

The Future of Our Wilderness: The Landscape View



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The land use and land cover of the pre-colonial — or Ahom-ruled — tracts of the Brahmaputra Valley took a severe beating during the colonial period (1826-1947). Natural growth forests were rapidly converted: over **4,000 km²** into commercial tea plantations and another **6,000 km²** into agricultural production. Thus, nearly **10,000 km²** of natural forest was lost.

The annexation of Assam (1826–1855) was a deliberately slow process, finalized after the **Duar War (1864–65)**, which lasted nine months and nine days. As per Article (ii) of the *Treaty of Friendship* signed between the belligerents, the entire **eighteen Bhutan Dooars** areas were annexed to British India. With the return of Goalpara district to Assam in 1905, what became known as the *Eastern Bengal Dooars* was incorporated into the province established in 1874. To the east remained the Dooars of Assam — that of *Kamrup* and *Darrang*.

Incidentally, the annexation of new, unadministered frontiers coincided historically with the **Second Industrial Revolution** in Europe. Its products — steam power and high-caliber firearms — profoundly impacted India's wilderness, including remote Assam. These technologies enabled the destruction of megafauna, from mega carnivores to mega herbivores, altering the landscape at the ecological guild level.

The Landscape View That Went Missing

The protected areas of Assam — established for ecosystem and wildlife conservation — were products of a **colonial model** that allotted land based on administrative perception rather than ecological need.

The **landscape ecology view**, however, emphasizes species' biological requirements, highlighting the necessity of large, interconnected habitats.

Had it not been for *Arbuthnott*, secretary to *Bamfylde Fuller*, Commissioner of Assam, the decline in rhino numbers might never have been addressed. Their intervention led to the **proclamation of the Kaziranga Proposed Reserve (1905)**, along with **Laokhowa PRF** and **North Kamrup RF** — the latter now forming a major part of the **Manas National Park**.

However, agricultural expansion soon truncated North Kamrup PRF to a smaller entity, while Kaziranga RF (1908) was reduced to a fragment of a greater whole.

What is now **Kaziranga National Park (KNP)** cannot be separated from the larger **Mikir Hills Massif** (>6,800 km²) with its diverse forests — the northernmost tip of the Indo-Myanmar Biodiversity Hotspot. Unfortunately, this continuity was disrupted by the **Assam Trunk Road**, numerous **tea estates**, and **revenue villages** along the foothills of the Mikir Hills.

Lost Connectivity of the Wilderness

Historically, the range of wild, free-ranging elephants extended over vast, uninterrupted landscapes. They moved from one food patch to another across the plains and hills — from Nagaland and Manipur to the Shillong Plateau and the Central Hills of North Cachar — with minimal human interference.

There were even records of **one-horned rhinos** sighted in distant locations such as the Barail Hills (as reported by Late P.N. Lahan, 1984). According to *Rookmaker*, Block I of Hamren District recorded a female rhino carcass after a flood in the River Um-Kupli (the Kopili). The same source also questioned the accuracy of reports regarding *Lady Curzon's* supposed visit to Kaziranga.

In 1984–85, in a bold initiative, the **DFO, EAWL Division (possibly Lahan)** deposited ₹1.35 lakh with the **Karbi Anglong Autonomous Council** to acquire 37 km² of prime habitat as potential flood refuge. The Council, however, returned the funds in 1995, promising to convert the area into a Wildlife Sanctuary — a promise that was never fulfilled.

After 2012, my team surveyed a large portion of the **Chenghehison Range** (the tallest feature in the dialect of the Western Rengma Tribe, later Sanskritized as *Singhasan*), including the erstwhile Mikir Hills RF — now the **Karbi Anglong East WLS**. The survey covered diverse watersheds and valleys and resulted in a **proposal for a Tiger Reserve** adjacent to northern Karbi Anglong East.

Despite four attempts, the proposal was politically rejected each time. I eventually gave up during my tenure as Special PCCF (Environment & Forests), KAAC. After my departure, even the faint hope of revival was extinguished.

Thus, **landscape connectivity remains an unresolved irritant** for Kaziranga National Park.

