OBJECTIVES

This study was carried out keeping following objectives in mind:

1. To identify and collect information with respect to the ITK possessed by farmers of Kinnaur using various tools. For this the literature pertaining to Kinnaur was screened. The technologies were identified randomly at various locations using various tools of study.

2. To analyse each technology and find the scientific reasons involved in it. Literature and scientists were consulted to find out the scientific base of the technologies wherever possible.

3. To collect information on Government programmes operational in the district. A gist of the government programmes running in the district was collected to find out whether the traditional knowledge has been incorporated in them.

4. To identify the gaps between traditional and modern technologies. An attempt was made to identify the gaps wherever possible.

5. To establish platform for R&D programmes by blending the traditional and modern technologies.

Suggestions have been incorporated here and there regarding the scopes of usage of the traditional knowledge of farmers which can be applied after going through R&D or making certain improvements.
ABOUT THE OPERATIONAL AREA KINNAUR

Kinner Desh of mythological fame is the modern district of Kinnaur. It is located on the international boundary between India and Tibet region of China, west of Nepal. The district is located between the districts of Lahaul & Spiti and Uttrakashi. In the north-east there is Tibet and in the south-west lies the Shimla district of Himachal Pradesh. The region represents all the three main high ranges of Zaskar, Great Himalayas and Dhauladhar.

The region, popularly known as ‘Sat Khand’ consists of seven valleys in its fold. Sutlej is the main valley which runs all along the district dividing it into almost two separate parts. Besides Sutlej, the valleys are Spiti, Ropa, Bhabha or Wangpo, Tidong and Baspa. Baspa is the most beautiful valley and in contrast Spiti is the most barren. In between the two are located the remaining five valleys.

This whole region is watered by three main rivers, the Sutlej, Spiti and Baspa. These are fed by eight small rivers; Yulang, Ropa, Pejur, Kashang, Mulgaon, Yula, Wanger and Tirung. The climate is mostly cold except for a very short period that may be called summer by the locals between June and September. The area is both wet and arid. South of Kalpa, the region receives rainfall but beyond that it is dry. This contrast is clearly visible from Spiti village on the National Highway No. 22 which runs via this district. The average elevation of the region is between 1,220 and 6,770 metres above sea level.

This rugged landmass with uneven terrain is spread in 6,553 square kilometres, with a total population of 71,270 heads. The population per square kilometre is only eleven. Administratively it is divided into six tehsils, viz. Sangla, Kinnaur, Kalpa, Morung, Puh and Hangrang. The district headquarters is Reckong Peo, located in the shadow of the famous Kinnaur Kailash.

The inhabitants of this region are different from the Kashias of western Himalayas. The Kanauras of Kinnara tribe are the original inhabitants of this region. The people are well built with fine Persian features in the region south of Kalpa, and in the north the features of the people are slightly Mongoloid or, more appropriately, Bhot. The ladies of Sangla and Kalpa regions are so beautiful that their parallel is difficult to locate anywhere in India. They are appropriately known to have sweet voices - Kinnaur Konthi. Men are of a normal size between five feet two inches to five feet ten inches. They are simple, honest, hardworking, enterprising and hospitable. These qualities have been
praised by all those who have come in contact with them from the earliest known times.

The usual caste structure as obtains in other parts of India is found here also. Kanets or Negis are the upper castes and the lower castes consist of Chamangs, Domangs and Oris, equivalent to Rajput, Lohar, Badhai or Tarkhan and Kolis, i.e. Rajput, blacksmith, carpenters and weavers. The main religions followed by people are Hinduism and Buddhism. The villagers in Hangrang valley bordering Tibet and a few in Puh tehsil follow Buddhism. Most people in these villages have two names, one Buddhist and the other Hindu, given to them by lamas and the other by mostly teachers in the schools. There have never been any Brahmins in this area. Hence religious ceremonies are performed either by lamas or negis (Kanets).

There have been several Christian missions in the region during the last century and in the present one, but the absence of the Christians is conspicuous. It is difficult to explain the precise reasons for their absence, but one can hazard a guess. The region from time immemorial followed the established religions of Hinduism and Buddhism. Hence it was difficult for any outsider to make any dent in the beliefs of the people. Secondly the region was part of the native state of Bushahr whose Raja was a Hindu and follower of the brahminical tradition. People generally believed in the divine origin of kingship and hence they mostly followed their Raja in the matter of religion, except for the regions which are near the Tibetan border. Thirdly state patronages to the obedient might have inclined people towards the established religion followed by the Raja. Finally the state might have secretly warned and prohibited the people to adopt religions other than that of the Rajas. After Independence and particularly after the Chinese occupation of Tibet the situation has dramatically changed. The Buddhist person of Potala is no longer here. The border has been sealed and the Dalai Lama is a refugee in India. This has made some impact of people's religious beliefs. Now more and more people are tempted to believe in Hinduism. It seems, there is a positive shift in the religious beliefs of the people and the focus now has come round to Hinduism perhaps even in the border villages of the region.

