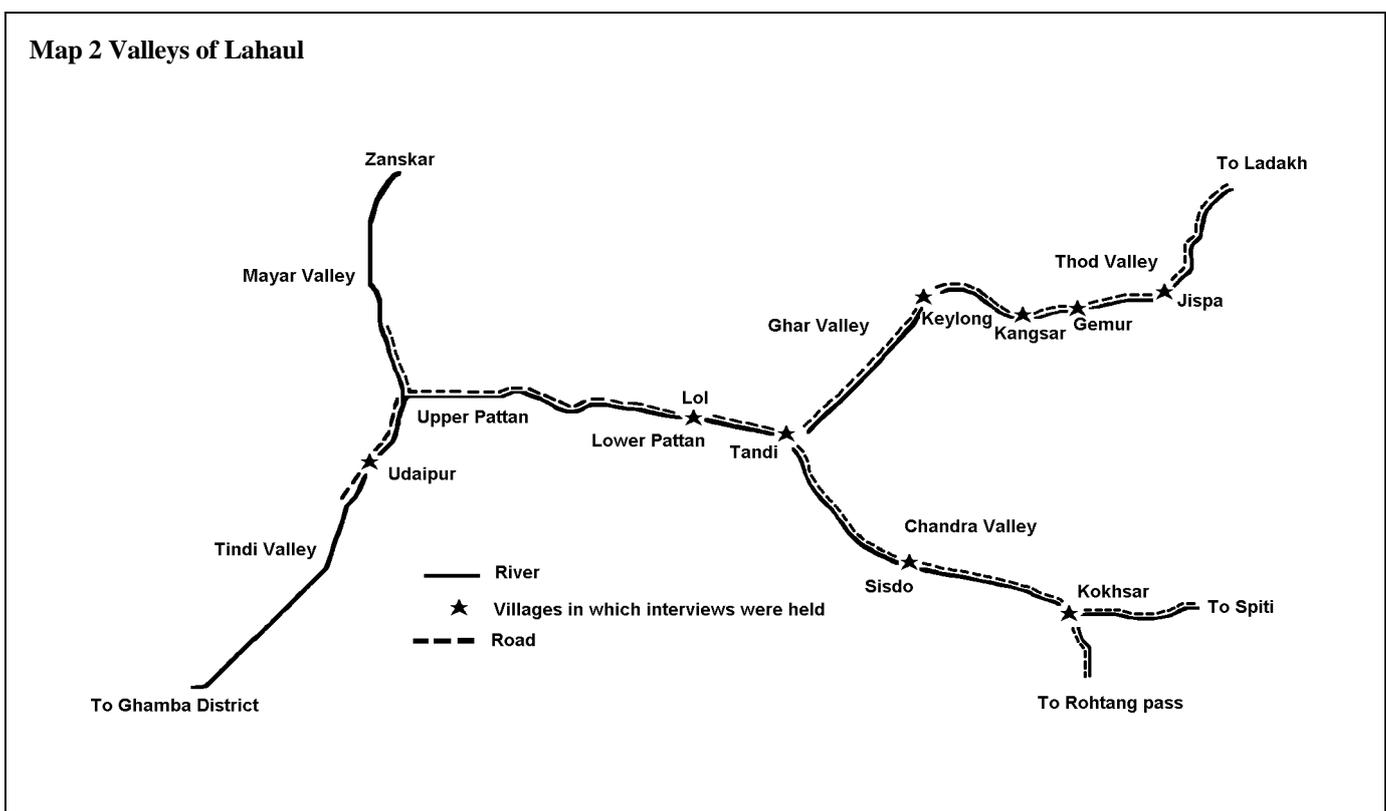
Agricultural production in Lahaul was initially based around subsistence crops, mainly barley, buckwheat and wheat. Potato was introduced into Lahaul in 1860 by Moravian missionaries. As was typical of mountain farming systems, agriculture was combined with other livelihood strategies and the exploitation of different ecological niches. Trade, labour and renting mules for transport provided alternative sources of income in the winter, whilst transhumance to upland pastures was important in the summer. Indeed, livestock were the main source of wealth and a status symbol of the farmer. The geographical location and circumstances of production in each valley led to slightly different combinations of these livelihood strategies. In Thod and Ghar Valley the inhabitants relied heavily on trade with Tibet because the Valley is cold and they are close to Tibet. Mayar Valley relied on trade with Zanskar in particular, and those in Chandra Valley migrated to Kullu and worked as labourers in the winter. Pattan Valley is the warmest and most fertile in Lahaul and people from Pattan Valley were the first to develop agriculture as a livelihood base (see Map 2).

Physical and geographical factors continue to contribute to slight variations in current patterns of production. This has management implications for LPS which has to set priorities and ensure an equal distribution of benefits to all valleys. The main characteristics of the valleys today are as follows:

- *Chandra Valley* is the nearest to the Rohtang Pass and is a Hindu dominated area. It is cold and windy, allowing only one crop to be cultivated per year (until recently almost exclusively potato).

- *Upper Pattan* is a Buddhist and Hindu area and is the most populated and fertile part of Lahaul. It is a comparatively warm and wide valley which can in places support two crops per year. Most of the agricultural innovations in Lahaul (potatoes, peas, hops) were first tried here.
- *Lower Pattan* is a Hindu dominated area. It is at a lower altitude and is the warmest area of Lahaul. Two crops are grown per year, and subsistence crops, such as maize are still important here. The area was added to Lahaul-Spiti from Chamba District recently and although LPS operates up to Udaipur and all residents are members, cash cropping is not yet as important as it is in the central valleys of Lahaul.
- *Mayar Valley* which extends towards Zanskar from Pattan, has a strong Buddhist influence and is the least populated of all the valleys in Lahaul (approximately 1% of the entire population of Lahaul-Spiti District). The inhabitants have up to 10 acres of land when private uncultivated land is included and depend mostly on subsistence crops. The area is not accessible by road and only those villages nearest Pattan have started to grow potatoes and to market them through LPS.
- The *Thod* and *Ghar Valleys*, which together form the *Bhaga Valley*, were until the opening of the road to Leh-Ladakh one of the least accessible areas in Lahaul. There is a strong Buddhist influence in the area and trade links to Tibet and Ladakh are important. The valleys are amongst the coldest areas in Lahaul and often suffer from early snowfall and floods, making cultivation especially risky.

It is interesting to note that despite this ethnic and religious heterogeneity, the material circumstances of production, imposed largely by the climate and geographical isolation, led to the development of a common Lahauli culture reflected in songs, dress, food, and some but not all ceremonies. The entire population, apart from the 7% scheduled caste population, was declared a scheduled tribe in 1952. Polyandry, which was a means to prevent the fragmentation of landholdings, was the predominant family structure in all of the valleys of Lahaul until the 1970s. Economic differentiation is comparatively slight compared to other areas in India with average landholdings of 3 acres. Every



family has at least one acre and only a handful of families own more than 6 acres (Government of Himachal Pradesh, 1991). These are the families of *Thakurs*, officials given administrative and judicial powers by the colonial government, who had landholdings of up to 12 acres. Their influence was most dominant in the Thod and Chandra Valleys. However, in practice the principal social and judicial authority was held by a council of elders in an informal village *panchayat*. This tradition of solving problems within the village, without recourse to the judicial powers of the state, is still common.

Agricultural production in Lahaul is distinguished by the fact that it is virtually impossible without some form of collective action. The only resources provided by nature are barren land, scant tree cover and distant glaciers. In mountain areas at lower elevations it is often (though by no means always) those areas which are most remote from human settlements which remain the most densely vegetated. In Lahaul the areas protected by people are densely vegetated with crops and forests, whilst the vegetation outside these areas is mostly sparse forests or alpine pastures. The physical characteristics and geographical isolation of Lahaul have contributed towards a tradition of cooperation and self-reliance in solving problems (such as irrigation and fodder/fuelwood). They have also made experimentation common, meaning that there is a vast indigenous technical knowledge in the area.

All the main activities of farming (irrigation, ploughing, labour, the provision and protection of sources of fuel and fodder, and transportation) depend either on collective labour or common property. Irrigation, for example, is provided by *kuhls*, channels which harness water from glaciers. These *kuhls* are built with the collective labour of the village, and the water is distributed according to the share of labour contributed by a family. The labour contribution is an ongoing process as avalanches often destroy the *kuhls* during the winter. Failure to contribute family labour can lead to a withdrawal of water rights and penalties.

Another example of collective action is reciprocal labour exchanges in agriculture. The short season between snowfalls for cultivation creates an immense time constraint on production. People have adapted to this by pooling their labour. A labour pool will usually include 4–5 families who share bullocks, and plough, weed and harvest the fields in rotation. Bulls and yaks for breeding are usually shared by the entire village, and the responsibility for feeding and housing them over the winter is taken in turn by each household.

Another notable cooperative achievement is the local solution to the shortage of fuel and fodder. The indigenous trees in the area are birch and juniper and these are insufficient for either the fuel or the fodder needs of the population. Willow and poplar were introduced into the area in 1900 from Jammu and Kashmir and fared well. Trees planted on common land remain the property of the household which planted them but are guarded from livestock as common property. They are cut in rotation every three years and supply almost all of the fuel and a large part of the fodder needs of the area.

Fodder, in the form of grass, is also managed from both private and common land. Each village has extensive private irrigated grasslands, usually on slopes which are too steep for cultivation or on large bunds between fields. These areas are opened as commons to the cattle in April and closed when the fields are put under cultivation. The livestock are then taken to alpine pastures by a grazier who receives payment from all households in the village. They are allowed back to graze on the fields in September once the crops and grass have been harvested. The alpine pastures are managed as common property by the villages. The decision on when to open and close fields for grazing, and when to start ploughing, is taken jointly by all households, and is based on a commitment to collective action.

These collective approaches to local production constraints have been accompanied by solutions developed through indigenous technology. Whilst this is notable in many rural communities, the extreme conditions of Lahaul mean that a failure to solve these problems would render the area virtually uninhabitable. As we described above, the most immediate problems, fuel and fodder

shortages, were solved by the introduction of willow and poplar from Kashmir in the 1900s. Treeplanting was tried on a small scale until Lahaulis found that by planting 4 willows together, and wrapping them in protective cloth, at least one willow would survive. These willows are lopped in rotation every three years which increases their biomass production and produces an even ratio of branches which can be used for fuel and fodder. *Chungpo*, a lucerne-like flower, was introduced from Ladakh by a farmer to enrich cultivated pastures. The fact that Lahaul, a cold desert, does not currently have a shortage of fodder and fuelwood is indicative of the success of this local solution.

Indigenous technical knowledge is widely shared in that innovations in one area quickly spread throughout the valley. Lahaulis, for reasons which we will explore further in the case of potatoes, have made extensive use of scientific research, and have been quick to experiment themselves. For example, seabuckthorn, locally known as *sarla*, had been traditionally planted along irrigation canals because it prevents soil erosion. Local experiments have led to a growing awareness of the varied properties of this plant, such as being a source of slow burning fuelwood and producing nutritious berries which can be used to make jam, arak (an alcoholic drink) and tea. The Mahila Mandal in Jispa started to plant seabuckthorn to stabilise the river banks. Some members of LPS heard, through correspondence with a research institute in Nepal, that seabuckthorn has vast medicinal values, and that in China this has led to the development of an entire industry. Two members went to China and returned with literature and information which is now being disseminated throughout Lahaul.

One of the biggest production constraints of Lahaul is the small area of cultivated land and the danger that this will become fragmented, despite polyandry, into sizes which are too small to sustain production. The cultivated area of Lahaul was never the sole source of subsistence, and has not been able to provide for the food needs of the population in the past. Lahaulis have therefore always had to rely on other sources of income, either non-agricultural, or a cash income from agriculture.

The first solution to this constraint came in the form of Kuth (*Saussurea lappa*). This was introduced into the area from the forests of Jammu and Kashmir by an enterprising farmer, soon becoming the first cash crop of Lahaul. Potatoes, and the adaptation of both local and imported technology to optimise production, represent another solution. The potatoes produced from Lahaul are certified seed potatoes grown according to scientific regulations which specify standards for use of fertiliser, spacing and storage. Potato production, and the use of fertiliser which this entails, is, however, a drain on the thin mountain soils of the area, the sustainability of which is preserved by traditional and adapted methods. Farmyard manure and night soil, which are applied once a year, are the main means of preserving soil fertility. In addition, Lahaulis have developed a system of 'disco-ridging' (planting potatoes in one long curving line across each field) especially for potatoes. These ridges, which are rebuilt up to three times per season, have radically reduced soil erosion. In the last ten years, farmers have been experimenting with different cropping patterns to reduce the pressure that potato production puts on the soil. These, and the extensive knowledge of the medicinal value of different plants, and waters, are only a few examples of the ways in which Lahaulis have attempted to solve the constraints on production imposed by their environment.

We have explored pre-existing production systems, types of collective action, and the use and development of indigenous technical knowledge in some depth because it is an integral part of the explanation for why a cooperative emerged in Lahaul. The impossibility of local people relying solely on subsistence production led to the introduction of new initiatives and stimulated the exploration of improved systems of cultivation. This hypothesis is borne out by the fact that Mayar Valley and Lower Pattan, the two areas which are able to rely to a greater extent on subsistence production, have been the slowest to adapt to cash cropping. Overall, traditions of cooperation in production and the relative economic equality of Lahaulis provided a strong social base for other forms of collective action.

2.3 Initial organisation of formal societies

The marginalisation of mountain communities is a recognised phenomenon in many developing countries. Several studies have noted a common pattern whereby areas which are ecologically marginal for agriculture became politically and economically marginalised by a capitalist colonialism. This marginalisation was often reinforced during the post-colonial period because funds for development, research and agriculture were largely confined to the plains rather than the more difficult hill areas. Further, the concentration of political power in the plains has led to the export of hill resources, contributing to the further marginalisation of hill communities (Blaikie and Brookfield, 1987; Tucker, 1987). In India, the marginalisation of hill communities is a phenomenon recognised at the policy level and officially targeted through the Hill Area Development Programme.

