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Promoting Intangible Cultural Heritage (ICH) tourism: Strategy for socioeconomic development of snake charmers (India) through geoeducation, geotourism and geoconservation

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ABSTRACT

UNESCO has advocated for intangible cultural heritage tourism (ICHT) for its dual-folds benefits, i.e. to gear up of the economy and encourage sustainable development. Whereas well-established geotourism combining with ICHT may further boost up not only the conservation of geoheritage legacy but also complement each other and may also reopen an afresh avenue of tourism-economy. In the past, India is well known for its snake charmers but due to the ban on livelihood, most of them are unemployed and suffered from hunger and starvation. Moreover, the potentiality of ICH tourism, in favor of this group, has never been discovered in such a geoheritage-rich country. Here, we systematically proposed a promotional strategy for the development of ICHT, combining with geotourism, and for the sustainable development of this community after strategic care for wildlife (e.g. endangered snake species). As this study is concerned with literature review and field-based participatory survey methods, among the acquainted sites of snake charmers especially, three zones have been selected for strategic promotion. The prime goal is to highlight the geoeducation, geotourism and geoconservation potentials of this community people and geoheritage sites, belong to the three respected zones (Zone 1: Rajasthan; Zone 2: West Bengal, Jharkhand and Odisha; Zone 3: Uttar Pradesh, Bihar and Madhya Pradesh). The study outcome displays the enlightened major corners for further improvement for each 'zone' and each valuable site requires more consideration and better management (government and private partnership) in near future for more sustainably developed ICH and geoheritage destinations which would attract a greater number of tourist, not only from inside the country but also from abroad.

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1. Introduction

Under the 'new-normal' condition (Carr, 2020) COVID-19 pandemic has hooked back near about all the economic sectors while tourism sector is one of the worst ones (Gössling, Scott, & Michael Hall, 2020; Haywood, 2020; Nepal, 2020; Sharfuddin,

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2020). Still with a positive hope, after the recovery from this kind of vulnerable situation, this present literature may offer a new package of tourism with a sustainable vigor. Before the pandemic, in view of fostering cultural heritage tourism and for betterment of tourists' experience, various renowned academic contributions have been made. These contributions are belonged to varied research-scale and large array of sub-disciplines from tourism management to geography of tourism. Subordinately, those scholarly works have enthusiastically adopted the possibilities of using forward-looking information and communication technologies (Buhalis, 2003; Buhalis & Law, 2008; Germann Molz, 2012).

In order to express the developments in various segments regarding the broad umbrella of 'tourism' numbers of scholarly works have contributed cultural tourism (Hughes, 2002; McKercher & du Cros, 2002; Van der Ark & Richards, 2006; Richards, 2018). When other scholarly works have been devoted to the sect of tourists' wellbeing or the tourists' interest and experience (Dolnicar, Yanamandram, & Cliff, 2012; McCabe & Johnson, 2013; Neal, Sirgy, & Uysal, 2004) and modern and digitally innovated heritage tourism (Bapiri, Esfandiari, & Seyfi, 2020; Bear, Avieli, & Feldman, 2020; Brouder, Teoh, Salazar, Mostafanezhad, et al., 2020; Fusté-Forné, 2019; Graziano & Privitera, 2020; Lew, Cheer, Haywood, Brouder, & Salazar, 2020; Mele, Kerkhof, & Cantoni, 2020; Singh, 2020). Additionally, a small number of studies are indulged with the structure and components for visitors satisfactory experience (Crespi-Vallbona, 2020; Jensen, Li, & Uysal, 2017; Liro, 2020) and contemporarily very few commentary type of researches directly dealt with post-COVID tourism scenario (Crossley, 2020; Gössling et al., 2020; Haywood, 2020; Nepal, 2020). In the present century, India's emerging tourism sub-sections are wildlife tourism, pilgrimage tourism, eco-tourism, cultural tourism, wellness tourism, business tourism, leisure tourism, cruise tourism, sports tourism, educational tourism (Arunmozhi & Panneerselvam, 2013; Vethirajan & Nagavali, 2014) and they are regarded as significant contributors to the nation's GDP. Apart from these, there are comparatively moderate proportions of research studies highlighting cultural heritage tourism of India with addressing challenges and presentation (Gantait, Mohanty, & Swamy, 2018; Kumar, 2009; Raghu, 2016; Shankar, 2015; Swetha & Murthy, 2019), conceptual outlay between culture and tourism (Sharma & Sharma, 2017; Singh, Agarwal, & Tyagi, 2016), case study based outlook (Chhabra, Chowdhury, & Chowdhury, 2020; Jahan, 2019; Kapur & Jain, 2016; Ranawat & Singh Rathore, 2019; Selvakumar & Thangaraju, 2016; Sharma, 2014; Sharma, 2015) and tourism policy in India (Baken & Bhagavatula, 2010). However, partially undiscovered potentialities (aesthetic and cultural) of snake charmers and their nature of spatial differentiation may add interesting features towards the encouragement of intangible cultural heritage tourism of India. Eventually if the established 'geoheritage tourism' is combined with this ICHT it will enhance the level of satisfaction of tourists (day-time fix for 'geoheritage tourism' and night-schedule may fix for 'cultural heritage tourism') and may proved to be cheaper and enjoyable to meet different kinds of tourism choices.

However, before going to the core part, it is necessary to quote the definitions of 'heritage' and 'cultural heritage' by the UNESCO (1972, 1989, 2001, 2003, 2004). 'Heritage' signifies as "our legacy from the past, what we live with today, and what we pass on to future generations." While, 'cultural heritage' is scripted as "the irreplaceable sources of life and inspiration that include monuments such as architectural works of monumental sculpture and painting, elements of structures of an archaeological nature, inscriptions, cave dwelling and combinations of features; groups of buildings, groups of separate or connected buildings; and sites including archeological sites having outstanding historical, aesthetic, ethnological or anthropological value." Hence, in the sphere of tourism, more than half of the proportion of 'cultural heritage' is concerned with intangible cultural heritage which (sub-type of tourism) is partially immeasurable. On the contrary, the *intangible cultural heritage* refers "the practices, representations, expressions, knowledge, skills—as well as the instruments, objects, artifact and cultural spaces associated therewith—that communities, groups and, in some cases, individuals recognize as part of their cultural heritage" (UNESCO, 1989, Art. 2, Para 1). Additionally other complementary terminologies seemed supportive with this paper are geoheritage, geodiversity, geoconservation and geoparks. The geological heritage or geoheritage extends its focus towards major, as well as important, geologic features, landforms and landscapes (including diversity of minerals, rocks and fossils) with range of values like scientific, educational, aesthetic, recreational, cultural and others (Gray, 2005; Gray, 2013; Gray, 2016; GSA, 2012; McBriar, 1995). Second signified term, geodiversity confers a well defined range of natural diversity of geological features (such as rocks, minerals and fossils), geomorphological features (including topography, relief, physical processes, etc.), pedological and hydrogeomorphological features, which contributes towards forming a landscape(s) through assembling, structuring and systematizing (Gray, 2013, p.12). Whereas the concept like geoconservation, concerns more than usual preservation of the pre-stated terms (geoheritage and geodiversity) or Earth Science features with the help of undertaken several endeavors on global scale, being reflected in various established international and intra-national bodies for achieving the goal of conservation by means of agreements, conventions and inter-institutional initiatives (Brocx & Semeniuk, 2007). Rather the emerging term 'geopark' has been developed as alternative sub-segment of tourism (agriculture tourism, ecotourism, wildlife tourism etc.) and where the noble focus is upon the conservation of geodiversity and geoheritage allied with local community (Sadry, 2020; Vafadari & Cooper, 2020). In a simpler way, it can be said that the concept of geopark has been confronted with the aim of tourism development, with a special focus on geotourism (a sub-section of modern tourism), conservation of geoheritage sites and sustainable development of locale (UNESCO, 2000).

Significantly, UNESCO has enlisted the folk-culture or oral intangible culture of Indian snake charmers as intangible cultural heritage (ICH) and potential resource for future tourism development (Joncheere, 2015; Ministry of Culture, Government of India, 2014). Ethnographically the snake charmers of South Asian domain are popularly known for their semi-nomadic nature of living and mysterious lifestyle. Whereas India is famous, mainly in the western world, for its street performers charming with deadliest snakes (mainly Cobra), luring of hands and traditional handcrafted tool, like 'been' or 'pungi', or other seemingly magical tricks and acrobats (Halder, 2018; Halder & Mukhopadhyay, 2013; Halder & Paul, 2020). But after the amendment of strident environmental laws or acts (e.g. the Prevention of Cruelty to Animal Act, 1960; the Wildlife [Protection] Act, 1972) those

