Chapter 7

Conclusion

The study has explored the interrelationships between environment and society in medieval Rajasthan. The influences of environment have been traced in various aspects of social life. The production system, economic structure, social structure, political structure and their cultural manifestations are the major areas covered under this study. Alongside, the study has also delineated the long historical process of emergence and consolidation of the socio-cultural-political identity of the region of Rajasthan. The adaptation of the human beings and their politico-cultural and socio-economic structures to the harsh environmental conditions of the region formed the primary area of concern of this study. The study is able to point out the influences of environment on the various aspects of social life. The study has deciphered the obvious, yet often neglected, significance of environmental features in the continuance of socio-politico-economic paraphernalia.

The geo-physical complexities of Rajasthan are well known. The Aravalli range of hills running diagonally from south-west to north-east, dividing Rajasthan broadly, into two natural divisions: the north-western, which is arid, and the south-eastern being the semi-arid. About three-fifth of Rajputana lies north-west of this dividing line formed by the Aravallis, leaving about two-fifth on the south-east. Even these two regions do not form homogenous entities and differentiation between various sub-regions of the two regions are visible at several levels, i.e., physical forms, geological features, climate, river-system, nature of vegetation, etc.

The North and Northwest part was characterised by low ridges and sand dunes, the heights of which varied from fifty to hundred feet.
The sandy tracts extend in the west from the Runn of Kutch to the borders of Sindh, and are a part of the Thar Desert (the Great Indian Desert). The climate is characterised by extremes of temperatures and are marked by a high degree of aridity. The soil of this region is classified as light textured, grey-brown desert soil, which are alkine and saline. The possibilities of good agriculture in this part are limited. However, the natural vegetation consists of drought-resistant Xerophytic scrubs and thorns with large patches of heavy coil. The general flora consisted mainly of *khejra* or Jaant, Keckav, Kair, Phog and ber. The Shrubs and grasses found here are Oak, Arurga, Ringoter, Bhwat, Dhaman, etc. The cattle of this region – goat, sheep, camel, etc., were well-adapted to such vegetation. Thus, pastoralism has always been an important component of survival strategy of this part of Rajasthan. Camel breeding and sheep and goat rearing dominated the subsistence pattern in this part of Rajasthan.

In contrast to the sandy plains, which are the uniform feature of the north-west, the south-eastern part has a very diversified character. This part of Rajasthan is considerably smaller in extent and consists of the higher and more fertile land behind the Aravallis. Towards the north-west, the hills rise to a considerable height with a bold outline and form a natural boundary between the sandy desert tract of Shekhawati and Bikaner. To the south-west lies the more fertile soil of Jaipur proper. The soil of Jaipur in the immediate neighbourhood of the city and to the west and north is generally, sandy. In some places there are tracts of barren sand, frequently underlain by clay and stiff-soil mixed with *kankar*.

On the east, beyond the range of hills near city of Jaipur, a gradual slope follows the valley of the Banganga River to the Bharatpur border and region becomes more open as it spreads out towards the
alluvial flats of Jamuna. In the extreme south of the state, the hills reappear. Along the loftiest and most clearly defined section of Aravallis towards south, lies Mewar. This region is full of high hills and deep gullies, much broken up by irregular rocky eminencies, until the centre of the region. To the east of Mewar is situated Harauti, forming the southern boundary of Rajasthan. Harauti region slopes gently northwards from the high tableland of Malwa, and is drained by the Chambal and its tributaries, all flowing in a northerly or north-easterly direction.

The climate of Rajasthan is characterised by extremely high range of temperatures and aridity, though sharing the characteristic variations of Monsoons through the year. It varies substantially from year to year and within a year. Rainfall is very unequally distributed throughout Rajasthan. The rainfall is usually average throughout the region.

The western part of Rajasthan lies close to that part of Asia that belongs to the rainless district of the world. However, even on this side, the south-western winds bring little rain from the Indian Ocean every year. The south-western region, being more directly in the path of the Monsoon-bearing winds and characterised by lower evaporation rates, usually receive larger rainfall, which occasionally also reaches all Mewar. Moreover, if the south-west rains fail, the south-east rains usually come to the rescue later in the season. Hence, the country is rarely subjected to the extreme droughts of the north-western tracts.

