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The Economic Potential of Industrial Hemp *(Cannabis Sativa L.)* in the Uttarakhand Himalaya: An Ethno –Historical Study

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Annotation: Industrial hemp (Cannabis sativa L.) has emerged as a sustainable and eco –friendly crop with vast industrial potential. Uttarakhand became the first Indian state to legalize the commercial cultivation of Industrial hemp in 2015.recognizing its environmental and economic benefits. Grown primarily in the hilly terrains of the Lesser Himalayas, hemp requires minimal water, improves soil quality and prevents erosion-making it ideal for mountain agriculture. The state policy restricts cultivation for low-THC (below 0.3%) varieties, ensuring non-narcotic use and compliance with national regulations. The crop provides multipurpose raw materials; fibers for textiles, and hurd for construction materials such as hemp crate. However challenges such as limited processing infrastructure, seed standardization and regulatory awareness among farmers hinder large scale adaptation with appropriate policy support, research and industrial investment,

industrial hemp could significantly contribute to Uttarakhand's rural economy, sustainable agriculture and green industry development. The study of industrial hemp in Uttarakhand, when viewed through the Annals and Ethno-historical frameworks, transcends economic analysis. It becomes a narrative of environmental adaptation, cultural resilience and the re-emergence of traditional ecological knowledge within modern sustainability paradigms. An Annals –inspired study can use environmental history, economic data, and agrarian records to trace long-term change. An Ethno-historical study can use field interviews, folk tradition, and material artifacts to capture local memory and cultural continuity.

Keywords: Industrial hemp, Social sustainability, Environmental History, Ethno-History, Annals Tradition, hemp oil seed, Cannabis sativa, CBD, Cannabinoids, Bernard S. Cohn, Tenth Settlement Report.

Preamble:

This study explores the economic potential of industrial hemp by examining its historical Cultivation, traditional uses, and socio-cultural significance across civilizations. Through an ethno-historical lens, it analyzes how hemp has evolved from a culturally embedded crop to a modern industrial commodity with economic implication in textiles, construction, bio fuel, medicine, paper and Uttarakhand Himalaya is noted for its biodiversity and rich natural resources, some of which were supplied to international markets from early times (Joshi 1989). Whereas some items were exported directly in their natural form (e.g., medicinal plants and herbs), others were processed by local inhabitants and then marketed. One such item was bhang (bhāṅg) plant (Cannabis sativa). The bhang plant yielded various by-products; its fibre was used for production of clothing fabric and rope for bridges, seeds for oil as well as spice, rubbings of flowers produced charas (hashish) and dried leaves ganja (gāñja), both used in deep intoxicating smoking, and the 'pith makes excellent torch wood' (Pauw 1896: 29). This accounts for the British interest in bhang and its by-products (see for details,; *Fuloriya 2011 Atkinson 1886: 799-804; Bahuguna 2011).* A cannabis plant (species Cannabis sativa L.) Grown for fiber,hurd and oilseed/grain, is known as Industrial hemp(Jeliazkov,2019)

In the rural regions of Uttarakhand, textiles and agricultural as well as animal-husbandry related

tools are traditionally made using natural fibers such as *kandali*, *bhimal*, *bhang* (hemp), *rambans*, and *al*. Among these natural fibers, the fiber obtained from the hemp plant (*Cannabis sativa*) holds a special significance. The bark of the hemp plant was extracted and used to produce a textile known as **"Bhangela"** (Singh 1986:198).

Herodotus (5th century BCE) is considered the first historian to mention the use of the hemp plant in his writings. He states that the Scythians would throw hemp onto hot stones to produce smoke, which they would then inhale. During celebrations, they would sit around a fire and throw hemp into it. The smoke produced from burning hemp had a distinct fragrance, and inhaling it would intoxicate them, after which they would leap and dance around the fire, singing joyously. (www.generalanesthesia.com/images/herodotus)

A branch of the Aryans that migrated into the Middle East and Europe is believed to have scattered hemp seeds wherever they settled. The **Catal Huyuk (Çatalhöyük, 8000 B.C.)** site in the Middle East is considered the oldest archaeological location where traces of hemp-based textiles have been found. This plant is also mentioned in **Assyrian texts**, where it is referred to as *"Kunnubu,"* meaning *"the drug of sorrow" or "remedy for pain."* In the Middle East, the **Phrygian tribe**, who attacked the Hittite Empire around **1100 BCE**, possessed highly developed techniques for processing hemp fiber.

