



THE SACRED GROVES AND CONSERVATION OF BIODIVERSITY OF NAGZIRA WLS – NAVEGAON NP CORRIDOR IN GONDIA DISTRICT OF MAHARASHTRA STATE, INDIA

Laxman P. Nagpurkar and Mahendra Raut

Environmental research & study group, M.B. Patel College, Sakoli, Maharashtra, India 441 802
lp.nagpurkar@gmail.com

Abstract

Nagzira - Navegaon corridor has a number of sacred groves among which 11 sacred groves have been listed and were studied to understand the concept of traditional ecological and biodiversity conservation systems of this biosphere. The smallest groves is comprises of the size 0.5 hectare in size and largest is 13 hectares. Distances from the villages are varied and range between 0.1 to 3 km, these sacred places nowadays have fulfilled the requirement of ever increasing population of the concerned villages. The sacred places have the tremendous biological diversity. The groves have become particularly important in moderate times with the increasing pace of deforestation in all of these regions. In study area, various traditional customs associated with sacred groves were in practice. The sacred groves were rich in plant genetic diversity and were composed of many ethno-botanically useful species, including wild edible fruits, medicinal plants, fodder, fuel wood and timber yielding species and wild fauna as well. Given the importance of conservation of biodiversity and ecosystem attempts should be made to maintain the sanctity of sacred groves. It is suggested that sacred groves be preserved on a permanent basis by setting them up as a network of preservation plots under the jurisdiction of Biodiversity Management Committee BMCs, Gram Panchayat and forest department jointly.

Keywords : Sacred Groves, biodiversity Conservation, Deity, Traditional Ecological Knowledge etc.

Introduction

Sacred Groves are those places where worship of the trees, animals and whatever is present either dead or alive is being protected by the community living around it. Sacred groves are one of the most valuable legacies from the primitive practices of nature conservation, scattered presumably throughout India [1] many forms of nature worship have been documented by different people in their respective times. All forms of life from crabs to earthworm and tigers continued to be considered as a sacred. Amongst these various religious practices, the most significant from an economic point of view are those relating to the preservation of sizeable patches of forests, sometimes as much as thirteen hectares in extent, as a "sacred groves" all forms of vegetation including shrubs, herb, climber and trees are under the protection of the reigning deity of the groves, and removal, even of dead biomass is prohibited. The preservation of the entire vegetation in association with deity is quite a distinct phenomenon from the preservation of isolated specimens of sacred trees such as Peepal (*Ficus religiosa*) or Umbar (*Ficus glomerata*) which are often preserved and worshiped even without any association with a deity [2]. The sacred groves harbor vegetation in its climax formation, and probably and constitute the only representation of forest near virgin condition in many parts of present day India. The borders of such sacred

groves tends to be distinct, even when surrounded by thick forest from all sides, The surrounding forest, suffering from interference, is likely to be different in composition. The concept of sacred groves is one of the finest instances of traditional conservation practices [3].

Sacred groves are distributed in different states of India including Maharashtra and Kerala which is a part of Western Ghats of India, states of central India, they exist in different parts of world also including Nigeria, Syria and Turkey in the northeast of India, Aravali ranges of Rajasthan in the northwest all along Western Ghats in the southern peninsular and Madhya Pradesh in central India. Much of the world biodiversity is in the hands of traditional people societies of hunters and gatherers, herders, agriculturists for many generations [4]. Sacred groves, in India are known by different names at different places, such as 'Devray' in Maharashtra, 'Devarkand' and 'Siddarvanam' in Karnataka, 'Oraans', 'Kenkari', 'Malvan' and 'Yogmaya' in Rajasthan and 'Saranya' in Bihar [5,6]. In tribal region of Jharkhand and Orissa sacred groves are popularly known as Jaher [7].

Our study is focused to documentation of the sacred groves located in the Nagzira WLS and Navegaon NP corridor in central India has not yet been explored on this aspect. Besides, the present study attempts to analyze the tribal people views on sacred groves, their traditional

significance and gender issues associated with sacred groves in this biosphere.