People by and large speak the Kinnauri dialect, called Homskad, but now educated people, particularly below the age of twenty-five can speak Hindi; a few among them can speak English also. Tankari script of the bygone days is no longer in use. It is possible that it is used now for religious purposes in the monasteries. People live in small villages located on the slopes of the mountains, the houses are of two storeys generally. The lower apartment is used for keeping the cattle. Those houses have only one living room with balcony attached, but now the new constructions have more than one room. These can be seen throughout Kinnaur. Earlier for a few households most of
the houses did not have cots to sleep on. People by and large used to sleep on the floor on khera or Kiarech and pekpa, i.e. mats woven of goats' hair and skins.

Due to the cold climate of the area people wear woollen clothes throughout the year. The thepang or a woollen cap with or without chambaka flowers is the common head wear which is used by women and men alike. The men wear woollen shirts chamu kurti, a long coat (chhupa), woollen pyjamas (chamu sutan) mostly of grey colour. Ladies wear woollen sari dhori full sleeved blouse with a choli, chanti or shawl. This shawl is wrapped round the shoulders and its two ends are fastened together near the breast by means of a silver hook called digra. Women often wrap round their waist a scarlet coloured woollen or cotton cloth of about five to eight metres in length and about a metre in width. This is called gachhang. On the occasions of marriages, fairs and festivals, people put on embroidered clothes in various designs and colours. The ornaments generally used by the women are: mul-u, taamani, kantai, khando, chain, shanglayang, digra, tomukh, laung and daglo mostly made of silver. Except for the murki in the ear and rings on the fingers the men do not use ornaments in this region.

The opening up of the area due to increased communication channels has made a positive impact on the people. Now more and more men are using modern suits, coats, pants, shirts and other clothes used in the plains. The ladies have taken to wearing salwar and kurta, but the use of sarees is not seen yet. In place of the old pona i.e. local made shoe, people now are using shoes made either in plains or by the local manufacturers. In place of cow-dung wash, some houses are now painted with modern paints. TVs, radios, transisters, watches, clocks and other luxury items are now available in the area. P.W.D. guest houses and forest huts are equipped with heaters and geysers.

The people in this region have their meals three times a day. The staple food is wheat, ogla, phapra, barley and pulses like peas, black peas, beans, mash and masur. Besides these people use vegetable which are available, like turnip, cabbage, peas, pumpkin, potato and tomato. Kinnauras relish meat; goat and ram meat is mostly in use. Chicken is no more a taboo in the area. Drinking of liquor is quite common in the district. In fact every household has a permit for the production of liquor (ghanti) for domestic consumption.

Now most of the food stuffs are readily available in the region; either fresh or tinned. This has had some impact on the food habits of the people. But this impact is so marginal that it cannot be called a change. However, among the younger generation, particularly among boys up to twenty, there has developed a craze for new things. Prohibition has also made some marginal impact on the educated young men.
Video parlours and other urban recreational facilities have reached this region. Earlier people depended mostly on the traditional means of entertainment. These include music, dancing, fairs and festivals. All round the year, almost every month some fair or festival is celebrated. During winter young unmarried girls celebrate for a week or more, a festival known as Toshing. At this time they invite their boy friends over for a feast prepared of special food and drink, and eat it together for a week or so. There is a great deal of singing and dancing. These dances at times continue till the early hours of the day.

People all over the world believe in superstitions and dreams and have faith in the supernatural etc. Perhaps in this case, because of this difficult, inaccessible terrain, people are more ready to accept them than the people in the plains. The form content, and style of such beliefs may differ from region to region, from country to country, but they continue even in the present age of scientific development.

The moral values of the people here have been a controversial subject. It has invited several adverse comments by travellers who happened to visit the area in earlier times. Until recently monogamy was the exception rather than the rule in the region, Polygamy is not unknown in the area. Polyandry however has been the rule in the most parts of the region. In this system several brothers share one wife. In case the joint wife proved to be barren, her sister was brought in as a second wife. Sometimes the younger brother might prefer to bring another wife for himself on the plea that the common wife was too old for him.

In the changed circumstances of today the institution of polyandry has come under severe strain. It worked fairly well when all the brothers in a family were engaged in different vocations and when they used to live away from home taking turns so that one alone remained at home. Now that trade with Tibet operates no more, cattle feeding is done virtually at the doorstep and work is readily available in the village, all the brothers in a family remain at home and they often quarrel among themselves making the life of the common wife quite miserable. Hence the institution of polyandry is on its way out. People are leaning more and more towards monogamy. This might, in due course, affect the land holdings which may become smaller.

