



Traditional crop diversity and indigenous food systems of Kullu Valley, Himachal Pradesh

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Abstract

Traditional food crops consumed by the local communities across the world are the vegetable and food crops that are either cultivated or grow wild. The people in Kullu Valley consumes local food crops that are growing wildly and cultivated. Traditional food consumption pattern has lasted until now and has deep cultural connotation. The ethnic foods which reflect the history, rich tradition, and individuality of the ethnic communities are prepared from the food crops and edibles collected from forests. Hence, it is important to examine the contextual, personal, and bio-anthropological factors that affect the food consumption patterns and related practices of mountain people. This paper, based on the exploratory survey carried out in Kullu Valley, discusses the traditional crops and recipes linked with the ethnic food preparations, food consumption patterns, and bio-anthropological connotation of food.

Keywords: traditional food crops, indigenous food systems, ethnic cuisines, ethnic foods

Introduction

Traditional food crops consumed by the local communities across the world are the vegetable and food crops that are either cultivated or grow wild. The consumption of food crops by the ethnic communities is based on the cultural system that the family has been continuing for a long time until today. In India, the ethnic communities cultivate food crops to fulfil their day-today needs. Food crops, cultivated or gathered from wild are used by the local communities for ensuring the family food security. Traditional food crops being rich in nutrient, not only provide dietary supplement but support local economy (Gahukar 2015)^[4]. Traditional crop diversity and indigenous food systems are varied and are evolved by the local communities to maintain the diverse food crops for food security. Food being a vital component of culture helps in upholding the physical, mental, and social wellbeing. Social scientist for instance Malinowski (1944)^[6] and Richards (1939)^[7] stated that body's need for food has done much to shape society via the activities linked with production, distribution, and utilization of food. As stated by Counihan (2000)^[2], food is a part of a culture that is central, linked with numerous behaviours, and is regarded vital. Dietary habits are the habitual choices an individual or culture makes while selecting what to eat. Although man is omnivorous, each culture holds some food preferences and food taboos, which define its culture and way of life. Besides this, the dietary choices of diverse countries or regions have different features, which are linked to the cuisines of a culture (Simoons, 1994)^[9]. Food is not just essential for sustaining hunger, but it is a way of socializing, sitting together with family, relatives, and friends. Indian cuisines vary from one region to another and reveal the diverse ethnicity of the subcontinent. Despite this diversity, there are some bonding threads that bring people together. Using a variety of spices and condiments to enrich the aroma and flavour of food is

an integral part of Indian food preparation. Indian cuisines include a variety of regional gastronomies native to India. Given the diverse soil type, weather conditions, and livings, the cuisines considerably vary from each other. The social systems in which the communities live are also varied. The settlement patterns, land ownership system, crop production, distribution, and dietary patterns, ethnographic profile, and socio-cultural aspects of rural communities are governed by the ecological conditions they live in. The common beliefs, customs, practices related to health and disease consecutively affect the health-seeking behavior of communities (Basu, 1994)^[11].

Himalay, a link between the Indian subcontinent and Southeast Asia remained an important route for migrations. Himalay is the land with vibrant heritage, besides having an unabridged link with nature and most significantly the outstanding variety of ethnic foods. Though each Himalayan state has its distinct culinary style, each of them assuredly includes wild herbs, locally available condiments, traditional grains, and cereals, besides fermented foods amongst others. The traditional food of Himachal is not only scrumptious, palatable, and aromatic but offers healing and wellbeing. Many ethnic preparations remove the accumulated toxins and rejuvenate the body since each item is prepared and spiced to achieve complete digestibility. Ethnic food has curative properties; however, the manner in which the food is served and consumed considerably determines health. Food customs in Himachal have a deep impact of religious and cultural ethos. There is a huge research gap regarding traditional crops, ethnic recipes, food consumption patterns, and issues affecting the nutritional status of people living in the inaccessible areas of Himachal.

The people in Kullu Valley consumes local food crops that are growing wildly and cultivated. Traditional food consumption

pattern has lasted until now and has deep cultural connotation. The ethnic foods reflect the history, rich tradition, and individuality of the ethnic communities. The ethnic cuisines are vital factors representing every ceremony in the life cycle of the ethnic community, which is governed by the social status. Local foods are prepared from the food crops and edibles collected from forests. Hence, it is important to determine the contextual, personal, and bio-anthropological factors that affect the food consumption patterns and related practices of mountain people. This paper, based on the exploratory fieldwork carried out in Kullu Valley, discusses the traditional crops and recipes linked with ethnic food preparations, food consumption patterns of the people, and bio-anthropological connotation of food. The study tried to document the traditional wisdom on local food crops used by the mountain communities of Kullu Valley to preserve it. The traditional cuisines of the valley are not documented systematically; therefore, the aim was to document the knowledge linked with the use of traditional food crops. This will add to the literature in the field of ethnobotany.

Materials and Methods

Since it was a socio-biological and anthropological study, fieldwork remained its vital component. In this regard, the study area was visited and the researcher spent time discussing with local people, observing their lifestyle, customs, traditional wisdom, and food culture. A list of the people with knowledge of ethnic foods was prepared. Following methods were adopted during the field research:

Interview Method

Through interviews, verbal and non-verbal information was collected. The information was sought with regard to the traditional crops, the process involved in food preparation, equipment used, mode of consumption and sociocultural importance of the food item. A pre-designed questionnaire was used for gathering data on social attitudes, beliefs, opinions, behavior, traditional practices and customs of communities related to ethnic food.

Focus Group Discussion Method

Study of dietary practices, documentation of ethnic foods and local beverages, their recipes, methods of cooking and serving was done by using the Focus Group Discussion method. Womenfolk, mainly the elderly women were involved in the discussion and the discussion focused on the procedures involved in cooking, wisdom pertaining to the nutritive value of food, and taboos linked with the consumption of ethnic foods. The required information was gathered from these discussions. In addition, participatory observation was the main tool to document the recipes of ethnic foods. An effort was made to document the vernacular names of ethnic foods, utensils and methods of preparation, which have been simplified and elucidated by giving suitable corresponding English terminology.