The societies formed in Lahaul all started with the objective of preventing outsiders exploiting local people because of their isolation. In the light of the wider experience of many mountain communities outlined above, it is interesting to consider how these developed. The first attempt to coordinate local interests against exploitation from outsiders was the formation of a Muleteers Society. Lahaulis had relied on renting mules and labour to generate some income during the winter. They had, however, been unable to dictate the rates that they would be paid when they arrived in large numbers in Kullu/Chamba/Mandi. A few farmers decided to start a society, based outside Lahaul, which would identify contracts and set the prices. The muleteers contributed their livestock and labour and received profits equal to the amount of livestock they had put into the pool. The Society operated successfully without any formal support or intervention until the road was built over the Rohtang Pass in 1967 and cash cropping became a more lucrative option for income generation.

The Kuth Cooperative Marketing Society, established in 1959, was the first formally registered cooperative. Kuth seeds were brought from Kashmir and sown experimentally for the first time in 1925. The root of the kuth plant has medicinal values. It is also used in the manufacture of perfume (and contains an insect repellent oil). As kuth is a non-perishable item which can be stored for many years, farmers were willing to take the risk of planting 10–15% of their fields to kuth. The Kuth Cooperative Marketing Society was formed in Manali on the initiative of farmers in order to stabilise kuth prices and explore new markets. The farmers received initial assistance in this endeavour from the Government of Punjab which helped them identify markets for their product.³ Kuth was a great success and contributed to the first substantial economic gain experienced in Lahaul. The main market for Kuth was China, but it was also exported to European countries, Japan and Canada. Kuth prices eventually collapsed due to growing competition with China and then the closure of the trade route with Tibet in 1962 (which hit the economy of Lahaul badly). The Kuth Cooperative is still operating today although the area under kuth has been drastically reduced and the Cooperative is mainly engaged in trying to market the stock which it has accumulated. The importance of this early cooperative experiment for the evolution of the Lahaul Potato Society is twofold: because of their increased wealth from kuth, farmers were able to risk growing more cash crops; in addition, valuable lessons in marketing were gained.

The introduction of seed potato into Lahaul started with the recommendations of the Central Potato Research Institute (CPRI) and the initiative of local authorities and farmers. CPRI is located in Himachal Pradesh and is part of the Indian Council of Agricultural Research, a public sector body. CPRI identified Lahaul as having a comparative advantage for the production of seed potato because the altitude provides a fairly disease free environment. In 1965 a meeting was organised in Keylong where the *Sarpanches*, *Panches* and leading farmers of Lahaul had discussions with scientists and potato growers from Punjab. The potato growers of Jalandhar, a District of Punjab, agreed to buy the entire first crop at rates which would give farmers higher returns than kuth production. With the failure

³ Lahaul was formerly part of Punjab.

of kuth marketing there was no alternative solution at the time and it was agreed that potato would be tried in the next season. Arrangements for cultivation (mainly training of farmers and import of seed and other inputs) were completed within three and a half months, before Rohtang closed for the winter. In 1966 the first disease free seed potato was exported from Lahaul.

The initiative for the formation of the LPS was taken by a group of approximately 20 farmers, most of whom came from the Pattan valley where potato had been most widely adopted. The realisation that potato cultivation would barely be viable without some collective action to exert influence on the market, to which all farmers were equally vulnerable, led to the formation of the Society. These founding farmers convinced others to join them by active canvassing. They then approached the local district administration for institutional support. The Lahaul Potato Cooperative Marketing Society was registered in 1966.

2.4 Diversification of the farming system and the socio-economic structure of Lahaul

Seed potato cultivation and the existence and strategies of the LPS have revolutionised the farming systems and socio-economic structure of Lahaul. Potato yields in Lahaul have sometimes exceed those that CPRI itself is able to obtain and the whole of Lahaul has been declared a seed producing area by the Himachal Pradesh Government.

Potato was introduced into the farming system gradually. With increasing success a larger and larger area was devoted to potato, until by the mid 1970s almost the whole of Lahaul was under potato with small portions remaining under barley, buckwheat or grass. However, the increase in crop size led to a deterioration in prices. LPS and the local administration tried to find a crop which could either complement or replace potato in the cropping pattern. It was felt that a diversification in production would improve prices, allow a rotation which would improve the soil, and reduce the risk of monocropping. Hops were introduced into the area in 1973–4 but the difficulty of marketing these meant that they only provided a partial solution. A more substantial change came with the introduction of pea into the farming system in 1984. This has now replaced almost half the area under potato. It has the advantage of being nitrogen-fixing and, depending on the market, can be as remunerative as potato.

Potato, and the cash income which it generates, have initiated a transformation of both the farming system and the social structure of Lahaul. Considerable amounts of time and money have been invested at the household level on purchasing and developing new technologies. For example, Lahaul has the highest rate of fertiliser use in Himachal Pradesh, an annual replacement of improved potato seed. At least 90% of the cows in the area are now high yielding jerseys as opposed to the local *churrus*.⁴ In the early 1980s Lahaulis started to invest in land and orchards in Kullu, many Lahaulis selling their large herds of livestock to raise the capital. The activities of the LPS have also evolved over time (see Appendix 2). Experiments are currently being conducted by researchers, farmers, and LPS with fruits, off-season vegetables and medicinal plants.

The inflow of cash income has had a profound effect on the area; savings accumulated at the District level alone were 30 Crores in 1996, which is approximately Rs.10,000 per household (State Bank of India, 1996). Lahaulis have placed a great emphasis on investing money in education. From a position of virtual illiteracy in 1961 (Government of India, 1961), literacy has increased to 99% amongst people under eighteen years of age and adult literacy programmes have reached record targets in Lahaul (pers. comm. education officer in charge). All households have sent at least one, if not all, of

⁴ A number of households have opted for a *churru*-jersey crossbred to combine the superior tasting milk of the former with the yield of the latter.

their children to receive higher education outside the Lahaul. A consequence of this is that almost all households have at least one member with a permanent job outside the area (Government of Himachal Pradesh, 1991).

At first employment was concentrated in government service which provided the most stable source of income, but in the last ten years Lahaulis have begun to move out of government service and to invest their money in businesses, in particular those involved with tourism and transportation. Most Lahauli enterprises are based on the ownership of capital goods such as land, hotels and trucks. In complete contrast to the pattern common to many Indian hill areas, the labour to service these is imported from the plains or other hill districts.

One response to the change in economic opportunities has been a rapid demographic transition with the average number of children per family going down from 8 in 1951 to 3 in 1991 (Government of Himachal Pradesh, 1991). Almost all households hire labour – often Nepali – during the cultivation season, and those who do not have enough family labour to supervise cultivation, lease the land out to other households in the village. Most of the grass is now harvested by hired labour as Lahaulis prefer to concentrate their labour and supervision in the more vulnerable potato, pea and hop fields.

Although agriculture is still the main source of livelihood for Lahaulis, one effect that the diversification of production has had is to relieve the pressure on the mountain farming system by providing alternative income earning opportunities. This has not led to a collapse of the social structure but has reduced the pressure to divide landholdings as a few men from the household work outside the farm whilst others take care of the land. Polyandry has become virtually non-existent since the 1970s. There is also an increasing interaction between Lahaulis from different valleys, with intermarriage between different *Rus* no longer uncommon.

The cooperative has been an integral part of this process. It has diversified its activities from marketing potato to fruit and vegetables, consumer services, and is now entering the hotel business. It has contributed towards the evolution of a rural civil society by providing a channel for the flow of information between Lahaul and the ‘outside’, and a network for the dissemination of this information. It has also become involved in purely social services such as awarding prizes and scholarships for the best sports person, scholar and teacher, occasional loans for students, advances to members, and ‘eye-camps’ and primary health care education. However, the large scale emigration of Lahaulis for employment and education has implications for the LPS, to which we shall return in Chapter 5.

2.5 Conclusion

The evolution of LPS can be attributed largely to the socio-economic structure of the Lahauli population and the particular production constraints which they have faced. The absence of sharp class cleavages, and the tradition of cooperation and experimenting with agriculture, were key influences in the formation of the Society. However, the final impetus for its establishment appears to have been the shared vulnerability of farmers to the vagaries of the market and their dire need to find a solution to marketing problems. It was this that convinced a group of farmers to invest substantial time in starting the cooperative, and persuaded other farmers to join. With the evolution of the farming system, the social structure, and the market, Lahaulis have developed other means to secure a livelihood. The following chapters will explore the role that LPS has played in this and consider the likely effects of these changes for the sustainability of this role.

3. The Objectives, Structure, By-laws and Resources of the Lahaul Potato Society

3.1 Introduction

The Lahaul Potato Society (LPS) is registered under the Himachal Pradesh Cooperative Societies Rules and Acts, and is under the ultimate administrative control of the State Cooperative Department headed by the Registrar of Cooperative Societies (RCS). These rules dictate the basic structure of LPS however the particular institutional evolution of LPS, and its mode of operation, have been shaped by the members and their collective response to the constraints and potential of marketing their farm produce. This chapter will provide an overview of the institutional structure and objectives of LPS.

3.2 The objectives and by-laws of LPS

The by-laws of LPS were framed under the Himachal Pradesh Cooperative Societies Act of 1968. They have been amended 3 times since they were first drawn up; by-laws 11–14 which state the objectives of LPS and its area of operation were added after the 1970s.

The principal objective of LPS are: to ‘make arrangements for the procurement, storage and marketing of agricultural/horticultural produce’ (by-law 4(1)) to ‘supply seed, manure, agricultural implements and other requirements of the members’ (by-law 4(1)); and to ‘arrange grading and processing of agricultural/horticultural produce’ (by-law 4(3)). The by-laws also empower LPS to act as an agent of the government for the procurement of agricultural produce, to borrow funds from the Cooperative Bank, to grant advances to members, to disseminate technical knowledge to its members, and to educate members in the principles and practices of the Cooperative.

3.3 The structure and infrastructure of the Society

The institutional structure of LPS is typical of Cooperative structures throughout Himachal Pradesh.

LPS is a ‘true’ cooperative in that a basic condition of membership is that the farmer is locally resident and sends produce to LPS. Each member has one share, which he/she is required to purchase when joining, and one vote. Usually only one person per household (until now mostly male) becomes a member and represents the interests of other household members in the General House. The General House, which is the body of all members, is the supreme decision-making body under the Himachal Pradesh Societies Act. The General House has 2,009 members which covers 99% of the households in Lahaul. The households who are not members are mostly located in the remote parts of Mayar Valley.

There is informal contact between members and management and amongst members throughout the year, although no major decisions can be made outside the General House.

The by-laws of the Society state that the General House should meet at least once per year. It is empowered to remove the Managing Committee, consider the annual report of LPS and its audited balance sheet, decide on the disposal of profits, fix maximum credit limits subject to the approval of the Registrar and amend by-laws. In practice, the General House usually meets at least twice per year to discuss matters relating to agriculture, marketing, the establishment of priorities, accounts and future policy. The House votes on these issues by a show of hands or by ballot. A third of the members have to be there to make a legal decision and two-thirds to change a by-law. Attendance at meetings is high, with at least two-thirds of the members attendant at most meetings, partly because the LPS provides buses and trucks to collect people from remote areas.

The central executive authority is held by the Managing Committee, usually referred to as the Board of Directors (BOD). This has 12 members, six of whom are elected by members of the Society to represent each of the six geographical zones into which LPS divides Lahaul (see Section 3.4). Two further members with expertise in agriculture and marketing are coopted by the BOD after the six zone representatives have been elected; three Directors are nominated government representatives (one from agriculture, one from the Cooperative Department, one from industry); and one Director is a representative of the Central Cooperative Bank. The BOD elects a chairman and a vice-chairman from amongst themselves. The position of Director is honorary and part-time and for two years.

The BOD is empowered to take decisions on pricing and research and can create sub-committees to address particular problems such as marketing, pricing, financing or transport etc. The BOD appoints a Managing Director who along with his staff looks after the daily decision-making and routine administration of the Society. The Managing Director and his staff are full-time employees, whose pay is determined by the BOD with the approval of the Registrar. There are approximately 75 paid staff within the LPS, including a Marketing Manager, Accounts Officer, and Establishment Officer as well as clerks, field staff and seasonal staff.

For any policy decisions with long term implications the BOD have to seek the approval of the General House, and depending on the type of decision, the Cooperative Department of the state government. General House meetings are attended by the BOD, the Managing Director as well as local government representatives, and when invited, research staff and customers.

LPS has its operational headquarters at Manali (Kullu) although the General House meets in Keylong (Lahaul).⁵ LPS has 22 collection centres in Lahaul, three godowns in Manali, nine trucks, one van and one jeep. As we will discuss LPS has expanded its sphere of operation and now also has an office for fruit and vegetable marketing in Katrain (Kullu) with five collection centres, a mushroom production unit in Raison (Kullu), and two acres of land near Delhi on which a cold storage godown will be constructed. LPS has constructed a guesthouse for members in Manali and in September 1996 will open a luxury tourist Hotel in Manali. Appendix 2 provides a chronological account of the institutional and infrastructural evolution of the Society.

3.4 Democratic representation and participation in the decision-making process

Although the LPS operates under the legal framework of the Himachal Pradesh Cooperative Societies Act and Rules, its operational principles have evolved in the General House without any supervision from the cooperative authorities.

The evolution of a local system can be seen most fundamentally in the membership system. Membership is based on the principle of equal contributions, liabilities, and distribution of benefits. Although the Act, and the by-laws of LPS, allow members to purchase more than one share, no member has yet done so. A Director said that if a member applied for the purchase of another share it would probably be brought up in the House, and members said that it had never occurred to them to purchase another share. The general perception was that, although it is a legal right to own more than one share, it would be considered contradictory to the democratic ethos of LPS to do so.

One member we interviewed in Gemur said that, as a small farmer, he should not be required to contribute the same amount (Rs.200) as a rich farmer. We followed this suggestion up with the other small farmers we interviewed, but they expressed satisfaction with the existing system of

⁵ The Kuth Society, though legally a separate body is run by LPS, and has the same managing staff and members. The Hop Society is a separate institution established in 1973-4.

contributions. It was generally accepted that the mandate of the LPS is not to redistribute wealth or to offer different services to members in different economic positions, but to offer equality in service for an equal liability.