Clothing can reveal a society's ecological mix and culture. Textiles have been prevalent in the cold climate of the Kumaon Himalayas. A clear example of this is the painted rock shelters found here, some of which depict human figures wearing *Lambada*-like clothing (Joshi 1998:74). It is acceptable that these cloaks may have been made of animal skin. However, the baked clay *Takuli Ghurri* (Nautiyal & Khanduri 1991) recovered from the Ranihat excavations suggests that it may have been used in the production of textiles (Joshi 1990:25). The female figures depicted on the coins of Kunindaraja Amoghabhuti are depicted wearing a sari and a *dupatta*, which clearly indicates the use of textiles by at least the second century BC.

Regarding textile production, it is noteworthy that along with grains, hemp was also produced here. Textiles made from its fibre were called *Bhangela* and *Bhangela c*loth (hempen Cloth) was exported from here (Motichandra 2007 V.S.: 31, 45; Joshi 1990: 60).

A famous legend related to the rulers of Chamba is that when a Katoch princess was married to Bharat Singh of Chamba, Rakkumari complained that she was married to a prince who wore shoes made of grass instead of leather. In keeping with the princess's demand, a family manufacturing shoes made of hemp fibre was sent as dowry to the Chamba king. This family belonged to Panchgaria village. The Chamba chappal tradition has been passed down from this family (Handa 1998:115).

The production of plant fibers is associated with the development of human culture. Plant fibers have been used for centuries to cover the body, carry goods, and store them and for various household and agricultural purposes. In this era of commerce, agrarianism and consumerism, new commercial goods can be made from plant fibres produced at the domestic level for economic development and a good profit can be earned. From this point of view, the Bhaangela industry that has been running for centuries is full of important economic possibilities. In this century of all-round development and expansion of technology, even today, in a large part of the world, especially in rural areas, traditional self-made equipment is used, from agricultural equipment to domestic industry equipment to handicraft equipment. The villages of Uttarakhand are also not untouched. In many rural areas of Uttarakhand, self-made clothes, agricultural and animal husbandry related equipment are made from natural fibres (Nettle, hemp fibers). Among these natural fibres, fibres made from hemp plant have a special place. Different types of products are made from hemp fibers, it is called Bhangela craft (*Bahuguna, 2006: 188)*

The Cannabis sativa L. species produces many plants,Including hemp and marijuana.It has more than 100 recognized cannabinoids,which are chemical compuunds that have different physiological effects on humans(Atakan,2012).

The two most notable and researched cannabinoids of the Cannabis sativa L. plant are cannabidiol(CBD),a safe ,non -addictive, and non –hallucinogenic compound known for its therapeutic profile and tetrahydrocannabinol(THC),the psychoactive element causing the 'high'with which cannabis is commonly associated .CBD is marketed and sold in bud,oil and tinctures to soothe swelling and promote relaxation .THC is frequently used for medicinal purpose and for recreational use; because of its psychoactive effects(Isegar,2015)

Uttarakhand Himalaya is dotted with a network of valleys that lends itself to the development of many small distinct communities, each valley being a micro-region, both in human and geographical terms, whose inhabitants form a largely self-contained economic and cultural entity. A noteworthy example of such a micro-region is the little known Rath (Rāṭh) area, drained by the Nayar River in Garhwal. The inhabitants of this area are called Rathi (Rāṭhī), predominantly a traditional hemp-producing folks in Central Himalaya. In pre-Colonial Uttarakhand the hemp producers were a prosperous community due to their near monopoly in hempen business and enjoyed due social status, which accompanies prosperity. However, with the introduction of machine-made cloth by the British, which, contrasted to hempen cloth, was cheaper and fashionable, the hempen fabric lost market and their producers suffered economically and socially. Responding to the demand of the new socio-political ideology prevailing under the British, the hemp-producing community organized themselves accordingly.

