



Transformation of Livelihoods in Kinnaur District, Himachal Pradesh, India

Prawal Sharma* • Krishna Mohan

Dept of Geography Panjab University, Chandigarh

*Corresponding Author Email id: sharmaprawal7@gmail.com

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Abstract: The land and natural resources, social structure, and cultural practises of Kinnauri civilization have all undergone considerable changes. The people of Kinnaur have always been forced to adapt to and cohabit with their environment due to a number of limitations, such as the challenging physical location of Kinnaur and the lack of arable land. Since the apple economy started in the middle of the 1950s, developed quickly in the 1990s, and has persisted until the present, many trade-offs have been made. This paper will try to understand the dynamics of transformation of livelihoods in Kinnaur district since its formation as a separate district. The findings of the study are based on 2 months ethnographic field work. The present study asserts that transformation of livelihoods in Kinnaur district are result of socio-economic, political and environmental factors. The paper will try to find out the key drivers of change in Kinnaur's livelihoods.

Key words: livelihoods • transformation • Kinnaur

Introduction

Kinnaur is one of the more distant districts of Himachal Pradesh, a sparsely inhabited and rural state. Himachal's rural sections are still somewhat isolated from popular culture and worldwide economic links that are more frequent in India's metropolitan districts. However, this contradicts the country's general drive to modernise. Throughout history, government development programmes in India have concentrated heavily on improving connectivity to rural regions in order to encourage economic growth through road construction (Belz 2013; Rahimzadeh 2020). It is one of India's most sparsely inhabited areas, with only about 85,000 people living there. The majority of tribal Kinnauris were subsistence agro-pastoralists before the 1950s (Beniston 2003) due to the remote location and mountainous topography of region. Mountain scenarios attract a huge number of individuals in pursuit of recreational and tourist options. The tourist industry in mountainous locations is expected to be impacted by climate change both directly and indirectly. Direct effects are

alterations to the climatic conditions required for certain activities. Changes in mountain landscapes may have indirect effects (Krippendorf 1984). Significant climate changes will also affect the social and economic structures of many different regions. Horticulture is a major component of Indian agriculture, and it has been adversely damaged by climate change. Farmers in Kinnaur utilise water conservation measures and hail nets to safeguard their crops from hail damage in hail-prone areas (Bhagat 2023). Due to its sensitivity to several climatic elements, it is commonly accepted that the agricultural sector is more fragile (Rahimzadeh 2017; Guedes and Bocinsky 2018; Saurabh et al 2020) than the industrial or service sectors, making our rural community more vulnerable (Bhagat 2023).

India is not an exception to the various threats presented by climate change to people's livelihoods worldwide (Negi 2012; Rana et al 2013; Aditya et al 2013). Thus, it is anticipated that life cycle events would alter as a result of climate change (Parmesan and Yohe 2003) differences in social institutions, land



distribution, agricultural technology, and ecology are related to variances in gender-based labour division, social interactions, livelihood options, and kinship systems (Agarwal 1988). Global climate change has broader ramifications for vacations also (Beniston 2003) so in Kinnaur tourism provides various seasonal livelihood opportunities to the local people apart from agriculture.

In addition to the work that people do for a living, the term "livelihood" also refers to the resources that enable them to create a fulfilling lifestyle, the risk factors that they must consider when managing their resources, and the institutional and policy framework that either facilitates or hinders their pursuit of a feasible or better lifestyle (Gardner et al 2002; Forsyth and Michaud 2011). In the livelihoods approach, resources are called "assets" or "capitals" and are usually categorised into five or more asset types that are owned or accessible by family members: natural capital (land, water, trees, etc.), financial capital (cash, savings, loan access), human capital (skills, education, and health), physical capital (produced investment goods), and social capital (networks and associations) (Ellis and Allison 2004). These assets are then proposed to enable vulnerable people to expand their options for livelihood through three main strategies: first, agricultural intensification (growing crops annually, using fertilisers, mechanisation, or access to more productive land); second, income diversification (adopting non-agricultural income in addition to agriculture); and third, innovative uses of migration as a job-securing strategy (Vedwan and Rhoades 2001; Vedwan 2008; Forsyth and Michaud 2011; Aditya et al 2013). People send their children out of Kinnaur for good education mostly in cities i.e. Rampur, Shimla, Chandigarh, Delhi and after completing education some of them settled out of Kinnaur to get preferred livelihood opportunities.