Membership is restricted to Lahaulis, although there is nothing in the official Act which specifies that non-Lahaulis may not join. The rationale behind this restriction, which has popular support, was simply to ensure that all members have more than just an economic attachment to the Society. Kulluis who market their apples through LPS receive a temporary annual membership, for an annual payment. There are very few female members and no female Director on the board, despite the fact that the Act requires a woman to be nominated.⁶

The system of democratic representation has been extensively debated in the General House. Large cooperatives often put in place a system of representation by delegation whereby one delegate is elected to represent a group of members in the decision making bodies. After much debate, when the membership of LPS crossed 2,000, it was decided that this system would prevent a democratic hearing of all grievances and would potentially contravene Clause 4 (8) of the by-laws, which is 'to spread knowledge of cooperatives principles and practices'. Direct representation would also be preferable because it would increase the democratic decision-making base and therefore ultimately the efficiency of the Society. This is despite the growing difficulty of managing a meeting which usually has approximately 1,000 participants and can have up to 2,000. The other reason that the General House recently decided to continue the system of direct representation was to prevent political ambitions from influencing the election process. This, as elsewhere in India, has become a characteristic feature of local *panchayat* elections.

The other foundational decision regarding representation is the 'zoning system' which was instituted after much debate in the late 1980s. This rule specifies that the six directors who are nominated to the board must represent the different valleys, and must be nominated by the members from those valleys. Up to this point, many of the Directors, and three of the five Managing Directors, had come from Pattan, ostensibly because this was the valley with the longest experience of agricultural innovation. The zoning system was also favoured to prevent Directors from using the institutional structure of LPS to support their private business interests. The General House decided that a system of zoning would ensure that the Directors were accountable to the members of a particular area and that those members would elect someone whom they felt would be both honest and capable in the representation of their needs. In addition, many of the members had felt that their particular local grievances, related for example to climatic conditions of production or the availability of goods in the retail outlets, had not been adequately represented in the board. By appointing a local Director these concerns could be brought to the immediate attention of the board, circumventing the lengthy process of bringing them to the General House.

All the members consulted for this study expressed general approval of the system of direct representation in the General House. The zoning system of representation is, however, a contentious subject. Many members, significantly those in Pattan, felt that a geographical restriction would lead to the nomination of members who were not necessarily capable of management. Other members, particularly in the Thod Valley, felt that since the zoning system has been implemented, their problems have been given a fair representation in the General House. Although members in Pattan recognised this advantage they did not feel that the other objective of zoning, an informal character check by those

⁶ There was insufficient time to get a full understanding of the reasons for and consequences of women's non-participation in the decision-making process of LPS. Members of the Mahila Mandal in Jispa said that they did not have the time to participate and that they felt their opinions were adequately represented by men in the household. However, to hazard a judgement about women's relations to LPS and the public domain on the basis of these few interviews would most probably be more confusing than accurate. The analysis of gender issues in the operation of LPS is therefore a subject which remains to be explored.

who know the nominee locally, was being realised. We shall return to some of the possible constitutional ramifications of this doubt in Chapter 6.

General House meetings generally take all day and tea is provided by LPS. A member of staff commented that all the most interesting issues are kept until the end of the day so that members do not get bored and wander off. All of the members interviewed not only attended General House meetings regularly but considered them to be of vital importance. Complaints were voiced about the inability to be heard in the General House, and the fact that the agenda of the meetings was set in advance (and that when they raised certain issues they were told that these were individually specific matters which should be directed to the management privately). There was, however, a general awareness of how LPS operates and a belief in the ultimate strength of the General House to make decisions.

3.5 Resources

LPS started with no income in 1966 apart from the contributions of its first 20 members and Rs.5000 share capital from the government. The members agreed to a delayed payment for their first potato sale. The Society approached a commercial bank for a cash credit limit in the early 1970s, and in 1975–6 received a cash credit limit of 95 lakhs from the Cooperative Bank. All members are now required to purchase one share and to make recurrent annual contributions to LPS. In 1996 the contribution was set at Rs.200. From 1975 onwards the Society not only became financially viable but started to gather assets. Investment in business started in 1982–3.

The total income of the Society today is based on the share capital of the government and members, cash credit limits, fixed and current assets and the turnover from its various operations (see Chapter 5). Each members' share is worth approximately Rs.1500. The turnover in 1994 was 123,657,130. The share capital of the members in 1995 was 2,497,800 and that of the government was 15,857,400. The total revolving fund was 4,343,352. The annual audit of the Cooperative Department of Himachal Pradesh ranks cooperatives on a scale from A to C according to their annual turnover. The Society which started with a C grade in 1966, went to B in 1967 and has since the early 1970s been consistently ranked as an A grade cooperative.

4. Potato Production, Marketing, Research and Extension

4.1 Introduction

The LPS is principally involved in potato processing and marketing. This chapter will describe the potato production process from the field to the final consumer and the ways in which LPS has managed to overcome the disadvantage caused by the geographical isolation of its members.

4.2 The potato production process

Lahauli potatoes derive their comparative advantage from their reputation for quality. LPS has been active in maintaining these quality standards. A General House resolution was passed requiring all members to be state Registered Seed Growers. This means that the potatoes are certified each year by a State Certification Agent who is accompanied to members' fields by a staff member of the LPS. At this time, and subsequently in the General House, any problems regarding yields, diseases or quality are brought up for discussion.

Members indent for the seed during April–May and receive the seed in June. The two principal varieties are *Kufri chandramukhi* and *Kufri jyoti*. The areas for the production of these varieties are segregated to ensure seed purity, and are decided by LPS in conjunction with members of CPRI and the State Seed Certification Agency. Members in Lahaul get their seed either directly from CPRI or from state farms. Initially a large proportion of their seed was foundation seed from state farms, but pressure from LPS has managed to ensure that an increasing proportion of seed is breeder seed directly from CPRI which both ensures quality and keeps down the cost of production. There used to be a shortage of seed because it came through state farms, and CPRI was not sure that the farmers would lift the amount they produced. To solve this supply problem and ensure quality LPS made a policy requiring members to change seed every year and centrally allots the seed for this purpose.

Table 1 Average pattern of seed multiplication

Breeder Seed	50kgs (just over half a bag)
<i>Foundation</i>	1500kgs
<i>Foundation</i>	26000kgs
<i>Certified</i>	148,000kgs (600 bags)

The direct supply of breeder seed for multiplication in the farmers field has greatly reduced the cost of producing certified seed. If the farmer were to purchase the amount of foundation seed needed to produce 600 bags of certified seed, this would be extremely costly. In addition the government of Himachal Pradesh extends a 50% subsidy on the cost of seed and a 100% transport subsidy. Seed storage does not incur any costs as it is kept in pits in the ground.

4.3 Marketing channels

The principle objective of LPS is to ensure that members get a remunerative price for their produce by supplying inputs, when these are not available at a reasonable rate from the private market, and by marketing potatoes so as to provide a high, and above all secure, collective income. This has required an immense and rapid learning process in marketing as the management of LPS had no experience of the market. LPS received support from CPRI on the process of potato production itself but very little subsequent support from the government in the form of subsidies or support prices. The system that LPS developed for grading, processing, transportation and marketing grew partly as a result of the autonomy with which it operated.

The Society faced severe problems initially and had little experience of how to identify markets. The demand for Lahauli potatoes was restricted to Punjab and was too low to lift the entire stock. Most seed was being supplied by Shimla, which was the main potato seed centre in India, and LPS was forced to send seed to Punjab at throw away prices. To try and break these constraints the first Managing Director went to Shimla to request assistance from two Cooperative Marketing Federations. They were unwilling to help so he approached their individual customers directly. In 1968 two bags were sent free of cost by rail to some of these farmers in Kheda District, Gujarat. In 1969 these customers ordered five train wagons. The Managing Director visited the farmers in Gujarat with the Deputy Director of Agriculture to explore the conditions of production and what measures could be taken to improve the seed potato in Lahaul. From 1971 onwards the demand from Kheda grew until LPS was sending 90% of its seed to Gujarat. The governments of West Bengal and Maharashtra, as well as cooperative marketing societies and individual farmers in these states became the next major customers. Seed from Lahaul is now supplied to all corners of India. Small amounts have gone to Pakistan, Bangladesh and Sri Lanka.

The marketing channel begins in the farmers field where the potato is collected and brought to the nearest roadhead. From there it is taken to a *kothi*, a collection centre. There are 22 of these and they each service 2–3 villages. The farmer deposits his *bhoras*, gunny bags, which are labelled with his name and registered growers receipt. The potatoes are then transported to Manali at the members cost for processing and grading. The entire stock of potatoes is divided into different varieties and grades. Each member is issued a lot number and his share of profits is calculated by the quality and grade of the produce. An advance of 50% is deposited in his account at that time, the remainder is advanced once all the sales have been completed and the accounts drawn up.

The entire process starts as soon as the potatoes start arriving from Lahaul as there is little time between the harvest and the sowing season. The process of grading, packaging and labelling of potatoes is overseen by staff members of LPS as well as representatives of the State Seed Certification Agency. Customers, in what is an innovation unique to LPS, are also invited to oversee the process and to satisfy themselves about the quality of the produce. If potatoes are not up to the required standard they are either discarded or sold as truthfully labelled seed. In case of an accident, or damage to the stock whilst transporting the produce from Lahaul, the losses incurred by particular members are pooled amongst the collective.

LPS distributes to customers scattered in different states by road and rail. The trucks and drivers are hired either from Himachal Pradesh or Punjab. The terms of sale are established and published each year, although the usual standard is to demand a 20–25% advance every year, with the rest of the payment to be made on delivery either immediately or in instalments. Most customers are regular and indent for the potato in advance. In the case of defaulters, a representative is sent to recover the money and at the same time takes the opportunity to meet consuming farmers and to learn directly what their experience and preferences with the potato are.

The marketing channels require an immense amount of coordination between railway authorities, truck unions, producers and consumers. LPS has tried to solve these logistics by involving all these agents as closely as possible in the entire process of potato marketing rather than just one component. Inviting customers to oversee the potato grading process and frequent visits to the fields of both members and consuming farmers, has been the main means of achieving this. LPS even visits the 1–2% who default every year if possible to enquire about their problems and preferences with potato seed.

4.4 Price and quality

The principle in setting a price for the seed is to try and find a price that is acceptable to both producers and consumers, and to balance costs and income over the long term. The rationale for this is that seed potato production is a cycle, and if the price goes too high in one season, it can have the effect of pushing the consuming farmer out of production or endangering the sustainability of production. In this respect LPS operates more sustainably than many private markets. As we will return to explain the stabilising effect that LPS has on the market is in fact valued by the private traders in Lahaul.

Several factors are taken into account in reaching a market price. LPS is in close contact with its customers, intermediary cooperative/government agencies and market traders. Market trends – such as the price of table potato – are watched throughout the year by the Marketing Manager. Information is gathered from traders on the quantity of stock held in cold storage, the production figures of the previous year, and the position of competitors in the market. Close contact with the consumers also allows an evaluation of climatic conditions in different areas and its likely effect on sowing. This information on price is passed to members through formal meetings and informal networks throughout the year so that the members have some guidelines on the basis of which to plan production, mainly the ratio of peas to potatoes.

The BOD announces the price of potato sometime towards the end of October. Sometimes private traders and customers are called to the meeting in which the price is fixed. If there are substantial price fluctuations in the market after the price has been fixed, the management takes immediate decisions or authorises the sub-committee on price and the Managing Director to take decisions on behalf of LPS. If the fluctuations are big enough to severely effect the income of the LPS, then an emergency meeting of the General House is convened by the BOD.

The central mechanism in the calculation of inputs and outputs, and the setting of the potato price, has been the pooling of profits and losses. This is a foundational characteristic of LPS which was developed in early General House meetings. If a truck overturns the costs are borne equally by all, and if a particular variety of potato fetches a good market price, then the benefits are distributed to all members. Prices are pooled rather than given on a first come first serve basis in which the farmer receives whatever the market price is at the time of sale. The price for all varieties of potato (mainly *K. jyoti* and *K. chandramukhi*) are also pooled, so members do not suffer if the variety they produce does not receive a high price. This regulation prevents members from shifting from one variety to another in response to market swings, and thereby reducing seed purity. Members do not however get any returns if they produce low quality seed, and this operates as a check on any temptation to freeride on the hard work of others.

The final payment is made to the member after sales and is paid in bank drafts after accounts are adjusted, although members can request discretionary financial assistance before that time. The adjustments include transport costs up to Manali, SSC fees, packing materials, any mule expenses in delivering potatoes to roadheads, and any advances that have been given to the farmer in the form of consumer goods. The share taken by LPS is calculated annually but does not usually exceed 5%, and

when the price fetched for potato in any particular year is low, LPS will sometimes reduce its commission.

4.5 The private market for potato

LPS evolved as a direct response to the pressures being placed on producers by middle men in the private market. The private share of the potato market averages at 30% compared to the cooperatives' share of 70%, and in those years where the government offered a support price for potatoes purchased through LPS, its share fell to less than 20%. There are presently four private potato traders operating in Lahaul. Apart from 3–4 families near Gemur who are almost entirely reliant on private traders, the clientele of private traders shifts from season to season. The private market provides LPS with direct competition and is the ultimate standard against which LPS performance is judged.

The private market has developed a particular role in the potato trade. In discussions over the role of the private market in Lahaul, one of the most repeated opinions was that, although Lahauli farmers could not depend on the private market alone, its existence was essential as an alternative to LPS. The main advantage of the private market for potato is that private traders give their customers cash on the spot, and are able to provide special services to a limited number of farmers during adverse weather or transport conditions. Some members also own small plots of land (for example, that belonging to daughters) which have a yield they feel is too low to be worth putting through the marketing process of LPS. Members often mentioned that apart from these small advantages, it was necessary to have a private market so that LPS remained competitive.

The scope of the private market and the terms on which it operates have however been tempered by the existence of LPS and the standards it has established for potato production. The checks that operate on the private market are enforced both by the existence of LPS and informal checks by members about the terms and regularity with which people use private traders.

First, each of the four private potato traders are Lahauli and are themselves farmers. They are not themselves members of LPS but have family who are members. The 5–6 non-Lahauli private potato traders who were operating in Lahaul during the 1970s have gone out of business. The interests of private traders are therefore not necessarily sharply differentiated from producers. Further, most farmers obtain their agricultural inputs, especially seed and advances, from LPS. In sharp contrast to the potato farmers of other hill districts such as Kumaun, the decision on whether to market through private traders is one of choice rather than dependency induced by loans for inputs such as seed and fertilisers.

Second, as the private market also deals in quality seed potato, there is amongst the private traders a commitment to ensuring the quality of the produce and a consideration for the trade as a long term investment. Private traders participate in enforcing the regulatory measures established by LPS such as seed certification and proper processing. They also offer pooled prices for different varieties and low prices for seeds that do not meet certification standards. In the case of late harvests or problems with the Truck Unions the traders exert their influence, along with LPS, in appealing to the government for support. The competition with LPS is in the marketing of the potatoes.⁷ The private market traders we talked to said that, in fact, they benefit from the operation of LPS because they have the institutional capacity to monitor seed quality. Also, their policy of maintaining price stability has prevented speculation to force the price down too low.