The south-eastern region contains extensive hill ranges and long stretches of rocky mould and woodland and is traversed by many rivers. This region is watered by the drainage of the Vindhayas, primarily by Banas and Chambal. In many parts there are fertile tablelands and stretches of excellent
soils. With investment in irrigation, double-cropped agriculture can be developed. Towards south and west in the Harauti region, black soil is present.

The study has described the environmental features in order to explain the contemporary perceptions. The first chapter has analysed the various manifestations of environment -- seasons like rains, basant, winters, etc., which have been praised in the contemporary literature and folk traditions. The literary descriptions clearly point to a close and intricate relationship between the seasons and various social-cultural concerns.

The expression of joy takes place in terms of ample rains for better cultivation, better availability of water, pleasing weather, etc. In other words, various manifestations of environment were seen in the context of its utility for the social good. This is evident from the analysis of contemporary perceptions, as there are references of hardships accompanied with different seasons. The same season was enjoyable for rich classes of society, whereas it was cause of hardship for poorer sections of society.

Space or geography of a region provided an identity to the contemporary humans. There seems to be a tendency amongst people living in different parts of Rajasthan to praise the environment of one's own part and criticise others. One of the famous folk tales of Dhola-Maru Ra Duha very aptly brings this factor. The criticism of Marwar by Malwani and its defence offered by Maruni explain the mentality of the period. It is very aptly brought out in other literary piece where the virtues and vices of Thali region are described together.

The perception of environment provided the basis on which social and human interaction with the environment could be established. The study points out that society in medieval Rajasthan had developed an understanding of the various recurring and non-recurring climatic features through keen observations. Their interpretation enabled the society to establish linkages among various manifestations of environment. The basic character of region
being arid and semi-arid, the dependence on rains was acute. Thus, possible linkages were explored to predict the nature of rains in the forthcoming seasons. These were transmitted across generations through a strong oral tradition in the form of popular sayings, folk tales, and other forms of folklore.

Popular sayings, which may appear superstitions at first sight, represented the contemporary understanding of environmental features. A study of these popular saying highlights close relationships between various manifestations of environment and human society. The performance of various religious rites to ensure good rains also underlines the same understanding.

The study has charted out the natural resource base of the region so as to explain the economic, social, political, cultural edifices which emerged in these conditions. A description of variation in the environmental features of different parts of Rajasthan can also be visualised by the difference in economic structures. In the arid part of Rajasthan, mono-cropped agriculture with the domination of coarse grains during the *kharif* season was prevalent. At the same time the environmental features of this part provided ample opportunities to practice pastoralism.

In semi-arid part, double-cropping was prevalent. Effective utilisation of ground water for irrigation enabled the peasant of this part to cultivate a variety of crops. An important feature of double-cropping which developed in this region was the fact that capital intensive commercial crops dominated the winter crop.

Trade provided an additional avenue for development of the economy of the whole of Rajasthan. Numerous long-distance trade routes passed through Rajasthan and contributed to the income of states of the region. The possibilities of round-the-year transportation through the region were an additional boon. Transit trade provided impetus to the growth of a strong business community in the region. Along with transit trade, naturally available
products of the region were also extensively traded. The salt was the main product and was exported to the far-flung regions of India. Similarly, the marble of Makrana was famous around the world. The pastoral economy of the arid parts of Rajasthan also provided important commodities for trade, e.g., wool and woollen garments and other related goods.

Trade was actively promoted by the states of this region to enhance revenue. Fairs were regularly organised under the patronage of the kingdoms of this region. Several concessions were also offered to the traders to participate in such fairs. These fairs provided an opportunity to the local artisans to exchange their finished goods for raw material and other articles of their use. Taxes levied on trade and commerce provided the much-needed revenue to the state. The study has correlated the natural resource base of the region with the economic structure that consequently emerged.

The resource base and the pattern of its utilisation had a strong bearing on the settlement patterns of the region. The study has pointed out that the settlement patterns of Rajasthan have been closely influenced by the feasibility of agricultural production in different parts. The density of population and nature of habitat – sedentary or nomadic, is largely determined by the environmental features of different parts of Rajasthan.

