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THEME 4. ENVIRONMENT AND DEVELOPMENT IN THE NORTH EAST

SUBTHEME 4.4. LOCAL GOVERNANCE AND ENVIRONMENT

FULL PAPER

TITLE: An Overview of effective and promising role of Tangkhul Nagas in Shirui Village of Manipur-Ukhrul district in India to protect Shirui-Lily at Shirui Hills facilitating effective conservation of other threatened wildlives and their habitats in and around Shirui Hills.

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ABSTRACT

Shirui Hills, about 39 Km from Ukhrul and 90 Km from Imphal, are situated between 25°07'00"N & 94°22'00"E coordinates at altitudes ranging from 1730 m – 2590 m under Ukhrul district in Manipur. Shirui hills are declared as 'major hotspot of flora and fauna' since the discovery of Shirui Lily (*Lilium mackliniae* Sealy) by Frank Kingdon-Ward during his plant exploration in 1946. Shirui hills are part of the Shirui-Kashong range which is proposed to be a National Park under the Indian Wildlife Protection Act, 1972, as this small range harbours many more endemic plants and animals as well as rare elements of Eastern Himalayan temperate forest. Shirui Lily, an endemic Lily, is declared as the State flower of Manipur since 21-3-1989 but has unfortunately become a rare and threatened species due to intensive tourist activities which are especially organised during the blossoming period of the lily. The dumping of waste, plastic, plucking of flowers and uprooting etc. have threatened the sustenance of the species, and therefore the State Forest Department has been taking up several projects involving local Tangkhul Nagas as volunteers with financial assistance from Central Government to save Shirui Lily. A major inhabitants of Shirui village belong to Tangkhul Nagas, a Sino-Tibetan and Tibeto-Burman origin. Now Tangkhul leaders of Shirui village employed several youths to volunteer and look after the entire forest areas under Shirui hills including Shirui Lily. They are often conducting awareness programmes among local inhabitants of Shirui village to conserve wildlives in and around Shirui hills. The State Forest Department gives freedom to the inhabitants of Shirui village to conserve wildlives and therefore, nobody is permitted to enter the area of Shirui hills without the permission of local authority of Shirui village, although anybody having Forest

department valid permission. Presently local Tangkhuls of Shirui village as well as local NGO, The Mungleng Vatheh Hill Development (MVHDS) have volunteered checking peoples belonging all throughout the trekking route. Nobody is allowed to even carry a blade of grass or leaf out of the area. As a result, several other threatened endemic wildlives of Shirui Hill areas including Shirui Lily and their natural habitats are conserved peacefully. Surprisingly, once threatened animals like Brown Hornbill, Blyth's Tragopan, Golden Cat, Greater Spotted eagle and threatened plants like *Rhododendron wattii*, *Vaccinium lamellatum* (endemic), *Agapetes manipurensis* including Shirui Lily are now increasing their populations due to local governance of wildlife conservation.

Key Words: Effective conservation, Shirui hills, Shirui village, Shirui Lily, wildlives, threatened, Tangkhul Nagas, Ukhrul, Manipur, India.

INTRODUCTION

As a result of taxonomic revision on Indian Ericaceae family under "Flora of India Project" (1999-2004) and post-revisionary work under UGC project (2009-2011), two field tours were conducted to Shirui Hills (2002, 2010), the only habitat of *Vaccinium lamellatum* P. F. Stevens (Ericaceae), a threatened endemic ethnomedicinal plant, discovered by Kingdon-Ward in 1946 (*Kingdon-Ward* 17246, BM). Since its discovery in 1946, no further collections were made by the scientists of Botanical Survey of India, collectors of Forest Department and other scientists from Universities and Institutes. Therefore, field tours were conducted in March, 2002 (under Botanical Survey of India) and April, 2010 (under UGC Project) to trace *Vaccinium lamellatum* P.F. Stevens populations in Shirui hills. Fortunately, populations of *Vaccinium lamellatum* were grown luxuriantly (although in a small area of about 1 sq km area) as epiphyte on tree trunks nearer to Shirui Lily conservation site in and around 2nd hill top. Surprisingly, no trace of second populations of *V. lamellatum* observed till April, 2010 survey. This is due to effective conservation steps to save once threatened Shiroy lily (*Lilium mackliniae* Sealy), Manipur's State Flower by the local Tangkhul Nagas and local NGO, The Mungleng Vatheh Hill Development Society (MVHDS) with financial assistance from Forest Department. As a result, all wildlives including Shiroy Lily are automatically conserved without any anthropogenic disturbances, especially in and around 10 sq. km smaller area.