⁷ The effect that adherence to seed regulations has had can be noted by comparing Lahaul to Shimla. Shimla was the main seed potato centre in India with extensive support from the government and CPRI. However the market was largely dependent on private traders who neglected pre-harvest regulations. This led to a decline in the quality of the seed potato and Shimla as a centre for production.

The third and most important constraint on the private market is the competitive rates offered by the LPS. The difference between the price for potatoes offered by LPS and that offered by the private market is not usually more than Rs.10–15. Although members find it more convenient to use the private market sometimes, for reasons which we have explored, preference is given to LPS. This is not simply because of the competitive rates and social pressures to do so, but repeated use of the private market can lead to the withdrawal of other LPS services like the supply of inputs. We will return to consider the way in which these social pressures on private market use operate in Chapter 5.

4.6 Market trends

The price of potato and LPS share of the market has increased steadily since 1970–71. There were several years in the mid-1970s when the entire stock of potato had been indented for before it was harvested and the price had been announced. The LPS principle of holding prices steady, rather than speculating, and guaranteeing a basic price whatever the trends are in the private market, has served to stabilise the market in general. The price of transport has also been generally kept low despite the existence of a well established Truck Union. The main means of combating high truck prices during the season has been to appeal to the government for emergency support, especially in the case of natural and accidental disasters.

However, in 1979 the market slumped unexpectedly and LPS had to request a support price from the government. The 156,000 bags were sold at Rs.50 per bag. Further slumps in 1982–3 and 1984–5 suggested that the increase in potato production in Lahaul was pushing prices down. Other factors, such as problems with the varieties and competition from Punjab and the Terai, also contributed to the slump. A large part of the reason behind the decision to diversify agricultural production, as we will explore in Chapter 5, was to provide members with different options and so reduce the risk of market failure in a single crop. As LPS is committed to purchasing the entire stock of potato, it was also vital for its survival that it did not have to incur losses through marketing potatoes at its own expense. The experience of kuth had illustrated the advantages to members of not depending on a single crop, and had also given LPS (which informally took over the management of the kuth Society) some marketing experience. Kuth prices had been kept low for 6 years and LPS advised members to reduce the area under kuth. When the price picked up again LPS started to market kuth gradually so as to keep the price high. To prevent traders from estimating the size of the kuth stock and setting a price accordingly, kuth was stored by the members rather than in LPS godowns.

Production in Lahaul is heavily dependent on exploiting the comparative advantages of the area because it is so disadvantaged by its physical location. Its climatic conditions are advantageous for the supply of off-season vegetables. Initial experiments showing the suitability of pea to the area suggested that this could provide an alternative cash crop to potato and some leverage in setting prices. In 1984–5 production slowly shifted to pea and it now accounts for almost half the area under cash crops. Fruit and vegetable marketing are still in an early and experimental stage. The income from apples accounts for less than 10% of the total turnover of LPS.

Most of the area under subsistence crops of wheat, barley and maize are in Spiti, Mayar Valley and Lower Pattan. The area under cash crops in Lahaul alone would be much higher. Of the cash crops, there has been a decline in kuth and a fairly steady adoption of hops. Most significant however, is the rapid increase in the area under peas, and a gradual decline in the area under potatoes. In 1991–2 there was in fact a greater area under pea than potato. The effect on potato prices can be seen from the year 1986–7 onwards.

Table 2 Potato rates paid to members*

Year	Quantity in bags (80kgs)	Net rates per bag (Rs.)
1977-8	114,000	115
1978-9	137,000	149
1979-80	155,908	50
1980-1	191,145	116
1981-2	171,000	94
1982-3	167,967	104
1983-4	129,300	152
1984-5	188,883	94
1985-6	181,423	105
1986-7	136,720	248
1987-8	158,461	164
1988-9	204,582	202
1989-90	205,788	202
1990-1	184,287	160
1991-2	154,691	280
1992-3	173,098	185
1993-4	136,619	250
1994-5	116,453	300
1995-6	10,500	330

Source: Lahaul Potato Society

*rates refer to the sum paid to members after the accounts have been adjusted for advances, transportation, certification fees etc.

The decision to diversify is a large part of the explanation for the upward trend in prices as it has given LPS substantial leverage. However other factors, such as the accumulated experience and marketing expertise of the LPS, and the problem faced by potato seed growers in Shimla, should not be discounted.

4.7 Financial viability of production at the household and the collective level

The cooperative objective of reducing the price of inputs and finding remunerative prices for outputs has yielded clear financial benefits for members, and as suggested in Chapter 1, has revolutionised the socio-economic structure of Lahaul. This is evident in the productivity and economics of agricultural production and in the input-output ratio at the farm level.

Table 3 Productivity and economics of major crops grown in Lahaul

Crop	Average yield (Q)	Gross returns (Rs.)	Net returns (Rs.)	Input-output ratio
Wheat	27.94	10,060	5,592	2.25
Barley	22.50	7,652	4,026	2.12
Buckwheat	14.44	8,644	5,490	2.73
Rajmash	12.50	18,750	14,397	4.31
<i>K.jyoti</i> *	295.14	48,696	29,125	2.49
<i>K.chandra</i> *	256.66	39,049	21,126	2.18
Peas	66.50	47,030	38,563	5.55
Kuth	36.40	54,600	42,563	5.55
Hops	32.37	1,65,112	1,22,237	--

Source: Farm Survey, RSS Kukumseri, 1992

**K.jyoti* and *K.chandramukhi* are two potato varieties. *K.jyoti* does have on average a 10–15% higher yield but the figure above probably overestimates the difference by taking the sample from the same area. The productivity of both potatoes is highly variable and there are certain areas, such as the Chandra valley, where *K.Chandramukhi* gives a higher yield.

We calculated the financial viability of production at the household level by considering the income for the average landholding of 3 acres and the approximate cost of inputs for such an area. The inputs per hectare are approximately; Rs.4500 for fertiliser, Rs.300 for seed, and Rs.1000 for total transportation costs to Manali. The average expenditure on subsistence (on the most basic items) per annum for a household of eight people was calculated by asking a random sample of 50 people what they spend. The following is an exemplary household budget.

Table 4 Exemplary household budget

Average size of cultivated land	3 acres
Average income from 1 ha (2.47 acres)	Rs. 60,000
Average expenditure on subsistence per household	Rs.15,000
Average expenditure on inputs	Rs. 6,000

4.8 Research, extension and technology development

Seed potato production in Lahaul has from the outset been dependent on a close interaction between formal research institutions and farmers. Farmers depend on formal research to develop varieties suited to local conditions, and on information regarding the basic inputs and regulations needed to produce certified seed. Methods of sustainable production, which are sensitive to local time constraints, conserve and contribute to local soil fertility, are developed in the farmers fields. LPS has played a pivotal role in facilitating an interface between formal research institutions and members, acting as a pressure group for farmers' demands, and implementing, disseminating and regulating technology.

Three factors have had a particular influence on LPS involvement in the dissemination of research. The first is that LPS has acted as a government agent for the distribution of seed and has therefore

benefited from official support. CPRI, as a public sector research institution, has been given a direct mandate to cooperate with LPS. The initial introduction of seed potatoes into Lahaul was in fact partly due to recommendations made by CPRI scientists. The collaboration between CPRI and LPS has been further enabled by their location in the same state. Many seed growers in India have to rely on research stations, and visits from scientists, located at opposite ends of the country.

The second factor which has had a significant effect on LPS involvement in research is the logistics of seed production. The successful implementation of seed standards and technology depends on collective action, because the failure of members to comply threatens the purity of the entire stock. The management of LPS was given the mandate to enforce standards by the General House and the staff have received considerable grassroots support in the monitoring of standards. The reason for this is related to the third factor which has influenced the nature of LPS involvement in the dissemination of research. As the welfare of both small and large farmers is ultimately dependent on their reputation for quality seed, and as the produce is marketed collectively, farmers of all income groups have an interest in the dissemination of improved technology.

The active involvement of LPS in the production process in the farmer's field is facilitated by the links between management, members and government. Most fundamentally, the Board of Directors are farmers and therefore have a personal interest in maintaining standards. One of the Directors is in fact nominated to the board because of his marketing expertise. Further, most of the staff in the Department of Agriculture and the Department of Horticulture are Lahaulis and members of the LPS and one Director of the board is nominated from the Department of Agriculture. This has facilitated communication between these government departments and LPS, successful extension, and often effective lobbying of the departments to respond to local demands. LPS also has 10 field staff, some of whom are trained agronomists, whose job it is to liaise with members and act as a link between the 'field' and management.

LPS has tried to institutionalise the pooling of information between researchers, government departments, consuming farmers and members by inviting all to attend meetings, holding workshops, and constant checks on preferences and performances in potato production. This is evident in the nomination of both a local and a government agricultural expert to the BOD, and in the close links which have developed between the Departments of Agriculture and Horticulture, the CPRI and the LPS. As Chapter 6 will explore further, most of the local positions in the Departments of Agriculture and Horticulture are in fact held by members. Researchers from CPRI and the State Agricultural and Horticultural Universities frequently visit farmers' fields and are approached for advice by LPS in case of problems. Members also have exposure to researchers at the time of seed certification, grading and processing. The state seed certification team are accompanied by a staff member of LPS who ensures that there are no misunderstandings etc through social or language barriers.

LPS has been active in ensuring that all members are registered seed growers, chasing those who have been slow to register, and covering the administration and the cost of registration. It has also forced members to change their seed every year, and penalised those with low value produce by discarding these during processing. LPS has ensured that through direct contact with researchers, the preferences of both producing and consuming farmers are appreciated. These preferences, based both on the needs of the consumer and the constraints of production, are for good colour and shape, high dry matter content and low sugar, good taste and easy storage. There is a general awareness of the changing demands as the final consumers are increasingly potato manufacturing industries.

Formal research extension has in the past been concentrated in the Pattan Valley whose wide valleys and warm climate provides favourable conditions. Trials with true potato seed, tissue culture techniques and seed plot techniques, have been done on farmers' fields in collaboration with the International Potato Centre and CPRI. However LPS has tried to ensure that research and technology

remains applicable. For example, after an evaluation of the trial results of the experiments above, it was decided that the technology was too costly to implement on a large scale. Similarly, there has been an attempt to solve production constraints through local solutions. For example, the harvesting time in Lahaul is late and there is a time constraint in getting the seed to the consuming farmer. One proposed local solution, as an alternative to spending years developing a variety which will mature early, is to cut the tops of the potato earlier and so hasten the maturity of the seed. Attempts are being made to consider how labour, which is busy harvesting hops and peas, can be rearranged to allow an early harvest.

Knowledge is quickly disseminated to other members through the General House and informal information channels. Members have not tried to conceal their experience because it is in their collective interest to ensure that the output and quality of the produce of the valley remains high. In fact, in general the regulations the Society has imposed – changing seed, certification, discarding low grade products – have been appreciated as necessary by members. An effective punishment against a member who defaults against these rules, as we will return to consider, is social pressure.

LPS has used the state and national media, the radio and the political system to express its preferences and apply pressure to ensure that these are addressed. They have appealed to the DOA, local Member of Legislative Assembly (MLA) and the Chief Minister for intervention in the case of a poor stock of seed, disease, seed mixing, etc. In the press this has often led to repeated exchanges between LPS and members of CPRI in particular. One example is the long and successful struggle to change the Seed Distribution Policy. Himachal Pradesh had divided the state into different seed production zones, in which Lahaul fell under the *Kufri chandramukhi* variety. Members complained that there were certain areas of Lahaul which were particularly badly suited for *Kufri Chandramukhi*. LPS approached the government and suggested that they change their policy, and divide Lahaul itself into different production zones in which *Kufri jyoti* would only be planted in those areas, like Pattan, in which it was most suited.

Another example of the effective use of political power to override the decisions of researchers was over mixed seed that was distributed in 1986. The CPRI said that they had sent only *Kufri jyoti* and that the seed must have been mixed at the farm level. LPS replied that this was not possible, as the farmers did not have large stocks, and approached local politicians and MLAs at the state level. They forced a debate on this in the Legislative Assembly, as a result of which, the DOA had to admit that they had supplied mixed seed. The Tribal Advisory Council has also supported LPS by putting its complaints on the policy agenda at the state level.

Another example, in 1990, of a conflict with formal research institutions was over the standards required for certification. The Himachal Pradesh Seed Potatoes Act set a standard in which small and large seeds do not qualify. These potatoes thus had to be sold at throw-away prices. LPS contested the Seed Act and appealed to the government to suggest that both small and large potatoes should be accepted as seed. LPS argued that if micro-tubers, ‘the small potato of the laboratory’, are considered to be seed, then small potatoes from the farm should be equally acceptable. After field trials demonstrating the success of small and large seed potatoes the state government allowed an amendment in the Seed Act, despite allegations from the Director of CPRI that the decision would have disastrous consequences.⁸

⁸ In fact, experience has shown that not only are all of the different sizes successful but they are suitable for different agro-ecological conditions, and play a distinct role in the marketing strategies of LPS. The small potatoes actually produce more seed per weight than the others, and are therefore more economical to transport. Accordingly the price of these can be kept down. LPS markets the large potatoes in Punjab, which is close and where the farmers can meet higher transportation costs, the medium sized ones to Gujarat and the small ones further away. Members were told to increase the number of small plants that they produced so that cost could be decreased.

Lahaul, as we explored in Chapter 1, has a history of active experimenting by farmers in the exploration of alternatives. Some of these are directed through the government, which has assisted the promotion of off-season vegetables through the distribution of minikits.⁹ Many experiments, such as kuth, willow, poplar and *chungpo* are due to initiative at the farmers level. Recently members have experimented with hops, kalazira, saffron, seabuckthorn and other medicinal plants. They have approached the Korean embassy for information on ginseng root although they were unsuccessful in obtaining any details on this.

The flow of information is no longer strictly from formal research institutions down to the local level. Experiments at grassroots level have in fact begun to channel very gradually upwards into formal research. For example, LPS has been approached by multinational companies for information on hop technology and there is a growing interest by these companies in local knowledge of the medicinal value of different plants. Recently, several members approached the Forest Department in Shimla and suggested that they start seabuckthorn plantations. Members from the Forest Department have liaised with Lahaulis in the establishment of these plantations, the seed for which will be locally gathered and sold to the Forest Department. LPS has effectively lobbied the Tribal Development Fund and the Department of Science and Technology for funds to support seabuckthorn technology.