Study Area

Kullu is one of the twelve districts of Himachal Pradesh. Kullu Valley is also known as the *Valley of the Deities*. Kullu town lies on the banks of River Beas in the heart of the valley. Kullu is situated in the Beas basin. The original name of Kullu was *Kulata* which finds mention in the Vishnu Puran, Ramayan, and other

Hindu mythological literature. Kullu was the most ancient state next to Kashmir and Kangra. Kullu valley is known for magnificent hills covered with Pine and Deodar Forest and sprawling orchards. Kullu was known as '*Kulanthpitha*', which means '*the end of the inhabitable world*'. The district has an intricate web of valleys - each of which is a photographic pleasure and seems more stunning than the other. Kullu district is situated in the middle part of Himachal Pradesh and lies between 31°20'25'' and 32°25'00'' N and 76°56'30'' and 77°52'20'' E. The total Geographical area of the district is 5503 sq. km. The district is surrounded by five districts of Himachal Pradesh, on the north and east by Lahaul-Spiti district, on the south-east by Kinnaur district, on the south by Shimla district, on the southwest and west by Mandi district, and on the north-west by Kangra district. Kullu district is rich in natural resources like abundant water resources, fertile lands, forests mainly of pine, deodar, and oak, and rich biodiversity of flora and fauna. There are three National parks in the Kullu district. Alluvial soil and non-calcic soil are the major soil types of the district. Kullu valley has a climate with average rainfall between 918 to 1124 mm in a year. Minimum temperature falls as -2°C to 5°C in winter and the maximum temperature rises to 25°C to 37°C in summer. The economy of the Kullu district is mainly dependent on agriculture, horticulture, and tourism. Total agricultural land in the district is 65,186 sq. m. The area is famous for apple and temperate fruits such as pear, plum, apricot, cherry, and vegetables like tomato, pea, onion, and garlic. Kullu is also known for its international fame Dussehra Festival. The district is famous for its beautiful traditional handicrafts in weaving. Multi-colored Kullu caps, *pattoos*, the shawls, and patties, the local tweed. The district is also known for Hydro-Electric Projects and various projects were commissioned during the last decade. Every village in Kullu district has its own deity, where for centuries the people have been observing a different set of rituals. People in the valley undertake agriculture and horticulture as their primary occupation and 70 percent of the households are dependent on agriculture and horticulture. The valley faces climatic variation like cloud burst and hale-storm. The Valley has a rich diversity of crops, flora, and fauna. Flora includes timber trees like pine, deodar and oak, etc.; fodder trees like poplar, olive, alder, ash, mountain ebony, crab's claw, gum arabic tree, soap-nut, etc.; fruit trees, like, apple, pear, plum, peach, wild apricot, walnut, etc. and shrubs, like barberry, orange raspberries, Himalayan Cherry Prinsepia etc. are common in the area.

Results and Discussion

The culinary tradition of Kullu is as thriving and diverse as its culture and is more or less an art that has passed on from one generation to another entirely by the word of mouth. Culinary traditions and the linked traditional wisdom developed with the evolution of human civilization. Indigenous knowledge nurtures because of close interdependence between the wisdom, land, and socio-cultural milieu of ethnic communities. The oral dissemination of traditions is in harmony with well-recognized cultural principles and rules regarding its privacy and inviolability, which govern the management of these traditions.

Traditional Crops

The mountain communities living in the inaccessible vales have remained dependent on traditional crops, viz. *Saliyaara/ Chaolai*,

Takk/bithu, Kodra, Kathu/Pomphra, Jau, dhan/lal dhan, Cheeni, Kauni, Gehnu/ Kaunak, Makki/ Challi, Soya, Masar/Malka, Kolth/Kulthi, Rajmah/ Baali, Mash/ Maah, Moong/ Moongi, Rongi, Til, etc. which the mountain communities were able to cultivate in the valley. Traditional crops have nutritional values, for instance, millet being rich in iron, carbohydrate and fiber are used for curing hemorrhoids and diabetes.

Earlier there was no facility like refrigeration for storing and preserving foodstuff for longer duration. Hence, people evolved traditional mechanism of preservation, which differs for different foodstuff, like grains, pulses, cooked food, fruits and vegetables. Earlier, the climate in the Kullu valley was pleasant and traditional houses were made of mud, stone and wood, which were calmer as compared to the concrete ones. Preservation of grains, cooked food, fruits and vegetables requires low temperature. Grains were stored in *kothdi*, the wooden boxes which were sealed with mud to prevent the attack of pests and ensure that the foodstuff remains in airtight condition. Pulses were stored in smaller wooden boxes. Ash was added to *Dahtu & batunhi* which safeguard pulses from pest infestation. Cooked food was stored in clay pot. For storing fruits for long-term use, these were cut into small pieces, sundried and stored in airtight vessels. Dried pieces of apple and pear were given to cattle and also consumed by human. Seeds of wild pomegranate are also dried for winter. Apple can be stored in a separate darker and cool room, apple varieties, especially green and golden apple can be

stored for year in dark rooms.

Ethnic Preparations

Some of the traditional crops and related ethnic food preparations thereof are summarized in Table 1. Some of the ethnic foods are cooked in routine while some are cooked occasionally, the details are as follows:

Saliyaara/ Sariyara/ Chaolai (Amaranth) is grown as an intercrop with finger millet and in rotation with other routine crops. The ethnic preparations made using Amaranth are *Famra* and *Dhanna*. For preparing *Famra*, amaranth seeds are boiled in water until cooked, to which salt is added. The semi-solid salted gruel is served with *roti*, the unleavened wheat bread. For making *dhanna*, the amaranth seeds are roasted on a flat skillet and consumed during winters, especially on the festive occasions like *Lohri* and *Magh Sakranti*. *Takk, bithu, bathua* (Chenopod) was cultivated in small patches of fields. The seeds are used for making *famra*, which involves boiling seeds in water along with dry leaves of mustard and other grains like *saliyara* [Amaranth] and *kolth* [Horse gram]. Salt and chilly are added as per the taste. Cooking is done until the seeds soften. The semi-solid salted gruel is served with unleavened wheat bread) Tender chopped leaves of chenopod, *kathu* and *bandyaula* (chickweed) are cooked for twenty minutes in water and later fried in oil, onion, garlic, coriander seeds, cumin seeds, salt, chilly, and turmeric.