Rituals observed in this region are mostly the same as we see in the plains. Ceremonies at birth and afterwards like hair-shaving (mundan), kaarchogmig are all performed with the same religious and social fervour as it is done in the plains. However, in the border regions there are two ceremonies that are different and peculiar. These are khaaskis or bedhai and bose. In bedhai all the clan people come and congratulate the
parents with some presents. The bose function is held between one and three years of child birth. In this local deity is invited to bestow blessings. On this occasion also a big feast is arranged by the parents and all those present participate in the dances and music on that day. In all other regions Gangajal (water from river ganga) and gomutra, is used or hawan is performed for purification of a place or person.

Death normally takes place on the ground. In case a dying person is on a cot or bed, he is brought down on the floor before death. Just before death panchratan (an alloy of gold, silver, copper, brass and iron) is put in the mouth of the dying one. After death the body is taken in procession and cremated. Ceremonies after death are performed as it is done in Hindu families of the plains.

There are four forms of marriages in the region. The standard marriage is known as jauckang. It is considered as wedding. In this form marriage is properly arranged through the middle man. The other form of marriage is dimtangohis or bennang-hachis or jushis i.e. love marriage. In this, boy and girl decide to get married and the boy brings the girl to his house secretly. The third form of marriage is known as dubdub or khuchis. In this form boy alone or with the help of friends captures the girl either from fair or from farm and carries her to his house. In both these i.e. in love and capture, later a standard form of ceremony is observed. The fourth type of marriage is known as Har. In this form a married lady is taken away by other man after making the payment of expenditure incurred in the marriage by the former man.

Dowry is unknown in the region, but presents are given to the bride by her parents. From the groom’s side those present give some money to the groom’s father. This money is used by the groom’s father. This custom is called baidavang. Similarly, every one present from the bride’s side gives some money to the bride. This collection is the exclusive property of the bride and the ceremony is called udanang.

There is a unique custom in the tribal society of Kinnaur that after the marriages the father-in-law give some land and a room in the house to the bride. This is written on paper in the presence of a number of people and this paper is kept with the father of the bride. In case of a dispute with the husband the bride gets that part of house and land. This is known as bandobust.

People generally believe in the tradition current in the region that ancient Kinmer Desh was a place where the five Pandava brother and Draupadi, their wife in common lived incognito during their exile. Some object or the other that appears ancient is associated with them. It may be a wooden gate or a temple or a tank or a gate on the roadside.
People say that the Pandavas used to work in the night and during the day time they went into hiding, in the caves or in the deep valleys. If the tradition has any basis in truth, it is not very clear whether the inaccessibility of the region or the general hospitality of the people had tempted them to live here.

However, it is certain that the Kinna people have deep roots in Indian mythology, legend and literature. They are generally considered as a distinct race. We find mention of these people in almost every ancient text, be it the Vedas and Puranas or legal work of Manu, Manusmriti or literary work of Kalidasa, Raghuvansha. They are mentioned in both the Ramayana and the Mahabharata. In some texts they are called Kinna while in others they are known as Kimpurantha. Some call them semi men and semi gods, some others call them half men and half animals. These contradictions might have crept in from the Jataka tales. These people are remembered as happy people enjoying dance and music, both vocal and instrumental. The legendary, mythological, and literary accounts of Kinna may to some extent be true, but even if they are not, they most certainly indicate the very highly developed creative and inventive genius of people in general and the authors of these texts in particular.

Neither Kinna nor Kinna Desh is mentioned anywhere in the recorded history. The area presently known as Kinnaur district must have been part of the mighty empires of Mauryas, Guptas and Harshas till about the middle of the 7th century A.D. It is only after the fall of the dynasty of Thaneshwar and Kanauj that we find the growth of small principalities. As elsewhere in India, similarly on the border regions, there grew small states like Gilgit, Baltistan, Ladakh, Spiti, Bushahr, Garhwal and Kumaun. Kinnaur was a part of the former state of Bushahr till the dissolution of the state in the forties of the present century. The genealogy of Rajas of Kamru and Bushahr indicates the establishment of the state in the sixth century. Who these rulers were, is difficult to say, but it seems certain that they were the emigrants from the middle country.

It is mentioned by Rahul Sankrityayan that the region was part of the Bhot empire during the seventh and tenth centuries. But from the close examination of events and the nature of Tibetan imperialism, it appears that their thrust was upwards all along the river Indus, leading them to Yarkand and Khustain in Central Asia. Had there been any crossing of the River Sutlej by Tibetans? Then what kept them from reaching the fertile plains of India, which were then dotted with petty principalities? How is it that the people of Kinnaur have been able to preserve their traditional culture to this day, if there had been Bhot rule for so many centuries as mentioned by Rahul Sankrityayan? To me it appears that the fiction of Bhot rule in Kinnaur is thoroughly misleading and erroneous; unfortunately this fallacy has found place in the Gazetteer of Kinnaur and in other
popular works in Himachal Pradesh.