In recent General House meetings there have been proposals to start research projects or a research department of LPS. The concern, as we will return to consider, has been that CPRI has been unable to develop any new potato varieties or solve some emerging production constraints, such as blight, of the existing varieties. There was also a concern that CPRI support would dwindle as subsidies were reduced with economic liberalisation, and that LPS might increasingly have to compete with technology generated in the private market. The General House finally decided that the establishment of an 'in-house' research organisation would probably not justify the expense. Suggestions have been made however that the state research station at Udaipur should be appointed the potato centre for the All India Coordinated Projects run by the ICAR.

4.9 Conclusion

The evolution of a cooperative solution to marketing constraints in 1966 was, as suggested in Chapter 2, a consequence of the mutual vulnerability and mutual dependency of all Lahaulis in the private market. The performance of LPS as a marketing cooperative can be judged a success by several criteria. In purely financial terms, it competes successfully with the private market and has managed to consistently capture at least 70% of the potato market. As revealed in this chapter, LPS is financially viable at the collective level and through organising the provision of quality inputs has promoted a high level of returns at the individual level. LPS has also adopted a long term perspective in marketing by considering the market for different crops in the future, as well as giving advice on which cropping strategies might be the most secure.

LPS has also been successful in supporting research applicable to local farmers. It has provided an interface between the formal research environment and the local level; it has acted as a user constituency by establishing channels for the upward flow of local information and actively lobbying for the recognition of local needs; and it has been pivotal in the implementation of new technology and the dissemination of research. The developmental consequences of this are evident in the universal adoption of the new technology and in the equitable distribution of the benefits of research.

⁹ Both the central and state governments have minikit distribution programmes. Minikits contain seed, and sometimes related technology and information, and are intended to enable and encourage the farmer to experiment with new crops.

5. Institutional Evolution of the Lahaul Potato Society

5.1 Introduction

The institutional structure of the LPS has undergone considerable evolution since it was first established in 1966. This chapter will consider the factors which underlie the process of institutional evolution. Shah (1996) has likened cooperatives in India to poorly designed ocean-liners, and has noted that members, leaders and managers of cooperatives are in the same position as people trying to build a ship whilst afloat in it. Whilst the institutional structure and areas of operation of the LPS have seen a significant growth, the design principles underlying these remain largely unchanged. These principles are a constant re-appraisal of the role of LPS in Lahaul and empowering members to keep a critical perspective on management and the influence to enforce their decisions. We will consider the manifestation of these principles in the diversification of the activities of LPS, the system of monitoring and accounting, and the process of conflict resolution.

5.2 Diversification in activities and services provided by LPS

A large part of the success of LPS has been a careful assessment of the institutional strengths and weaknesses of the cooperative structure by its members. The General House has taken all the final decisions on which areas of operation LPS should enter, and which it will not be able to perform without a considerable financial cost. There is a grassroots awareness and appreciation of the fact that the private market is more resourceful in marketing certain products. For example, private traders have an established network through which to market vegetables for the final consumer and the flexibility to make instant decisions on sales. There is also an awareness that due to the remoteness of Lahaul, reliance on the private market alone will lead to the ultimate exploitation of Lahaulis. Further, that there are services, such as agricultural extension, education, transportation, that the government should but does not provide adequately. LPS has expanded its role as the institutional vehicle to supply services in some of these areas. It has diversified its sphere of operation for three reasons; to provide members with basic services which are not efficiently or affordably available from either the government or the private market, to expand the production opportunities available to members, and to increase the financial assets of LPS.

The provision of agricultural inputs, such as seed, fertiliser, packing material 'and other requirements of the members' (by-law 4(2)), is written into the by-laws as an objective and have been supplied since LPS was established. The scope of these basic provisions have since expanded. Transportation is perhaps the single biggest production constraint and in several years the entire stock was almost lost because of petrol, tyre and tube shortages which left trucks stranded. The contract LPS negotiated with the Indian Oil Company was a major step taken towards the solution of this constraint. Petrol, diesel and shops for tyres and tubes are now located at various locations all over Lahaul and on the way to Manali.

LPS has also moved into supplying basic consumer items for the household. It has become the local distribution agent for Hindustan Lever and Lipton and supplies all food items, detergents, some utensils and even cattle feed. LPS moved into the supply of these items after complaints arose in the General House about the prices which were being demanded from private market traders. LPS also owns retail outlets in Lahaul and several in Manali. LPS provides 'door to door' shopping whereby the member fills out a list at a nearby collection centre, and the indented items are delivered to the household or the nearest roadhead. Members can request items up to the value of the balance which is owed to them in their accounts. The low prices offered by LPS have had the effect of stabilising prices in the wider Manali market which remains cheaper than Kullu even during the tourist season. Whilst

beneficial to consumers, this has resulted in considerable bad feeling and often violent threats from market traders against LPS staff members.

LPS has also acted as an official government agent for the supply of several services. For example, it is the official agent for the distribution of certified potato seed and for liquid petroleum gas and has achieved almost 100% success in distribution of the latter. It is also an extension agent for the government programme for fruit and vegetable promotion, although this project is yet to be properly implemented. The deployment of the LPS network of communication, with the financial assistance of the government, has brought some positive results for members. Recently LPS has started to invest in business ventures, most notably apple juice bars, and a tourist hotel. These ventures are intended to improve the financial assets of LPS and are contributing towards investments like a vegetable marketing centre being built in Lahaul, apple processing plants and a mushroom production unit in Raison, Kullu.

In all of the areas described above, the LPS was able to offer a competitive price to members, or increase its financial assets without too substantial a risk. There are other areas in which LPS has decided that it should withdraw its operation. This is either because it could not offer competitive prices, for example, fertiliser is now supplied by the State Cooperative Fertiliser Federation, or, more fundamentally, because the risk was too high and the institutional structure of LPS was not able to compete, as was the case with peas.

The pea case is an interesting one to consider in some detail because it reveals some constraints in the institutional capacity of the cooperative and local solutions to these. Peas were initially tested by two farmers in trials supported by the Department of Agriculture. The trials were successful and it was suggested in the next meeting of the General House that peas might prove successful as an alternative cash crop. Pea cultivation started in 1985 on a small scale and with mixed results. The Society offered a base price and compensations to farmers and the area put under peas increased in 1986. The Tribal Federation of India and the National Agricultural Federation were also approached to declare a procurement price for 1986.

A major decision taken by the Society was to move out of the marketing of peas after production became financially viable in 1986. The General House decided that concentrating on peas was spreading the activities of the Society too wide. Peas, unlike potatoes, are highly perishable items for the final consumer market. LPS does not have the resources needed for the care of peas during transport, or the staff available to take the decisions that may be necessary, for example, what to do in the case of a roadblock or a change in the market price. It also cannot compete with the private market which has a well established network of consumers. The Society cannot extend the level of attention needed for peas. A representative would have to accompany each truck and be authorised to take instant marketing decisions. The General House decided that not only did LPS not have the necessary resources, but that allowing individuals to take major decisions might lead to disruptive recriminations if these did not meet with a consensus in hindsight.

There is a local solution however to the risk of depending entirely on private traders. LPS has agreed to intervene, and has done so on several occasions, if the price for pea falls too low by offering either a support or a procurement price. This stabilises the market and provides a safety net for producers. A future strategy lies in the fruit and vegetable centre in Kangra, Lahaul. LPS will hold fruit and vegetable auctions for private traders. Through the centralisation of market information, and communication with Delhi and Chandigarh by fax and telex, LPS will be able to provide producers with the information and forum necessary to have some control over the price they accept. Another solution which has often been debated in the General House is that LPS should establish a processing plant, in particular for any spoilt pea crop.

The importance of the examples of diversification above lie not merely in the institutional expansion of LPS but in the selective way in which it has intervened to provide members with services and in the links that have been established with the private market (Hindustan Lever, the hotel) and the government. LPS is no longer a strictly local institution but one which has established an institutional flexibility and broad reach in its networks. We will return to explore this point in Chapter 6. LPS has also moved into social services, such as awarding scholarships, prizes, and most importantly perhaps, informal loans.

5.3 Monitoring and accounting

A problem in cooperative management identified by both Attwood and Baviskar (1996) and Shah (1996) is that the power held by the General House is nominal. As we suggested in Chapter 3, the General House of LPS has realised its power in practice. It has to agree to all major policy decisions and has the power to dissolve the management. It also sees the audited report of the Society's financial progress every year and at that time can ask the management to explain its performance. The General House can also appeal to the Cooperative Department to intervene if it is not satisfied with the management. The influence of the General House is evident in the record of attendance, the centrality of the issues which are decided in the forum of the General House, and the frequency with which it meets. Further, the General House did in fact use its power to dismiss management in 1980 when it felt that the management did not have the experience or ability to run the cooperative.

The enforcement of the rules of LPS often relies on informal social pressure, both by management and by members and groups of members. The operation of LPS has from the beginning been based on a tradition of collective action in farming, and the realisation that private success in potato marketing could only be realised through cooperation. The social pressure to conform to the rules and regulations of LPS, and not to attempt an exploitation of the system for personal gain, are therefore fairly effective. Social pressure is applied at the local level on members who, for example, consistently send their produce to private traders in preference to LPS, or who refuse to change their seed often and thus threaten the security of the stock. Social pressure in the form of reproaches, or the withdrawal of reciprocal assistance with farming is usually sufficient to force compliance. When members consistently break rules others from their area may bring this up in the General House to embarrass them.

Similar mixtures of formal and informal means to enforce certain regulations have been used by the management of LPS. An example of this is the enforcement of its regulation that seed should be changed regularly so as to maintain seed of certifiable quality. The gap between the rates that LPS provided for Truth Labelled Seed and Certified Seed used to be approximately Rs.10. Several farmers were consistently refusing to change their seed, basically because the extra effort was not worth the extra income to them, and were therefore lowering the quality of the collective stock. The Managing Director tried to embarrass and shame them into compliance by publicly reproaching them in the General House. Despite warnings from the General House, the members did not comply, so the management increased the rate difference to Rs.50 and was able to ensure 100% certified seed within two years.

Another instance of the varied approach of the management in enforcing LPS rules was in 1979 when the potato prices slumped unexpectedly. LPS had already paid out advances to members which it could not recover, and consuming farmers defaulted either because they would not or could not pay. Amongst the members who had been given loans, there were around 80 who defaulted by selling the rest of their stock to private traders and refusing to repay the advances which they had been given by LPS. The BOD and MD brought the matter to the attention of the General House and aggressively condemned the defaulting members. They pointed out to the members present that the defaulters'

income in that year had been earned at the expense of the Society in general. The defaulters were subjected to social censure and abuse within the villages. The Society also approached the Revenue Department and started proceedings for the public auction of their land. The defaulters protested and took the case to court as well as starting their own campaign to try and show that LPS and its functionaries were incompetent. They started to abuse and threaten the families and friends of functionaries in villages. Many of the defaulters were relatively well connected, and one in particular was the right hand man of a powerful politician whose political career was ruined when the court ruled in favour of LPS.

5.4 Conflict resolution

The nature and extent of the conflicts which emerge about the management of LPS have been restricted by the principle of pooled prices and pooled risks described in Chapter 4. This has been accepted as a necessary condition of cooperative marketing of Lahauli potatoes since the inception of LPS. The pooling of prices and risks has ensured that individual interest is focused on the successful export and marketing of the entire crop. Whilst members with large landholdings and high yields get larger returns, the principle of pooling prices and risks has prevented a sharp differentiation of interest along economic lines.

Most of the conflicts mentioned by respondents related to the distribution of LPS services between different valleys. Each of the valleys in Lahaul, as described in Chapter 2, has slightly different material circumstances of production. In the past this led to slight differences in relative dependencies on agriculture, trade, labour and pastoralism. It also affected the rate at which agricultural innovations (such as potatoes and hops) were adopted, and still influences the possible cropping strategies. Pattan was the first area to adopt new crops and technologies and is at the forefront of innovations today whilst Mayar Valley has yet to fully adopt potatoes or any alternative to traditional staple crops. Respondents from Pattan said they wanted to start orchards and were experimenting with off-season vegetables. The area under hops is likely to expand in anticipation that there will be an eventual solution to the problem of marketing these. Respondents from the other valleys did not have such dynamic plans, but were eager to diversify their farming system, and often felt that not enough attention was being paid to their specific local problems, such as early snowfall.

Most complaints centred around the inadequacy of the transportation system and the difficulty of getting supplies. Those in the Thod Valley, for example, felt that not enough godowns had been constructed and that the trucks that were coming to their areas with consumer goods for the retail outlets were half empty.

There were also complaints both about the quality of the seed being distributed by the government through LPS and the rate of its distribution. Pattan has been designated appropriate for *Kufri jyoti* and the farmers have been required to rid their fields of *Kufri Chandramukhi*. LPS has allowed several years for this conversion progress because rogueing is time consuming. Members in Pattan complained that the supply of *Kufri jyoti* seed has been concentrated in a few villages in Pattan and that the quality and purity of the seed is inferior. They had obtained some of their breeder seed from a local farmer who had maintained more rigid standards. These are samples of the many issues raised about transportation and distribution. Despite the frequency of these comments, they can be described as routine administrative problems as opposed to fundamental conflicts with the operation of LPS.

The other type of conflict which was frequently mentioned was over the use of the private market in Lahaul. The by-laws state that members must market all their potatoes through LPS, and in the beginning, there was an attempt by the management to enforce this regulation. Since then there has been a tacit recognition that sometimes members, for reasons which may not be recurring, will find it

more convenient to use the private market. Whilst the importance of the role of the private market is acknowledged, as we explored in Chapter 4, there is considerable pressure on members not to use the private market too regularly. There is a recognition that whilst the private market can sometimes provide special services, private traders would not take risks, whereas LPS has a constitutional duty to lift the potatoes from all corners of Lahaul.

Conflicts therefore arise over the legitimacy of the use that members make of the private market. For example, respondents in Upper Pattan said that due to the transportation problems in 1995 they were unable to send more than 5 bags to LPS and were forced to go through private traders. They said that LPS had lodged formal complaints and was not extending any cash credit limits, and felt that this was unfair because it had not been a decision taken by choice. The remoteness of Lahaul in general, and the support needed by all in times of bad weather, has prevented a major division of interests along the lines of those in more accessible areas going to the private market.