In the rural regions of Uttarakhand's Garhwal division, hemp cultivation has historically been prevalent and continues to be practiced even today, particularly in the Chandpur and Rath areas. In some places, hemp-based textiles are still produced. Exploring the potential of the *Bhangela* (hemp textile) industry, **Rahul Sankrityayan** expressed confidence in its possibility of success. On the Chandpur plateau, certain *Pabiala* and Rajput families traditionally made hemp garments called *Tyunkha*, along with ropes. *Bhangela*, also known as *Gati*, served as the primary and often the only garment worn by men and women across all belts of the plateau. (Dabral 1971:396)

Uttarakhand Himalaya is noted for its biodiversity and rich natural resources, some of which were supplied to international markets from early times (Joshi 1989). Whereas some items were exported directly in their natural form (e.g., medicinal plants and herbs), others were processed by local inhabitants and then marketed. One such item was *bhang* (*bhāṅg*) plant (*Cannabis sativa*). The *bhang* plant yielded various by-products; its fibre was used for production of clothing fabric and rope for bridges, seeds for oil as well as spice, rubbings of flowers produced *charas* (hashish) and dried leaves *ganja* (*gāñja*), both used in deep intoxicating smoking, and the 'pith makes excellent torch wood' (Pauw 1896: 29). This accounts for the British interest in *bhang* and its by-products (see for details, Atkinson 1886: 799-804; Bahuguna 2011; Fuloriya 2011).

Bhangela (*bhāṅgelā*) fabric, owing to its great strength and resistance to moisture, was in great demand among Buddhist and Jain monks as we learn from their respective canonical literature (Motichandra 2007 VS: 31, 145, 163-64). Interestingly, *Bhangela* is still produced, albeit in small quantity, by a particular community known as Kuthali Baur in Kumaon (Fuloriya 2011) and Pavila in Garhwal (Bahuguna 2011). However, before the introduction of machine-made textile in Uttarakhand by the British, *Bhangela* was the principal clothing fabric of the masses in Uttarakhand (Pauw 1896: 29); at least up to the last quarter of the 19th century AD it was 'the chief clothing fabric of the poor classes in Garhwál during the summer months' (Atkinson 1886: 801). In fact, hemp was considered an asset of the peasants as noticed in Captain Fisser's report of 1883 (cited in Atkinson 1886: 262):

If by wealth is meant the possession of cash or other personal property convertible into cash, then the Garhwali cultivator is the poorest of the poor; but, on the other hand, his land provides his food and hempen clothing, his sheep the wool for his blanket. Salt he can always procure in exchange for surplus grain. Consequently money has but a limited value in a country innocent of trade on any considerable scale.

Sadly, due to socio-economic stigma, the people who specialized in its manufacture have distanced themselves from its production, and its manufacturing technology is at the verge of extinction. The paradox is that the traditional producers of the *Bhangela* fabric have not gained any noticeable social prestige despite their dissociation with *Bhangela*. Therefore, an in-depth study of the socio-cultural and material milieus of the traditional *Bhangela*-producing folks calls for immediate attention not only in their interest but also in the interest of the social welfare activities of the decision makers in the central and state governments. The pilot study needs to focus on the Rath area of Garhwal, where *Bhangela* processing technology still survives and it has great potentials (Bahuguna 2011). Traditional Rath area comprises approximately two Blocks of District Pauri, namely, Pavau and Thalisain. Rathi is the name applied to both the inhabitants and their dialect. Rathi is a sub-dialect of Garhwali, noted for containing archaic words rooted in Sanskrit.