The forest connectivity and corridors are critical for biodiversity conservation. The corridor between Nagzira Wildlife Sanctuary and Navegaon National Park situated in Gondia district of Maharashtra which provides an excellent habitat for avifauna in the form of water bodies with marshy plant growth, terrestrial platforms having thick as well as scattered trees and bushy vegetation [8]. Wild animals widely use this corridor for their movement between Nagzira WLS and Navegaon NP. The wetlands situated in the corridor fulfill the water requirement of wild animals during their movement and lean season. Nagzira - Navegaon corridor has number of wetlands and other water bodies distributed in the whole study area which are worshiped by local people and being protected since ancient time, they are called as a sacred lakes but water bodies have been decreasing continuously in the corridor. 182.76 sq. km. area in 1990, under wetlands in the corridor was reduced to 137.62 sq. km. in 1999; and to 104.35 sq. km. in 2009 [9] as concept of sacred places is being collapsed since last 15 to 20 years.

ECOLOGICAL significance OF THE STUDY AREA

Satpura- Maikal and Dandkaranya Landscapes of Central India are important habitat not only for Tigers (*Panthera tigris*), Leopard (*Panthera pardus*) but also Sloth bear (*Hesperoptenus tickelli*) the Gaur (*Bas gaurus*), Cheetal (*Axis axis*), Sambar (*Cervus unicolor*), Four horned antelope (*Tetracerus quadricornis*), Wild dog, (*Cuon alpinus*) etc. and fall in the states of Chhattisgarh, Madhya Pradesh (MP) and Maharashtra. The landscape has nine tiger reserves (2 proposed and 7 existing). These tiger reserves are connected by thin tenuous corridors. Many of these Corridors comprise of sanctuaries and forests with a legal status lesser than that enjoyed by protected areas as classified under the Wildlife (Protection) Act, 1972. Navegaon National Park and Nagzira wildlife sanctuary are located in one of these wildlife corridors.

Nagzira Wildlife Sanctuary lies to the while Navegaon National Park lies to the south of the National highway no. 6. Corridor at its narrowest point is only 3 kilometers (approximately) wide. The corridor area on both sides is highly fragmented due to the presence of villages inside the corridor area. A major portion of the villages lie adjacent to the corridor except for the area near NH 6.

These areas are still remained inaccessible by road in remote area, retained forests, lakes and primitive religious practices too. Bhandara & Gondia are eastern most districts of the Vidarbha region of Maharashtra. Gondia is connected with Balaghat district of Madhya Pradesh on northern side and Rajnandgaon district of Chhattisgarh state on eastern side, Chandrapur and Gadchiroli districts to the south and Bhandara district on the west. Geoclimatically, it is ideal habitat for the birds, wildlife and plant life with thick forest cover. The annual rainfall is about 1360mm to 1600mm. Maximum temperature in summer goes up to 46 °C and minimum in winter down to 12 °C.

The Navegaon National Park and the Nagzira Wildlife Sanctuary, which are declared as tiger reserve, are located in eastern Vidarbha region of Maharashtra state. With most of the sub-populations in central India being so heavily dependants on an influx of tigers from other source populations, the centrally located Nagzira-Navegaon corridor forms one of the most crucial links in the entire central Indian landscape that is home to approximately one-fifth (19.1%) of India's tigers. The corridor between the two protected areas is approximately 620 km in size. The area (21° 24. 57' 50"N/79° 54' 15" E and 20° 51' 46.03"N/80° 21' 26.37"E) falls in Gondia district of Maharashtra.

Methodology

Our field studies were conducted at Nagzira WLS & Navegaon NP corridor in central India. The corridor is spread in four tehsils of Gondia district namely as Deori, Sadak/Arjuni, Arjuni/Morgaon and Goregaon. The field survey was initiated through a workshop held in November 2014 in Manoharbhay Patel College of Sakoli, Maharashtra. Discussion in the workshop regarding data collection and field survey with the volunteers has been done.

Through questionnaire survey, the information was collected on the name of sacred grove, its locality, size of grove, occurrence of plants in the sacred grove site, deities worshipped, history or folklores and gender issues associated with such groves. Besides, the local people were encouraged to give their views and perceptions on the sacred grove with respect to the cultural, ecological, economical and conservation perspectives. The details regarding the sacred place, its image, nature, shelter, offerings, topographic location, ownership and preservation status is being recorded. Participant observations were also

employed and information was collected by participating in various cultural activities of the local tribal people. Interviewing individuals and groups, visiting the study site with some user group members and identifying individual knowledge in different aspects of distribution and uses of biodiversity, at the same time, discussion with entire village assembly and different government officials. The methodology of field investigation included the following components, building a rapport with local people, identifying different biodiversity users group,