Conflicts also arise at the collective level, in the case of peas, over when the LPS should declare a support price. The decision to move LPS out of pea marketing, and to restrict its role to offering support and procurement prices in the case of market failure, was taken unanimously in the General House. The objective is not to purchase the entire stock but to force the private traders to offer an acceptable price. Members were aware of the negative collective consequences of forcing LPS to purchase large amounts that it can then not sell remuneratively. However each year some members will be at a greater risk than others from a failure in the pea market either because they have put a comparatively large area under pea, or because of their harvesting time or location. Sometimes there is considerable disagreement on when and how LPS should step in. In August 1996 peas were being harvested and the market price had dropped to Rs. 7. Members from Tandi and Pattan who had planted large areas under pea were particularly eager that LPS should declare a support price to stabilise the market. In response to this the Chairman declared a support price of at least Rs. 7.

These conflicts are ongoing issues and are mostly the inevitable consequence of farmers who have different priorities and interests. The resolution of these conflicts, particularly those over the distribution of resources between valleys, have for the most part been institutionalised in the decision-making process of the General House and the Board of Directors. Indeed this was a large part of the reason, as described in Chapter 3, that the zoning system was introduced.

5.5 Conclusion

The successful operation of LPS is in large part due to the way it has evolved as an institution to accommodate the needs and demands of its members. Although these are framed under the Cooperative Societies Acts and Rules, the foundational ‘design principles’ of LPS were locally evolved. There are several central design principles which can be isolated as having played an important role in the operation of LPS. Most importantly the BOD are themselves farmers who send their produce to the Society and whose interests are closely identified with LPS. LPS has faced internal conflicts and political pressures which Chapter 6 will consider in the wider context. The most effective control over these has come from the fact that members, including local politicians, government officials and business people, have their interests tied to the successful operation of the cooperative. Further, the General House has been given a central and executive role in the management of LPS and the system of direct representation has contributed to the free flow of information and accountability.

Secondly, since its inception LPS has operated on the central principle of pooled prices and pooled risks. If a member’s potatoes are lost in transport, the loss is incurred by the collective. This has allowed individuals to take risks and to survive the consequences of loss. Pooling the price means that there is no competition to reach the market or to plant varieties whose market price may be high in a

particular year. This has also prevented the emergence of economic differentiation to an extent which would cause a serious conflict in immediate production objectives. That does not suggest that there are not economic differences between producers; although prices are pooled and research developments are extended to all, members with more land of course have more income.

Finally, there has been a general flexibility in the enforcement and monitoring of rules. This factor has in fact been frequently noted as one which promotes the robustness of regimes for the management of collective goods (Ostrom, 1990). The flexibility of LPS in its enforcement of rules is evident in the system of graded and varied sanctions for different types of flagrations.

6. The Political and Administrative Context of the Lahaul Potato Society

6.1 Introduction

In the federal constitution of India the management of cooperatives are a state subject. The regional political economy has been identified by Shah (1996) and Attwood and Baviskar (1996) as the single most important influence on cooperatives. In their extensive studies the authors reach the conclusion that ‘cooperatives flourish only when they are free of direct political and administrative control by the state’ (Attwood and Baviskar, 1996). This conclusion has caveats for both analysis and policy. As neither the state nor ‘the people’ can be understood in simple dichotomies, analysis should focus on the specific configuration of power relationships in both. Further, cooperatives are inevitably situated in a wider political and economic framework of which the state is the supreme arbitrator. The relevant issue for policy is therefore not one of ‘removing’ the state but of considering in which areas it should support cooperatives and where it should not interfere in principle.

This chapter will explore the connections between LPS and the wider political and economic context in which it is embedded. The Society has managed to solve the constraints of its economic isolation and use the political system to its own advantage. Several factors appear to have had an influence in the formation of the particular relationship that LPS has to the political system, the government structure and the private market. The first is that Lahaulis have not relied heavily on the government for developmental support but have forged local solutions to production constraints. Secondly, there was a history of cooperation amongst farming communities and, apart from the families of a few Thakurs, relative equality in resource distribution. Thirdly, these factors combined, and the remoteness of the area, restricted early political interference and the creation of factional conflicts. Finally, Lahauli leaders were aware that their economic welfare depended on collective action, and have managed to effectively apply pressure on the government to fulfil their demands.

6.2 Historical relations between Lahaul and the government

The particular relationship that Lahaul has developed with the political system started with the declaration of Lahaul-Spiti as a tribal area. A group of Lahaulis led by Thakur Devi Singh appealed to the central government to have Lahaul registered as a Tribal Area because of its inaccessibility at the time of the first general election of independent India. The election was set for January and the polling station established in Kullu, which effectively meant the disenfranchisement of the people of Lahaul-Spiti unless they took the dangerous decision to cross the Rohtang Pass. Thakur Devi Singh went to Delhi and appealed to the GOI which declared Lahaul-Spiti a tribal area in 1952. The GOI also agreed to form a Tribal Advisory Council of which Thakur Devi Singh became a member.

The declaration of Lahaul as a tribal area is important for two reasons. First, LPS has made frequent use of the political power of the Tribal Advisory Council to force the government to listen to its demands. The council is a high powered committee and is chaired by the Chief Minister. The tribal area status has also brought advantages to Lahaul in a protection of their land rights, reservations for jobs and education, and various state projects and programmes. Secondly, Lahauli leaders have for the large part used their political and economic power to put pressure on the government on behalf of LPS.

6.3 The government and the cooperative structure

The Himachal Cooperative Societies Act and Rules of 1968 is ambiguous in its definition of rights and duties. The Act operates under the legal framework set up by the colonial government in 1904. The Act gives the government the right to dismiss the management of cooperatives and dissolve the cooperative if it does not comply with the rules. Cooperatives are also required to seek government approval for decisions on policy, finances, and management, such as staff pay scales. Cooperatives are eligible to receive share capital from the government, subsidies, 'grants in aid' and legal representation. The official reason for the substantial powers retained by the state are that these are necessary to guard against sabotage by local vested interests.

The way in which it operates in specific cases depends heavily on the balance of power between different interest groups. In many cases, the flexibility in these rules has resulted in cooperatives which are effectively managed as state bureaucracies. The Managing Director and Board of Directors are appointed by the state and the cooperatives kept functional by subsidies. The rationale behind the appointment of the first board is that a cooperative should not be subjected to the strain of leadership competitions in its formative period. However the pattern of state appointed directors frequently becomes permanent, subsidies attract members who have no other commitment to the Cooperative, and the distribution of these become a matter for political contestation.

In Lahaul, LPS has managed to check interference both from the government and the political system. LPS emerged out of a grassroots initiative, as opposed to a government scheme. Although it received government support and subsidies, it has from the beginning relied on raising its own finances from members, commercial banks and its own business ventures. Since the early 1970s LPS has been a financially viable institution.

LPS has managed to maintain an autonomy from interference by the state and political system because it has acted as a collective, and the ultimate authority of the General House has been actively enforced. The main reason for this is that the collective benefit of Lahaulis, regardless of their economic status, was heavily dependent on the success of LPS. There is no institutional structure in either the private market or public sector which offers an alternative solution to the logistical problems of producing and marketing agricultural produce from a remote mountain environment.

This common dependency has induced a vigilance amongst members in checking any interference which could threaten the operation of LPS. The importance given to General House meetings, the detailed presentation of financial reports, and the regular attendance of members is an indication of this. LPS has acted as an agent for several government projects which have been effectively and equitably implemented. LPS is the distributor of potato seed and the official agent for the distribution of liquid petroleum gas. In both areas there has been a 100% success rate in uptake.

A second related reason for the relations between the government and LPS is the changing economic profile of Lahaulis, as partly related in Chapter 2, and the ways in which this has been used to forge alliances between interest groups. Many Lahaulis have entered government services, both through tribal reservations and open competition. There is a considerable coincidence between those involved in government, politics and business (see interview list in appendix 1).¹⁰ Nearly 80% of the local government jobs, especially in the Departments of Education, Health, Forest, Agriculture and Horticulture are filled by local people. Currently Lahaulis are moving out of government services and into business, chiefly hotel and tourism. A measure of their influence can be gauged by the fact that

¹⁰ The current Chairman, for example, is also a Director of the State Bank of Patiala and Punjab and Sindh Banks, of the Potato Development Board of Himachal Pradesh, of the Scheduled Caste and Scheduled Tribe Development Corporation, and of the National Agriculture Cooperative Marketing Federation.

25% of hotels and restaurants and 50% of the shops in Manali are owned by Lahaulis. Manali is one of the most popular destinations for both foreign and Indian tourists in Himachal Pradesh.

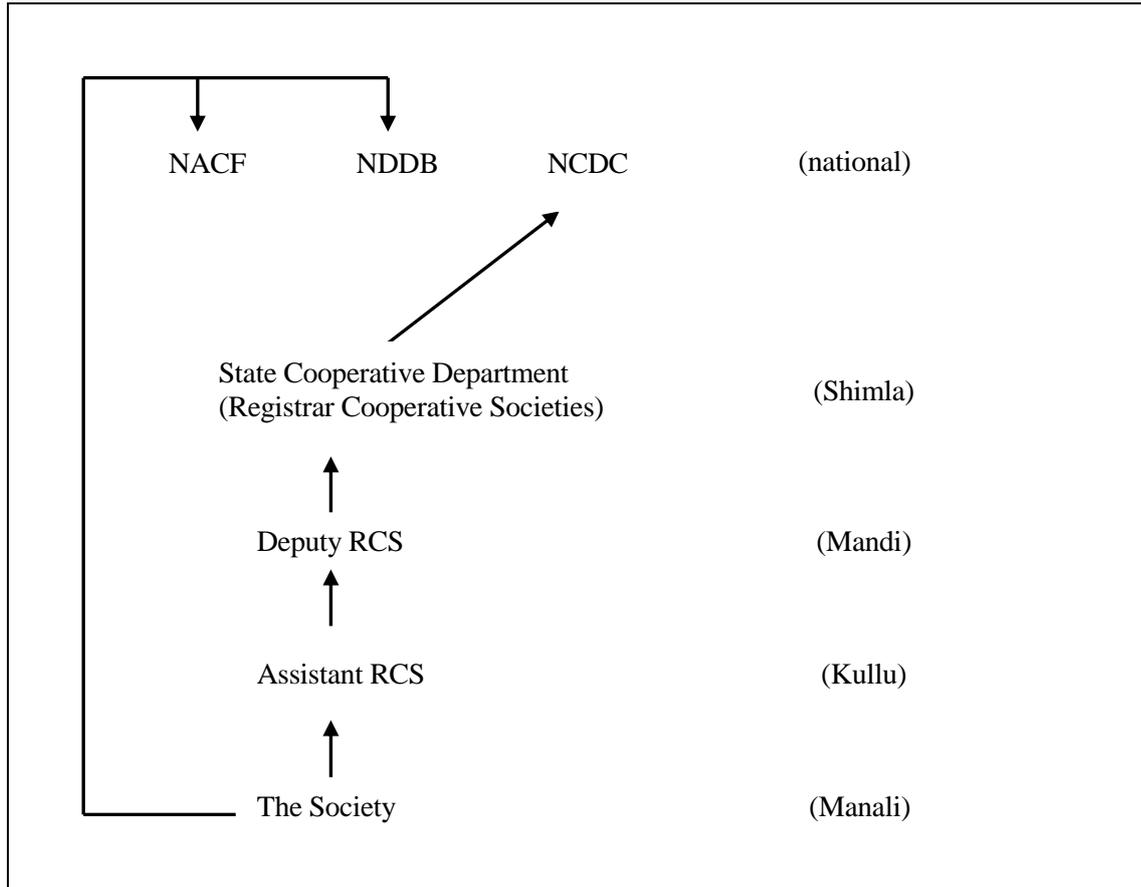
Many individuals used their influence in government departments, the transport business, to support LPS. The realisation that agriculture, and specifically potatoes, was the foundation of the economy, and that the success of this depended on collective action, led to the development of a system in which leaders were made accountable. This is a very different situation both from other hill states (Uttar Pradesh) and other tribal areas where local government jobs are held by outsiders. Local government officials are therefore also members of the Society, and farmers, and are committed to ensuring that their respective departments support the Society.

The change of management in 1980 is a good example of the effective use of the government structure without compromising the autonomy of LPS. In 1980, after the slump year of 1979, the General House changed the entire management and requested assistance and advice from the Cooperative Department. The General House had decided that the Directors were not competent and that a professional Managing Director was essential to avoid bad marketing decisions in the future. An officer was deputed from the government to act as Managing Director for 2–3 years. LPS insisted that he had to be Lahauli. There was no concern that he would use his power or influence to use LPS in his own interest. After 3 years, when elections were held for a new Board of Directors, the General House decided that a competent non-governmental Managing Director could now be appointed by the Board of Directors.

The links between LPS and the government structure are not only local but spread through the state and national structure and have been effectively used in support of LPS. In addition to these ties with the Himachal Pradesh Cooperative Department which regulates its behaviour the Society has formed independent links with several Cooperative Departments at the National level. LPS markets apples in a collaborative scheme with The National Agricultural Cooperative Federation (NACF). It has also developed links with the National Dairy Development Board for marketing apples until it was decided that the terms offered by the board were no better than those available in the private market. Chapter 3 indicated the effective use that LPS has made of the media in popularising its objections to public sector research institutions. The salient point of these observations is that LPS has developed links with various public sector institutions and is able to make informed and judicious decisions about how and when these can be used in the collective interest.

The comparative autonomy that LPS has had from factional politics, until recently, can also be explained mainly by the fact that the LPS is the main vehicle for economic gain for all households. Lahaul has been a Congress dominated area since independence. There are a minority of Bharatiya Janata Party supporters who are all members of the cooperative. The benefits that local politicians are able to offer prospective voters, for example in terms of state projects and programmes, are not worth the risk of destabilising the cooperative. The defaulters of 1979 mentioned in Chapter 3 are a good example of this. They were relatively affluent, and had political connections which they employed in trying to coopt members to their cause and throw doubt upon the capability of the management. The case was openly discussed in the General House and judged to be a misuse of the structure on the part of defaulters.