traditional street performers are going to be vanished from rural cultural landscape of India (Haider, 2013; Halder, 2018; Halder & Paul, 2020). However, the present reality of the legitimate action(s) is that this ethno-occupational-group (snake charmers or *saperas*) become jobless where a major proportion of them have switched over to modern means of earning, beyond the major state boundaries of India. Having this key point of focus, the present paper is going to build a strategically and regionally suitable tourism model, following the format of *intangible cultural heritage* tourism. This underlined standpoint is also important not only for realistic welfare like ethnologic rehabilitation but also for providing 'dal-and-roti' (bread and butter) to this deprived section. The background behind such former statement is, as an instance from eastern side of Indian state, after the implementation of stringent acts near about 82% snake charmers have shifted from traditional livelihood to present day's available employments but they are still living with multidimensional poverty (Halder, 2016). Additionally in West Bengal in the name of political ecology, nothing has been done for them, without enumerating 'politicization' of the issue of cultural conservation of snake charmers (Halder, 2018). Literally, a question may come upon that why this study is defending the side of intangible cultural heritage tourism (ICHT) with geoheritage and geoparks. From a range of studies, it has been broadly observed that among the common tourists (domestic and foreigners) and even among sophisticated tourists, there are identifiable diversity of taste and choice. In most cases it has been experienced that 'geoheritage tourism' and 'geoparks' are suitably conducting in day-time and thus the rest of the entire day (night-schedule) remain blank (which seemed to be boring for tourists). Therefore, it would be wise to reintroduce this combined form of tourism, combining the intangible heritage tourism and geoheritage tourism for the sake of both geoconservation and conservation of cultural heritage, in a country like India. Furthermore, this *intangible cultural heritage* tourism has dual-folds benefits, i.e. in one side it helps enhance the future potential of Indian tourism and in another side it will help this occupational group live with their age-old cultural heritage and ethnic identity. In another way, the cultural heritage tourism also may boost up the geoheritage tourism and metaphorically perceived as 'single fare double journey' like condition. Concisely it can be state that though both of the sub-branches of tourism (geoheritage tourism and cultural geoheritage tourism) does not directly link but it might be complementary and supportive for each other. The firm research questions are why this outlawed occupational group (Indian snake charmers) has been promoted under ICH tourism in combination with geoheritage and geopark. What are the potentialities and unique spatial differentiation attributes of this small group in case of intangible (cultural) heritage tourism? Which are the best suitable geo-sites or places where ICH tourism, geoheritage and geopark would be developed? What would be the layout and structure of a model village for rational rehabilitation of snake charmers and for their desired welfare? What would be the prerequisite steps initiated by Indian administration not only for ICHT but also for captivated wildlife creatures? What are the linkages for projecting ICH tourism through geoeducation, geotourism and geoconservation?

The remainder of the section is motivated for better understanding of this new kind welfare proposal. *Section 2* is purposively discussing the methodology and database incorporated for pursuing this study. While *Section 2.1* encompasses geographical background of the study area with the prospects of relevant sites where the focussed theme (cultural heritage tourism and geoheritage tourism in combination) would be carried out. *Section 3* broadly bestowed the results and discussion of this paper. *Section 3.1* is concerned to survey outcome seeking the status of community potentiality regarding ICH tourism in regional dimension. Various attributes of cultural heritage of Indian snake charmers and their region-specific typical differentiation is shown on *Section 3.2*. With utmost importance, *Section 3.3* encompasses the coherent judgment behind the promotion of *intangible cultural heritage* tourism tagging with this group, in details. Side by side, in further subsections the theoretical and diagrammatical presentation of a model village has been attempted, merging with adjacent important geotourism sites. More elaborative way in *Section 3.4*, the scope of geoeducation, geotourism and geoconservation with the present issue (merging intangible heritage tourism and geoheritage or geotourism) has been interpreted. Finally, *Section 4* concludes.

2. Materials and methods

2.1. Methods

For the formation of this study, the basic data sources like primary and secondary both have been used. The sources of secondary data and metadata are various online-published research papers, books, reports (government and non-government organizations), hybrid news updates and so forth. While in case of primary or firsthand data, systematic ground survey has been pursued for collecting grass-root level information. In order to meet the primary objective of the paper, *pilot survey* has been managed with a liberal timeframe (during 2010–2016) based on the secondary information regarding the residential locations of snake charmers and nearby geoheritage sites. Afterwards depending upon the collected data (through *pilot survey*) linked with the proportion of eligible households of snake charmers the final locations or zones (Zone 1: Rajasthan, Zone 2: West Bengal, Odisha and Jharkhand, Zone 3: Madhya Pradesh, Bihar and Uttar Pradesh) have been fixed. As this study is based on mixed method, for collecting the quantitative and qualitative information, both formal ground survey (utilizing the tool of semi-structured questionnaire) and participatory survey (2016–2019) have been adopted. In total 360 volunteers from snake charmer community took active part in ground survey (early 2016 to late 2019) and the undertaken method for selecting the respondents was Random Sampling. In details, 9 villages of snake charmers out of 84 villages in the states of Rajasthan, West Bengal, Jharkhand, Odisha, Uttar Pradesh, Bihar and Madhya Pradesh and 40 respondents from each village, (based on the highest-level village concentration of snake charmers in each district) have been chosen for firsthand data collection. It is worthy to mention here that in case of selection the number of respondents from each village is same because of the imposed equal weightage to each selected village. For more accuracy, the adopted steps for subordinate data collection are as follows:— *first* the area-wise group or community head (*Mukhiya*) from snake charmer community in most cases elderly master-snake-charmer (male); *second* head (male/female) of

randomized sample household; *third* young members (male and female) from the said community; *fourth* local administrative personals and neighbors from mainstream society for cross-examination of given information; and *sixth* experts in the field of tourism and eco-tourism.

After collecting the required information and metadata all the gathered items are systematically arranged and categorized, where the primary database are tabulated, crosschecked and rectified. In this study, purposively simple descriptive statistical technique has been applied but for building five key indexes the following methods have been utilized. Hahn, Riederer, and Foster (2009) propounded the following index building equation (Eq. 1):

$$Index_{cpi} = \frac{S_v - S_{min}}{S_{max} - S_{min}} \quad (1)$$

Where,

S_v is the original sub-component or indicator value for an area or v^{th} village of snake charmer
 S_{max} and S_{min} is the maximum and minimum value of each sub-component

These two maximum and minimum values are applied to convert the indicator value into a standardized index. For instance, variables that measure frequencies—such as ‘percentage of household capable to handle deadliest snake species and perform with traditional instrument’ and ‘percentage of household capable to perform traditional folk-art form(s)’—the minimum value set at 0 and the maximum at 100. The sub-components are aggregated after being standardized using Eq. 2 (Pandey & Jha, 2012) as follows:

$$M_v = \frac{\sum_{i=0}^n Index_{cpi}}{n} \quad (2)$$

Where,

M_v is one of the major components for community potentiality index (CPI),
 $Index_{ich}$ is the i^{th} sub-component or indicator value, belonging to major component M_v for v^{th} village,
 n is the number of sub-components under the major component.

Furthermore, for better understanding number of maps, images, flow diagrams and an info-graphic layout of model village have been incorporated. Additionally, for data management and computation simply Ms-Excel, for flow diagram Ms-Word, and for mapping Arc GIS tool has been used.

2.2. Study area

Being an important point, the *study area*, in most cases, makes sense of the geographical entity on which the investigational work is carried on. It is well known that in most of the nation(s) or state(s) under South Asian domain, once upon a time, were the homes of snake charmers (Fig. 1[a]) but nowadays there are little abundant. Contrastingly, in India they have been seen in major states especially nearby popular tourist spots having king-cobra snake or giant python hanging on their neck (ground survey). Fig. 1[b] shows the state wise (major) residential locations of snake-people. Table 1 is reifying the important habitable sites of snake charmer community across pan India. While the approximate potentiality of this said marginal group of people are also incorporated in the table (Table 1) with the major causes behind their occupational ban and cultural extinction. Hence, Table 2 conveys the detailed information (with geo-locations) on the best possible sites for intangible heritage tourism or intangible cultural heritage tourism and supportive geoheritage sites and geotourism. Further, Fig. 2 provides zone wise (Zone 1: Rajasthan; Zone 2: West Bengal, Jharkhand and Odisha; Zone 3: Uttar Pradesh, Bihar and Madhya Pradesh) locations of study area with snake charmers' village and geoheritage sites. Apart from these, the mentioned targeted areas are those exclusive zones on which this kind of valuable developmental scheme would be activated from paper to ground-reality, and by which sustainable development of this deprived group (after assuring the conservation of captivated wildlife) as far as the conservation of geological treasures made possible. After getting the successful outcome from the combined attempt of ICHT and geotourism, in near future, the probable new suitable sites across pan India can also be seen in Table 1.