In the earlier section of this essay it has been noted that *Bhangela* cloth was very popular among *the Buddhist and the Jain monks as evidenced in their respective canonical literature dating back to the 4th century BC. (Motichandra 2007 VS: Chapter 3).* It may be noted that according to the Buddhist traditions after the 3rd Great Council of Pāṭaliputra, Aśoka, the Maurya, sent missionaries to different quarters for the propagation of Buddhism; two of them, namely, Kāsyapa Gotra and Madhyama, went to the Himalayan region, (Cunningham 1854: 289; Thapar 1977: 48). Inscribed caskets from Sanchi unfold that they contained '(Relics) of the emancipated son of Koti, Kasyapa Gotra, the missionary to the whole of Hemawanta', and 'of the emancipated Gotiputra, the brother of religion amongst the Dardabhisāras of the Hemawanta'. Palaeographically, the inscriptions on the caskets are dated to the 3rd century BC (Cunningham 1854: 287, 289, 316-18; Rhys Davids 2010: 299-30). Thus, these inscriptions lend incontrovertible support to the Buddhist tradition under reference. In this context the set of Aśoka's 14 Rock Edicts at Kalsi (District Dehradun) in Uttarakhand Himalaya is significant, for this is the only site in entire Himalaya where he got his Fourteen Rock Edicts inscribed (Thapar 1961: 231-32). It may be noted here that archaeological explorations at Kalsi have brought to light traces of a settlement belonging to the Mauryan times (*IAR 1972-73*: 33). On the basis of combined testimony of archaeological and literary sources coupled with local traditions it has been suggested that Kalsi (Dehradun District, Uttarakhand) was the hub of commercial activities, so as to attract attention of Aśoka the Great to get his Rock Edicts inscribed there (Joshi and Brown 1987). Furthermore, these sources also unfold that Aśoka introduced Buddhism in the Himalaya through Uttarakhand whence it spread to the adjoining trans-Himalayan region of Tibet sometime in the pre-Christian era (see for details, Joshi 2014, and references therein). On this basis, antiquity of *Bhangela* production in Uttarakhand can be traced to at least 4th century BC. It must have been in flourishing state in the subsequent centuries, for, as noted above, as late as 19th century AD, it was the major clothing fabric of the overwhelming majority of the peasants of Uttarakhand, and Traill (1828: Appendix, page 226) includes '*hemp, hempen* cloth and *chirras* [*charas*]' in the list of commodities exported 'from the hills to the plains'.

Atkinson (1882: 799-804) has given a detailed account of *bhang* cultivation and its potentials in increasing revenue collection. However, its cultivation could not be expanded, possibly due to 'much prejudice against growing the plant'. Atkinson notes:

So much is this the case that the phrase '*tera ghar bhang bono holo*' – 'may hemp be sown in thy house' – is one of the most common abusive imprecations (Atkinson 1882: 801).

Despite that, Atkinson's account shows that 'the Khasiyas' could cultivate *bhang* and manufacture rope for 'house consumption', and its 'traffic in the seed and rope, and even in *charas*' was open to all sections of society 'without prejudice to their social position' (*Ibid*).

It is implied then that *bhang* cultivation and its by-products had assumed caste specific character. One of the major reasons of caste formations and rigidity of caste system in Uttarakhand is vocational specialization. Recent studies on the Scheduled castes of Uttarakhand have shown that

certain technological skills were closely guarded secrets, to the extent that the bearers of the concerned technologies did not share their specialized knowledge with all members of their family, it was restricted to the most favourite family members. Its disastrous consequences were extinction of such technologies as were confined to a single member in the family, to wit, the world famous Wootz steel. Archaeological evidence coupled with folklore clearly shows that there was a time when it was produced in Uttarakhand, but its technology has become extinct (Joshi 2002). Any community that possessed a particular sort of specialized technology maintained social distance from the other ones, which resulted in formation of different professional groups, eventually fossilizing in rigid caste system (for details see, Joshi 1997; Tamta 2007). This background helps to identify the factors leading to social stratification among hemp-cultivating communities of Uttarakhand and marginalization of Rath area and its inhabitants, which was a busy hub of hemp related economic pursuits once upon a time.