Figure 3 Major links between the Society and cooperative government institutions



LPS has made astute use of the political system, approaching political parties to bring issues before the state assembly, and involving local politicians and letting them take the credit for successes. Political leaders have used LPS to gain political support, but this has been through demonstrating their skills in influencing the government structure in support of LPS. For example, CPRI was directed to send seed of *Kufri jyoti* to LPS and most of the seed never arrived. The MD approached the Director of Agriculture and then CPRI to enquire about what had happened to the seed and was met with non-committal responses. LPS then took that matter to several ministers who brought it up in the Legislative Assembly and forced a political debate on what had happened to the seed. The Department of Agriculture was forced to admit it had failed in delivering and took remedial action. The allotment of seed has been regular since that time.

Finally, the relative political autonomy and governmental support obtained by LPS is increasingly due to general public awareness amongst Lahaulis. All members interviewed were emphatic that politicians should not use the cooperative structure to promote their own interests. Individual Lahaulis are increasingly entering not only government services, but businesses, and are aware of political and economic power structures. As agriculture, and LPS, still provides a fundamental base for all economic activity their support has been put behind the Society. In Chapter 7 we will consider the possible implications for the sustainability of this support in the future with the diversification of the economy.

6.4 Summary

The experience of LPS suggests that in situations where there is a strong collective interest in management, and an institutional structure which enables local control, state involvement does not necessarily have a detrimental influence on the sustainability of the cooperative. LPS has made use of government subsidies, and taken advice from the Cooperative Department about marketing, without allowing the state to have any direct political or administrative control.

7. Institutional Constraints and Possibilities of the Lahaul Potato Society for the Future

7.1 Introduction

This chapter will explore the constraints and possibilities of the role that LPS can play for the marketing of agricultural produce in the future. Chapter 2 suggested that the single most important factor contributing to the emergence of a cooperative solution was the mutual vulnerability and dependency of Lahaulis on potato marketing. We have suggested that, as a consequence of the cash income generated by potatoes, Lahaul has seen a rapid social transformation in which a large part of its population has moved from farming into government employment, politics and business.

A continuation of economic diversification may have several consequences for the operation of LPS. First that farming ceases to be the main economic base and therefore that priorities and social commitments change. Second, that the farming system and the market changes so much that LPS has to redefine its role and that the General House is not able to make effective decisions. Third, possibly that LPS will no longer be necessary, or certainly not in such a central way, to protect the economic welfare of Lahaul. It is difficult to reach any conclusions on these issues without a deeper and longer analysis of the current economic and social situation. This chapter explores some of the issues and thoughts which were raised about the role that LPS may play in Lahaul in the future.

7.2 The emergence and evolution of rural civil society in Lahaul

Lahaul in the 1950s was one of the least developed areas in Himachal Pradesh both in terms of the standard of living and the social and cultural integration of the Lahauli people (Government of Punjab, 1975). Lahaul now has one of the highest per capita incomes in Himachal Pradesh (Government of Himachal Pradesh, 1991). There are several implications that the changing patterns of production has and could have for the future of LPS. On the one hand, Lahaulis are an increasingly homogenous community as the cultural barriers between different valleys have been eroded. On the other hand, the diversification of the economy has led to the emergence of sometimes divergent private interests.

The notable feature of responses on the development of the farming system, despite local differences in production constraints, is the commonality of experiences. Members from all parts of the valley described a radical transformation in their farming system. All of the respondents, without exception, had children who were either studying or working outside of Lahaul. The most common pattern was to have only one, or at the very most two, brothers based in Lahaul to manage the farm.¹¹ In the Chandra Valley entire households migrate to Kullu in the winter leaving only a few people from the village to take care of the livestock. Chandra is a particularly cold and windy area nearest Rohtang Pass where a tradition of winter migration to Kullu had already existed. We did not find any examples of Lahaulis engaged in labour or services either inside or outside of Lahaul. The hotels and restaurants in both Lahaul and Manali, for example, are owned by Lahaulis but staffed by non-Lahaulis.

Most respondents mentioned a labour shortage, and all of them were hiring labour, often on a permanent basis, for agricultural work and house construction. Grass fields are now often given to labourers to harvest by contract during the season so that attention can be concentrated on the crops. In fact, a trend which was mentioned in Pattan and Thod Valleys in particular, and it seems this is

¹¹ Despite the overwhelming evidence of this we were unable to find a reliable statistical representation of this pattern. The Census figures do not capture those Lahaulis in employment, education or business outside of Lahaul. They do however capture the immigrants, who make up 16% of the population (Government of Himachal Pradesh, 1991), engaged in agricultural and construction labour. Most of them are illiterate and they therefore significantly alter the socio-economic statistical profile of Lahaul.

common throughout the Valley, is contract farming. In this system, households with a shortage of labour lease their land to others in the village who have a surplus, or who have enough family members in the village to oversee hired labour. The following accounts given by three members illustrate the changes that have occurred in the farming system.

Member A in Krozin. He and his wife are both 75 years old and manage the farm with two Gurkha labourers. Their two sons are both with the Indian Administrative Service and have only been returning for vacations in the last five years. Both daughters are studying outside of Lahaul and hope to get work thereafter. The respondent said ‘we educated our children and now we are alone. Who will look after the land once we are gone?’

Member B in Tino Village. Her husband just died at age 75 and both sons and daughters-in-law are in government service. She has given large areas of the land out on contract to others in the village and looks after the rest with the help of labourers. ‘We will never experience the winters again in the same way and that is sad. But the winters were too long and it is good that the children have found work’.

Member C in Gemur. Three children are going to school in Gemur and one son is working outside of Lahaul. He said that the main duty of parents is to give children, both girls and boys a good education. Cash-cropping potatoes has provided the necessary income. ‘I don’t know what they are going to do after school but now they have a choice’.

In discussions over the effect that migration and non-agricultural employment have on the social structure, respondents thought that on balance the diversification in production strategies has not broken up the joint family system, but redefined it and allowed it to be sustainable. Polyandry is virtually non-existent, the average family size has decreased drastically, and the fragmentation of landholdings through inheritance has slowed down. External employment has reduced the pressure on the farming system by providing cash and time for reinvestment and proper management. Although income is not pooled as such, respondents were emphatic that they still considered themselves to be part of joint families, with the land in Lahaul as the economic and social base of the family.

There is still a strong tradition of collective action in farming which includes labour rotations in agriculture, irrigation channel repair, joint grazing of livestock in the summer, common property fodder and fuel management and the joint ownership and care of stud and draught livestock. This tradition has extended to meet new contingencies in the farming system. For example, in 1995 when the floods washed away the roads, each panchayat contributed voluntary labour to repair their part of the road, and representatives from their village to repair the unpopulated stretch leading to Rohtang Pass. There is also a general informal commitment to ensure that villagers support LPS by changing their seed and marketing their potatoes through LPS. All the respondents said that if members use the private market with any frequency others in the village will put pressure on them to change.

In several group discussions respondents said if migration continued, the land could be managed and farmed collectively. Participants in the collective would pool their land which would be farmed with imported labour and managed by a member of the collective on a rotational basis. These ideas were speculative but they give an indication of the pace of change occurring in Lahaul. The acceptability of the idea of collective farming, and the familiarity with which respondents talked about how this could operate (appoint a manager, elections, rotations, monitoring), also reflects the continuing social cohesiveness in Lahauli villages and their ability to conceptualise institutional solutions for local problems. Further, cooperatives are still considered an effective way to organise scarce resources and minimise risks in uncertain ventures.

Mixed opinions were expressed about the effect that the social and economic changes have had on the social structure of Lahaul as a whole. Cash cropping and membership in LPS has undoubtedly

contributed to the social integration of Lahaulis. LPS membership is still only open to Lahaulis and the status of Lahaul as a tribal area, and the sharing of the benefits of this, further strengthened their regional identity. As we mentioned in Chapter 2, intermarriages between different *Rus* are now a fairly common phenomenon. Further, there has been a growth of other institutions which transcend both the geographical and social divisions in Lahaul, such as a Truck Union which is in the process of being formed, a Housing Cooperative in Manali and a Hoteliers Association, also based in Manali.

LPS has contributed towards the development of rural civil society in Lahaul. Although the importance of LPS undoubtedly lies in its economic achievements, the institutional evolution of the system has wider social consequences. LPS has offered advances, loans and scholarship to members and has brought members from remote corners who previously hardly interacted together. It has also acted as a forum in which information about wider economic and political structures is made available and in this way contributed towards the empowerment of its members. It is indeed notable that the few NGOs who have tried to operate in Lahaul have been told that there is no scope or need for them.

7.3 Possible constraints on the operation of LPS in the future

Although there was widespread recognition of the role that LPS has played in the development of Lahaul, there was also considerable scepticism about the role of LPS in the 'new Lahaul'. There were two main areas of concern. The first was about the ability of the management to adapt to the pace of change in the market. The second was about changes in social relations of Lahaul and whether the management structure was appropriate in the light of these changes. Both of these issues had implications which had addressed some of the foundational design principles of LPS.

Several members said that whilst a Board of Directors constituted of respected local people had been sufficient in the past, the challenges which are presently being faced are different. Some members mentioned that new potato varieties are needed to face the competition from the plains and that LPS has not applied enough pressure on formal research institutions to deliver these. There was an awareness amongst members that economic liberalisation will increase competition from the private market, and that the demands of the market itself are changing as industry is becoming a major final consumer of potato. There is also increasing competition from new potato producing areas like Jalandhar in Punjab which are beginning to gain a comparative advantage over Lahauli potatoes as they can be harvested earlier. A concern which has emerged in recent General House meetings is whether LPS should start its own research programme.

A former Director said that whilst General House vigilance in the past was sufficient to maintain accountability amongst the management, and to evaluate their performance, it was increasingly difficult for members of the General House in general to judge the market performance and competence of the management. Although major problems are revealed in the annual audit it is difficult from this information alone for members to judge whether the management is acting efficiently in the face of changing economic circumstances. A topic often brought up in group discussions was the speed at which LPS was moving into different areas. There was concern about the hotel in particular, which they felt needed professional management if it was to be financially viable. The general opinion was that whilst diversification was necessary to increase the options open to members, LPS should proceed cautiously, perhaps with professional staff, and should stick initially to its area of expertise, the marketing and processing of agricultural produce.

The changing socio-economic structure of Lahaul, as well as the complex development of the market, have led to some suggestions which have constitutional implications. Some members suggested, for example, that perhaps instead of having one agricultural and one marketing expert nominated by the Board of Directors, in future they should elect two marketing experts. Others suggested that perhaps

professional consultants should be brought in from outside or experienced management should be employed from the open market at market rates. Those Lahaulis who have expertise in marketing or agriculture may not agree to the notion that they should contribute their experience free of cost as Directors or even on the relatively low pay scale of the Managing Directors. There was a general agreement that perhaps the phase when volunteers were able to, and could be expected to, manage LPS is over.

The diversification of economic production has social consequences which could affect the operation of LPS. The concern over the capability of management is related to one over democratic representation and monitoring. Many of the interviewees felt that the checks on political and personal ambitions, such as zoning, were no longer working effectively. For example, some members complained that there were board members who were not sending their produce to the Society but were either using private traders or were hardly producing at all. They felt that the system of zoning had led to the election of directors who were unaware and uninterested in cooperative principles and the operation of the market. The members felt that they should not be allowed to hold managerial positions and said that they would complain about this in the next General House.

Underlying these discussions over preferable systems of democratic representation was a more fundamental commentary on social change in Lahaul. A member in Chandra commented that 'people never used to put themselves forward for election to the Board of Directors but were nominated by others. This was a great honour and they felt accountable and responsible. Some left government jobs to act as Managing Directors. Now people are actively trying to get elected to the board only to increase their social prestige. Although potatoes are still a mainstay of the economy, the pursuit of private alternatives could mute the effectiveness of social sanctions and obligations in enforcing support of the rules and regulations of LPS by reducing the dependency of individuals on the community.

7.4 Summary and conclusion

The discussions with members, although inconclusive without further research, convey certain trends in a uniformity of experience and opinion. The economic and social transformations in Lahaul seem to have affected the vast majority of residents, albeit at different speeds and degrees. There was a general conviction that LPS should continue to play a central, or even expanded, role in agricultural marketing and extension. The doubts were related to how this could be effectively achieved. The most salient observation that we can draw from our discussions is that the role and future role of the LPS are issues which are of great importance to Lahaulis, and about which they have informed opinions. This suggests a sustainability in development which goes beyond the institutional structure of LPS.

8. Conclusion

8.1 The emergence and evolution of the Lahaul Potato Society

We suggested in Chapter 1 that the design principles of a cooperative, the socio-economic structure of the members and the regional political economy in which it is embedded, have been isolated in several studies as having the most significant impact on the operation of cooperatives. We will concentrate in brief on the nature of the impact these factors have had on the emergence and evolution of the Society.

Emergence. The relative homogeneity in the economic structure of Lahaul, and the emergence of opportunities for commercial gain, created a 'positive sum' situation, in which all Lahaulis could potentially benefit. There was no direct opposition from an economically powerful group who would stand to lose, such as powerful rentier elites who might be more interested in staying in power than improving productivity. The final impetus for cooperation, the crucial reason that farmers invested time and money in organising, is that all were mutually vulnerable and dependent on collective action. We described the social heterogeneity, production strategies, and diverse locations of different social groups in order to illustrate that collective action is feasible even amongst socially heterogeneous groups if they have a common interest. The experience of LPS support the conclusions reached by Attwood and Baviskar that 'agrarian regions which nurture a broad, middle-peasant stratum should also nurture innovative and successful cooperatives' (1996:15).

The regional political economy of Lahaul also provides a large part of the explanation for the evolution of LPS. The Society has from the outset been an example of a 'greenhouse' as opposed to a 'blueprint' cooperative. The remoteness of the area meant that there was no early political interference in local affairs, and that Lahaulis had to find local solutions to local problems. It prevented early government interference in the management of the cooperative and encouraged the evolution of local solutions to the process of potato marketing.

Evolution. The central reason that LPS has evolved successfully is that the cooperative is still the only feasible way in which to market produce from Lahaul. Even though many Lahaulis obtain a large part of their income from employment outside of Lahaul, at an average gross annual income of Rs.60,000, cash cropping is a major economic activity for most households. The diversification of production and the links that have been made by individuals in the government structure, the political system, and business have therefore been used to support the operation of LPS.