Table 1: List of Traditional Crops and Ethnic Food Preparations thereof

Local Name	English Name	Botanical Name	Ethnic Food Preparations
<i>Saliyaara, Sariyara, Chaolai</i>	Amaranth	<i>Amaranthus hypochondriacus</i>	<i>Famra</i> : Salted semi-solid gruel <i>Dhanna</i> : Roasted seeds
<i>Takk, bithu, bathua</i>	Chenopod	<i>Chenopodium album</i>	<i>Famra</i> : Salted semi-solid gruel <i>Sabji</i> : Cooked leaves
<i>Kodra</i>	Millet	<i>Eleusine coracana</i>	<i>Roti</i> : Unleavened flat bread <i>Soor</i> : Traditional wine
<i>Kathu, Pomphra, gangadi</i>	Buckwheat	<i>Fagopyrum esculentum</i> <i>F. tataricum</i>	<i>Sabji</i> : Cooked leaves <i>Chilre</i> : Pancakes
<i>Jau</i>	Barley	<i>Hordeum vulgare</i>	<i>Chilre</i> : Pancakes <i>Sattu</i> : Powdered parched grains <i>Soor</i> : Traditional wine/beer
<i>Chaul, dhan, lal dhan, lal chaul</i>	Rice	<i>Oryza sativa</i> <i>O. punctate</i>	<i>Lal Bhaat</i> : Boiled rice <i>Famra</i> : Salted semi-solid gruel <i>Kichari</i> : Preparation of rice and lentil <i>Lugri</i> : Traditional wine/beer
<i>Cheeni</i>	Proso millets	<i>Panicum miliaceum</i>	<i>Cheeni bhaat</i> : Boiled millets
<i>Kauni</i>	Foxtail millet	<i>Setaria italica</i>	<i>Kauni bhaat</i> : Boiled millets <i>Famra</i> : Salted semi-solid gruel
<i>Gehnu, Kaunak</i>	Wheat	<i>Triticum astivum</i>	<i>Bhaturu</i> : Fermented bread <i>Daliya</i> : Cracked wheat grains <i>Seera</i> : Fermented powdered preparation <i>Siddu</i> : Stuffed fermented steamed bread <i>Baadi</i> : Semi-solid salted preparation <i>Bedue roti</i> : Stuffed leavened bread <i>Chilre</i> : Pancakes
<i>Makki, Challi, Kukdu</i>	Maize	<i>Zea mays</i>	<i>Makki ki roti</i> : Unleavened flat bread of maize <i>Dhana</i> : Puffed grain <i>Baadi</i> : Semi-solid salted preparation
<i>Soya</i>	Soybean	<i>Glycine max</i>	<i>Halwa</i> : Semi-solid pudding <i>Badi</i> : The nuggets <i>Dhana</i> : Roasted seeds
<i>Masar/Malka</i>	Lentils	<i>Lens culinaris</i>	<i>Dal</i> : A spicy lentil soup
<i>Kolth, Kulthi</i>	Horse gram	<i>Macrotyloma uniflorum</i>	<i>Dal</i> : A spicy lentil soup <i>Kichari</i> : Preparation of rice and lentil

<i>Rajmah, Baali</i>	Red Kidney beans	<i>Phaseolus vulgaris</i>	<i>Dal</i> : A spicy lentil soup
<i>Mash, Maah</i>	Black gram	<i>Vigna mungo</i>	<i>Bhalle/baude</i> : Deep fried doughnuts
<i>Moong, Moongi</i>	Green gram	<i>Vigna radiata</i>	<i>Famra</i> : Salted semi-solid gruel <i>Rayta</i> : Traditional spicy lentil preparation
<i>Rongi</i>	Cowpea	<i>Vigna unguiculate</i>	<i>Dal</i> : A spicy lentil soup <i>Madhara</i> : Traditional curry
Til	Sesame	<i>Sesamum indicum</i>	<i>Siddu</i> : Stuffed steamed bread <i>Kachori</i> : Stuffed bread

Kodra (Millet) is grown as an intercrop with amaranth or grown in rotation with other crops. *Kodra* is used for making the unleavened flatbread, for which the flour is kneaded and round balls of dough are flattened on a rolling board with a rolling pin and baked on flat skillet. The bread is preferred with cooked vegetable and lentil preparation. For preparing *soor*, the traditional wine, the unleavened flatbread, and *phaaf* (local fermenter) are set in a *haandi*, a large-sized pot, mixed well and kept for four days. The process is locally known as *gohh*. After four days, hot water is poured into the pot and again kept for five to six days for fermentation to take place. On the sixth or seventh day, the mixture is filtered, and the liquid so obtained is called *soor*. Due to 'Hot' nature, millets are consumed during winters. According to elderly folk, millets can be used for treating piles and are considered good for diabetic patients. Latest studies have shown that millets are rich in iron, fibre, and carbohydrate content and are believed to regulate the blood sugar level and tone up the functioning of the digestive system. It is known that the unleavened flatbread of millets can be stored for hundreds of years without spoilage or microbial growth.

Kathu, Pomphra, gangadi (Buckwheat) is cultivated in the weed-free, well-manured field. The seeds and leaves of the plant are used for making ethnic cuisines. Chopped green leaves of *kathu* and *bandyaula* (chickweed) are boiled in water for twenty minutes. The water is drained and fried in oil, along with onion, garlic, coriander seeds, cumin seeds, salt, chilly, and turmeric. It is served with rice or *bhaturu* (deep-fried fermented flatbread) or unleavened flatbread. The flour is used for making *Chilre*, the pancakes. A thick batter of buckwheat flour is prepared to which sugar/salt are added as per taste, and the batter is poured on a pre-heated pan and spread to a round shape. The pancake is baked on both sides and served with tea.

Jau (Barley) is grown in the weed-free and well-manured field. Its seeds are used for making ethnic foods. *Chilre*, the pancakes are prepared using a thick batter of buckwheat flour. Barely seeds are pounded in *ukhal* with *musal* to remove the husk and rinse in water, followed by drying. After sun drying, the seeds are parched and ground. The resultant powder is called *sattu*, which is served with milk. *Soor*, the traditional wine/beer is prepared, for which barley seeds are cooked by adding *phaaf* (local fermenter) and the mixture is allowed to ferment for eight to nine days. Subsequently, the mixture is distilled and the liquid so obtained is consumed as traditional barley wine/beer, which is served to express hospitality.