Historical events unfold that before Independence the notion of belonging in Uttarakhand was used to create social asymmetry for sharing relationships based on differential power. It revolves round the ideology of immigrantness whereby dominant persons of diverse lineages align and re-align to claim superiority over their rivals by posing as the original/full-bloded descendants of those aristocracies who hailed from some or the other superior geocultural seats outside the hills. It cannot be said precisely when this process of 'Othering' started, but available records clearly show that it already existed in the eighteenth century AD, before the occupation of Uttarakhand by the Gorkha, and progressed rapidly during the British rule (AD 1815–1947). This is evident from the census reports and traditional histories of various castes recorded during the British rule (see for details, Joshi 1990; 2011).

Owing to this 'Othering', vast majority of petty officials of the earlier regimes, local peasants and artisans were relegated to the 'Khasiya' and the 'Dom' ranks (Joshi 1998). Traill's report (1828) makes it clear that at the time of British takeover of Uttarakhand local artisans produced several items of export to the plains, which also included hempen cloth. However, conditions changed when machine-made cotton cloth produced mainly by the British was marketed in Uttarakhand. Besides being cheaper, it was a fashionable item symbolic of higher social status, whereas hempen cloth symbolized poverty and primitiveness. This accounts for the degradation of the hemp-producing folks of Uttarakhand and, at the same time, it reveals as to how they responded to this new system through self-organization. British accounts reveal that emulating the new ruling elite they also resorted to 'Othering'. Consequently, we notice the *bhang*-producing community organizing itself into three distinct caste-groups, as can be inferred from Atkinson's account (1886: 801): 1) 'manufacturers of hempen sack-cloth' - Koli, Bora and Agari 'sections' of 'the Doms', 2) cultivators of hemp, 'Khasiya' community, and 3) traders of *bhang* seeds, rope, and even *charas* - all sections 'without prejudice to their social position'.

Interestingly, there is no mention of 'Pavilas' (traditional 'hemp-spinning caste' of Garhwal) in Atkinson's Gazetteers (1882; 1886). The word '*Pabilá'* occurs for the first time in Pauw's Garhwal Settlement Report (Pauw 1896: 29). Walton's mention of 'Pavila' is revealing. While describing agricultural production in Garhwal, he says: 'Hemp is now cultivated by the *pavilas* – low caste Khasiyas of Chandpur – in rich plots of land adjoining the village' (Walton 1910: 39). His use of 'now' indicates that by his time (i.e., AD 1910) *bhang* cultivation was contracted to a small area of Chandpur, as contrasted to Atkinson's and Pauw's times when it was widely produced as an asset of the peasants of Garhwal. Apparently, by AD 1910 machine-made textile had gained wide market in Uttarakhand, and folks engaged in hempen cloth were losing their socio-economic standing as evidenced in Walton's further mention: 'the Pavilas, a somewhat depressed hemp-spinning caste living in Chandpur' (*Ibid*: 61). It may be noted here that the word 'depressed' was used for the 'Doms' in the Census Report of 1921 (see, Edye 1923), Walton's use of 'somewhat' is suggestive of the degradation process.

Recording the castes of 'the Kumaun division and Tehri-Garhwal State' two decades later, Turner (1933: 555) lists '*Baura or Bora*' among the '*Silpakars*' (official term substituted for the 'Doms')