3. Results and discussion

3.1. Searching community potentiality for ICHT

Being a preliminary attempt, as this study may confer strategically suitable sustainable development of an outlawed occupational group (snake charmer) along with the promotion of intangible cultural heritage tourism (ICHT) and support of established geotourism, it (study) requires sound understanding about the community and their potentiality scenario in spatial dimension. Aiming the said goal random sampling survey, followed by *pilot survey*, has been carried out in nine villages among the specified zones (Zone 1: Rajasthan; Zone 2: West Bengal, Jharkhand and Odisha; Zone 3: Uttar Pradesh, Bihar and Madhya Pradesh). The

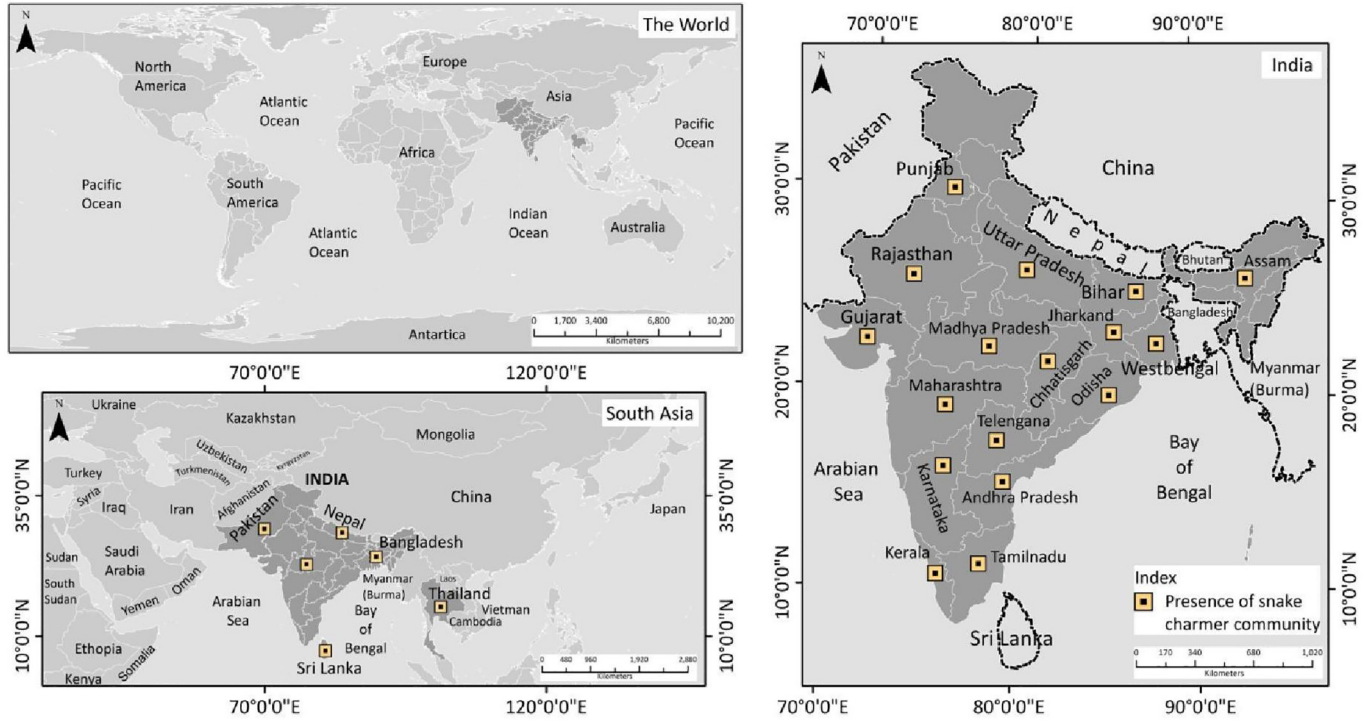


Fig. 1. Upper left, geographic location of South Asia. Lower left, presence of snake charmer community across South Asian nations. Right, major residential states of snake charmer community in pan India.

Table 1
Snake charmers' residential locations and their approximate qualities.

Major States of India	District(s) or area	Information of poor snake charmers and status of traditional livelihood (Vital causes for occupational extinction: law, globalization, modernization, etc.)	Approximate potentiality	References
New Delhi (NCR)	Mollarbandhgaon	Only 2 men lusting with snake charming and the rest of them changed to present means of employments. Neither any special cultural feature traced.	Very low	Down To Earth, 2015
Punjab	Ropar Gaon	None of the community members attached with traditional means of earning and lifestyle.	Very low	Dainik Bhaskar, 2018
Haryana	Titanagaon village	Almost all of the community members have changed their traditional livelihood and lifestyle due stringent law and modernization.	Very low	Hard News, 2007
Rajasthan	Jaipur, Jodhpur, Udaipur, Jaisalmer	About 26% (72 male) members attached with traditional livelihood and lifestyle; and special cultural features have been observed.	Very high	Ground survey, 2013; Bareth, 2010
Gujarat	Vadinagar, Bhachau	About 10–12 members are still practicing street performance and having minor evidence valuable for ICHT	Low	Khanna, 2004; The Week, 2018
Uttarakhand	Dehradun, Haridwar, Rishikesh	Only 2–3 snake charmers performing shows especially tourist entertainment	Low	WWF India, 2016; Sharma, 2016
Maharashtra	Buldhana, Solapur	About 4–5 members are attached with snake charming and major proportion of community members are not interested for ICHT	Low	Khobragade & Pawar, 2015; Khant, 2018
Kerala	Kochi Fort, Kochi	Only 2 elder members are practicing traditional livelihood and rest of them switch over to other means of earning.	Very low	India Video, 2012
Karnataka	Laggerre, Hampi	About 7–8 community members are engage with traditional livelihood, when none of the member is interested for cultural heritage tourism.	Very low	Nagesh & Kalachannegowda, 2015; Vasyilkova, 2013
Tamil Nadu	Pettai, Budalur, Manamadurai	Around 10–11 community members engaged with snake rescue operation, when none of them is interested for cultural heritage tourism.	Very low	The New Indian Express, 2009; Ananth, 2018
Andhra Pradesh	Guntur, Sullurpeta (Nellore)	Only 2 members are practicing snake charming and 5–6 members are engage with snake rescue operation.	Very low	khoaicoihai, 2016; Kumar, 2018
Telangana	Bolarum (Secunderabad)	About 4–5 members are engaged with snake rescue operation	Low	Rama Krishna, 2015
Madhya Pradesh	Satna, Bhopal city	About 17% (26 male) members attached with traditional livelihood; and special cultural features have been observed for ICHT.	Moderately high	BBC News, 2011; OneIndia News, 2010
Chhattisgarh	Raipur	About 8% (12 male) members are carrying their hereditary livelihood and culture where rests of them are not interested to be with tradition and culture.	Moderate	Hindustan Times, 2019; NewsX, 2019
Uttar Pradesh	Raebareli, Varanasi, Kanpur, Meerut, Salenagar	About 11–12% (46 male) members carrying traditional livelihood; and few cultural features observed worthy for ICHT.	Moderately high	Harding, 2002; Kataria, 2017; Earl, 2018;
Bihar	Gaya, Bhagalpur, Saran, Munger Siwan, Bhojpur, Khagaria, Dumka	About 21–22% (56 male) members carrying traditional livelihood and almost major proportion of remaining households still attached with hereditary lifestyle and culture.	Moderately high	Ground survey, October–December 2019
Jharkhand	Ranchi, Jamshedpur	Only 8–9 snake charmers performing shows especially tourist entertainment	Moderate	Subramanian, 2010; ANI News, 2019
Odisha	Bhubaneswar	About 3% (7 male) community members are practicing snake charming. Few cultural features seemed worthy for ICHT.	Moderate	Ground survey, December 2018; Mohanty & Mohanty, 2004
Assam	Nalbari, Dhubri	Only 2–3 men engaged with snake charming and the rest are shifted to non-traditional means of employments	Very low	Times of Assam, 2013; The Assam Tribune 2014
West Bengal	Jalpaiguri, Koch Bihar, Malda, Murshidabad, Burdwan, Birbhum, Bankura, Purulia, Purba Medinipur, Paschim Medinipur, Hugli, Haora, Nadia, North 24 Parganas, South 24 Parganas	About 28% of workers practicing snake charming, though a larger proportion of workers are engage with modern means of earning. Apart from these, number of interesting cultural features observed potential for ICHT.	Very high	Ground survey, 2010–2014

(Source: Secondary, verified by pilot study (2010–2019))

Table 2
Study area with key features.

Categorized zones	Cultural heritage sites				Adjacent geoheritage sites		
	State	District, (snake charmers' village)	Geo-location	Cultural heritage attraction	District, area	Geo-location	Major geoheritage attraction
Zone 1	Rajasthan	Jaisalmer (Jogi Basti)	26.9157° N, 70.9083° E	Kalbeliya Dance performance, folk-song performance, snake charming show	Jaisalmer	26.9157° N, 70.9083° E	Akal wood fossil park Nepheline Syenite bare rock park
		Jaipur (Kalbelia Colony)	26.9124° N, 75.7873° E		Ajmer (Kishangarh)	26.5866° N, 74.8542° E	
Zone 2	West Bengal	Udaipur (Nathka-gaon)	24.5854° N, 73.7125° E	Snake charming performance, Scroll-painting show	Udaipur (Jhamarkotra)	24.4804° N, 73.8595° E	Stromatolite park Ajodhya hills, Turga and Bamni waterfalls
		Purulia (Bede Para)	23.3322° N, 86.3616° E		Purulia	23.1780° N, 86.0465° E	
Zone 3	Jharkhand	Ranchi (Nath Maholla)	23.3441° N, 85.3096° E	Snake charming performance, Rai-Nritya dance performance	Rajmahal	25.0548° N, 87.8282° E	Plant fossil bearing Inter-Trappean beds Pillow lava and iron-ore belt Salkhan fossils park Rajgir hills Kakolat waterfall Ghugua fossil park, Granite rock park Fossiliferous zone
	Odisha	Bhubaneswar (Sapua Kela)	20.2961° N, 85.8245° E		Keonjhar, (Nomira)	21.6289° N, 85.5816° E	
	Uttar Pradesh	Raibareli (Sapera Basti)	26.2145° N, 81.2528° E		Sonbhadra	24.4570° N, 82.9932° E	
	Bihar	Gaya (Sapera Colony)	24.7914° N, 85.0002° E		Nalanda	25.2622° N, 85.4788° E	
	Madhya Pradesh	Satna (Joginath Basti)	24.6005° N, 80.8322° E		Nawada	24.8867° N, 85.5435° E	
				Mandala	22.5979° N, 80.3714° E		
				Jabalpur	23.1815° N, 79.9864° E		
				Umaria	23.5310° N, 80.8295° E		