Result and Discussion

Total of 89 villages are located in the corridor among which 10 core villages including Alabedar, Sahakepar, Khamtalav, Zunzaritola, Dodake, Navatola, Jamnapur, Kohlipar, Sodlagondi and Jambhulpani have been found to be completely scheduled caste communities and have been prepared a sacred place in their village area. The village has smallest 40 household to larger 300 household. The villagers cultivates paddy on the flat land in the corridor. The trees like Hirda (*Terminalia chebula*), Behda(*Terminalia bellica*), Amla(*Emblica officinalis*), Char(*Buchanania lanzan*), Mahua(*Mahuca longifolia*), Bel(*Aegle marmelos(m)*) Kuda (*Holarrhena antidysenterica*) & Dhawda (*Anogeissus latifolia*) etc. are found in larger numbers in the sacred places. Worship of the sacred groves specially organized by people on the occasion of *Mahashivratri*, special festivals and at of start of monsoon which is special mention. As mentioned in table 1, most of the cults around which the sacred places groves exists are mother goddess cults. The images of the deities are generally uniconic in the form of stones of the respective goddess. It mostly exist in the open area.

The deities are very ferocious in nature, and meet out serious illness or death to any offender. Generally it demands animal sacrifices to be placated, and stories of human sacrifices in the pasts are still current. The cult spots are largely in the villages but lie at a distance of 0.3 km away from the villages in all cases [10]. The villagers are inhabited by milder male gods like Maruti who live tamely in a temple and are happy with the offering of a coconut.

Table 1 shows the area under sacred groves can vary to a considerable extent sometime it is nothing but a cluster of 15 to 20 trees become the sacred place and sometimes it may reaches up to 0.5 hectares in extent. When a grove reaches that size, it serves quite a well to

preserve many features of the forest which must have covered the entire area in the past. The groves lie at all locations ranging from the floor of the forest and river, slopes at various distances to the top, plateau at the intermediate level and crest of the hill. The worship in villages not only performed in the forests but also at home where small plants are sown and being worshiped. The best example is Gauri puja where the female worship the goddess. Wetlands located in the corridor have demigod in the peripheral part of lake which are protected from the evil spirit.

Every sacred grove has a story of its origin. Malabai-Jungadada sacred grove is the story of sacrifice of Malabai and Jungadada during construction of dam leads the worshiping of Malabai and Jungadada 3 centuries ago. *Vaidus (Medicine man)* have traditional knowledge of various ailments which could be cured by the local plant resources, the sacred place on that special occasion with the help traditional knowledge bearer.

Preservation

Conservation of sacred groves is the need of hours as it will creates an opportunity for the villagers for safe and happy life. Unfortunately, the religious beliefs on which the conservation was based are neglected at the same time systematic conservation strategy is an urgent need as deforestation is continued and the land are under the jurisdiction of sacred grove have begun destroy. Removal of dead wood and leaf litter is a common practice everywhere, According to the “Forest Right Act, 2006” The people who ploughed land for agriculture since 2005 then, they is eligible for ownership claim.

The established customary rules may vary from place to place and grove to grove but the goal is same, which follows the similar philosophy. These traditional rules often prohibit the felling of trees and the killing of animals, except when trees are required for the construction and repair of religious buildings or in special cases do allow collection of firewood, fodder, and medicinal plants by local people [11,12]. As a result of these restrictions, the biodiversity in such sacred groves are preserved over many generations, and still exist today. sacred groves are the last home of some endangered species, as observed in Kodagu district of southern Indian state of Karnataka [13], and also are known to represent the only exiting climax vegetation communities in northeastern India [14]. Numbers of studies have supported the role of sacred grove in

conservation of biodiversity across the different parts of India including West Bengal [15], Northeast India [26] and Eastern Ghats [13]. In few places within India the sacred sites and sacred landscapes are also reported threatened by various external factors [18,19]. It has led to the declining of plant species and other materials from the sites. It is perceived that the sacred groves are not only important for religious values, which contribute significantly in maintaining the village eco-system and surrounding biodiversity [20], but they are also culturally rich and living place of deities and spirits, which has larger significance.