Chaul, dhan, lal dhan, lal chaul (Rice) is grown in well-irrigated fields and requires plenty of water. It's used for making *lal bhaat, famra, kichari, lugri*. Rinsed red rice is boiled in water until cooked. *Laal bhaat* is consumed with *dal*. For making *Famra*, red rice is boiled in the water to which salt is added as per taste until cooked. The semi-solid gruel is served hot. Red rice is boiled in water along with horse gram, salt, chilly, turmeric, ginger, oil, etc., and stir thoroughly until cooked to make *Kichari*, which is

served with clarified butter. *Kichari* is also prepared on festive occasions like *Makar Sankranti*. *Lugri*, the local wine is also prepared, for which the boiled white rice is poured in an airtight container, and *phaaf* (local fermenter) is added and mixed well. The mixture is allowed to ferment for eight to nine days, followed by filtration, and the liquid so obtained is called *lugri*, which is served on festive occasions and marriages.

Cheeni (Proso millets) is grown in the well-manured field and the seeds were cooked as *bhaat*, for which the rinsed proso millets were boiled until cooked and served with *dal*. *Kauni* (Foxtail millet) was grown as an intercrop with maize or singly in a well-manured field. The husk of millet is removed in *ukhal* with *musal*, followed by sieving and boiling in water to cook it as *Bhaat*, which is served with *dal* or curry. Seeds of millets are cooked by boiling in water and adding few dry leaves of mustard and grains like *saliyara* and *kolth*, salt and chilly as per taste, to make *Famra*, the semi-solid gruel, which is served hot.

Gehnu (Wheat) is grown in a well-manured field. Its flour is used for making *bhaturu* (baked fermented bread), *daliya* (cracked wheat grains), *seera* (fermented powdered preparation), *siddu* (stuffed fermented steamed bread), *baadi* (semi-solid salted preparation), *bedue roti* (stuffed leavened bread), *chilre* (pancakes), *rott* (thick baked bread), *gulgule* (deep-fried spongy fritters), and *marchu* (deep-fried fermented bread). For making *Bhaturu*, wheat flour is kneaded with a locally available fermenter and warm water. The balls of fermented dough are flattened on a rolling board with a rolling pin and baked on a flat skillet. *Bhaturu* are served with *dal* and *sabji*. The recipe of *marchu* is similar to that of *bhaturu*; however, in spite of heating on flat skillet, the flattened dough is deep-fried in oil until light brown in appearance.

Daliya, cracked wheat grains are soaked in the water for half-hour, followed by boiling in water and adding sugar or salt as per taste. Clarified butter is added and cooked until softens. *Seera* is prepared by soaking wheat grains for few days followed by rubbing with hands to remove the seed coating and ground to form a thick semi-solid paste. Small balls of thick paste are dried, which are allowed to dry. Later the balls are soaked in water and fried in clarified butter. Sugar is added to taste and stirred until the solid pudding is ready. For making *Siddu*, the dough is prepared by kneading wheat flour with warm water and kept for half an hour. The stuffing is made either of walnut/*urad dal*/sesame/soybean/potato. However, walnut stuffing is common in the valley. To make stuffing, walnut is ground with mint leaves, ginger, onion, garlic leaves, salt, turmeric, chilly, leaves, and seeds of coriander. *Siddu* maker with water is kept on flame till it gets pre-heated. The dough is flattened and stuffed with desired stuffing and closed in a semi-circular shape. The stuffed *siddu* is placed inside the *siddu* maker and steamed for 20 to 25 minutes. *Siddu* is served with clarified butter, tea or chutney. Wheat flour is boiled in water with a pinch of salt and stirred well to form a semi-solid boiled preparation known as *baadi* which is

served with clarified butter, especially to pregnant ladies and lactating mothers. For making *Bedue roti*, stuffed leavened bread, the dough is prepared by kneading wheat flour with locally available ferment and warm water and kept for half an hour. The desired stuffing either of walnut/urad dal /sesame /soybean/potato is stuffed in the flattened dough, which is later closed, given a circular shape, and kept at a warm place. After 20-25 minutes, these are deep-fried fry in oil and served with tea or chutney. A thick batter of wheat flour is prepared to which sugar/salt are added as per taste, and the batter is poured on a pre-heated pan and spread to form round-shaped *chilre*, the pancakes. The pancake is cooked on both sides. *Bhaturu* is among the routine cuisines, while *siddhu* and *chilre* are cooked on *Sankranti* and important ethnic preparations of the valley. *Rott*, the thick leavened bread, is of two types, sweet and salted. Both are offered to the local deities on festive occasions. Sweet *rott* is prepared by kneading the wheat dough with syrup of jaggery and flattened to give a round shape, followed by shallow frying on a flat skillet. For making salted *rott*, wheat flour is kneaded with fermenter, and later the flattened round shape is stuffed with walnut, green leaves of coriander, mint, spinach, and spices. The salted *rott* is prepared on a flat skillet and designs are embossed on it with the edge of a big sickle. For making *gulgule*, a thick batter of wheat flour is prepared to which sugar is added. The batter, in small quantity, is deep-fried in oil until brown.

Makki/ Challi/ Kukdu (Maize) is grown with crops like black gram, green gram, cowpea, and kidney beans as intercrops. The main ethnic preparations of maize are *Makki ki roti* for which the balls of corn flour dough are flattened with wet hands and cooked on a flat skillet followed by heating in *chulha*, the traditional hearth. *Makki ki roti* is served with *sarson saag* (leaves cooked as a vegetable), urad/ gram dal, and curry. It is one of the favorite cuisines of local people. Maize seeds are roasted on a flat skillet or any other utensil with a lid to prepare *dhana*, the puffed grain. *Dhana* is consumed with walnut, mainly during the winters. Maize flour is boiled in water along with a pinch of salt and stirred well to form a semi-solid preparation known as *Baadi* and served with clarified butter or buttermilk. *Baadi* is given to pregnant ladies and lactating mothers. The corn cob roasted in *chulha*, the traditional hearth is consumed.

Soya (Soybean) is grown as an intercrop with maize. It is used to prepare *halwa* (semi-solid pudding) for which the soybean flour is fried in clarified butter until it becomes golden brown. Sugar and water are added with constant stirring for three to four minutes. *Halwa* served with tea. *Dhana*, the soybean seeds roasted in a pan are consumed with jaggery mainly during the winters. Another common preparation of soybean is *badi*, the nuggets, for which soybean is soaked overnight in water. Soaked seeds are rubbed to remove the coating and grinded on *shil* with *bautu* (stone-slab with grinding stone). The semi-solid paste, so formed is given desired shape and sun-dried for two three days. *Maddhra*, of nuggets, is prepared in curd. Besides this, *Masar* (lentil with seed coat), *Malika* (without seed coat) is grown in well-manured fields. The *dal*, a spicy lentil soup is prepared by frying lentil in oil, garlic, onion, ginger, coriander seeds, cumin seeds, salt, chilly, and turmeric, and boiled until cooked. It is served with *bhaturu/chapatti* or rice.