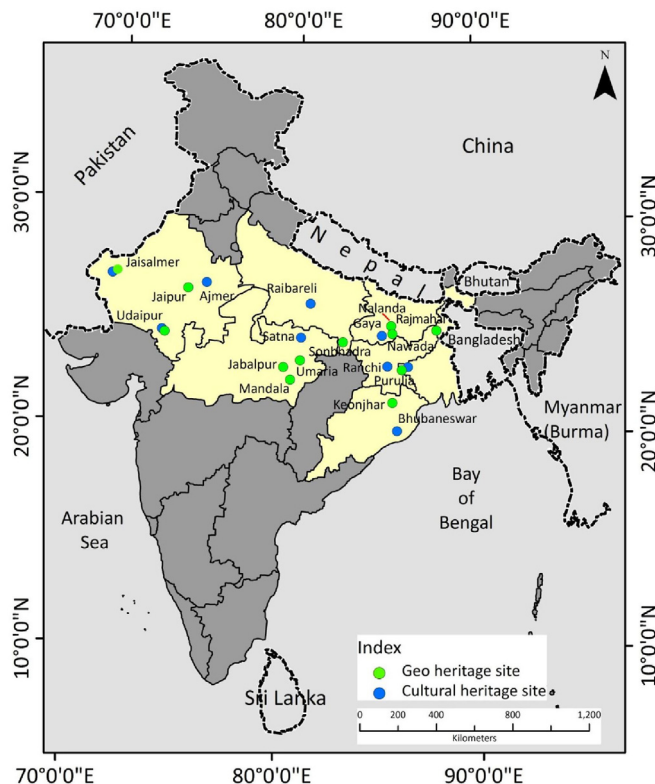


Fig. 2. Surveyed villages of snake charmers and concerned geoheritage sites in India.

Table 3
Zone wise potentiality of snake charmer community for ICH tourism.

Sub-component	Index value (rages from 0 to 1)		
	Zone 1	Zone 2	Zone 3
Human capital			
Working population	0.56	0.48	0.50
Literacy rate	0.52	0.47	0.40
Health facilities	0.58	0.52	0.52
Human capital index (major component)	0.56	0.49	0.47
Financial capital			
Average monthly income (INR)			
<5000	0.50	0.48	0.53
5000–10,000	0.37	0.56	0.55
10,000–20,000	0.42	0.50	0.42
>20,000	0.50	0.33	0.33
Sources of livelihood			
Traditional livelihood	0.48	0.56	0.46
Non-traditional livelihood	0.52	0.44	0.54
Financial capital index (major component)	0.46	0.48	0.47
Living infrastructure			
Puccua	0.44	0.50	0.40
Semi-Puccua	0.50	0.47	0.50
Kuchcha	0.61	0.52	0.63
Electricity	0.59	0.48	0.43
Sanitation	0.60	0.53	0.46
Drinking water	0.53	0.44	0.53
Consumer durables	0.43	0.46	0.57
Basic infrastructural index (major component)	0.53	0.49	0.50
Social capital			
Households benefited from several government schemes	0.50	0.47	0.38
Households benefited from government schemes related with tourism	0.50	0.44	0.33
Beneficiary index (major component)	0.50	0.46	0.35
Intangible heritage potentiality			
Capability of snake charming performance	0.41	0.44	0.58
Capability of snake handling and snake rescue	0.42	0.50	0.44
Capability of folk-art performances (singing/dancing/scroll-painting show)	0.56	0.50	0.62
Capability of playing musical instruments during performance	0.50	0.50	0.55
Capability of traditional craftsmanship	0.58	0.48	0.59
Cultural potentiality index (major component)	0.49	0.48	0.56

Source: Computed by authors, based on Primary data (2016–2019).

systematic ground survey reveals some interesting facts about this underprivileged group of people. Table 3 represents the results, based on customized five major components, as index value. The major customized indexes are *human capital index*, *financial capital index*, *basic infrastructural index*, *beneficiary index* and *cultural potentiality index*. The index value ranges from zero to unity, which indicate more the index value is equal to more the customized attribute or vis-à-vis. In case of first composite index, human capital index, comparatively higher value (0.56) has been observed in zone 1 (Rajasthan) followed by zone 2 (West Bengal, Jharkhand and Odisha) and zone 3 (Uttar Pradesh, Bihar and Madhya Pradesh) respectively. As the derived values established with higher magnitude, it shows the potentially for ICHT. The next composite index (financial capital index) replicates the urgency of economical support, as well as necessity of sustainable development, for this focussed community people being shown in zone wise results (Table 3), e.g. zone 2 (0.48), zone 3 (0.47) and zone 1 (0.46). Hence, the third customized index, which is the basic dimension of highlighting the minimum infrastructure and household amenities for living, evidences nearly moderate situation in all over the zones. While zone 1 (Rajasthan) has comparatively higher value (0.53) than zone 3 (0.50) (in the states like Uttar Pradesh, Bihar and Madhya Pradesh) and zone 2 (0.49) (in the states like West Bengal, Jharkhand and Odisha). In addition to this, it would not been wrong to say that the second major component and the third major component are supportive to each other, rather than contradictory. The fourth major component, like beneficiary index, demonstrates that zone 1 (Rajasthan) is comparatively in better position than zone 2 and zone 3, and the value ranges from 0.35 to 0.50. The last and the most important composite index, which tried to measure the 'cultural potentiality' and is hypothesized to be ardent for ICHT development in programmed manner, built with five sub-components containing inherent qualities of this community (Table 3). The study outcome shows that comparatively the higher index value (0.56) has been observed in zone 3 (Uttar Pradesh, Bihar and Madhya Pradesh) followed by index value 0.49 in zone 1 (Rajasthan) and index value 0.48 in zone 2 (West Bengal, Jharkhand and Odisha). Alongside with this, Fig. 3 clearly depicts the spatial variability of five major components linked with a specified community, i.e. snake charmer. The same illustration also underlines marked differences especially in case of three components (like human capital index, beneficiary index and cultural potentiality index). The causes behind such spatial differences are as follows: differences in socio-demographic features, differences in socio-political condition prevailing over the regions, and hereditary knowledge and inherent talent carried over several generations by the concerned group. In order to sum up it can be said that, wherever in case of index value of individual sub-component or composite major component the values ranges

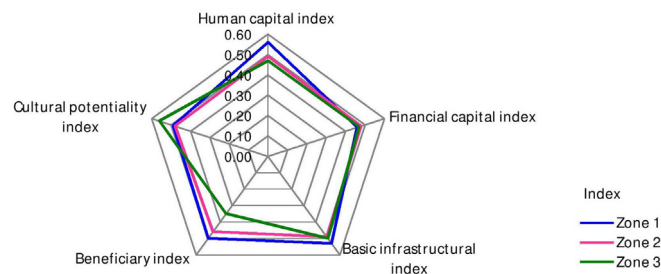


Fig. 3. Spider diagram showing zone wise major components for ICHT development.

between 0.30 and 0.60 and neither any kind of marked extremity has been encountered. Thus, three selected zones, constituting seven states (namely Rajasthan, West Bengal, Jharkhand, Odisha, Uttar Pradesh, Bihar and Madhya Pradesh), have fulfilled the criteria and possessed for further development of (intangible) cultural heritage tourism, complementing with geoheritage tourism or geotourism.