Shirui hills about 39 Km from Ukhrul town and 90 Km from Imphal, are situated between 25°07'00"N & 94°22'00"E coordinates at altitudes ranging from 1730 m – 2590 m under Ukhrul district in Manipur. The total geographic area of Shirui hills are ca 56 sq km and declared as 'major hotspot of flora and fauna' since the discovery of Shiroy Lily (*Lilium mackliniae*) by Frank Kingdon-Ward during his plant exploration in 1946. Shirui hills are part of the Shirui-Kashong range which is proposed to be a National Park under the Indian Wildlife Protection Act, 1972, as this small range harbours many more endemic plants and animals as well as rare elements of Eastern Himalayan temperate forest. Shiroy Lily, an endemic Lily, is declared as the State flower of Manipur since 21-3-1989 but has unfortunately become a rare and threatened species due to intensive tourist activities which are especially organized during the blossoming period of the lily. The dumping of waste, plastic, plucking of flowers and uprooting etc. have threatened the sustenance of the species, and therefore the State Forest Department has been taking up several projects involving local Tangkhul Nagas as volunteers with financial assistance from Forest Department to save Shiroy Lily.

A major inhabitants of Shirui village belong to Tangkhul Nagas, a Sino-Tibetan and Tibeto-Burman origin. Linguistically, the Tangkhuls belong to a large language family called Sino-Tibetan, within that family to the sub-family Tibeto-Burman. The earliest home of the Tangkhuls was the upper reaches of Huang heo and Yangtze Rivers which lies in the Zinjiang province of China. One group moved towards east and southeast to be become known as Chinese, another group moved southward to become the tribes of Tibeto-Burman which includes the Tangkhuls and other Naga sub tribes. That was between about 10,000 B.C. to 8000 B.C. Thus, the Tangkhuls as also other Naga tribes have travelled from China to Myanmar and from there finally they came into their present land (Manipur) traversing through innumerable snow covered landscapes, mountains and wild forests confronting wild beasts and wild tribes. The Tangkhuls came together with the Maos, Poumeis, Marams and Thangals because all of them have references to their dispersal from Makhel, a Mao village in Senapati district. They had also erected megaliths at Makhel in memory of their having dispersed from there to various directions.

Now Tangkhul leaders of Shirui village employed several youths to volunteer and look after the entire forest areas under Shirui hills including Shiroy Lily. They are often conducting awareness programmes among local inhabitants of Shirui village to conserve wildlives in and around Shirui hills. The State Forest Department gives freedom to the inhabitants of Shirui village to conserve wildlives and therefore, nobody is permitted to enter the area of Shirui hills without the permission of local authority of Shirui village, although anybody having Forest department valid permission. Presently local Tangkhuls of Shirui village as well as local NGO, The Mungleng Vatheh Hill Development (MVHDS) have volunteered checking peoples belonging all throughout the trekking route. Nobody is allowed to even carry a blade of grass or leaf out of the area. As a result, several other threatened endemic wildlives of Shirui hill areas including Shirui Lily and their natural habitats are conserved peacefully. Surprisingly, once threatened wildlives including Shiroy Lily are now increasing their populations due to local governance of wildlife conservation, but at a smaller area of ca 10 sq km.

Major floral diversity in Shirui Hills

Shirui hills fall under Indo-Burma hotspot which is the home to about 13500 plant spp., of which ca. 7000 are endemic (Chatterjee et al. 2006). Shirui hills harbour a large number of plant taxa, more than 1000 species of angiosperms (ca 150 are endemic), ca 7 spp. of gymnosperms, ca 90 spp. of fern & fern-allies (10 are endemic), ca 60 spp. of bryophytes, ca 30 spp. of fungi and ca 20 spp. of lichens, but algal & microbial diversity are not explored yet. Diversity of Algae, Fungi, Bryophytes, Pteridophytes and Gymnosperms are still required to explore, however, diversity of angiosperms are mostly explored (starting from George Watt, 1888 to Mao & Gogoi, 2012). Shirui hills also harbour ca 150 spp. of orchids, ca 20 spp. of rare Bamboo, 10 spp. of Zingiberales and ca 400 spp. of ethnomedicinal plants. Further explorations are required to document more plant wealth from Shirui hills area. Dominant angiosperm families are Orchidaceae, Asteraceae, Poaceae, Liliaceae (*Lilium*), Ericaceae (mostly *Rhododendron*), Zingiberaceae, Leguminosae, Fagaceae (*Quercus* & *Castanopsis*). Number of threatened ethnomedicinal plants are ca 400 spp. Some Endangered and endemic plants are *Lilium mackliniae* Sealy, *L. davidii* Duch., *Vaccinium lamellatum* P.F.Stevens, *Vaccinium manipurens* (Watt ex Brandis) Sleumer, *Agapetes mannii* Hemsl., *A. borii* Airy Shaw, *Rhododendron*

johnstoneanum Watt ex Hutch. and so many other species of angiosperms and other plant groups which need to be explored for further documentation purpose.