Kolth/ Kulthi (Horse gram) is grown as an intercrop with maize and cooked as *dal*, a spicy lentil soup, which is consumed with *bhaat* (boiled rice) and *bhaturu/ chapatti*. *Kichadi*, preparation of

rice and *kolth/ kulthi* is prepared by boiling red rice/ rice and horse gram in water to which salt, chilly, turmeric, ginger, and oil are added and stir properly until cooked. It is served with clarified butter on the occasion of *Makar Sankranti*.

Rajmah/ Baali (Red Kidney Beans) are grown in the area and cooked as *dal*, for which the seeds are boiled in water until cooked and sautéed in oil, by adding onion, garlic, ginger, coriander seeds, cumin seeds, salt, chilly, and turmeric. *Dal* is served with *bhaturu* or rice.

Mash (Black gram) is cultivated as an intercrop with maize and is either cooked directly as *dal* or used in numerous other preparations. For making *Bhalle/baude*, black gram is soaked overnight in water and seed coats are removed by rubbing with hands. Then it is ground along with turmeric, chilly, coriander seeds, cumin seeds, and *mugolu* (cannabis seed). The thick paste is kept for one hour until it becomes fluffy or spongy. It is given a doughnut shape and fried in oil. For making *Kichari*, black gram is boiled in water till half cooked. To this, rice and spices (salt, turmeric, ginger, chilly, coriander, and garlic leaves) are added as per the taste and again boiled until cooked and relished with clarified butter. *Bhalle, khichadi*, and *bedue Rotis* (stuffed bread of Black gram) are prepared on the occasion of *diyali* and *Makar Sankranti*, and offered to the local deity.

Moong (Green gram) are grown along with maize and used for making *dal* and *famra*. *Famra* of *moong* is given to the patients suffering from diarrhea. For making *Rayta*, green gram is boiled in water until cooked and then sautéed with oil, onion, garlic, ginger, coriander seeds, cumin seeds, salt, chilly, and turmeric. Black mustard seeds are added until the mustard seeds give their flavor. *Dal* and *rayta* are served with rice and *chapattis*. *Moong rayta* is one of the main cuisines of *Kullvi Dham*, the traditional community feast.

Rongi (Cowpea) is cultivated as an intercrop with maize and used for making *dal* and *Madhara*. Preparation of *Madhara* involves boiling of cowpea followed by frying in clarified butter with a mixture of ground spices such as coriander seeds, cumin seeds, black cardamom, cardamom, carom seeds, chilly, asafoetida, cinnamon, fenugreek, cloves, and bay leaves. This is followed by the addition of curd and constant stirring. Nuts, like cashew, walnuts, and ground dry coconut are added. Boiled cowpea and *seppu badi* are added to the gravy, followed by constant stirring. *Madhara* is the first item, which is served during *Kullvi Dham*.

Wild Edibles

A few wild fungi are edible and are found in the moist, shady area mainly under the canopies of trees and rocks. Many of them grow between the months of February to April, while a few grow till August. The edible fungi are gathered and consumed as the whole plant. All edible fungi are cooked as vegetables and the puffballs can be consumed raw. Some of the commonly available wild edible fungi in the area are:

- *Chhochi* [*Boletus edulis*]: Aerial part is cooked as vegetable
- *Bdi Chochi* [*Ganoderma lucidum*]: The whole part is cooked as a vegetable
- *Dibbu, shoke* [*Lycoperdon pyriforme*]: Aerial part is cooked as vegetable and can be consumed raw
- *Siuni kiaaun* [*Hydnum repandum*]: Entire plant is cooked as a vegetable.

- *Gucchi/chunchru* [*Morchella esculenta*]: The whole plant is cooked as vegetable and added to the *madhra*, the traditional curry
- *Kiaaun* [*Sparassis crispa*]: Whole part is cooked as a vegetable

Madhra of morels is the speciality of *Kullvi Dham*. Preparation of *madhra* involves the use of clarified butter. The spices, such as coriander seeds, cumin seeds, black cardamom, cardamom, carom seeds, chilly, asafoetida, cinnamon, fenugreek, cloves, and bay leaves are sautéed in clarified butter. To this, the curd is added gradually, followed by constant stirring. Nuts like cashew, walnut, and ground dried coconut are added to the gravy followed by boiling. Washed *gucchi* is added, stirred, and cooked for some time. *Madhra* is consumed with rice. *Lingri* [Fiddle head fern; *Diplazium esculentum*] is cooked as a vegetable and pickled for long-term use. The hair on the plant body is removed before cooking and pickling. Cooking, it as a vegetable involves frying in oil, onion, garlic, salt chilly, and spices as per the taste and addition of chopped fern followed by cooking. For making pickles, the *lingri* is cleaned, cut into small pieces, boiled until half-cooked. This is followed by the addition of ground spices such as salt, chilly, black mustard, cumin seeds, coriander seeds, fenugreek seeds, black pepper, and mustard oil are added to it. The pickle is stored in an airtight container in the sunshine. After twenty days, the pickle is ready for consumption.

Spices and Condiments

Spices are plants/plant parts with intensive and distinctive flavors and aromas used in fresh or dry form. They are a prized group of minor components in human diets. While spices are currently added to food as flavoring agents, many spices and their oils have been found to possess some antimicrobial and antioxidant properties. Spices are used as flavorings or as seasonings both in their fresh and dried form. Food is incomplete without spices and condiments as these are essential for imparting special flavor and aroma to the food. Some of the spices and condiments grown in the valley, include:

- *Babhri* [Marjoram; *Origanum majorana*]: Having a special aroma, the leaves are used for making chutney and added to the stuffing prepared for *siddus* and even consumed raw.
- *Dhaniya* [Coriander; *Coriander sativum*]: Seeds and green leaves used as spice/ condiment in preparation of food or chutney.
- *Methi/ Mitha* [Fenugreek; *Trigonella foenum-graecum*]: Leaves cooked as vegetable and seeds are used as a spice.
- *Mirch/ Pipli* [Chillies; *Capsicum annum*]: Used as a spice or consumed as salad.
- *Pudina* [Mint; *Mentha arvensis*]: Leaves are used for making tea and chutney.
- *Pyaz* [Onion; *Allium cepa*] and *Lehsun* [Garlic; *Allium sativum*]: Used as a condiment in the food preparation and green leaves are cooked as a vegetable and used for making chutney.
- *Rai* [Black Mustard; *Brassica nigra*]: Used as a condiment in the foods and is an essential ingredient of pickle.
- *Saunf* [Fennel; *Foeniculum vulgare*]: Seeds are used as a spice in sweet/ salted food preparations and fresh leaves cooked as vegetables.
- *Shayi* [Mustard; *Brassica juncea*]: Seeds used for extraction of oil.