3.2. Intangible cultural heritage attributes of snake charmers

In earlier paragraph, the *intangible cultural heritage* has already been defined. Now, this section is dedicated to the key part of understanding of the observed qualities of snake charmers and their cultural heritage, which have been less addressed in the existed literatures. Under the canopy of social anthropology, number of academicians have addressed numerous aboriginal landsmen and their cultural attributes, but the group of snake charmers are probably neglected from the limelight. The snake charmers are being observed, in present days, in various state provinces of India who do belong to broad *Bediya* caste. Although there are 42–43 clans or sub-clans under this *Bediya* caste, six to seven among their clans are practicing snake charming as their ethnically connected traditional livelihood (Halder, 2016, 2018; Halder & Mukhopadhyay, 2013; Halder & Paul, 2020). According to the theories of Hunter (1875), Wise (1883) and Risley (1891), this ethnic group, in pre-independence period of India, practiced nomadic lifestyle and therefore there are number of controversies regarding their religion, race, genesis, and so on. Simultaneously, from the writings of Huq-Choudhury (1998) and Nāhār Laīju (2011), about the same occupational group found in India's neighboring country like Bangladesh, again attest the above theory. Moreover, from long-term fieldwork (2010–2019), participation survey and personal observation it can be asserted that the snake charmers or *sapera(s)* in various state territories have different cultural, religious and behavioral attributes. However, one thing on which they have commonality is their linguistic codes, i.e. the observed snake charmers use to communicate within community members in *Māngta* (a lesser-known vernacular dialect). A perusal of Fig. 4 highlights the potential cultural heritage of Indian snake charmers. For detailed discussions, the attributes are stated in geographical direction wise. From their religious point of view the snake charmers of western part of India are mainly keeping faith on Lord Shiva, on the eastern side they still believing on the Snake Deity—*Mānāsa*, whereas a small proportion of snake peoples from south Indian domain follow the *Nāg-Dēvi* or *Mānchhamā* as their Goddess. In case of dress-code, this very group distinctly differs from western to eastern part of India. Men, from snake charmer community (western part of India), usually wear 'kurta' (a kind of traditional shirt) and 'dhoti' (a piece of long white cloth) along with saffron or red colored turban in their heads (Fig. 4 [a]), and women from the same community wear 'ghagra-choli' (very colorful traditional cloths with lower and upper body cover) and use lots of bangles in their hands (Fig. 4[b]). Whereas in the eastern part of India, the men snake charmers (called *sāpuriya*) wear 'lungi' (a colorful piece of cloth tighten from waist) and half-sleeve shirt, but they never use turban in their heads rather a small strip of red-cloth above forehead. Women from the said group usually wear 'sari' (a common traditional long piece of cloth) and necessary items. The traditional ornaments used by snake charmers' wives, in western part, are made up of old copper-coins and colorful beads. Whereas the snake charmers' wives in eastern part are fond of cowry shells, colorful beads (mainly red and black) and old aluminum-coins decorated ornaments (*ground survey*). Saying more, on performing art of snake charmers of western part (mainly Rajasthan), they are wealthier than any other parts or eastern part (West Bengal, Bihar, Odisha, etc.). The snake charmers of Rajasthan are well known for their folk-performance as 'Kalbeliya-Dance' (Fig. 4[d]). Where a group of the said community plays traditional instruments and women perform, wearing very colorful dresses, in snake like movements and postures. On the contrary, in the eastern part of India among the focussed group, mainly in West Bengal, they have a unique performing art form, which is less highlighted, is scroll-painting show (Fig. 4[h]) accompanying with narrative song (Halder, 2020). Side by side, in rest of the surveyed part of India (Uttar Pradesh, Madhya Pradesh, Bihar and Jharkhand) the noticeable performing art of snake charmer community is old magical tricks and acrobats precisely in street-shows around rural areas. Other than these, the common performing skill of this ethno-occupational group is charming with deadliest snakes, in most cases, with the help of traditional handcrafted-flute (*pungi*), drums and other lesser-known instruments (Fig. 4[j, k, o]). Beside these, a small group of snake charmers (known as *katputli-wale*) has adopted (in Rajasthan) traditional puppet-making (decorative purpose) (Fig. 4[e]) and hand-playing puppet show (small sized wooden-puppet) conducting as means to earn their hand to mouth. Therefore, this additional cultural attributes may add unique feature towards cultural heritage. In West Bengal there are very small number of members of the said community still practicing hand-made puppet-show (comparatively bigger sized wooden-puppet) in rural areas



Fig. 4. Glimpses of potential intangible cultural heritage of Indian snake charmers (Source: First author, acquired during ground survey).

(especially in Burdwan and Birbhum districts) and this would have further enlightened as heritage potential. Subordinately, in order to demonstrate the minor but rare feature of intangible cultural practice by snake charmer community in West Bengal is traditional tattooing (Fig. 4[l]) which further appends valued resource for the promotion of ICH tourism. Surprisingly, among the targeted group from Madhya Pradesh folk-song and dance performance, called 'Rai Nritya' or 'Bedni Dance' has been recognized as ICH by the Indian administration (Ministry of Culture, Government of India, 2014), so these may also add more. Moreover, from displaying perspective in ICH tourism the existence of scared groves (especially in the state of West Bengal and Odisha) as very rare cultural practice (Fig. 4[n]) would mesmerize the (foreign) tourists. Further with the vision of traditional craftsmanship, the selling of handcrafted flute (called 'bin' or 'pungi') in Rajasthan and embroidery worked silk sari in West Bengal may positively enrich the life and living of snake charmers (Fig. 4[c, i]).

Thus, in short, the intangible cultural dimensions of snake charmer community of India are seen through the perspectives of lifestyle, religion, entertainment, decorative, self-representation and many more. Undoubtedly, this perspective is a resource for

ICH and sustainable development for the deprived (marginal) group of people, who have the same right to live with their cultural heritage and ethnical identity amidst the larger society. Side by side, this kind of unconventional means of tourism also capable to attract those tourists, having special attachment with geoheritage tourism, in the courtyard of cultural heritage tourism and indirectly play important role in geoheritage conservation. Another notable point is when geoheritage tourism and geoparks, in India, are remained sub-standard the new attachment of cultural heritage tourism may popularize and carter *ad-hoc* prosperity.

3.3. ICH tourism for Indian snake charmers: Cause behind promotion

Globally there are four fundamental features of intangible cultural heritage (ICH) founded by UNESCO (2004), i.e. “traditional, contemporary and living at the same time”, “inclusive—contributes to social cohesion, encouraging a sense of identity”, “representative—skills and customs passed on the rest of the community, from generation to generation” and “community-based”. Although the concept of intangible cultural heritage, in most cases, end with the search of monument(s) and collections of objects. Interestingly the updated convention UNESCO (2004) has given importance towards the protection and conservation of other resources rather than natural heritage, monuments, architectural expressions and collections of old objects. From the scholarly contribution of Schmitt (2008) one gets familiar with the way of protecting masterpieces of oral and intangible cultural heritage of humanity in Morocco, which are getting destroyed with social change and modernization. Surprisingly, even today one can get a tiny links among the master street-performers, as musicians, storytellers, acrobats, seers and *snake charmers* of Jemaa el Fna Square in the old city of Marrakech (Schmitt, 2008), with the nomadic legerdemain like Indian snake charmers. Similarly in India a group of former nomads or snake charmers are the victim of fate and their oral and intangible heritage are at the edge of extinction due to various causes like unprecedented social change, modernization, stringent acts and strict banning on traditional livelihood. In short, the unique oral and (intangible) cultural heritage of a marginal section of Indian society has been facing severe challenges and in some cases they have been destroyed and disappeared earlier. None other than incorporating more instances in support of promotion of ICH, it would be better to state the background of ICH tourism and its beneficiary dimensions for India's snake charmers. In rural India the broad group of *Bediya* and its numerous clans (42 to 43) are popular as experts in folk-entertaining, performing storytelling, puppet-show making, tattoo making, scroll-painting with narrative singing, snake-charming, hand-tricks and acrobats performing and many more (Halder, 2016). Sincerely, amidst the wave of globalization and social change all those kinds of art forms lost their glories. Moreover, the stringent environmental laws added more hurdles in continuing *their* (snake charmers) ethnically connected livelihoods. Obviously, the unwanted consequences are these primitive occupational group members are jobless and unwillingly trapped by acute poverty, hunger, starvation and malnutrition (Haider, 2013; Halder, 2018; Halder & Mukhopadhyay, 2013; Halder & Paul, 2020). One more important thing is that at the age of cyber-revolution and digital-entertainment, after the obliteration of all these unique cultural heritage of the enclave society, when the so-called ‘modern-viewers’ get bored with the existed mono-entertainment forms, they are bound to search for those lost intangible cultural treasures. Thus, the above valuable points are hypothecated to be near sufficient for promoting ICH tourism, not only for the development of heritage tourism of India but also for the eco-friendly and (dignified) rehabilitation of the outlawed group of snake charmers. Furthermore, if this kind of potential cultural treasure, of an enclave society, strategically promoted in a programmed manner combining with well-acknowledged geoheritage tourism and geoparks it will not only prove as rational way-out for sustainable development of snake charmer society but also helpful for geoconservation and preservation of geodiversity, in a win-win fashion.

3.3.1. Promotional model: ICH tourism

Until the scientific ensemble of the scattered theoretical notions into a systematic model oriented framework a proposal for ICHT development seems to be incomplete. It helps how to make the concept into ground reality. This subsection is particularly focussed to discuss the region wise characteristic features of intangible culture of snake charmers, region wise cult as well as life-style diversity, and in which way a model village for ICHT and socioeconomic development of snake charmers be possible, paralleled with geoheritage tourism. A perusal of Table 4 helps understand the selected ground locations (Indian states and respected districts), area wise variation of cultural heritage and associated tourist spots with geological interest, in short. Side by side, Fig. 2 also may help understand the state wise best possible sites for ICHT and geotourism, in India. As in South Asian nation like India, ICH tourism and geotourism both are beyond their desired reach. Primarily it is believed that with the additional combination of geoheritage sites and geoparks tourist attractions ICHT initially starts its journey of development. Apparently, from the Table 4 it is clear that specifically the three major zones have much potential to have ICH tourism combined with geotourism and the respected zones (Zone 1: Rajasthan; Zone 2: West Bengal, Jharkhand and Odisha; Zone 3: Uttar Pradesh, Bihar and Madhya Pradesh) have distinctive features in case of intangible cultural heritage and geological legacy. It would be a common scenario that as the targeted ICH tourism is contended around an indigenous group of snake charmers ‘snake charming’ performance must be dominant traditional performance irrespective of regional variation but with a logistic care for the sustainability of wild-life creature. During the ground-survey (2016–2019), it has been observed that there is a growing interest and attraction among the tourists (domestic and foreign) to have ‘selfie(s)’ with displayed snake(s) and snake charmers and short interactions. Thus it would not be wrong to argue that, even modern tourists are experiencing more enjoyment and humane attachment with this kind of primitive entertainers. When zone wise variations of intangible cultural aspects are as follows: in western part, other than snake charming, folk song performances and folk dance like ‘Kalbeliya Dance’ are recognized by UNESCO (2004). Other popular traditional performance of ‘Rajsthani snake charmers’ are making handcrafted dolls and traditional play with handmade puppets based on local folktales. In eastern part, other than snake charming (with regulatory care for sustainability of snakes)

Table 4
Summarized characteristics of three major zones of India, in combination with geoheritage & geopark development.