The study has also explored the role of environmental features in the inter-linkages that emerged between the social structure and resource distribution. It has pointed out that the prevalent inter and intra-class economic disparities influenced the capacity for resource utilisation.

The harsh environmental conditions of Rajasthan necessitated a larger capital investment to sustain and develop production in the region. In the arid/semi-arid context of Rajasthan, there was a centrality of the need for artificial irrigation for agricultural production. The ownership of artificial irrigational devices formed an important criterion of economic stratification since these
devices were capital intensive. Besides, ownership of such artificial irrigational devices ensured better productivity, thereby increasing the returns for the owner.

Social stratification has been traced in terms of number of bullocks, ploughs and the size of land holdings owned by various strata of the society. The ownership of such assets is necessary for agriculture in any region but in medieval Rajasthan, dependence was greater as possession of irrigation devices was also necessary for better cultivation. The study has pointed out that ownership of these assets increased production capabilities not only in years when rains were normal, but also during the periods of droughts. The centrality of availability of such agricultural inputs and assets led to an increased dependence of the poorer sections on the more affluent ones. Consequently, there was a gradual loss of ownership of land by raiyati peasants to the riyayati or wealthy sections of society.

The study explains that such erosion of land rights of raiyati peasants was also closely related to the constraints offered by the environment of the region. The inevitability of the requirement of capital intensive inputs for agriculture forced the lower classes of society to seek loans to not only enhance their production capabilities but also to maintain the subsistence level production in a region where droughts were a recurring feature. The lower classes suffered the most during any disturbance in the production cycle. Total or partial failure of harvest endangered their survival. In order to ensure survival, lower sections of the society sought subsistence loans. It can be very well imagined that in such destitute times, it became difficult for these classes to return even the borrowed capital, let alone the high interests on the capital. The continuous default in the payment led to transfer of land to the lender, often a bohra or riyayati cultivator.
Such a pattern of agrarian relations was unfavourable for the state as well since this process led to a situation wherein the classes that paid the highest taxes were losing their land to the riyayatis. The need for greater capital investment in the region and ability of the upper classes to invest even in the rainfall-deficient years and corresponding inability of the lower classes to make any worthwhile investments further widened the gap between these classes.

The study has also analysed the taxation system of these states and has found that it was a manifestation of economic disparity of the society. The upper classes were taxed at concessional rates in recognition of not only their higher caste status but also to recognise their contribution in expansion of the kingdoms. Such expansion of the area of the kingdom concerned also had an important environmental linkage, apart from the legacy of the process by which a particular kingdom had come into being. These claims were visible in the various rights and privileges bestowed by states and various hereditary claims realised by the ruling class, i.e., jagirdars, bhomias, etc. The major burden of taxation was shared by the lower classes of society.

Decentralisation of power was inherent in the environmental features and resultant social and political structure. Even after the integration with the Mughal Empire, it was difficult to emulate the Mughal administrative structure in Rajasthan. One of the main causes for such an inability was a different and wider resource base of the Mughals compared to regional kingdoms of Rajasthan.

Unlike the states of Indo-Gangetic plains where surplus was easily available in sufficient amounts, in the case of regional kingdoms of medieval Rajasthan, due to the harsh environmental features, the possibilities of surplus generation were limited. This is evident in the taxation systems of the region. In the semi-arid part where rabi was also grown, surplus generation from agriculture was substantial. However, in the arid parts, the general absence of
agricultural production in the *rabi* season compelled the states of this part to locate other sources of revenue. One of the important avenues of revenue generation in this part has been taxation of pastoral activity and pastoral products. Taxes like Ghasmari, Pancharai and Dhuan Bhachh are prominent among non-agricultural taxes imposed to increase the revenue base of these resource-deficient states. Along with these, study has delineated evidences wherein the state charged a special tax on the use of artificial irrigation, known as *nalavat*.

The state, in attempt to maintain a regular supply of surplus, actively participated in the production process. The states instructed the peasantry to cultivate a specified amount of land with the construction of any device of artificial irrigation. State also functioned as arbitrator in various disputes related to the sharing of water from the means of artificial irrigation.