Other than locally available spices, people use hing (*Ferula asafetida*), kalimirch (*Piper nigrum*), lalmirch (*Capsicum frutescens*), dhania (*Coriandrum sativum*), sarson (*Brassica spp.*), jaifal (*Myristica fragrans*), elayachi (*Eletaria cardmomum*), lavang (*Syzygium aromaticum*), adrak (*Zingiber officinale*), haldi (*Curcuma longa*), dalchini (*Cinnamomum aromaticum*), bhngolu (seeds of *Cannabis sativa*), curry patta (*Murraya koenigi*), and zeera (*Cuminum cyminum*). *Til* (sesame) are grown in the area and used for stuffing in various ethnic preparations. Sesame seeds are grinded with mint leaves, ginger, onion, garlic leaves, salt, turmeric, chilly, and seeds of coriander to make stuffing for *siddu* (stuffed steamed bread) and *kachori* (stuffed bread). Of the number of ethnic preparations, *Jaraula* is one of the famous preparations of buttermilk. It is also called *kachi kadhi* because this doesn't involve cooking and boiling buttermilk. The cooking only involves sautéing of onion, turmeric, salt, chilly in mustard oil, to which buttermilk is added with constant stirring, followed by cooling. Black mustard seeds, Coriander leaves, mint leaves, and cooked fiddlehead fern can be added to it. *Patrode*, the cooked taro leaves, are among the ethnic preparations, for which the taro leaves are cleaned, to which the paste of maize/ gram or millet flour containing fresh coriander leaves, salt, turmeric, cumin seeds, chillies, and spices, is applied. After applying the paste, the leaves are folded and shallow fried in oil in a closed lid container. The folded leaves can be steamed in a pressure cooker and later deep fried in the oil. These are consumed along with routine food or as a snack with tea.

People in the area prefer non-vegetarian food, the common being, the *juma*, the fried intestine of sheep; *Potti*, cooked intestine and stomach; *kaleji*, cooked liver; *tundi-mundi ka soup*, broth of legs and head of sheep and goat. For cooking the *kaleji*, the liver of goat or sheep, the gravy is prepared, but the use of curd is optional. *Jumma* is cooked by the intestine of sheep with gram flour, millet flour, and wheat flour along with salt and spices as per taste, followed by shallow frying in oil. It is served with chutney as a snack. The legs and heads of sheep are boiled in water with spices and condiments as per the taste to make *Tundi mundi ka soup*. Traditional homemade candy, a sweet snack of jaggery is also common in the area. For preparing this snack, jaggery is melted in a pan to which walnuts and apricot kernels are added. The mixture is allowed to cool until it solidifies and later consumed as a nuts candy.

Pickle of Galgal (*Citrus limon*), Bidana (*Pyrus Cydonia*), *Achari aaru*, *pataru* (*Prunus mira*), etc. is common in the valley. For making pickles all the fruits except peach and alubukhara, thoroughly washed and cut into small pieces. The cut/ whole fruits are mixed with oil, salt, and ground spices, viz. chilly, cumin seeds, fenugreek seeds, black mustard seeds (optional), and black pepper. The pickle is stored in an airtight container and after 15 to 20 days pickle is ready for consumption. Earlier the pickles were stored in clay pots but nowadays in plastic containers.

Food Consumption Patterns

Quality of life and food habits of people depends on climatic conditions and the variation in lifestyle and food consumption patterns depends on the availability and utilization of resources. The incidence of extreme weather events such as storms, floods, and avalanches affect the local food and nutrition situation and therefore access to food and in turn lifestyle of people. Usually,

three meals are taken in a day. *Nuhari* (breakfast) is usually a light meal and sometimes consists of the leftovers of the previous day which are consumed with tea. *Klaar* is the food consumed before lunch, while *patohri/dapohri* is the lunch and *biyaali* is the dinner. There is no specific menu for routine food and each family has its own choices. Most of the people eat lunch what has been cooked in breakfast. Daily foods items include the *bhaturu*, *bhaji*, a vegetable, dal, lentil soup, *bhaat*, rice, and *famra*. *Dal* is preferred over *bhaji*. According to the elderly people, “we used to eat, what we used to grow, the only salt was procured from the market”. Traditionally, the pulses consumed are red kidney beans, black gram, cowpea, soybean, lentils, green gram, and horse gram. People even prefer the consumption of wild edibles. People consume cucurbits, mustard, onion, potato, tomato, peas, and ladyfinger. Seasonal variation is seen in the food consumption patterns. Crops and foods vary with season and so is the food consumption pattern. Wild edibles like *chhochi* (Penny Bun), *badi chhochi* (Lingzhi mushroom), *shoke* (Puffball), *gucchi* (Morels), and *lingri* (fiddlehead fern) are mainly consumed from March to May, and figs are cooked as in the spring season. In summers, cuisines, such as *jaraula*, preparation of buttermilk or curd, buttermilk are preferred. Buttermilk is consumed with maize bread to balance the ‘hot’ humor of maize in summer. From July onwards, leaves of taro plant cooked as *patrode*. The popular foods consumed during the winters are *famra*, *siddu*, *bedue roti*, *kodre ki roti*, *makki ki roti*, *black gram* and *kichadi* of brown rice, *danna*, roasted seeds of maize, wheat, soybean with walnut and *baddi*.