Zones	Major location (State & District)	Short features of cultural heritage of snake charmers	Detail descriptions	Adjacent major geoheritage sites	Short geological features	Detail descriptions
Western (Zone 1)	Rajasthan	Intangible Cultural Heritage		Geological heritage		
	Jaisalmer	Desert national parks, camp safaris and Kalbeliya Dance and folk song performance, snake charming	Based on tourists' interest traditional folkdance and folksong are conducted in dessert safari, also avail street-performance of snake charming.	Jaisalmer	Akal wood fossil park	This famous fossil park (spreading over around 21 ha) is preserving around dozen or more fossil wood logs lay horizontal in random orientation. And the significant specimens are petrophyllum, ptyllophyllum, equisetitis species and dicotyledonous wood and gastropod shells of Lower Jurassic period (180 million years old). The presence of such life-forms carries the hints that the area at that period (Lower Jurassic period) had lush growth of forest in humid climate.
	Jaipur	Decorative wooden puppet (<i>kat-putli</i>), Kalbeliya Dance and folk song performance, snake charming	Based on private arrangement traditional folkdance and folksong are conducted. Unorganized way street-performance of snake charming is conducted. Along with conventional tourism tourists may have tour at <i>kat-putli</i> making village.	Ajmer (Kishangarh)	Nepheline Syenite bare rock park	Nepheline Syenite in a geoheritage site in Ajmer (Kishangarh) occurs as an intrusive pluton in Kishangarh group which overlies a granite paragneiss, leucogranite and minor bodies of amfibolite and underlies unconformably a sequence of conglomerate. This small but most important geological treasure carries the evidence of earth's geological history of 1590 to 1910 million years back.
	Udaipur	Kalbeliya Dance and folk song performance, snake charming	Primarily through personal arrangement, traditional folkdance and folksong are conducted. Also have the provision of puppet-dance show. Usually street-performance of snake charming is seen at tourist spots.	Udaipur (Jhamarkotra)	Stromatolite park	Stromatolites are generally carrying the indication of the earth's earliest life-form built by a combination of sediment trapping and binding activity of algae and bacteria usually in a shallow water bodies. While Bhojunda Stromatolite Park is a bare topographic expression inside the Bhagwanpura limestone of the Lower Vindhyan range and proved as a majestic geologic wonder.
Eastern (Zone 2)	West Bengal	Intangible Cultural Heritage		Geological heritage		
	Purulia	Snake charming performance, Scroll-painting show with narrative song performance, Delegate hand-crafted items, Other tribal dance forms: Chou Dance, Pata Naach	Based on private arrangement traditional performances like snake charming and scroll-painting show can be organized. Generally, snake charmers are travel at various locations and conduct traditional performances. The delegate handcraft may add more value towards selling of gift items for tourists.	Purulia	Ajodhya hill, Panchet hill, Turga and Bamni waterfalls	Ajodhya hill, an important 360° view picturesque landscape and extended part of Eastern Ghats range, where two valued waterfalls Turga and Bamni located. It would be ideal destination for junior rock climbers, wild trekkers and bird watchers. Among other hills and hillocks are Panchet hill and Joychandi hill. As this site belongs to lowest step of Chhotonagpur Plateau, the general scenario is undulating land with scattered hills.

Table 4 (continued)

Zones	Major location (State & District)	Short features of cultural heritage of snake charmers	Detail descriptions	Adjacent major geoheritage sites	Short geological features	Detail descriptions
Zones	Major location (State & District)	Short features of cultural heritage of snake charmers	Detail descriptions	Adjacent major geoheritage sites	Short geological features	Detail descriptions
Eastern (Zone 2)	Jharkhand	Intangible Cultural Heritage		Geological heritage Rajmahal		
	Ranchi	Snake charming performance, tribal handicrafts	Here most of the snake charmers are have to travel at various remote villages and sometimes near any temples organizing snake-charming shows. Additionally tribal handicrafts may boost tourism in near future.		Plant fossil bearing Inter-Trappean beds	Rajmahal Hills range is one of the oldest mountain range and richest Jurassic-era fossil beds. Having a great picturesque landscape (average elevation 200-300 m) observation, this geological site preserves a legacy for future generation with rarest of the rare plat fossil treasure (68–145 million years old) bearing Inter-Trappean beds.
	Odisha	Intangible Cultural Heritage		Geological heritage Keonjhar, (Nomira)	Pillow lava and iron-ore belt	Nomira is a lesser known geological wonder having interesting pillow lava outcrops. This geological feature took its shape (2.8 billion years before) when hot molten basaltic magma slowly erupted under water and solidified rapidly to form roughly spherical or small buns like shapes. This geoheritage site gives an important clue to the evolution of Precambrian Peninsular India. When nearby iron lava belts adds more towards geoheritage tourism.
	Bhubaneswar	Snake charming performance	Small number of the snake charmers are have to roam remote villages for snake charming and sometimes perform in TV serial episodes.			
Central (Zone 3)	Uttar Pradesh Raebareli	Intangible Cultural Heritage		Geological heritage Sonbhadra	Salkhan fossils park	In this developing geopark fossil, of around 1400 million years old, mostly appears as rings on the boulders which is scattered over an area nearly 25 ha. The most common fossils found here are algae and stromatolites kind of fossils.
		Snake charming performance, Acrobats and hand tricks street-performance	Snake charmers on the basis of own choice conduct traditional shows like snake charming and primitive acrobats. Here may be a future option of village home stay with this occupational group.			
	Bihar	Intangible Cultural Heritage		Geological heritage Nalanda	Rajgir hills	Magnificent geological features like synformal valley, antiformal fold, valley coincides with the axial depression and traversed by a structural fault, topography with large combination of antiformal and synformal folds and many more can be seen. Additionally, hill exposure with massive quartzite while low-lying areas were constituted of fissile phyllite is significant geological features with immense importance for
	Gaya	Snake charming performance, Acrobats and hand tricks street-performance	Traditional occupants, snake charmers, in most of the time by their own choice (mainly remote villages) select the spots not only for snake-charming show but also for primitive acrobat and magical performances.			

(continued on next page)

Table 4 (continued)

Zones	Major location (State & District)	Short features of cultural heritage of snake charmers	Detail descriptions	Adjacent major geoheritage sites	Short geological features	Detail descriptions
				Nawada	Kakolat waterfall	tourists and academicians. This waterfall, having great historical and mythological importance, developed on Kakolat Hill having an approximate height of 49 m and mainly famous for its panoramic view surrounded by green lash forest. There is a natural reservoir beneath the falls.
Zones	Major location (State & District)	Short features of cultural heritage of snake charmers	Detail descriptions	Adjacent major geoheritage sites	Short geological features	Detail descriptions
Central (Zone 3)	Madhya Pradesh Satna	Intangible Cultural Heritage Snake charming performance, Rai-Nritya or Bedni Dance performance with folk song	Usually on unorganized way, and some cases on private arrangement, snake charming and 'Bedni' dance would be organized with traditional folk song.	Geological heritage Dindori	Ghugua fossil park	In this fossil park well preserved evidence of Gondwana super-continent (65 million years before) fossils of woody plants, climbers, leaves, flowers, fruits and seeds have been showcased with informative documentation. Where Dicotyledons and Palm fossil woods are dominant and other fossilized plants are ancient Date-Palm, Jamun, Banana, Rudraksh and Aonla of late Cretaceous to early Tertiary periods.
				Jabalpur	Granite rock park, Folded rock structure	In this granite rock park, dykes, sills and other igneous structures are easily observable near Jabalpur. Geological ruins of Gondwana volcanism can be seen near Sihora and traps near Tilwaraghat near Jabalpur. Folded and faulted rock formation features are seen Lamheta-ghat near Jabalpur
				Umaria	Fossiliferous zone	This geoheritage site is rich in large fossil trunks, fossil fruits and a variety of quartz stones evidenced the history of 60 million years back. In some places fossilized trunks are seen in erect position.

with handcrafted flute, the leading traditional performances are scroll-painting show with narrative song based on folk-lore, and hand-made puppet show played and sung by master folk-artiste from snake charmer community. Whereas in middle or central part (in three states like Uttar Pradesh, Bihar and Madhya Pradesh) comparatively popular traditional performances, other than snake charming (after regulatory care for snake species), are primitive acrobatic performances with old-style magic show (partially little known) and folkdance performance, called 'Rai Nritya' or 'Bedni Dance'. Thus in order to formulate a systematic and technically organized ICH tourism a simple model village is proposed which would be applicable in the target areas. Fig. 5 reveals the layout of model village where the outlawed snake charmers would be rehabilitated and may survive with their ethnic identity and optimum self-respects. Here, one thing is important to mention that those couple of members who are still attached to their ethnically connected livelihood, customs, beliefs and lifestyle, have to be included under this project, rather than those who already switched over to modern day's popular means of earning. The reason behind this is the traditional occupants (small number) comparatively faced more hurdles for survival than those who already shifted from their ethnically connected means of

