Aboriginal Tourism: A Mask of Biopirates Threatening Inherent Knowledge and Ecological Diversity

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Abstract The aboriginal people actively participate in safeguarding ecological diversity worldwide. The interaction of aboriginal people with their ecological diversity for generations has acquired them with indigenous or inherent knowledge. The indigenous information is used by aboriginal individuals for health issues, agricultural practices, animal breeding, plant breeding and also for various spiritual and cultural ceremonies. Every year aboriginal tourism programmes are organized in different locations around the globe. In recent years, it is witnessed that some researchers, scientists and representatives of various global corporations often perform educational, research, explorative or project tours in the native places of aboriginal people. During the aboriginal tourism programmes, biopirates disguise as aboriginal tourists and isolate samples of plants, animals, and also ancestral knowledge. These vital ecological samples and ancestral knowledge are largely used for producing bioproducts which are often subjected to patenting. It was concluded from this investigation that biopirates have used aboriginal tourism as a mask for biopirating the inherent knowledge and ecological diversity of the aboriginal people for their selfish research and greed for wealth.

Keywords: aboriginal tourism, biopirates, biopiracy, inherent knowledge, ecological diversity

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1. Introduction

Aboriginal people or indigenous communities are societies that are living within or linked to demographically diverse ancestral dwellings or territories around the globe. They often maintain distinct social, political and ancestral identity. There are about 370 million aboriginal individuals surviving on this globe [1]. In the global scenario, aboriginal people are residing in 90 different nations and possess distinct cultures and rituals [2]. Indigenous people are deeply involved with inherent customs, rituals and ecological diversity. In modern times aboriginal people are often treated as inferior or underdeveloped. In several instances, studies reveal that the privileges of aboriginal individuals have been disrespected. These people have significant inherent information concerning their ecological diversities. The inherent information of aboriginal people is an attractive feature for the global corporations as they seek this information for developing a bioproduct and further patenting it. Therefore the destinations rich in aboriginal societies are highly marketed by the aboriginal tourism or ecotourism industry.

1.1. Inherent Knowledge or Traditional Knowledge

The interaction of aboriginal people with their ecological system for generations has enabled them to develop aboriginal knowledge or indigenous information [3]. Ancestral information is a part of different rituals, cultural ceremonies, stories, songs and even various legislations of the aboriginal societies [4]. Aboriginal people use inherent information for agricultural practices, animal breeding, plant breeding, herbal medicinal preparations and also curing various health ailments. Moreover, in many aboriginal communities, inherent data acts as an asset, providing them with their daily bread and butter.

1.2. Aboriginal Tourism

Aboriginal tourism sometimes also termed as ecotourism or is a large industry that is highly acknowledged by the governments and non-governmental organizations of the globe. It’s the fastest-growing subsidiaries of travelling industry that gained fame during the 1980s [5]. Aboriginal tourism is largely been appreciated in America and Europe. The main object of this green tourism was to benefit the aboriginal communities and their environment. But this assumption of ecotourism, later on, proved injurious to the aboriginal individuals and their ancestral information. It’s a well-known fact that ecotourism has been dominated by giant corporations of the globe and they utilized it as a monetary source. On the contrary aboriginal tourism costs cultural, economic and environmental loss to the
aboriginal individuals. Aboriginal tourism has now generated fear in the aboriginal societies as it has led to their displacement from their dwellings, loss of their survival means and misuse of their inherent data. The United Nations Permanent Forum on Indigenous People 2003, has also reported that aboriginal tourism has severely injured the aboriginal individuals [6].

As a marketing strategy, aboriginal tourism is highly encouraged throughout the world without viewing its harmful effects on the aboriginal individuals, ancestral information and ecological diversity.

2. Material and Methods

2.1. Material

The data being used in the present investigation was the secondary data. The concerning data was collected from different secondary sources that included published scientific research articles, books, scientific magazine articles, books, conference proceedings, case studies and news reports from various internet websites.

2.2. Methods

The present investigation is exploratory research that has been carried out by utilizing secondary data available from different secondary sources. The secondary data was subjected to observational analysis and further evaluated for obtaining a conclusion.

3. Result and Discussion

3.1. Potential of Aboriginal Tourism

Aboriginal tourism is highlighted in one of the main goals of the Convention of Biological Diversity or CBD [7]. In CBD it is mentioned that sustainable utilization of ecological diversity for a long duration does not deteriorate it, rather adds to its conservation or safeguarding. Aboriginal tourism follows Agenda 21 of the Rio Declaration [8]. It is mostly promoted by progressing and poor nations mainly to earn foreign exchange. However, advanced nations have often observed indigenous tourism just as a stream of luxury or leisure or as a source of generating income. In conventional tourism large infrastructure and various facilities are required whereas in aboriginal tourism such requirements are very less. Thus economically aboriginal tourism does not cost much to the aboriginal states. This is a great economic importance of aboriginal tourism. Aboriginal tourism stimulates investments, infrastructure development, revenue flow, employment opportunities, public awareness and sustainable utilization of aboriginal ecological diversity.