of Uttarakhand as 'Sack-makers from Almora. They cultivate hemp and make coarse cloth and rope from the fibre. The name is derived from *bora*, a sack'. It suggests that '*Baura or Bora*' were also present in Garhwal where they were considered as migrants from Kumaon like many other castes listed in Turner as migrants. Significantly, Pavilas do not figure in the category of the 'Silpakars'. It shows that by Turner's time (i.e., Census of AD 1931) a section of the folks traditionally associated with hempen products in Garhwal had differentiated themselves from the '*Baura or Bora*' as 'Pabela Khasiyas', albeit maintaining certain exclusive customs (*Ibid*: 565-66). What is central to the present study is that when Atkinson studied Uttarakhand (Atkinson1882; 1886), folks engaged in hempen cloth production were called 'Bora/Baur' and placed in the 'Dom' category both in Garhwal and Kumaon, which category continued to be used up to Census of 1921 (Edye 1923). However, in the Census of 1931 they were divided into two distinct categories, Khasiya (included in *biṭh* = pure caste category), and 'Dom' (impure caste category) (Turner 1933). It clearly shows that by AD 1931 there was a sharp division among the peoples engaged in hempen business. To gain higher social status, somewhat similar developments among the Thakalis (a Buddhist community) of Western Nepal have also been noticed by Fürer-Haimendorf (1963). He discusses at length as to how to gain 'high caste status' among the Hindus of Nepal, the Thakalis not only changed their dress, food-habits, social customs and Buddhist religious practices, but they also severed their tribal 'Bhot' identity by transforming themselves into a caste society.

Apparently, the above account of social stratification represents the etic perception of hemp-producing community. So far, no records are available to find out as to how the traditional producers of hemp and hempen products of Uttarakhand trace their own antecedents. In this connection, Fuloriya's (2011) recent study on traditional hemp-production in Kumaon is interesting. Fuloriya says that the 'Kuthaliya-Baurs' themselves admit that they are ignorant of their history, but four of the aged members of their community (age group 89-85 and 66-65) gave two versions of their past. According to one version, documents relating to their origin, housed in the official record room in Kathmandu (albeit unconfirmed), read that originally they belonged to 'Rājput Jāṭ' community, but now degraded in Kumaon. Blunt (1931: 143) also says that the Baurs trace their antecedents to 'Jat'. The other version attributes their degradation to the Gorkha rule. Accordingly, due to the Gorkha atrocities all the elder members of the Baur community committed self-immolation, leaving their children to the mercy of the people. However, nobody helped the children; rather they were treated as 'untouchables'. This accounts for the degradation of the Baurs, who otherwise claim 'Rajput' status, immigrants from Kangra (erstwhile Punjab), but in traditional Kumaoni society they are perceived as 'untouchables' (Pandey 1937: 593). Thus, as noted above, the ideology of 'immigrantness' was also practiced by the Baur community to claim higher social status.

The Rath area is noted for traditional *Bhangela(Industrial Hemp)* products. Here ecological factor plays a key role in the rise of such locally skilled community as Pavila, the traditional *Bhang*-producing folks of Rath. It is well known that due to successive phases of folding and uplift of the Himalaya, geologically the whole region is extremely complicated. In human terms, such mountainous country with a network of valleys lends itself to the development of many small distinct communities, each valley being a micro-region, both in human and geographical terms, whose inhabitants form a largely self-contained economic and cultural entity. In the past, in absence of a powerful central authority, these micro-regions became the nuclei of semi-autonomous settlements under the leadership of a few 'dominant' persons of the concerned area, and the local ruling elites incorporated these locally dominant groups into their political system. Thus, in the past they enjoyed due socio-economic status as well as freedom to pursue their traditional vocation (Joshi 2005). However, conditions changed. Under the Gorkhas (AD 1791–1815), Uttarakhand was subjected to an autocratic rule and a strict orthodox caste system in the otherwise caste-fluid society of Uttarakand. The British (AD 1815-1947) maintained status quo in the context of social organization, however, they patronized those communities who claimed

'high-caste' status and who promoted the British interests in Uttarakhand. Consequently, Uttarakhand became a highly stratified society. In the process, as may be noticed in contemporary official and private records, areas situated away from the seat of ruling authority were marginalized, so were their inhabitants (see for details, Joshi 1998; 2011).