Preservation of such sites, and attempts should be made to maintain the sanctity of these sacred groves. People must be made aware of such traditional conservation practices and they should bear its sanctity and values in mind while looking into commercial interests. It is

important to develop management approaches in order to encourage the conservation of sacred groves. It is a need of hour to recognize the values of traditional institutions of sacred groves, the existing evidence for their effectiveness in biodiversity conservation and create space for such concepts while framing local, regional and national conservation policies and planning.

The villagers themselves maintained the sacred groves with a great passion and sanctity. The traditional institutional mechanisms have been helping the local people in maintaining the sacred groves. The 'Patil' has given the responsibility to take care and worship the village deity in sacred groves. The local people were allowed to enter and worship the village deities in sacred grove. Mostly the head of the village or 'Patil'

Table 1 : Particulars of sacred groves from the Nagzira WLS & Navegaon NP corridor area (Deori, Sadak/Arjuni and Goregaon Tehsil of Gondia district, Maharashtra, India)

Village	Deity	Distance from Villages KM	Area in Hectare	Image	Nature	Shelter	Offering	Topographic Location	Ownership	Preservation
Malijunga	Malabai-Jungadada	0.3	13	I	MF	O	C	S	G	W
Girola	Mama-Bhasha	0.1	3.5	I	M	O	C	PL	P	P
Murdoli	Mahadeo	2.5	2.5	I	M	O	A	C	P	M
Putli	Mahadeo	2	4	I	M	T	A	C	P	M
Duggipar	Sasekaran	3.5	1.5	I	T	T	A	S	P	M
Khamtalav	Mahadeo	3	0.5	I	M	O	A	PL	P	M
Sodlagondi	Mahadeo	2.5	1	I	C	T	C	S	G	W
Rampuri	Bodrai	1.5	0.5	R	M	T	A	PL	GO	W
Mandodhari	Mandobai	0.5	2.5	I	F	T	C	C	P	P
Alabedar	Gonddeo	0.5	0.5	S	F	O	A	PL	G	W
Pandhari	Mahadeo	3	0.5	I	M	T	A	PL	P	P

1 Image : I = Iconic, S = aniconic stone, R = aniconic rockface; 2 Nature: F = mother goddess, M = male god, MF = mother goddess and male god, T = tiger goddess A = ancestors; Shelter: O = open, T = temple, 4 Offering: C = coconut, A = animal meat, 5 Location: V = Valley, S = slope, P = plateau, C = crest of the hill, PL = plain; 6 Ownership: P = private, G = public, GO = Government; 7 Preservation: D = has been destroyed, W = well preserved, M = moderately preserved, P = poorly preserved.

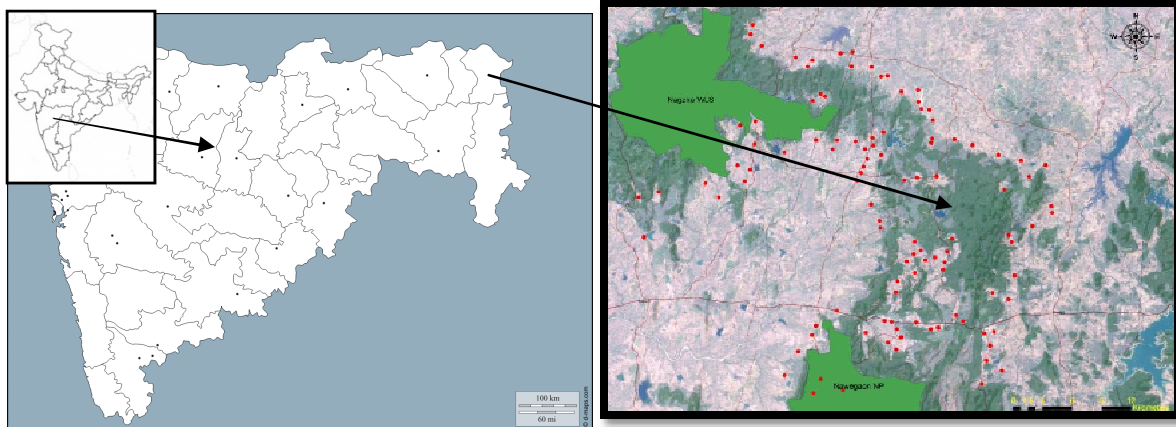


Figure 1 Location map of Nagzira-Navegaon corridor (Source -Wildlife Trust of India)