Methodology

This study is conducted in an ethnographic framework and for collection of data purposive sampling method was used. Present work relies on primary and secondary data sources. Primary data were collected in May and June month of 2023. Total 60 open-ended interviews were conducted in five tehsils namely Kalpa, Pooh, Sangla, Moorang, Nichar and one sub-tehsil Hangrang of Kinnaur district. People from two age groups were interviewed i.e. 1. 25-50 years 2. Above 50 years. From each tehsil 10 respondents were interviewed having equally participation of both age groups. A diverse range of performers, including individuals from various socio-economic, caste, age, and gender backgrounds, were chosen for interviews (Rahimzadeh 2018). For analysis of data- "issue-focused" approach has been used ("move from discussion of issues within one area to discussion of issues within another, with each area logically connected to the others").

Analysis Framework: Few qualitative researchers begin field settings as blank slates; instead, qualitative researchers take early steps to generate insights that will serve as the foundation for theory development. When choosing field themes and beginning data collection, people make use of their prior knowledge and experiences to anticipate potential routes, putting other options aside that do not drive their interest (Lofland et al 2006; Spradley 1979). As a result, the categorising process is initiated by the decisions and attention to detail that researchers put into their empirical investigation (Grodal et al 2021). According to categorization theory, an individual's initial goals and prior knowledge influence how they interpret their environment (Barsalou 1983; Durand and Paoletta 2013; Murphy and Medin 1985). Without preexisting categories, we couldn't connect or comprehend the environment we live in. The foundations for



the new categories we construct are our current categories (Barsalou 1983; Durand and Paoletta 2013; Armstrong et al 1983).

Understanding the sources of income for highland people is crucial. "Livelihoods" encompass more than just the pursuits individuals engage in to support themselves. Examining less visible social networks, organisations, local politics, decision-making, social and ethnic connections processes that facilitate economic activity and have the ability to significantly reduce or raise social vulnerability to political and economic upheaval are also essential to comprehending livelihoods. As a result, an approach to livelihoods emphasises access to activities as well as how changing social settings may alter the fundamental methods through which individuals might seek acceptable livelihoods on a long-term and fulfilling basis (Forsyth and Michaud 2011). Approaches to livelihoods are used, but they are explicitly linked to wider socio-economic processes. These perspectives have important implications to investigate how livelihoods and land use practices are changing (Basannagari and Kala 2013; McCusker 2013). This study investigates the process through which this change occurred (Goldstein 1981).

Study Area: Kinnaur District is located between latitudes $31^{\circ}05'55''$ and $32^{\circ}05'20''$ North and longitudes $77^{\circ}45'0''$ and $79^{\circ}10'50''$ East. It's located in northeastern Himachal Pradesh (Chakraborty 2015). Kinnaur is well-known for producing high-quality apples that are exported throughout India. The Kinnaur district covers a land area of 6401.00 km^2 and constitutes 11.7% of the state's total area. It is split up into five tehsils: Poo, Morang, Kalpa, Nichar, and Sangla tehsils, as well as one sub-tehsil called Hangrang.

Observations and Discussion

People over 50 years of age were found to have a wide range of experience, which allowed them to disclose the change in their livelihoods in an appropriate way throughout the fieldwork. This age group explained the how and why of these livelihoods' changes, as well as shared their early experiences of a difficult upbringing brought on by a dearth of employment options. People talked about how their lack of access to other regions caused them to live in lack of livelihood opportunities and endure really difficult times. Speaking about their experiences, several persons were touched by recollections of the past and had the impression that they have come far away from their difficult circumstances. But at present they feel better in terms of their livelihoods as district is connected by national highway and also government efforts are made for the more livelihood options for the scheduled tribes of Kinnaur district

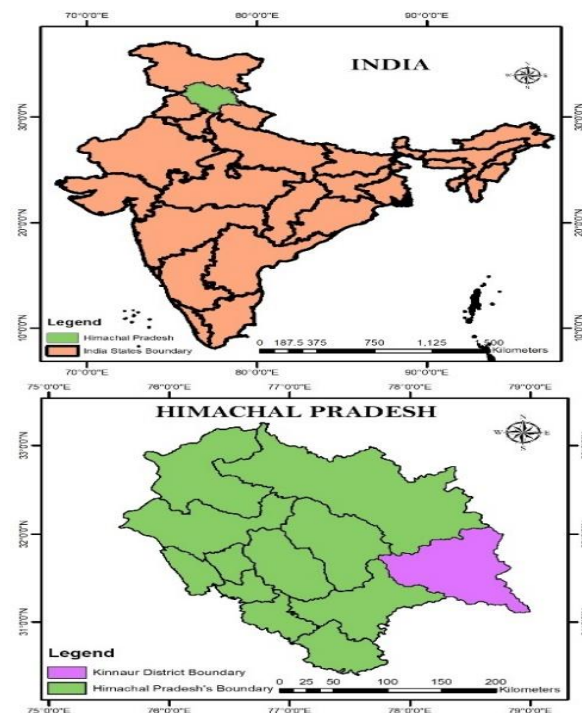


Fig 1: Location Map of Study Area

Dynamics of Transformation of Livelihoods: In the following discussion points have been linked to get the insights of



socio-economic, political and environmental factors of livelihood transformation on the basis of oral history, discussions and interviews data. With the help of oral history data, it was found that in Kinnaur district, the traditional lifestyle of animal husbandry and long-distance herding has historically been complemented by subsistence mixed crop farming.