Food Fads and Fallacies

There are a number of food taboos/ restrictions which are followed in the preparation, serving and consumption of food, for example, black gram and dairy products are not consumed with non-vegetarian food, because of a belief that its consumption causes white patches on the skin. Likewise, clarified butter is not consumed with edible fungi or fern, because of its ‘hot’ nature, which is believed to cause digestive problems. These practices are still followed although to a lesser extent. Pregnant women must be fed nutritious food. Many social taboos prevalent in society prohibit expectant mothers to consume certain foods. There exist traditional beliefs regarding harmful and useful aspects of foods recommended for women during pregnancy and lactation. Earlier, *dai*, there were traditional birth attendants, midwives who used to recommend a diet for pregnant and lactating women. Some of these include- use of milk, butter, clarified butter, buttermilk, and curd and dairy products like *kheer* and *kadhi*. The woman is served *Baadi* (semi-solid salted preparation) along with clarified butter soon after delivery, because of the belief that consumption of *baadi* helps in strengthening of uterus stronger and at the same time makes the baby healthier. *Baadi* of wheat flour and maize flour were popular but currently *baadi* of maize flour is not consumed. Another item recommended for the expectant and lactating mothers is *famra* of rice, green gram, and traditional grains, but nowadays the traditional grains are unavailable; hence, *famra* of green gram and rice is given. *Daliya*, sweet pudding cracked wheat grains cooked in milk, believed to be a healthy food for the mother. *Khichdi*, of black gram and brown rice, is also recommended. Except for mustard, all green-leafy vegetables are recommended to the lactating mother. It is believed that mustard causes stomachache.

In case of cold and pyrexia, leaves of chilly are cooked as vegetables and fed to the lactating mother. Consumption of excessive salt is prohibited during pregnancy because of the belief that salt causes inflammation in the feet. It is believed that if a pregnant lady consumes spicy food, the new-born baby is likely to have a hot temperament. Likewise, consumption of sour food is also restricted for the reason that the baby is likely to be weak.

Even though food is preferred with some consideration of physical need, the values or beliefs a society ascribes to probable food items define what communities within a social group will consume, for instance, both foods of both plant and animal origin may help in meeting the nutritional requirements. Thus, what is regarded edible or a delicacy at one place might be considered inedible at another place. Yet, the symbolism and taboos linked with the food items affect their availability and consumption in different societies. Communities are linked to their culture and ethnicity through similar food consumption patterns. Food acts as a way of upholding cultural identity. The ingredients, methods of preparation and preservation, and variety of food consumed during different meals may differ among different cultures. The areas where the people live, and where their ancestors originated, affect the food preferences. Foodstuff itself has connotation linked with it. Even the nations and states are generally linked with some food items, for instance, pizza and pasta are associated with Italy. Food practices and preferences are disseminated during immigration.

Whenever a community shift from one place to another, it carries its food inclinations. They may prefer old recipes with new ingredients, or try out innovative recipes, combining the ingredients to complement their tastes. Some food values and practices are linked with religious beliefs. In spite of religious food prescriptions, dietary practices differ extensively even among those having the same conviction. Such variations may be due to outlets of a religious group, regional disparities, and individuals' or families' own degree of convention or religious observance. The customs, rituals, and beliefs practiced by people depict their simple lifestyle and proximity to nature. Food not only reflects the culture of a society but is also an important component of life and thus determines the lifestyle of a people. In the discussion that follows further, an effort has been made to catch a glimpse of the lifestyle of people through their food habits.

Festive and Ceremonial Food

The festivals offer a great opportunity for people to enjoy the traditional delicacies that are cooked using the conventional recipes passed on from generation to generation. Each festival brings with it the joy of festival and ceremonious food that is waited for an entire year. These distinct recipes provide a great chance to unveil and taste ethnic foods. Every festival has a different approach towards food for example on one hand people observe fast on some festivals and stay hungry for the entire day, while on the other hand, some festivals offer an opportunity to enjoy spicy and sweet food. This diversity in the food and cooking becomes clearer once we peep into the festive and ceremonial food and the manner of serving the same. Kullu is known for its rich culture, and festivals unveil a treasure trove of flavors with each valley offering its own unique twist. The people in the valley celebrate every occasion with elations on its platter.

The first day of the Hindu calendar is called *saza*. The monthly *saza* are celebrated and popular in the months of *magh* (January-February), *baishakh* (April-May), *shravan* (July-August), *bhadrapad* (August-September), etc. *Nya samvat* (March-April) is also celebrated as a local festival. *Siddu*, *bedue roti*, *chilre*, *halwa*, *seppu badi*, *khichadi*, *bhalle*, *rott*, *gulgule*, *mitthe chawal* is made on festive occasions. On this occasion, people prefer starting the day by consuming sweet food; hence, the parents or grandparents used to feed jaggery to younger ones early in the morning before the sunrise. On this occasion, the local deity is taken out in a palanquin. In the morning, sweet rice is cooked and every house cooks *chilre* or *babroo*. In the evening, *gulgule*, *marchu*, *dal*, *sabji* and rice is prepared.

On the occasion of *Baisakh*, the local deity again visits the villages and people worship the deity. In the morning, stuffed *Rott* is cooked. On this occasion, children along with herdsmen take a trip to the mountain top or forests and take stuffed *rott* and wooden sword and bow-arrow. This is locally known as *jot*. After reaching the mountaintop, the children play with *rott*, but nowadays people don't go to forests but perform this ritual at the household level. It is believed that this ritual ensures the prosperity and wellbeing of the family. *Siddu* or *bedue roti* is cooked for dinner. In the month of *ashada* (June-July) onion and potato are cooked as vegetables for local deities. Females cook *chapatti* and males cook vegetables and all village households meet at commonplace and organize a feast. In the month of *shravan* (July-August) *shahnu*, a local fair is organized to appease Lord Shiv. People cook *halwa*, *marchu*, *dal*, rice, *siddu*, and *bedue roti*, as per their choice. *Shahnu*, a local is organized in *Bhadrapada* (August-September) and people worship the local deity and cook *gulgule*, *marchu*, *chilre*, *dal*, rice, and *sabji*. *Shoyri* or *Sair saza* is celebrated in *shoj* (September-August) and on this occasion locally available grass and flowers are given to elders as a mark of respect to beget their blessings, who in turn distribute walnuts to the youngsters. *Bedue roti* is cooked on this occasion. In *posh* (November-December), *dayali* is celebrated for two days. Village boys gather and a long husk of rice is taken from the storehouse of the deity to the temple. At night, people worship in *chaudi*, the drawing-room. Small resin woods are worshipped on a slate stone and perform worship of fire with small barley grass, walnuts, and *bedue roti*. Boys make bonfires near the storehouse of the deity and make noise to remove the negativity. *Bhalle*, *bedue roti*, and *siddu* are cooked to mark the celebrations. In the month of *Magh* (January-February), elders are greeted with small barley grass. On this occasion, roasted sesame, amaranths, walnuts, and maize, and the main specialty of the occasion is *maah ki kichadi*. In the month of *falgun* (February-March), a festival of *fagli* is celebrated with great fervor and the deity is taken out in the village. *Siddu*, *chilre*, *marchu*, etc. are cooked.