Rath was one of the marginalized areas during the British time; neither it has gained any noticeable benefits after Independence. In fact, even during the times of pre-Gorkha polities of Kumaon and Garhwal, owing to its geographical situation between the two, it was a marginal area. However, as noted above, ecological conditions played vital role in human settlement in a given region. Since the ecology of the Rath area was conducive to cultivation of *bhang*, it became the principal crop of the area to the extent that hemp became the socio-cultural milieu of the Rathis.

The Uttarakhand Government has taken an initiative to reframe its industrial hemp policy and has recently issued the first-ever hemp cultivation license. This means that hemp can now be used to create medicines, textiles, food items, paper, and building material

Study Area: The research project will explore the potential for industrial hemp in the central, foothill, and high Himalayan regions of Kumaon and Garhwal in Uttarakhand. Hemp was traditionally cultivated in the Nayar Valley (Pauri Garhwal) of Garhwal. This will involve visiting identified villages in the Thalisain and Pabau blocks and interviewing artisans involved in textiles made from hemp fibers. Fieldwork will also be conducted in identified villages in the Karnaprayag and Narayanbagrh blocks of Chamoli district. The Nayar Valley and Mandakini Valley are associated with industrial hemp. Kumaon has a rich tradition of making textiles from Kuthaliya Bora, a traditional hemp fiber. The villages in Almora and Pithoragarh in the Kumaon Himalayas, where industrial hemp production may be possible, will be studied.

Research Methodology: In the present research work, interdisciplinary research method will be used. In this anthropological research methods will be used along with historical research topics. Hence, for this work, evidence collection through field work has been the most important task. The researcher will explore the Potential of Industrial hemp in the high, middle and foot Himalayan region. Traditionally, villages connected to Nayar Valley (Pauri Garhwal), Adi Badri region, areas of Mandakini Valley have been cultivating cannabis. Along with this, the culture of Mandakini Valley, Nayar Valley and the culture of various tribes will be studied. For successful execution of the said research project, collective guidance of experts of history and anthropology will be required. Hence, guidance of experts of chemistry and botany is absolutely necessary.

Under the present research project, there is a need to Understand the culture and mentality of the past societies by using the methods of anthropology under the writing of modern Indian history (*Shukla, 2015: 19)* Under human history, the method of participant observation is used under the research practices of historians and anthropologists *(Cohn, 1987)Bernard S.Cohn(1928-2003)*'anthropologist among the historians' introduced ethnographic perspectives into the study of indian colonial history-something historians rarely did before him.he explored how the British used Knowledge –like Census data,surveys,and language classification –as tools of control. Historians of the Annals tradition of France, Marc Bloch, Lucien Fabre, Bradley etc.,Said that the history of climate, the history of agriculture should also be written (*Bloch, 1949)* The Annals tradition underlines that the history of agriculture is very important, in the Physiocratic ideology, agriculture has been considered a source of wealth (*Guha, 1983: 104*).The Annales historian emphasized economic systems and modes of production rather than kings and wars. Hemp, as a traditional crop shaped rural economic, textile industries and trade networks in Europe, India and elsewhere. Hemp depends on Soil,Water and Climate –so its study reflects the interaction between humans and their environment.

The Rathis(Hemp Producer Community) still produce many interesting ethnic items, notably, hempen caps, shoes, bags, and quality fabric, which can be used in making jackets, jeans, etc (Bahuguna 2011). These need to be studied sooner than later, for in the present age of e-media traditional practices are fast disappearing.

Review of Literature: In the review of literature on industrial hemp, scholars have periodically shed considerable light on the above topic, including G.W. Trail (1828), Atkinson (1882; 1886), Bahuguna (2006; 2011), Sankrtayayan(1953)Fuloria (2011), Suresh Chandra Tamta (2011), and Shri Bhajan Singh 'Singh'(1968) Paw (1896). Few scholars from Uttarakhand have worked on economic history. As students of history, they have embraced the traditions of the French Annals School and addressed sustainable development and livelihoods. The topic of the above project, "The Economic Potential of Hemp (Cannabis Sativa L): An Ethno historical Study," remains untouched. Uttarakhand's economic history has been rarely discussed. The above project will prove valuable in this context.