Polyandry, a type of marriage, has been practised commonly, numerous factors, including mythical, demographic, ecological, economic, and social ones, influenced the form of marriage in Kinnaur. But geo-ecological as well as associated economic reasons are among the most important elements for polyandry in Kinnaur. Traditionally, the Kinnaura people were predominantly agro-pastoralists and had trading ties to Tibet. Little and less productive land holdings were available. They must rely on any income received from pastoralists for things like wool, milk, and meat. The barter trade with Tibet was another source of their income.

During interview people shared that in polyandrous family's co-husbands were spatially and temporally divided due to the obvious labour differences between them. For instance, until the Indo-China border was closed in 1962, one co-husband might be gone for several months on a trade mission to Tibet. The family animals may be allowed to graze in distant pastures for an extended period of time. As a result, many families in Kinnaur had animals, notably mules, which were formerly employed in the transportation of commodities throughout the commercial movements to and from Tibet. The third, who is often the eldest, would be in charge of the home and the farm. In Kinnaur, pastoralism had been a significant source of income.

Discussions on India and Tibetan border unfolded many stories in relation to having livelihood options. After India's independence, the district of Kinnaur's long-standing isolation

was mainly preserved. During the Tibetan rebellion against the Chinese in 1959, relations between India and China deteriorated, and Himachal Pradesh later provided the Dalai Lama with refuge while living in exile. Military presence in the region gradually increased as construction on the National Highway progressed. The 1962 Indo-China War, which coincided with the change in agricultural production, sparked quick development in the areas along the India-China border, prompting the Indian government to take protective measures. Additionally, access to external markets was made possible by constructing a national highway that passes through Kinnaur, which facilitated apples' acceptance as a profitable crop. Before 1960, Kinnaur had been a valuable buffer zone, difficult for Tibetan and Chinese invaders to enter, and generally of little importance to Indian administrators. It became as a strategic hot spot after 1960 (Chib 1984).

Following succeeding Chinese incursions over the Himalayas, commerce between Himachal and Tibet declined. When an India-China trade agreement ran out in 1962, local trade links with Tibet were closed, and many long-distance Kinnaura traders and herders had to reevaluate their livelihoods. Meanwhile, land privatisation and a deteriorating relationship with China hampered the development of new markets for cattle and grazing routes through Tibet. As a result, livestock ownership declined, and animal products became increasingly available on the market.

With fewer cattle to fence indoors and less fodder to store, several households were able to reallocate ground-floor space to fruit storage, home storage, and living space. At the same time, several land reforms were passed into law with the intention of giving land to peasant farmers who now lack it. Owning and having access to land may empower the underprivileged in the community by allowing



them to build an asset base and improve their economic circumstances.

Due to the status as Scheduled Tribes, the people of Kinnaur benefited from reservation laws implemented by the Indian government to promote equal opportunity to access employment and higher education, as well as from a variety of food and agricultural items at a discounted rate. Fundamental changes in both the farming and non-farming sectors of occupation were taking place in Kinnaur in the 1960s and continued into the 1970s. The higher caste elite were the first to undertake commercial apple growing; others eventually did as well (Interview, June 2023). The other participants also shared similar stories.

Apples became the "natural" choice because of the topography of the state, which has elements like accessibility issues and a scarcity of cultivable land, make agricultural intensification and industrialization impractical, as well as the fact that the state's mountainous regions provided ideal biophysical conditions for their production. Increased government employment prospects and a rising cash crop market resulted in a higher living standard. When the Indo-China border was closed in 1962, mule owners gained money by shipping apple crates to the marketplaces in Rampur and Shimla. By the 1960s, when fruit began to appear in the early adopters' orchards, much of it was transported by mules to the markets outside Kinnaur because people at the time lacked access to automobiles.

In present, the major cash crop in Kinnaur is the apple, which is also the most commercially successful crop and have now been a way towards economic growth in Kinnaur, which after India's Independence adopted horticulture in order to engage in a cash-based economy. So Kinnaur's transition from an agro-pastoralist subsistence economy to a cash-based economy was sparked by market integration (Interview, June 2023).