Understanding the Ecology and Survival of the Big Cats

For the survival of the **tiger** — the big feline with orange fur and black stripes — in the Northeast Indian landscape, we need sound **historical, biological, and geographical data**. With the loss of connectivity between the lowland KNP and the highlands of the Mikir Hills Massif, animal movements continue merely out of instinct.

Landscape ecology teaches us to integrate geography with the ecology of species. Population structure — male and female adults, sub-adults, and cubs — must be properly understood. Carnivore biology is fundamentally tied to the **energetics of habitat**. Accurate classification and estimation can help establish the crucial balance between **species numbers and biomass availability**.

Earlier, estimates were often rough “head counts.” The landscape certainly hosts elephants, rhinos, buffaloes, swamp deer, sambar, and wild boars — but true ecological insight lies beyond visible numbers.

On Ground Data and Field Intelligence

Do we today, with all our manpower and modern tools, truly dominate our habitats with effective protection? Do we have a robust **in-house intelligence system** for real-time wildlife data?

In earlier times, the **DFO, EAWL Division** maintained field camps with mixed teams — forest guards, game watchers, home guards, and casual laborers. The latter doubled as emergency staff, cooks, and camp keepers. Their duties included patrols, ambushes, observations, and inter-camp reporting.

This field-level intelligence network provided timely, reliable information to officers at **Kohora** and **Bokakhat**. A principle of “*Trust None*” governed the sensitive security of rhinos — a 24×7 layered surveillance system. It was said that if even a fish caught from a KNP *beel* entered a ranger’s compound, the DFO would know within minutes.

Such vigilance has no substitute. Today’s data deficits — missing correlations between tiger kills, rhino carcasses, and prey base observations — reveal how much ground intelligence has weakened.

Predator–Prey Dynamics: The 45-Kilogram Rule

Understanding predator-prey relationships is essential.

Any wild predator under **12 kg** feeds mainly on insects, amphibians, and small mammals. Once above **45 kg**, predators can hunt prey **twice their size** and prefer larger-bodied species.

Thus, for tigers, the **sambar, bison (rare in KNP), buffalo, and swamp deer** form the ideal prey base, while smaller species like hog deer and wild boar are fallback options.

This principle helps interpret the ecological balance of Kaziranga's grasslands and forest edges.

Kaziranga's Legacy and Scientific Gaps

Kaziranga is unique — **the only National Park in India created by a State Act** (*Assam National Park Act*). It was managed by some of the best officers and was among the first to use **FM-based VHF radio networks** and **.315" Ishapore rifles**. Yet, it has not been subjected to enough scientific investigation.

There once existed a **dwarf rhino variety** in KNP and Pobitora WLS. Now that rhino horns are studied through DNA analysis, why not examine **mitochondrial DNA from rhino dung** to detect such genetic traces? Similarly, tiger scat analysis might reveal whether the **Mikir Hills Massif (MHM)** serves as a **source population** while KNP functions as a **sink**.

Emerging Threats and Ecological Concerns

Regular observers have voiced concerns about **invasive weeds, drying wetlands (beels)**, and the **shift of rhinos** toward the western zones of the Park. Possible **soil compaction** from overgrazing or nutrient loading (from herbivore dung and urine) may also be degrading the habitat.

Kaziranga survived its worst crisis during the **winter of 1983**, when the **Laokhowa WLS rhino population** was wiped out — now part of KTR and KNP. In **1994**, a similar disaster nearly erased the **Manas population** and that of **Kuruwa**, north of Guwahati.

Kaziranga must not suffer the same fate.

Conclusion

On biological grounds, Kaziranga and its landscape do not deserve to fade away. The estimated numbers of species — however reassuring — cannot mask ecological imbalance.

We must restore connectivity, improve data integrity, and revive the discipline of field-level intelligence. Only then can our wilderness endure.

Wishing all, peace profound — I conclude here.

Abhijit Rabha

Dr. Abhijit Rabha, IFS (Retired), the boots on the ground conservationist. Address: Rajgarh Road, Guwahati Assam, India.

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