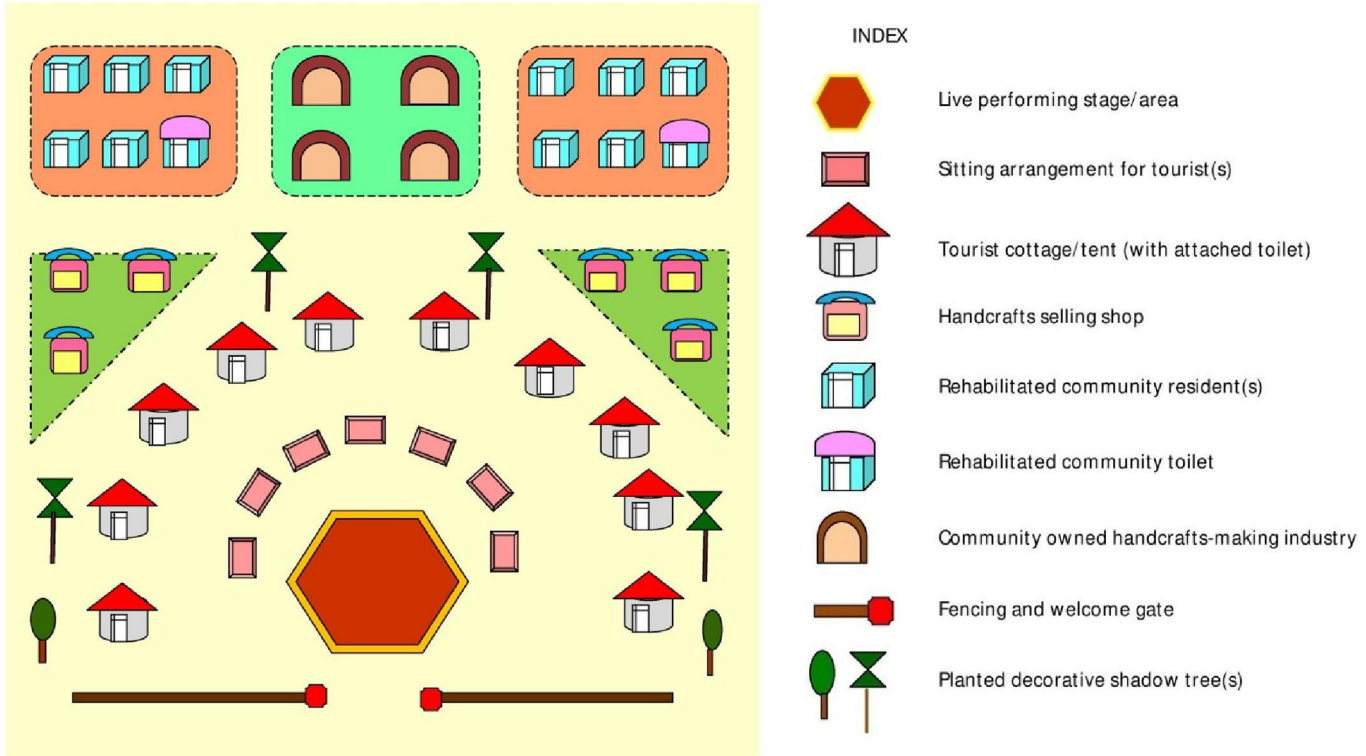


Fig. 5. Proposed outline of model village for ICH tourism and sustainable development of snake charmer community. (Source: Developed by author after participation in desert-safari, Rajasthan).

employments, and another as reason the former category (traditional earners) may fit more suitably towards the development of ICHT. For this purpose, a model village has been given in this paper. Notably, the concept of 'model village' (Fig. 5) focusing strategic promotion has been developed after long-term field visit, interaction with *this* community people and experience from desert-safari, conducted by local private group, in Jaisalmer (Rajasthan). Through the *model village* (Fig. 5) one can easily visualize that after welcomed by the said community the key point is 'performing-stage' or *arranged courtyard* located just back of the entrance gate, where live performances would be organized by *this community* facing the decorated sitting arrangement for tourists. In addition, there are tourist's cottages (with attached toilet facility) keeping in view of international standard hospitality and comforts. Along the both sides of *tourists' cottages*, there are commercial zones where shops are dedicated to sell handcrafted items (like traditional dress, ornaments, showpieces, etc.) manufactured by the snake charmer community members. The left hand side and right hand side corners are contended for small colonies rehabilitating the deprived snake charmers with minimum facility and basic amenities. In between the two colonies of snake charmers, there is 'household industrial zone' for small-scale handcraft making industry, and this may generate additional value for tourists in connection with cottage industry tourism. Ultimately, as a whole, this kind of strategic initiative (in few sites informally started and in major sites have to be enacted) through conducting traditional entertainment programs may counter back their ethnic identity, charismatic talents of wildlife handling and acrobatic performances; through building platform for community oriented craftsmanship may recover their social respect and empower economical strength. Furthermore, in near future, if there is any arrangement of establishing snake-park in nearby places to geoheritage sites (in each zone) it will assuredly help a lot and can reach the benchmark of international repute. The next subsections are dealt with the regional variations of the output and inquisitive features of the organized *model village* as well as adjacent major geoheritage sites.

3.3.1.1. Zone I. This is the most worthy zone for ICH tourism and geotourism in India. This zone is exclusively extended upto the coverage area of Rajasthan (Fig. 2). The important districts are Jaipur, Jaisalmer and Udaipur. The regional features of intangible cultural heritage of this zone are live performances of snake charming with deadliest serpent (Black Cobra) playing with handcrafted musical instruments like 'bin' or 'pungi', drums, etc. Famous folksong (*kesariyaa...balaam...padharoo...mare...desh...*) performance(s) with traditional instruments and traditional dance forms like *Kalbeliya-dance* accompanying dance-troop and (women from snake charmer community) dazzling colorful dresses would be value-added. Side by side, the rest is hand-playing puppet show with unique folksong and story line. Unique gift items are colorful traditional dresses of snake charmers, handcrafted flute, handcrafted wooden puppets (set of King and Queen), boutique ornaments (made-up with old copper-coins and colorful beads), and so forth. Whilst among geological treasures of western part of India across *three* selected districts have marvelous geotourism spots, in nearby areas, like Akal Wood Fossil Park, Nepheline Syenite Bare Rock Park and Stromatolite Park (Table 4). With the help of stated features, it can be said that, from this zone tourists may collect the finest magical moments and experience (a mix combination of geological history and colorful culture) for lifetime, and which seems incredible in comparison with other South Asian nations.

3.3.1.2. Zone II. This is the second most important zone for ICH tourism encircling *snake charmer community* and lesser known geological heritage sites and geoparks in India. Under this zone three states have been included (Fig. 2), i.e. West Bengal (Purulia), Jharkhand (Ranchi) and Odisha (Bhubaneswar). This eastern zone is culturally different from the former one (Rajasthan) and this clustered area is comparatively beyond any hi-tech digital promotion(s) for tourism. Therefore, there would be a lot of potentiality with undiscovered features of ICH tourism, geotourism and geoparks (Table 4). The zonal features of intangible cultural heritage of this eastern zone are live performances of snake charming (after special care for securing sustainability of snake species), in established model village(s), with various serpent species (venomous and non-venomous) and playing with handcrafted instruments like 'bin' or 'pungi', 'dug-dugi', bamboo-flute, etc. Especially in this region (West Bengal, Jharkhand and Odisha) the master snake charmers are usually play with number of snake species and provide basic information about the captivated snakes. Thus, it would be the most attractive and informative entertainment part for foreign tourists. Apart from this, another valuable performance of this community people is scroll-painting show complementarily with narrative-song. Through ground survey (Halder, 2020), it was observed that the members of snake charmer community generally used to play three types of scroll-paintings and for different kinds of scroll-paintings shows the complementary narrative songs are different from each other (e.g. Mānasa-Māngala Pāt [scroll-painting show of Snake Deity], Gāruṣ Pāt [scroll-painting show of sacred Cow Deity] and Māa Sitālār Pāt [scroll-painting show of Local Deity—*Sitāla*]). Even though, a few member of this community still organize wooden-made hand-playing puppet shows at rural areas and in near future it would add new weightage to ICHT. Other items, worthwhile for ICHT, in eastern zone are traditional tattoo making and cult of scared-grooves of snake charmers. Simultaneously, the spectacular gift-items (manufactured and traded by the members of the said community) for domestic and foreign tourists are handcrafted flute or decorated *bin*, handcrafted dolls, customized ornaments (made-up with cowry shells, old aluminum-coins and colorful beads) and the beautiful scroll-painting. However, the geoheritage wonders of this eastern (clustered) zones are Ajodhya Hill, Panchet Hill, Turga and Bamni waterfalls (Purulia, West Bengal), Plant fossil bearing Inter-Trappean Beds (Rajmahal, Jharkhand) and Pillow Lava and Iron-ore belt (Nomira, Odisha) (see Table 4). Obviously, this eastern zone may add different flavor to ICH tourism as far as geoheritage tourism of India.