Figure 2



Figure 3



Figure 4

Figure 2 Mahua tree worshipped as sacred groves in Sodhlagondi

Figure 3 View of Malabai - Jungadada sacred grove

Figure 4 A ritual meal at Malijunga sacred grove

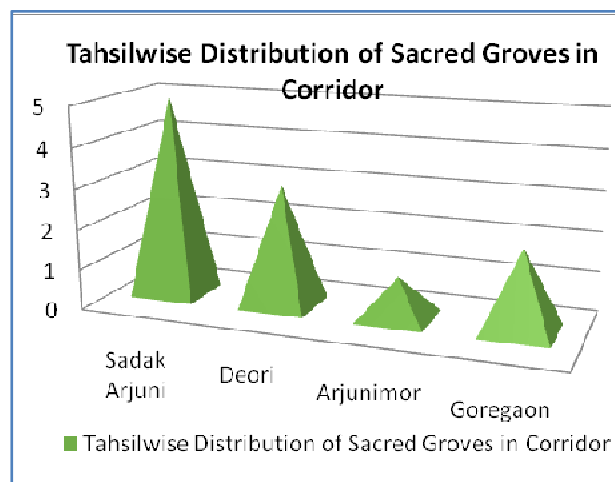


Chart 1: Tahsilwise distribution of sacred groves in Nagzira WLS Navegaon – NP corridor in Gondia district

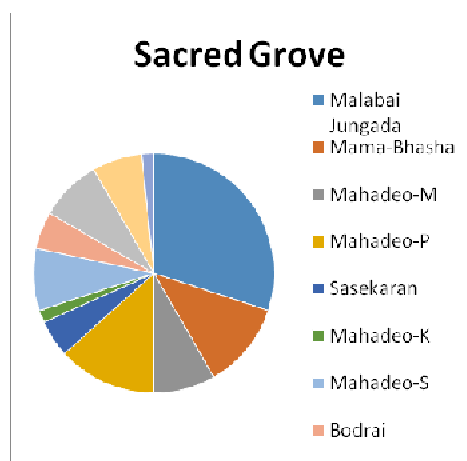


Chart 2: Area of sacred groves

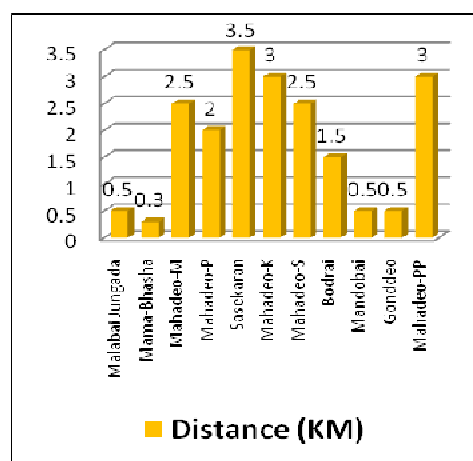


Chart 3: Distance of sacred grove from nearest village (KM)

Conclusion

Conservation of sacred groves is the need of hours as it will create an opportunity for the villagers to live. It would be useful if the scientific community takes a coordinated approach to find solutions to the questions raised in this paper. The Scientists will have to adopt during explorations of sacred groves, strategies for appropriate education, strengthening of local communities, sustainable management and protection of the sacred groves without alienating local/indigenous population. This alone could help conservation of biological diversity for posterity besides satisfying aesthetic, cultural, recreational and utilization needs of mankind.

Unfortunately, the religious beliefs on which the conservation was based are beginning to weaken at the same time as the need for their conservation is becoming more urgent with deforestation of the surrounding area. According to the "Forest Right Act, 2006" The people who cultivated land for his agriculture land before the year 2005 then the person is eligible to claim for its ownership by law. In addition to the real beneficiaries others are also strongly involved in resource exploitations resulting into habitat shrinking of Malabai-Jungadada sacred grove in Malijunga village, fragmentation of sacred grove and collapse of traditional system developed by our ancestors.

Biodiversity Act, 2005 is also a revolutionary law to conserve the biodiversity in glance. It is suggested that the conservation measures of sacred groves need to strengthen by the local body called as a gram panchayat in association with forest department, local communities, interested organisation (both government and non-government) as well as with the help of individuals.