Due to the 1962 Indo-China border conflict, a national highway was built via Kinnaur and to the border regions, and it was finished in 1973. Kinnauris, who for the first time received a cash salary, although a meagre one, complied with the enormous labour demands of the road-building project. People also started leaving Kinnaur to work in the existing apple orchards in the nearby Shimla District, receiving income and developing orchard skills. In 1838, apples were brought into the nation from Liverpool and planted in Mussoorie. The British planted a several trees in the Nilgiri mountains in 1850. The first professionally managed orchard in Himachal Pradesh was founded in Bandrol, Kullu District, by Captain R C Lee in 1870 and the first orchard in Shimla was founded in Mashobra in 1887; it is currently under state government management and serves as a research institute (Panwar 2011). The state's agricultural economy is now dominated by forestry products and fruit crops like as apples, almonds, and apricots. Apple is one of the most significant temperate fruit crops in Himachal Pradesh, playing a prominent position in the state's economy.

When fields were turned to orchards, the shape and usage of houses altered. Changes in livelihood have resulted in changes in the vernacular landscape. This shift in space usage fostered an increase in window size, many households see milder winters as a chance to increase window size.

When discussing on the development of the apple economy participants shared that by 1991, people's economic situations gradually improved, resulting in more access to education. The education of the children of orchard families had become a new focus as a result of the increase in money from apple and other fruit crops. Development of commercial agriculture and horticulture, expansion of tourism and the building related to it, development of hydropower projects, and upkeep of roads and building initiatives have



produced a sizable increased employment in Kinnaur. The results of the study made it abundantly evident that the climatic change had a negative influence on apple yield and, consequently, on the lives of the local populace as climatic variability, particularly extreme climatic events, has an influence on resource-dependent society, affecting assets and lives.

Climate change has the potential to impact the socio-economic environment in the Himalaya in a variety of ways. It can have an impact on the economy (for example, agriculture, cattle, forestry, tourism, fisheries, and so on). Although specific information and statistics on human well-being in the Himalaya are scarce, it is obvious that people's livelihoods will be impacted by the effects of climate change. Himachal Pradesh temperate fruit belt is moving upward, that is negatively influencing apple agriculture and as a result the lower niches are becoming commercially unprofitable. The change in patterns of land utilization is mostly ascribed to the changing climate, by the changing climatic circumstances, like a rise in temperature and a decrease in precipitation (Singh et al 2016) and in many areas, the cultivation of apples has been supplanted by growing various horticultural species, seasonal vegetables, and coarse grains.

Interviewees also discussed on the declining quality of fruit due to climate change impact. Fruit size and quality declined as a result of the environment, especially the rising temperature. Lack of suitable fruit hue due to climate change was viewed as a deterrent determinant of fruit quality. Climate-wise, the quantity of sunshine in August determines the colour of the apples. Therefore, if a month had more cloud cover than was "usual" and apples do not become vivid red. Additionally, there is a one- to two-week delay in the apple harvesting season. Aside from temperature, other factors that have contributed to the drop in apple cultivation in low-lying hills include

hailstorms and less snowfall. In many of these places, growing coarse grains and seasonal vegetables is taking the place of apple production. In Kinnaur low-elevation orchards struggle with a lack of the chilling required for apple development, an increase in pests and illnesses brought on by hotter weather, and water constraints. Most of the time, water is channelled from far-off glaciers to irrigate the orchards, and at that point it gets to these lower places. At present the proprietors of orchards at lower altitudes are among the first to experience financial hardship.

Conclusion

Recent discussions in anthropology, human geography, and development studies about long-term and meaningful livelihoods have utilised the notion of the term "sustainable livelihoods" describes methods of making a living that endure in the face of adversity or threats to one's financial security. (Forsyth and Michaud 2011). However, Kinnauris' major economic resource continues to be land (Rahimzadeh 2018; Singh et al 2020). Because it increases a rural livelihood's long-term resilience (flexibility, resilience, and stability are all directly related to diversification of livelihoods (Ellis 1999; Scott et al 1990; Chmielewski 1992; Goulden 2013; Rahimzadeh 2020) in the face of unfavourable trends or unexpected shocks, a broad portfolio of endeavours supports the viability of a rural way of life. The consequences of decreasing polyandry on resource allocation, especially with regard to land, are becoming increasing, and this is happening at the same time that temperatures are rising and precipitation is falling. The dependency on a monocrop agricultural system is getting harder to maintain and is worsening Kinnauris' economic instability as landholdings are reduced as a result of ongoing partitioning and apple output declines due to climate change (Rahimzadeh 2020) therefore it's possible that marginal land won't provide enough to support



sustainable livelihoods in the future because of climate change and growing land division.

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