During the medieval period, some of the hill states such as Kangra, Chamba and Sirmaur were attacked and made tributaries to the Mughal emperor at Delhi, but the state of Bushahr could not be reached by and adventurer of that period. Raja Kehri Singh was by far the most popular and powerful ruler of the state. He had not only consolidated the state by adding several regions to it, but had also participated in the Tibetan-Ladakhi-Mughal War of 1681-1683. In this war he sided with Tibet and at the end of the war he received the portion of the territory beyond river Sutlej which was occupied by them during war, as reward for his help. In a commercial treaty with Tibet he obtained free trade and movement of Bushahr people in Tibet without restriction. Raja Kehri Singh was granted the title of ‘Chhatrapati’ and a Khilat (turban of honour) from the Mughal Emperor Akbar.

Subsequent to the death of Raja Kehri Singh, Bushahr involved itself in the petty quarrels of the region. The small disputes continued till the rise of Gurkha power under Prithvi Narayan Shah, the Sikh power under the celebrated Ranjit Singh and the British power under Richard Colley Wellesley. In 1810 the state of Bushahr was occupied by the Gorkhas and the Raja had to flee to Kinnaur region of the state. He remained there till after the settlement of war between Nepal and the British East India Company in 1815.

Raja Mahendra Singh was restored to power by the British Government and was granted a sanad in November 1815. He was minor at that time, therefore the administration was carried on by the hereditary Wazirs of the state. On becoming a major, he proved to be a very weak ruler. His son and successor Raja Shamsher Singh was no better. Hence the rule of Wazirs continued till 1886 when Tikka Raghunath Singh took over the administration of the state. Till his death in 1898 the state was well managed. After his death the British Government took the administration in their hands and a manager was appointed to look after the state. After three years of the succession of Raja Padam Singh in 1915 the rule of the manager came to an end. Soon after Independence, the state was abolished and the Raja was pensioned off. Padam Singh died soon and was succeeded by Vir Bhadra Singh, who was deputy minister in Mrs Gandhi’s Government. Later he was Chief Minister of Himachal Pradesh till March 1998. The people of Kinnaur had to work hard for their livelihood. Agriculture, animal husbandry, horticulture, forestry, cottage industry, trade and commerce must have been equally important for them, from the earliest known times. This fact had been noticed by those who went to this region. Even now the people have to work hard for livelihood.
Agricultural holdings are very small. The area is cold and hence the timetable of crops also differs from the plains. *Rabi* crops are usually sown from the middle of September to mid December and reaped between April and July, depending upon the altitude of the place. Similarly, *kharif* crops are sown from March to middle of July and reaped from September to the end of November. The chief *rabi* crops are barley, wheat, lentils, coriander seed and field peas. Other smaller crops are *phapra, batoor, cheema* and *koku*. *Kharif* crops are millets, potato and maize. *Chicke chit* and *chid* are sown in July and cut in September and are used usually, like rice. The area has been and still is deficient in food production. In earlier times supplementary diets like dried apricots and *chulis* were used. But now due to the opening up of communications, the products of the plains are readily available there. Besides, Government has taken several measures to improve the productions. Seeds fertilizers, and *takati* loans are now readily available to the farmers.

Animal husbandry is one of the main pillars of the tribal economy. Chief among the domestic animals are horse, mule, donkey, yak, cow, ox, sheep, goat, mare, dog and cat. The major occupation of the people has been sheep and goat rearing. The benefits derived from these sheep are manifold. Besides providing milk, meat, skin and wool, these animals were used as pack-animals from very early times. With fast development of means of communication their use as pack-animals is very much restricted. These animals are the most valuable assets of the people of Kinnaur. Poultry farming was unknown to the people of this area, as eating chicken was taboo. Now some farms have been started at Poe and Kalpa. Government has taken several steps to improve the livestock. Veterinary hospitals have been opened and cross breeding with Spanish and Russian merinos was taken up some years ago. In order to protect sheep from skin diseases, sheep-dip centres have been opened at important routes.

Horticulture is yet another source of income to the people of the area. The land is ideal for the growth of *chilgoza* trees which have been nurtured there from time immemorial. Fruits like apple, apricot, peach and chestnuts were also available. Now several fruit research stations, demonstration orchards, and nurseries have been established to develop horticulture in this region. The annual yield of apples, grapes, chestnut and walnuts have increased considerably. It seems what is needed now is to provide quick transport and packing materials at convenient centres.

Forests are yet another source of income. In fact the total population of this district depends entirely on the forests for their day to day needs of firewood and timber. Besides valuable *chilgoza* trees which fetch a handsome price, these forests produce several medicinal herbs such as *kark, bankakri, kalazira, belladona, dhoop, chirata,*