3.2. Threats Posed by Aboriginal Tourism on Ecological Diversity

Though aboriginal tourism was promoted for tenable utilization of ecological diversity, but now it has become injurious to the aboriginal individuals and their ecological diversity. Aboriginal tourism causes numerous losses to aboriginal people like deforestation of their dwellings, illegal collection of animal and plant samples from their native places, spreading of diseases in their communities by tourists, uncontrolled wildlife explorations like poaching and angling. The aboriginal societies have been exploited by the aboriginal tourists by collecting their ancestral information and transferring it to their home nations, where it is explored for creating bioproducts that are widely marketed in the world market.

3.3. Aboriginal Tourism Indulging Biopiracy Cases

There have been various instances that indicate that aboriginal tourism is encouraging biopiracy in tourist destinations with aboriginal communities.

3.3.1. Vietnam Aboriginal Tourism

Frontier is a non-profit organization that works on explorations and safeguarding of the environment. It was reported by Chris Lang, who was a member of the Frontier tour expedition in Vietnam that he was shocked during his tour when he observed that volunteers collected different samples of plants and insects in the forest regions of Tam Dao Nature Reserve and Ba Be National Park [9]. He further observed that the specimen were accumulated without any approval of the administrator of the park or from the local government. He later found that the main object of this expedition was to gather information concerning the medicinal plants growing within the national park region. He was also of the opinion that this was not a tourist expedition but an initiative towards biopiracy of which he was unknowingly a part.

3.3.2. Thai Agro Aboriginal Tourism

In Thailand, the agro-tourism was started as an initiative from 1998 to 2001 [10]. Its main intent was to attract the tourists from worldwide nations to visit the aboriginal Mae Kham hill tribal community located in the Chiang Rai province [11]. The programme was further promoted as a health package tour that marketed Thai herbs. The tourist from the west showed high curiosity in the Thai herbal medicines which were misused by the Thailand government especially in favour of the western pharma corporations. The Thai government itself integrated with biopiracy conspiracy of its herbal plants attributable to their weak legislation on safeguarding the privileges of the aboriginal individuals and their ecological diversity.

3.3.3. Kovalam Aboriginal Tourism

In India, Kovalam is a tourism destination in Kerala state [12]. Somatheeram ayurvedic village is the world’s first ayurvedic village in Kovalam [13]. A variety of herbs are widely used by the aboriginal individuals of this region in the composition of Ayurvedic meds as mentioned in the ancient Indian medicinal systems of therapies. Different news and write-ups depict that various samples of different plant strains have been collected by tourists in this region, just for their pleasure. This place is highly visited by tourist from the globe and many of them
are partners with giant pharma corporations. These corporations are in search of herbal meds that can be patented by them and sold at high prices.

### 3.3.4. Chiapas Aboriginal Tourism

Chiapas region in Mexico is the habitat of ‘Mayan’ aboriginal community [14]. It’s a famous aboriginal tourism destination. This region has plenty of herbal plants that exhibit medicinal values. A project viz. International Cooperative Biological Group or ICBG project explored in the Chiapas regions for bioprospecting which was later on discontinued due to biopiracy allegations [15]. This project was collaborated by the local Mexico government and other research institutes. It was reported by various ecologists that the main goal of this project was to biopirate herbal medicines of this region.

### 3.3.5. San or Bushman Aboriginal Tourism

The San or Bushman community is the aboriginal tribe inhabiting in Kalahari barren wilderness in Africa [16]. The tribe is a hot spot for aboriginal tourists. Hoodia cactus is a plant that is being used by this San tribe community for healing purposes and also to suppress hunger. The ancestral information of this plant was being biopirated by a UK based pharma firm, Phytopharm and was patented as P57 [17]. In this biopiracy case, it was observed that interaction with the aboriginal individuals and the ecological system has incurred loss to the inherent data and ecological diversity.

### 3.3.6. Ayahuasca Aboriginal Tourism

Ayahuasca is a brewed drink prepared by a plant Banisteriopsis caapi that is widely consumed by the Shaman aboriginal tribe residing in the Amazon region [18]. Several studies have reported the medicinal values of Ayahuasca drink. In the year 1986, Loren Miller obtained a patent for this drink by biopirating it as ‘Da Vine’ [19]. This further encouraged aboriginal tourists around the world to tour the Shaman people and taste the drink. Reports are depicting that various corporations are in the queue to biopirate the aboriginal knowledge of ayahuasca for drug manufacturing and patenting it.

### 3.3.7. Madagascar Aboriginal Tourism

Madagascar is a rich aboriginal place with abundant ecocological diversity [20]. Rosy Periwinkle is a herbal plant of Madagascar that is widely used as folk medicine by aboriginal people of this region [21]. An American pharma corporation Eli Lilly biopirated and patented the indigenous knowledge related to this plant for a drug effective against leukaemia. Indigenous tourists visited Madagascar region and isolated the inherent information of Rosy Periwinkle that resulted in its biopiracy.