Major faunal diversity in Shirui hills

Like flora, faunal diversity is also more unique, much varied and not explored completely yet. Mammals and birds are explored mostly while reptiles (recently seen Burmese subspecies of Python, *Python molurus vittatus*—near southern slope), amphibians, insects and other animals are less explored. As per the survey report by various scientists and local NGOs throughout 56 sq km area of Shirui hills, following mammals and birds are observed: Leopard (*Panthera tigris* L.—still Vulnerable—seen throughout Shirui hills), Gaur (*Bos frontalis* Lamb.—still Vulnerable—seen throughout Shirui hills), Wild dog (*Cuon alpinus* Dhole—still Vulnerable—seen throughout hills), Hoolock Gibbon (*Hylobates hoolock* Harlan—still Vulnerable but may increase due to recent conservation steps taken by local Tangkhuls—seen throughout hills), stump-tailed Macaque (*Macaca arctoides* Geoffroy—still Vulnerable but may increase due to recent conservation steps), Slow Loris (*Nycticebus coucang* Boddaert—still Endangered—seen rarely near southern slope), Golden Cat (*Catopuma temminckii* Vigors & Horsfield—still Endangered but may increase due to recent conservation steps) and birds like Blyth's Tragopan (*Tragopan blythii* Jerdon—still Endangered but population may increase due to effective conservation—it occurs in higher hills of Shirui, usually above 1800 m), Mrs. Hume's Pheasant (*Syrnium humie* Hume *humie*—still Vulnerable due to poaching, but may increase due to effective conservation steps taken recently—seen in southern slope of Shirui hills), Green Pea Fowl (*Pavo muticus* L.—still Vulnerable—seen throughout Shirui hills rarely), Greater Spotted Eagle (*Aquila clanga* Pallas—still Vulnerable—seen in southern slope), Spot-billed Pelican (*Pelecanus philippensis* Gmelin—still Vulnerable but may increase due to recent conservation steps—seen throughout), Rufous-necked Hornbill (*Aceros nipalensis* Hodgson—still Endangered but may increase due to recent conservation steps—seen in southern slope), Eye-browed Thrush (*Turdus obscurus* L.—still Vulnerable—may increase due to recent conservation steps), Grey Sibia (*Heterophasia gracilis* McClelland—still Vulnerable but increases their populations recently due to their nest protection), Tickell's Brown Hornbill (*Annorrhinus tickelli* Blyth *tickelli*—still Vulnerable but may increase due to recent conservation steps) and so many others (reported and not reported).

Role of local governance and present scenario in threatened plants and animals including their habitats in and around Shirui hills under effective conservation by local Tangkhul Nagas and local NGO-MVHDS (The Mungleng Vatheh Hill Development)

Botanical workers like Kaith (1932), Kingdon-Ward (1946, 1948, 1949, 1952), Mukherjee (1953), Jain & Shukla (1979), Katakai et al. (1984), Singh et al. (2000), Mao et al. (2009), Singh et al. (2009), Gogoi (2010), Mao & Gogoi (2012), Panda (2006, 2008) and Banik (2008) as well as zoological workers like Chowdhury (1992, 1998, 2002—Avian fauna), Mitra (2006- Dragonflies) and other references by ZSI scientists reported a large numbers of threatened and smaller populated plants and animals in and around Shirui hills. Most of them considered the Shirui hills as one of the unique microhotspot under Indo-Burma megahotspot region. Ramthao, a Range Officer under Ukhrul Forest Division, published a short article in Nagaland Post on 2nd November, 2012 as “Shirui hills are under serious threats with recurrent forest fire and wanton felling of trees with depleting forest cover following fast disappearance of wildlives”. Forest Department also supported Ramthao and highlighted three main threats of wildlife disappearing: tree felling, hunting & trapping and collection of plants before flowering & fruiting.

Considering the ecological importance of the area, the state Govt. of Manipur had proposed to declare the whole Shirui hills as a National Park but the local Tangkhul Nagas did not agree to hand over their area to the Government. However, they were willing to protect it through Community initiatives.