Farmers' organisations in India, like cooperatives, often act as extensions of the larger system and are therefore subject to its political and economic programmes. As we have pointed out throughout the study, research to date has reached a broad consensus that cooperatives operate best when they are not under direct administrative and political control. A tentative hypothesis which we can contribute to these conclusions from the experience of LPS is that cooperatives are most able to withstand political and administrative pressure when they are based on the management of a collective good.

Our analysis suggests that the design principles which have emerged are less of an explanation for the successful operation of LPS than a reflection of this. Ostrom (1990) has suggested, with reference to common property resource management, that successful design principles are ones which can be changed by the members themselves to suit new contingencies, needs and problems. The ability of the General House to do this is evident in the diversification of its activities, the development of the system of direct representation and zoning, and the pooling of prices, costs and losses. The recent discussions over whether to employ professional managers is a further manifestation of the flexibility of the Society.

These are design principles which are locally evolved to meet the particular needs of LPS and cannot be replicated. LPS does however have all the design principles which have been isolated by Attwood and Baviskar as essential for the success of cooperatives:

- The cooperative is managed by a board elected by members.
- Each member has one vote regardless of shares. (Members of LPS in fact all have only one share).
- Elections are held every 3–5 years. (LPS holds election every two years)
- Members make recurrent contributions to the cooperative (Contributions to LPS from members was Rs.200 in 1996)
- The elected board of any cooperative should have the final authority, subject to ratification by its members, over all decisions concerning management of the cooperatives, including the hiring and firing of all employees. No technocrat or state official should have the final authority on any matter whatsoever.
- Only those who supply produce to the cooperative should be members.

8.2 Research and extension

Chapter 1 suggested that there has recently been a growing optimism about the role that farmers' organisations can play in supporting the particular research needs of small farmers. The experience of LPS supports these conclusions on all of the three functional grounds; (i) LPS has been effective in acting as an interface between the formal research environment and members; (ii) It has acted as user constituency in lobbying formal research institutions on behalf of members and popularising its criticisms when these fail to deliver, and; (iii) it has supported experiments and actively implemented and monitored the regulations needed to produce seed potato. The developmental ramifications of this are evident in the equitable distribution of research and the empowerment of the members of LPS.

The reasons for the success of the Society in promoting research and extension are however partly specific to potato marketing and the circumstances in Lahaul. CPRI was given a mandate by the government to develop seed potato production and the physical environment of Lahaul had a comparative advantage over other areas. The proximity of CPRI to Lahaul, and the personal interest of many scientists in the development of new varieties, was another reason that encouraged the early collaboration between the two institutions. Many farmers in India have to rely on research being conducted at the other end of the country. The research agenda and the extension of results has been both efficient and equitable because there is no conflict of interest between large and small farmers. Large farmers, or the innovative ones in Pattan who do not necessarily have large landholdings, have a direct interest in ensuring that the quality of the seed remains high. Therefore even if they do have at times have more access to information they have been careful in the dissemination of this.

The replication of the experience of LPS has some further caveats in the extent to which it can be used for promoting the research needs of small farmers. The size of landholdings at an average of 3 acres is small, but in terms of their financial wealth, Lahaulis are successful commercial farmers. The influence which they have on the research process, even without the additional force of prominent Lahaulis, is substantial. Some members of the management of LPS have also been successful in developing an interaction between the local level and formal research institutions in other areas. The case of seabuckthorn is a good example of local solutions (seabuckthorn plantations) to local problems (fuel, fodder, soil conservation) being brought to the attention of research institutions (The Department of Science and Technology) and extension services (the Forest Department).

8.3 Efficiency, equity and empowerment

The efficiency of LPS can be evaluated by considering the financial viability of its operation at the collective level, as well as the average benefits at the household level. Apart from 1979, 1983 and 1984 in which LPS had to request support prices from the government, it has been able to offer its members competitive rates for potatoes. Their performance in the years listed above was not due to inefficiency in relation to the private market, but due to a market slump which also hit private traders. The profile of activities in which LPS is involved in comparison to the private market and the government, and its 100% success rate in the distribution of liquid petroleum gas and the registration of members as registered seed growers supports this further. The cooperative structure of LPS does have some limitations in its potential spheres of activity. As was evident in the case of pea marketing, it does not have the resources to market highly perishable goods, nor the vast network in the final consumer market which private traders have developed. The efficiency of LPS in this sphere should perhaps be judged by the fact that it has not entered the trade, but effectively used the cooperative structure to support members bargaining power in the private market.

LPS has promoted the equitable distribution of resources among its members. It has from the beginning operated on the principle of pooled prices, costs and risks and therefore contributed to financial equity in the distribution of resources. The principle of zoning and of one vote per member has ensured that services are fairly evenly distributed between all the different valleys of Lahaul.

However, perhaps the most sustainable outcome of LPS has been the economic and social empowerment of its members. Members are no longer critically dependent on agricultural production, but have a range of production possibilities. They have an understanding of the operation of the market and politics, and are able to devise institutional solutions to local problems. In this way, whatever the sustainability of potato production, they are not critically marginalised or vulnerable.

Appendix 1

Interviewees

All of the interviewees, with the exception of the tribal development officer and the private trader, are current members of LPS.

1. P.L.Bodh District Agricultural Officer (retired),Keylong
2. P.C.Bhanoo District Horticultural Officer(retired), Keylong
3. Y.R.Dogra Managing Director of LPS, Manali
4. S.Thakur Director of LPS
5. B.D.Thakur Managing Director (retired), Manali
6. B.Ram President District Congress, Manali
7. B.S.Kapoor General Secretary Hoteliers Association, Manali
8. S.D.Shashni President City Congress and retired Director, Manali
9. P.Rai Minister of Tribal Development (non-member), Spiti
10. R.S.Thakur General Secretary of District Congress,Manali.
11. N.Barongpa Chairman of LPS, Manali
12. B.D.Warpa Vice-Chairman of LPS (retired), President of Manali Municipality and Nagar Panchayat, Manali
13. Jagat Singh Director of LPS (retired), Chandra
14. Nawang Director of LPS, Chandra
15. M.Ram Assistant Registrar of Cooperative Societies, Kullu
16. C.Dogra Vice-Chairman of LPS, Manali
17. H.S.Thakur Private potato trader, Manali

Individual and group interviews with members in the field were held at the following Locations:

- | | |
|---------|-----------------------|
| Jispa | (Thod Valley) |
| Gemur | (Thod Valley) |
| Kangsar | (Thod Valley) |
| Keylong | (Ghar Valley) |
| Lot | (Upper Pattan Valley) |
| Udaipur | (Lower Pattan Valley) |
| Sisoo | (Chandra Valley) |

Appendix 2

Some Chronological Landmarks in the Development of LPS

1966	Registration of the Society
1967–74	From 1971 onwards good potato prices, LPS finds customers in West Bengal, Gujarat and Maharashtra and increases membership.
1977–8	Best prices in LPS history. LPS purchases two trucks.
1979	Slump year; LPS has to approach state government for support price. LPS moves into supplying consumer items.
1980	The entire management is changed by the General House and the government is requested to provide a Managing Director. LPS starts to supply diesel, tyres, tubes and potato packing materials and purchases a godown in Manali.
1982–3	LPS starts a policy of registering all farmers as certified seed growers and growing only certified seed. Another godown is constructed in Manali.
1984–6	LPS moves into pea marketing. LPS also constructs a use for members in Manali, purchases land to build a hotel in Manali and becomes an agent for Hindustan Lever.
1987–8	LPS starts to market apples and supplies packing material for apples. LPS moves into mushroom production.
1988–9	Roads are blocked and there are demonstrations in Manali to force the government to lift the entire stock of potato from Lahaul to Manali. LPS is forced to request the government for a support price. LPS stops supplying fertiliser and takes the decision to separate regions growing different potato varieties. More retail outlets opened in Manali and Lahaul.
1990–1	LPS moves into retailing Petrol, diesel and kerosene. LPS becomes official government agent for scheme to distribute LPG (liquid petroleum gas) and to promote fruit and vegetable production.
1993–4	LPS decides to move out of pea marketing and starts construction of hotel in Manali and marketing centre in Karga, Lahaul.

Appendix 3

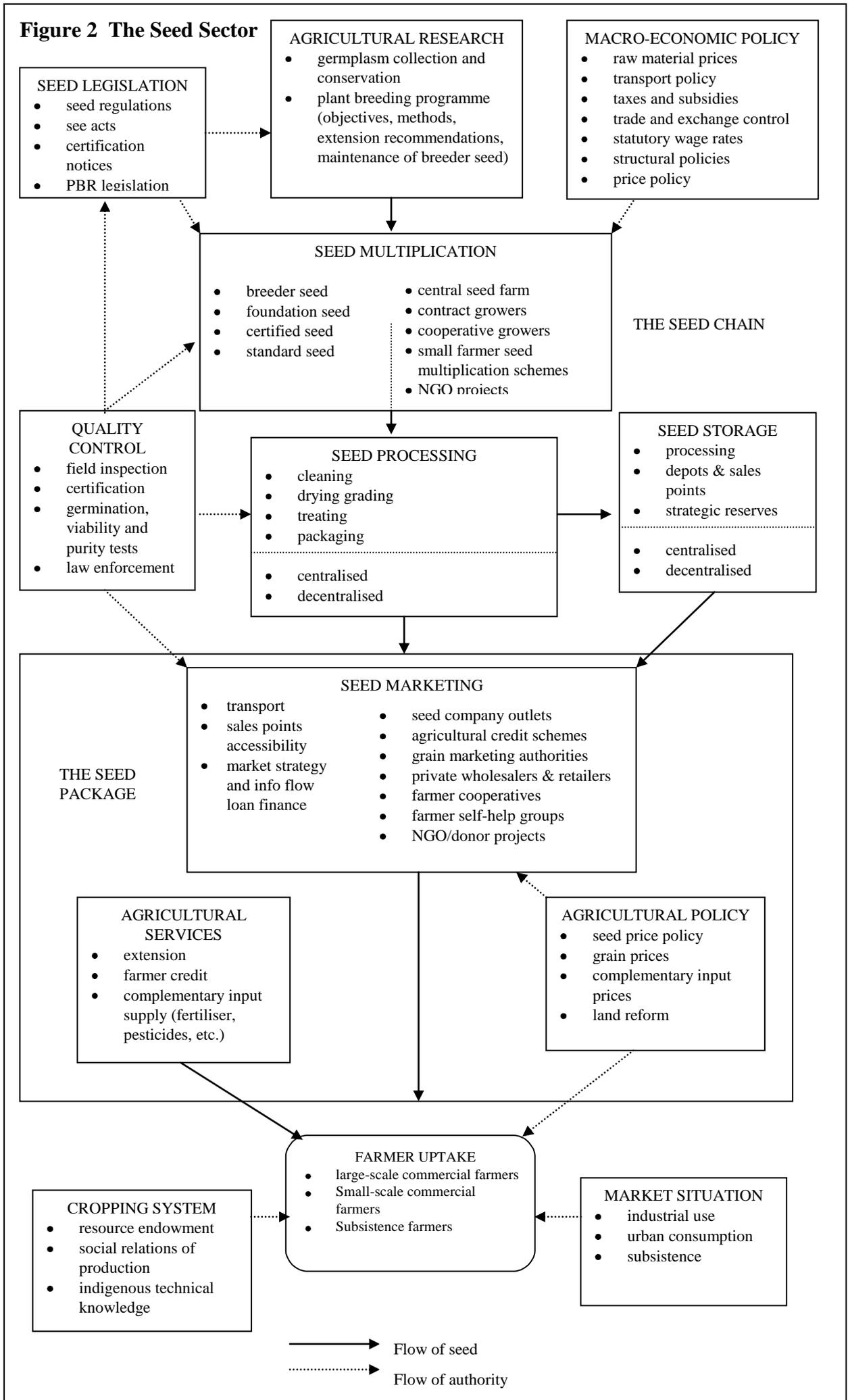
Generation Control in Seed Production

The process of seed potato production is similar to that which has been established for other crops. The 'seed chain' is a pathway by which improved varieties of seed which have been developed by scientists can reach the field. The transfer of seed from the breeder to the farmer is dependent on the control of seed generations between them. There are two principles for generation control. First, the number of generations is limited to the minimum necessary to produce sufficient seed for farmers. Second, the seed must proceed down the generation and cannot be reproduced at any single generational level. This control is vital to ensure quality because it allows faults in the seed to be traced and corrected (see Cromwell et al., 1992).

The multiplication factor refers to the net increase in the quantity of seed in one generation. The nomenclature for seed generations varies in different countries. In India it is, as indicated in Chapter 4, breeder, foundation 1, foundation 2 and certified. The last generation, certified seed, is usually the one which is distributed to the final customer, although foundation 2 is also sold on occasion.

Figure 2 illustrates the influence and interaction of various institutions in the seed production process.

Figure 2 The Seed Sector



References

- Attwood, D.W. and Baviskar, B.S. (1996) (eds) *Cooperatives and Rural Development*. New Delhi: Oxford University Press.
- Bebbington, A., Merrill-Sands, D., and Farrington, J. (1994) 'Farmer and Community Organisations in Agricultural Research and Extension Technology: Functions, Impacts and Questions'. *Agricultural Research and Extension Network Paper 47*. London: Overseas Development Institute.
- Blaikie, P. and Brookfield, H. (1987) *Land Degredation and Society*. London: Methuen.
- Government of Himachal Pradesh (1991) *Census*. Shimla: Government Press.
- Government of India (1961) *Census of India 1961*. Himachal Pradesh Directorate of Census
- Cromwell, E., Friis-Hansen, E. and Turner, M. (1992) *The Seed Sector in Developing Countries: A Framework for Performance Analysis*. London: Overseas Development Institute.
- Government of Punjab (1975) *Himachal District Gazetteers: Lahaul-Spiti*. Chandigarh: Greater Punjab Press.
- Hyden, G. (1980) *Beyond Ujamaa in Tanzania*. Berkeley: University of California Press.
- Lahaul Potato Society (1995) *Annual Report*. Mandi: Modern Stationers.
- Ostrom, E. (1990) *Governing the Commons: The Evolution of Collective Action*. Cambridge: Cambridge University Press.
- Shah, T. (1996) 'Re-engineering India's Cooperatives: A Framework for Action'. *IRMA Working Paper 80*. Anand: Institute of Rural Management.
- State Bank of India (1996). *Annual Report*. Manali: State Bank of India.
- Tucker, R.P. (1987). 'Dimensions of Deforestation in the Himalaya: the Historical Setting'. *Mountain Research and Development*. 7(3).