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References

- [1] M. Gadgil and V D Vartak (1974): Sacred Groves of Western Ghats in India. *Economic Botany* 30, pp 152-160
- [2] M. Gadgil and V D Vartak (1974): Sacred Groves of India- A Plea for continued conservation. *Journal of Bombay Natural History Society* 72 (2,) pp 313-320
- [3] M. Gadgil and M. Chandran (1992): Sacred Groves. Springer Vol. 19 (1-2), pp 183-187 [4] F. Berkers, C. Folke and M. Gadgil (1995): Traditional Ecological Knowledge, Biodiversity, Resilience and Sustainability. *Biodiversity Conservation* 15, pp 281-299
- [5] B. Ramachandran, "Significance of Kavu—A Note on the Sacred Grove of Kerala in Eco-Cultural Context," *Journal of Human Ecology*, Vol. 10, No. 4, 1999, pp. 285-288.
- [6] P. Joshi and Y. Shrivastava, "Drops of Nature Conservation—Sacred Grove," *Journal of Human Ecology*, Vol. 11, No. 5, 2000, pp. 327-330.
- [7] V. Xaxa, "Oraons: Religion, Custom and Environment," In: G. Sen, Ed., *Indigenous Vision*, Saga Publication, New Delhi, 1991, pp. 101-109.
- [8] A. Bahuguna, J. Sati and P. Tak (2010) 'Sighting of Black Stork (*Ciconianigra*) in Kalesar National Park', Yamunanagar district, Haryana, India. *Newsletter for Birdwatchers* Vol. 48(4), pp 49-50.

- [9] P. Yadav, M. Kapoor and K. Sarma (2012): Land Use Land Cover Mapping, Change Detection and Conflict Analysis of NagziraNavegaon Corridor, Central India Using Geospatial Technology. *International Journal of Remote Sensing and GIS* Vol. 1(2), pp 90-98.
- [10] Kosambi, D D: (1962): Myths and reality. *Popular press, Bombay*
- [11] D. Brandis, "Indigenous Indian Forestry: Sacred Groves," Oriental Institute, England, 1897.
- [12] P. S. Ramakrishnan, "Conserving the Sacred for Biodiversity: The Conceptual Framework," In: P. S. Rama-krishnan, K. G. Saxena and U. M. Chandrashekara, Eds, *Conserving the Sacred for Biodiversity Management*, Oxford and IBH Publishing Co., New Delhi, 1998, pp. 3-16.
- [13] S. A. Bhagwat, C. G. Kushalappa, P. H. Williams and N. D. Brown, "A Landscape Approach to Biodiversity Conservation of Sacred Groves in the Western Ghats of India," *Conservation Biology*, Vol. 19, No. 6, 2005, pp. 1853-1862. doi:10.1111/j.1523-1739.2005.00248.x
- [14] P. S. Ramakrishnan, "Conserving the Sacred for Biodiversity: The Conceptual Framework," In: P. S. Rama-krishnan, K. G. Saxena and U. M. Chandrashekara, Eds, *Conserving the Sacred for Biodiversity Management*, Oxford and IBH Publishing Co., New Delhi, 1998, pp. 3-16.
- [15] P. K. Pandit and R. K. Bhakat, "Conserving of Biodiversity and Ethnic Culture through sacred Groves in Mid-napore District, West Bengal, India," *Indian Forester*, Vol. 133, No. 3, 2007, pp. 323-344.
- [16] A. D. Khumbongmayum, M. L. Khan and R. S. Tripathi, "Sacred Groves of Manipur—Ideal Centres of Biodiversity Conservation," *Current Science*, Vol. 87, 2004, pp. 430-433.
- [17] M. Gadgil and V. D. Vartak, "Sacred Groves of Western Ghats in India," *Economic Botany*, Vol. 30, 1976, pp. 152-160. doi:10.1007/BF02862961
- [18] P. S. Ramakrishnan, "What is Traditional Ecological Knowledge?" In: P. S. Ramakrishnan, R. K. Rai, R. P. S. Katwal and S. Mehndiratta, Eds., *Traditional Ecological Knowledge for Managing the Biosphere Reserve in South and Central Asia*, Oxford University Press, New Delhi, 2002, pp. 3-12.
- [19] C. P. Kala, "Ethnobotanical and Ecological Approaches for Conservation of Medicinal and Aromatic Plants," *Acta Horticulturae*, Vol. 860, 2010, pp. 19-26
- [20] M. Gadgil, F. Berkes and C. Folke, "Indigenous Knowledge for Biodiversity Conservation," *A Journal of the Human Environment*, Vol. 22, 1993, pp. 151-156