Presently Shirui hills get the status of “Community Forest” mainly governed by the local Tangkhul Nagas of Shirui village with financial assistance from the Forest Department. Villagers are allowed to take minor forest products including fuel woods for their domestic purpose, instead they are protecting wildlives including ‘Shiroy Lily’ and ‘Nongin’ (The state bird of Manipur). State Government is also providing financial assistance for the development of local community. Now Tangkhul leaders of Shirui village employed several youths to volunteer and look after the entire forest areas under Shirui hills, especially in and around 2nd hill top of Shiroy Lily natural habitat site. They are often conducting awareness programmes among local inhabitants of Shirui village to conserve wildlives in and around Shirui hills with the financial assistance from the state and central governments. The State Forest Department gives freedom to

the inhabitants of Shirui village to conserve wildlives and therefore, nobody is permitted to enter the area of Shirui hills without the permission of local authority of Shirui village, although anybody having Forest department valid permission. Presently local Tangkhuls of Shirui village as well as local NGO, The Mungleng Vatheh Hill Development (MVHDS) have volunteered checking peoples belonging all throughout the trekking route. Nobody is allowed to even carry a blade of grass or leaf out of the area. As a result, several other threatened endemic wildlives of Shirui Hill areas including Shirui Lily and their natural habitats are conserved peacefully.

Surprisingly, Hume's Pheasant or Nongin (*Syrnaticus humie humie*), a Critically Endangered and the state bird of Manipur was rediscovered in the early winter of 2010 by the DFO, Ukhrul near Shirui village, nearly after 50 years. Not only Nongin bird, but also other once threatened animals like Tickell's Brown Hornbill, Blyth's Tragopan, Golden Cat, Greater Spotted eagle, Stump-tailed Macaque, Grey Sibia, Green Pea Fowl, Rufous-necked Hornbill and threatened plants like *Rhododendron wattii* Cowan, *R. johnstoneanum* Watt ex Hutch., *Vaccinium lamellatum* P.F.Stevens, *Vaccinium manipurensis* (Watt ex Brandis) Sleumer, *A. mannii* Hemsl. including Shiroy Lily are now increasing their populations due to local governance of wildlife conservation (increasing populations of threatened plants are observed during field survey in and around Shirui hills during April, 2010, but in case of increasing populations of above said animals, data taken from Forest field guides and local Tangkhul leaders).

Presently, local Tangkhul Nagas including their volunteers of Shirui village are conserving effectively 10 sq. km areas including 1st and 2nd hill tops where Shiroy Lily and Nongin birds are plenty. Therefore, hunting, poaching and tree felling are often happening outside this 10 sq. km area. Although, Forest department of Ukhrul Division is keen to protect the whole area of Shirui hills and accordingly conducting awareness programmes among local inhabitants throughout the district. Such type of local governance by Tangkhul Nagas to conserve Shirui community forest and its wildlives may be a model in immediate future for effective conservation of wildlives as well as to save our dwindling ecosystems.



Fig. 1. Entry point to Shirui Hills (source: website)

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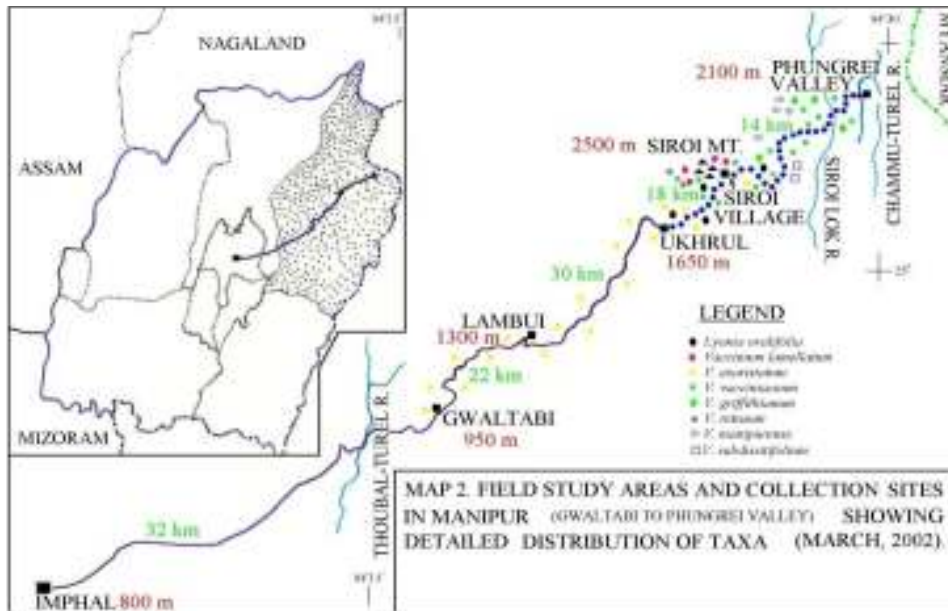


Fig. 2. Showing Trekking route to Sirui hills from Ukhrul (drawn based on Field survey)



Fig. 3. Nongin, The state Bird of Manipur (Source: website)



Fig. 4. Shroy Lily (*Lilium mackliniae*): source: website