The states also actively participated in the development of artificial irrigation. The Mansagar Dam constructed under the patronage of the kingdom of Amber is an apt example of states' active participation in such process. In the Mewar region, Jai Samand and Raj Samand are clear examples of state's involvement in the promotion of irrigation. Similarly, in the kingdom of Jaisalmer, Garsisar and Jait sagar are prominent example of the state’s concern vis-à-vis irrigation.

The study has also argued that perhaps, there was a greater degree of control of state over the available natural resources. A number of evidences have been put forth in support of this formulation. For instance, the state used to impose a fine on any unauthorised collection of wood from the hills or the forest, the cutting or felling of green trees, use of grass from reserved pasturage, etc. The above examples suggest that state tried to appropriate revenue from every possible avenue, while at the same time, securing its resource base for posteriority.
In medieval Rajasthan, droughts were a regular feature, often leading to famine. Social responses to combat drought and famine have been discussed and analysed in chapter 5. Any severe drought would have forced migration of peasantry and nomads to other regions where food and fodder was available. This in turn, would have eroded the resource base of the states. Hence, the states in medieval Rajasthan actively intervened in any such situation and actively extended relief measures to alleviate the situation. The states tried to check migration by offering relief in the land revenue collection and at times, extended financial support in the form of loans to continue agricultural production.

The study has also documented various indigenous methods developed by contemporary societies to overcome the constraints imposed by the environment. The social interactions with the given environmental features are manifestations of human ingenuity. Most of the methods developed were socially relevant. The manifestation of close interaction between society and environment have also been explained and analysed in the study. The study has argued that the cultural practices of the society have substantially been shaped by environmental considerations and constraints. Various social practices stressing the need for the protection of natural vegetation, cattle wealth, conservation of water, etc. clearly indicate an understanding of environmental constraints.

The web of patterns that emerged from the socio-economic structures and their interaction with the environment has led to a rich repository of traditional wisdom in the regions of Rajasthan. The most important contribution of this indigenous wisdom was in the sphere of water conservation. Conservation methods were evolved for ensuring availability of both, potable as well as irrigation water. In the arid parts of Rajasthan, the primary source of water was rains as the ground water was usually brackish. Attempts were made to conserve the rainwater for the lean period of the year.
The study has pointed out that water conservation structures were constructed for not only household use but also for public use. The construction of water storage devices for water conservation was considered an act of high religious merit. The epigraphs on these structures testify this fact. There are still numerous extant and functional structures in the region.

Similarly, rainwater was conserved for irrigation as well. The study has documented and explained the methods by which the water of seasonal streams and resultant floods was stored for irrigation. The water was blocked with the help of masonry *bunds* to not only irrigate the adjoining fields. Once the lakes thus formed had dried, their dry beds along with the beds of seasonal streams were used for agriculture. This pattern of using water stored during the rain-surplus months led to a situation wherein even *rabi* crops were obtained in the arid parts of Rajasthan.

The study has also established a correlation between various religious practices observed by local sects and their stress on sustaining a harmonious relationship between the society and environment. Jhambhoji's teachings stressed the protection of cattle and conservation of trees especially, *Khejri*. Similarly, Jasnathji reiterated the above teachings with stress on *Jal* tree. The study has highlighted that given the centrality of such practises in the agro-economic patterns of Rajasthan, the states of the region tried to accommodate the above teachings by extending protection to the cattle and natural vegetation of the region. It was more so because in the arid part of Rajasthan pastoral activities dominated and natural vegetation provided sustenance to the cattle. Thus, by extending protection to cattle, state not only appeased the followers of these sects but also protected its own resource base.

The importance of animals in the medieval Rajasthan has also been analysed. The study has highlighted the importance of different animals in semi-arid and arid parts of Rajasthan. It is significant because the survival of
animals, especially in arid part of Rajasthan, is closely related to the availability of relevant natural resources in the region. The importance of the ability of goat, sheep and camels to survive on the babool, khejri, phog, akra, etc. types of plants and bushes has been discussed and its relevance for the economy and society of Rajasthan has been elucidated upon.

To sum up, environmental features of medieval Rajasthan had a large influence on various components of society and economy of the region. The production possibilities of the region were most directly influenced by the environmental context. However, the affect of such a close interaction between the environment and the economy of the region has important impact on the socio-cultural developments of the region.