### 3.3.8. Guarani Aboriginal Tourism

Guarani aboriginal individuals are natives of Paraguay and Brazil [22]. Stevia is a well-known plant used by Guarani people that have sweetening characteristics. They call this plant as Kaa he’e [23]. Guarani people have been using Stevia plant as a natural sweetener for centuries. Like other tourism spots, Guarani aboriginal tourism has remarkably increased. The representatives of global corporations as aboriginal tourists visit the Guarani tribe and it has resulted in the biopiracy concerning inherent information of Stevia plant. One of the giant global soft drink corporation Coca Cola was alleged of biopirating Stevia [24].

### 3.3.9. Quechua Aboriginal Tourism

Quechua aboriginal people are surviving in the Andes mountain of Peru who are also known as ‘Potato Guardians’ [25]. It has been studied that the Quechua tribe grows widest varieties of potato in the world. Each potato variety grown by these aboriginal people is distinct and used by them in different ancestral cultural ceremonies and rituals. To protect the ancestral information of their forebears on potato strains, Quechua individuals have recently developed a ‘Potato Park’ [26]. The modern scientific studies suggest that the potatoes grown by Quechua people have high antioxidants. It has been observed in recent times that aboriginal tourists are regularly visiting this region and the Quechua people have a fear that their potato varieties might be biopirated through aboriginal tourism.

### 3.3.10. Sami Aboriginal Tourism

The Sami aboriginal people reside in four different nations, Finland, Sweden, Russia and Norway [27]. The Sami people have an inherent knowledge of healing sickness through their ancestral methods. They have isolated the healing components from their diverse flora and fauna [28]. Sami aboriginal knowledge suggests that herbal components isolated from nature often called as magical components by them are very significant in different healing methods. Sami people also use specific stones for healing purposes [29]. These stones are used for creating pressure at the points of pain in the body. The modern therapists classify such type of treatment as acupuncture. Aboriginal tourism of the Sami tribe has increased in recent years [30]. The research corporations involved in therapeutic bioproducts are often in search of collecting valuable ancestral information of the Sami people by performing aboriginal tourism and using it for developing healing meds, healing techniques and further patenting it.

### 3.3.11. Mursi Aboriginal Tourism

The Mursi aboriginal tribe is a native of Ethiopia and tourists around the world visits this site every year [31]. In Mursi tribe, inherent information depicts that disease occurs due to disturbance in the relationship between human beings and the environment. The Mursi aboriginal community have ancient healing customs that are specially used by their women healers. In this conventional healing techniques, healers often use plants, clay and dung to cure health ailments [32]. Modern science has investigated in different instances that aboriginal healing methods use natural components for healing. Moreover, in today's world, ecological products are highly recommended for curing illness as it has no side effects. Thus these ancestral methods of Mursi tribe are always under the radar of biopirates. Aboriginal tourism of Mursi community is a helping hand for the biopirates.
3.3.12. Maasai Aboriginal Tourism

The Maasai aboriginal tribe survive in Kenya and Tanzania [33]. The inherent knowledge of Maasai people concerning illness attributes to improper digestion and pollutants. The ancestral information of Maasai people helps them to treat various health disorders. They use distinct herbal plants to cure health ailments that include gastrointestinal and respiratory ailments [34]. Aboriginal tourism is hurting the Maasai community [35]. Aboriginal tourism of Maasai communities in Kenya has opened a way to the biopirates to isolate the healing inherent information of this community. Several pharmacological studies have already been carried out for the plants being used by the Maasai people for curing health disorders.

3.3.13. Andes Aboriginal Tourism

The aboriginal people of Andes mountains in Peru cultivate Maca plant as a food crop and as a medicinal herb [36]. The aboriginal knowledge of this plant indicates its significance similar to Chinese Ginseng. It is a natural booster for sexual performance and fertility. The US corporation, Pure World has obtained a patent for the Maca plant and its extract [37]. The observations suggest that aboriginal tourist who visited the Andes mountain regions isolated the inherent information of the Maca plant from the aboriginal people and it was been exploited by pharma corporations like Pure World. It has also been reported that China has been cultivating its own varieties of Peru’s Maca plant [38].

4. Conclusion

The aboriginal tourism began in the world for the upliftments of the aboriginal individuals, shielding their biological diversities and inherent data. Aboriginal tourism should operate as a solid driver to protect, reestablish and energize aboriginal communities but on the contrary, it has prompted diminishing of their ancestral data and biological varieties. The observations of this study suggest that biopirates masked as tourists have gather notable inherent data and specimens from the aboriginal ecosystem. The aboriginal tourism must deeply acknowledge the prior informed consent of the aboriginal communities and their privileges over their ecological diversity and ancestral information. This investigation recommends to respect aboriginal societies, their customs and shield their environment for its supportable use and improvement. To improve the current status of aboriginal tourism and its damaging effect, it is advised to establish and force firm worldwide regulatory standards.

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