3.3.1.3. Zone III. This is comparatively the third important zone for ICH tourism with different specialty but with richer geological heritage sites adjacent to surveyed districts. This zone is agglomerated with single district from each state (Fig. 2), e.g. Uttar Pradesh, Bihar and Madhya Pradesh (Table 4). According to the intangible heritage point of view, *this* zone has, relatively,

moderate potentiality though it may have value-adding profile towards concerning tourism development. On the other hand, this zone has bestowed with *Nature's* gift, i.e. geoparks with panoramic view of Gondwana landscape and geological imprint like rich fossil-park. The major geoheritage sites under this third zone are Salkhan Fossils Park (Sonbhadra, Uttar Pradesh), Rajgir Hills (Nalanda, Bihar), Kakolat Waterfall (Nawada, Bihar), Ghugua Fossils Park (Dindori, Madhya Pradesh), Granite Rock Park and folded exposed rock structure (Jabalpur, Madhya Pradesh) and Fossiliferous Zone (Umariya, Madhya Pradesh) (see Table 4). Under this zone, among the surveyed areas, there is small number of snake charmers practicing their age-old vocation (i.e. snake charming). However the region specific features of intangible (cultural) heritage of the focussed community are possible live performances of charming (after securing the sustainability of captivated wildlife) of deadliest snakes (the King Cobra and Python), in proposed model village(s), apprehended with music of handcrafted instruments of 'dafli', 'pungi', etc. Beside this, another lesser known live performance by this group is 'Rai Nritya' (locally known as *Bedni Dance*) accompanying with folksongs and arrangement of common musical instrument, which would be the new attractive item for ICH tourism in central part of India. The prime live performance of this zone would be acrobats (where young members are doing some old-type gymnastic actions on the rhythm of folk-sounds or 'dhun'), primitive type magic-shows and many more. The potential gift-items, suitable not only for ICHT but also for earning support (craft making and trading handcrafted products), are colorful dresses or dance-costume, handcrafted flute, traditional ornaments, snake-charmer showpieces, etc. Additionally this zone would add a different taste to intangible heritage tourism and geotourism of the unpopular part of India.

The ongoing discussions for encouraging *intangible heritage tourism* and allowing snake charmers to be lived (happily) with their traditional 'snake-charming' (a sort of captivated wildlife tourism), it seems to be biased or forgotten about the sustainability of captivated (endangered) snake species. To address this problem, there (in each village of snake charmers) must be local-level amendment of law that exclusively those household (truly belong to snake charmer community) may allow to captivate single snake species per household and may retain single snake species upto two weeks. Simultaneously each of the household, who captivated snake, must release it to the nearby wild-areas and may captivate another after legal permission. In addition, local-level forest department and local-administration should monitor all these amended rules and regulations. The mentioned follow-ups are for the precise conservation of endangered wildlife creature (serpents) to which we firmly advocated. Hence, the above stated guidelines and follow-up rules should be displayed (in the form of hording) maintaining international standard and thus sensitization for wildlife protection (snakes in particular) can relate to the high international standards.

In the meantime, we have to caucus about the pessimistic side and loopholes of this sort of combined tourism promotion, in a country like India. Fundamental steps of ICHT development are as follows: Step 1: Governmental startup initiative for model village development with government-private combo partnership; Step 2: Site selection and infrastructural development; Step 3: Involvement of local administration and inclusion of community stakeholders; Step 4: Rehabilitation of deprived households of snake charmers; Step 5: Training for overall aims and objects of snake charmers' society; Step 6: Initiatives for securing the sustainability and health care for captivated snake species and their time-bound release and re-capture monitoring by local bodies and forest department; Step 7: Hi-tech cyber promotion of project; Step 8: Monitoring body building with regional tourist department collaboration and displaying arrangement (bi-lingual) of standard rules and regulation for wildlife protection (specially snakes); Step 9: Offering low cost tourist package. Whereas, necessary steps for development of geotourism and geoparks are as follows: (1) building basic infrastructure, like roads, sanitation, refreshment centers, etc., for good accessibility and better hospitality for tourists, (2) restricting further industrial exploitation of geoheritage sites as mining areas, (3) combined hi-tech promotion of ICH and geotourism in government and private websites, (4) scientific mapping of geoheritage sites and its promotion, (5) establishment of information chart/hording in each geoheritage site, (6) local level awareness building for conservation of geodiversity and so forth. As additional precaution, the probable loopholes are intrusion of middlemen (or brokers) in the entire system of ICH tourism and geotourism development, improper monitoring, negligence of snake charmers' welfare, unnecessary imposition of environmental laws, less attention towards tourists' hospitality and comforts, should be taken seriously by local and regional administrations.

3.4. Combined projection of geoheritage, geoparks and intangible heritage tourism

After being accustomed with formerly stated literatures, it would be a judiciary decision if we accept and acknowledge the importance of conserving our geoheritage and cultural heritage. There is no doubt that, both of the concepts have enough justifiable points, e.g. Indian geoheritage sites (instead of having huge potentiality) is lacking behind proper conservation and appropriate promotion for geotourism and geoparks. On the other hand, the cultural heritage of Indian snake charmers (instead of having inherent qualities) is far behind any suitable or alternative way of cultural preservation and going to be extinct shortly. This present study, in combined arrangement, is projecting the intangible cultural heritage tourism (ICHT) with geoheritage tourism and geoparks. Fig. 6 yet again makes the concept clearer of combining the two sub-branches of modern tourism. This infographic model is developed after rigorous review of literatures and contextual analysis, especially from the writings of Woo, (2014) and Ríos et al. (2020). After close examination (Fig. 6) it would be understandable that, the ICHT stands on four pillars such as *culture, indigenous knowledge, ethnicity & livelihood, and aesthetics & lifestyle* of a marginal community of snake charmers, whereas geoheritage tourism (a well recognized branch of modern tourism) stands on different four pillars such as *culture, geological history, archeology, and flora & fauna* roofed by geology. Hence, this concept (combining the mentioned two sub-branches) would offer a desired result after taking constructive efforts and initiatives. In one hand, it will boost up existed tourism-economy and on the other hand, it will help sustainable development of a marginal group (snake charmer) in an eco-friendly way. Both of the branches needs appropriate conservation. Consequently, this vow of action has tri-fold orientation, i.e. geoeducation,



Fig. 6. Schematic layout for combining geoheritage and cultural heritage (Adapted and modified after Woo, 2014; Rios et al. 2020).

geotourism and geoconservation. Geoeducation provides the platform for education and awareness exclusively geological history, past geo-climatic environment, lithology and overall physical landscape of the selected geo-sites or (underdeveloped) geoparks of western, central and eastern India. Side by side, the knowledge on cultural heritage of this mysterious community adds more bonuses. Secondly, with the joint venture of ICHT and geoheritage tourism a large section of tourists may get interested when the promotional establishment and costing become easier and cheaper. Finally, this combined form of tourism apparently may conserve our geological legacy from the hand of over exploitation and may provide an alternative way of dignified living for Indian snake charmers.

4. Conclusions

This study has revealed that there is enough evidence to endorse a banned vocational group (Indian snake charmers) through cultural heritage tourism, complementary attachment with geoheritage and geoparks, for their sustainable development. Moreover, this focussed ethnic group has reasonable (culturally linked) potentiality on spatially diversified parameter, though in the said country the status of geoheritage tourism and geoparks ranked below international benchmark. Thus, the proposed combined format provides desired support to each other. Consequently the selected zones (Zone 1: Rajasthan; Zone 2: West Bengal, Jharkhand and Odisha; Zone 3: Uttar Pradesh, Bihar and Madhya Pradesh) proved as the best suitable sites where ICH tourism, geoheritage and geopark should be developed. Subordinately, well thought proposed model villages (region-specific) can play pivotal role in field of economic empowerment as well as recovering lost cultural glory.

Hopefully, after post-pandemic period, the growing global attention towards geotourism and geoparks also may encourage India's tourism sector. In between these if another sub-branch, *i.e.* intangible cultural heritage tourism (linked to Indian snake charmer), is combined and attached with geoheritage and geoparks it will provide a different blending flavor. Undoubtedly, the promotion of this blending category of tourism (geoheritage + cultural heritage) is the demand of present time. Therefore, the current strategic promotion has significant positive angles *likewise* tourism revival, generate eco-friendly employment option in geotourism and ICH tourism, geoheritage conservation, cultural heritage restoration, reintroduction and popularization of India's geological history and lesser known folk-entertainment, reusing unpopular geological sites and traditional craftsmanship enhancement, grass-root level economic development, community empowerment and self-esteeming, and many more. Briefly, by providing stimulus to this combined tourism the ultimate desired goals like grass-root level infrastructural and economic development of backward regions, for backward group and considerable foreign exchange for the nation would be reached.

Ethical approval

All procedures performed in this present study involving human participants were conducted in accordance with the ethical standards of the institutional and/or national research committee.

Informed consent

Informed consent was obtained from all individual participants included in the study.

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Credit author statement

Both the authors have taken active part in case of conceptualization; data curation; formal analysis; investigation; methodology; project administration; resources; software; supervision; validation; visualization; writing - original draft; writing - review & editing.

Declaration of competing interest

On behalf of all authors, the corresponding author declares that there is no conflict of interest.

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