Dham, the traditional food is cooked and served at every delighted event or celebration in Kullu. It is relished during weddings, festivals, and religious congregations. The main peculiarity of traditional *dham* is that curd is used as one of the main ingredients in gravy. *Madhara* is the center of attraction of *dham*. The word *madhara* connotes a balanced taste, somewhat between sour and sweet. It is likely to have acceptable quantity of salt and any food item cooked in curd with a balanced amount of ingredients is termed as *madhara* in taste.

Traditionally, the *madhara* of *seppu badi* and cowpea was cooked, but nowadays, *madhara* of matar-paneer is more common as compared to the former. Another delicacy of *Kulvi dham* is sour *rajmah*, for which the beans are boiled, followed by frying in clarified butter along with the mixture of ground spices. Black cardamom, carom seeds, cinnamon, cloves, and bay leaves are added to impart special flavor along with small pieces of tomatoes, curd, raisins, and coconut powder. To this, juice of *Citrus limon* is added for imparting sour taste. Presently, sour *rajmah* is not included in the menu of *dham*. *Kadhi* is still in the trend in *Kulvi dham*. *Kadhi* is prepared by cooking boiled potatoes in gravy to which buttermilk is added followed by boiling. *Mash dal* is another important item of *Kulvi dham*. Traditionally, *Kaddu ka khata*, the sour pumpkin is common, for which pumpkin is cooked in the gravy ginger and mixture of ground spices. Curd is added to this and stirred for a while. Heated and ground walnuts are added to the gravy and for souring juice of *Citrus limon* or dried mango powder is added. *Moong rayta* was traditionally cooked for *dham*, and presently dates are used instead of *moong*. Green gram is boiled in water until cooked and then sautéed in oil along with spices. Curd is added followed by the addition of *rai* (black mustard seeds) and kept for some time until the mustard seeds impart flavor. *Dal* and *rayta* are served with rice and *chapattis*. The main sweet course of *Kulvi dham* is the apple or pumpkin pudding. Apple or pumpkin is shallow fried in clarified butter and cooks until these soften and later thick syrup of sugar is added, followed by boiling. However, presently sweet rice is also served as a dessert course. Earlier, *jatu*, *lal chaul*, brown rice was served in *Kulvi dham*, but now people prefer simple white rice. In addition to this, *chilre*, *bobroo* and *gulgule* are cooked for the bride. In non-vegetarian *dham*, two types of meat are cooked, viz., *madhara* and *khatta*. *Madhara* meat involves the cooking of clean chopped pieces of meat in oil or clarified butter along with onion, garlic, ginger, and a mixture of grinded spices. To these small pieces of tomatoes are added and again cooked for some time. Then the curd is added and stirred well for a while. The pieces of meat are added to the gravy and boiled until cooked. For making *Khatta* or sour meat, the gravy is prepared in a similar way as that for *madhara* meat. To the gravy, curd, and pieces of *potti*, the intestine is added, followed by boiling and stirring until cooked. To impart a sour taste, juice of *Citrus limon* or dried mango powder is added. Thus, besides impacting food preferences, culture also plays a role in governing food-related customs. Food-related etiquettes or table manners is a phrase that exemplifies the cultural connotation of food consumption patterns. There are general assumptions that culture has a great role in defining the food habits of the people in a particular area. The time taken for the adaptation of people to a new environment depends on their previous food habits. Food consumption and the underlying agricultural production processes are accounting for the global environmental pressures, including land-use changes, water use, biodiversity loss, and even climate change. Numerous studies have been carried out to analyze the food systems across the globe. Das and Deka (2012)^[3] reviewed the fermented foods and beverages of North-East India and revealed that the tribal people of this region have evolved their own methods of fermenting food. According to Gupta *et al.* (2014)^[5] the idea of 'food as medicament' is deep-rooted in the primitive healing traditions of all societies. Food habits are the ways in which individuals or communities, in

response to the socio-cultural stresses select, eat, and use available foods. The Northwestern Himalay with a wide range of physical, cultural, and economic conditions offers a diversity of diet preferences. The communities have evolved local methods of farming, post-harvest management, storage and preservation, food consumption, and healthcare. Sarkar, *et al.* (2015) [8] while reviewing the traditional and *Ayurvedic* foods of Indian origin stated that traditional foods have been prepared for years and the preparation varies across the country. Traditional knowledge about food processing, its preservation, and therapeutic effects has been proven for generations. Traditional foods act as functional foods owing to the presence of curative ingredients, antioxidants, dietary fibers, and probiotics.

Conclusion

Food habits are changing rapidly and it is very difficult to point out the factors responsible for inciting deviations in food habits. Though most of the traditional foods are still in use many of them, like those of Proso millets, Foxtail millet, Millet, and Buckwheat are losing their significance and are on the verge of extinction.

The elder generation accepted that cooking and consumption of ethnic foods like *kathu ke chilre*, *takk ka famra*, *chini ka bhaat*, *kauni ka bhat*, *kauni ka famra*, and *makki ka baadi* is declining owing to the lack of time, interest, and acquaintance about the cooking techniques. These food items have completely disappeared in lower areas of the Kullu district, though there is a possibility that these are consumed in remote areas where chenopod, Proso millets, foxtail millets are still in vogue, although to a lesser extent. Though the maize is still grown the *baadi* of maize is not cooked. The reason for the non-consumption of certain foods is the non-availability of raw material and changing cropping patterns. Owing to crop diversification and climate change, some crops are not grown. Likewise, the food preferences of people have undergone a sea change, and youngsters are more inclined to street food and junk food, which is in fashion in the valley because of the influx of national and international tourists. The ethnic recipes are losing ground and nowadays many substitutes are available in the market, therefore to save time and energy, people prefer opting for convenient and reasonable cooking and serving techniques.



Fig 1

The young generation is not aware of the nutritive value of traditional crops and ethnic foods; consequently, their use is decreasing. Thus, a thoughtful deliberation must be done to preserve the wisdom linked with food preparation and versatile ethnic foods must be revitalized. The familiarity of nutritive value of ethnic foods will not only ensure food security in the mountainous regions but will help in continuing the traditions of ethnic food preparation.

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