Objectives:

1. To examine the historical background of hemp cultivation and its traditional uses in the Uttarakhand Himalayan Region.
2. To analyze the economic potential of industrial hemp as a sustainable crop in the present socio economic context of uttarakhand.
3. To assess the environmental benefits of hemp cultivation in the Himalayan Ecosystem, such as soil conservation and carbon absorption.
4. To evaluate the policy framework and legal aspect governing industrial hemp cultivation in India, with special reference to uttarakhand.
5. To explore the scope for rural development and employment generation through hemp based industries such as textiles, construction materials and bio- products.
6. To identify challenges and opportunities in promoting industrial hemp as a viable alternative for economic growth in the Himalayan region.

Conclusion: Uttarakhand Himalaya is noted for its biodiversity and rich natural resources, some of which were supplied to international markets from early times (Joshi 1989). Whereas some items were exported directly in their natural form (e.g., medicinal plants and herbs), others were processed by local inhabitants and then marketed. One such item was *bhang* (*bhāṅg*) plant (*Cannabis sativa*). The *bhang* plant yielded various by-products; its fibre was used for production of clothing fabric and rope for bridges, seeds for oil as well as spice, rubbings of flowers produced *charas* (hashish) and dried leaves *ganja* (*gāñja*), both used in deep intoxicating smoking, and the 'pith makes excellent torch wood' (Pauw 1896: 29). This accounts for the British interest in *bhang* and its by-products (see for details, Atkinson 1886: 799-804; Bahuguna 2011; Fuloriya 2011).

Recording the castes of 'the Kumaun division and Tehri-Garhwal State' two decades later, Turner (1933: 555) lists '*Baura or Bora*' among the '*Silpakars*' (official term substituted for the 'Doms') of Uttarakhand as 'Sack-makers from Almora. They cultivate hemp and make coarse cloth and rope from the fibre. The name is derived from *bora*, a sack'. It suggests that '*Baura or Bora*' were also present in Garhwal where they were considered as migrants from Kumaon like many other castes listed in Turner as migrants. Significantly, Pavilas do not figure in the category of the 'Silpakars'. It shows that by Turner's time (i.e., Census of AD 1931) a section of the folks traditionally associated with hempen products in Garhwal had differentiated themselves from the '*Baura or Bora*' as 'Pabela Khasiyas', albeit maintaining certain exclusive customs (*Ibid*: 565-66). What is central to the present study is that when Atkinson studied Uttarakhand (Atkinson1882; 1886), folks engaged in hempen cloth production were called 'Bora/Baur' and placed in the 'Dom' category both in Garhwal and Kumaon, which category continued to be used up to Census of 1921 (Edye 1923). However, in the Census of 1931 they were divided into two distinct categories, Khasiya (included in *biṭh* = pure caste category), and 'Dom' (impure caste category) (Turner 1933). It clearly shows that by AD 1931 there was a sharp division among the peoples engaged in hempen business. To gain higher social status, somewhat similar developments among the Thakalis (a Buddhist Community) of Western Nepal have also been noticed by Fürer-

Haimendorf (1963). He discusses at length as to how to gain 'high caste status' among the Hindus of Nepal, the Thakalis not only changed their dress, food-habits, social customs and Buddhist religious practices, but they also severed their tribal 'Bhot' identity by transforming themselves into a caste society.

Industrial hemp is a versatile, sustainable plant with several applications of its various forms, including fiber obtained from hemp stalks, food obtained hemp seeds, and oil obtained from hemp flowers and seeds. Industrial hemp has the potential to offer a solution to the crisis of climate change, since it is a viable energy source that satisfies the three pillars of sustainability, namely economy, environment, and society. Although Industrial hemp has been growing as an agriculture commodity in different parts of World for decades (Kaur, 2003).

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