

Delhi: How the vilayati kikar is stalling the Central Ridge project

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Thorny Shrubby vegetation majorly dot the South Delhi ridge at the Sanjay Van which is in close proximity to the Qutab Minar and the Mehrauli Archaeological arena in the capital New Delhi. (Express Photo by Tashi Tobgyal)

What is to be done with the pervasive vilayati kikar trees in the Delhi Ridge? The question, which is at the heart of a project to 'restore' parts of the Central Ridge, long known as the capital's green lungs, appears to have created a rift among experts and forest department officials, bringing the project to a standstill.

Earlier this year, the Delhi cabinet approved a project to restore the biodiversity of around 423 hectares of the Central Ridge, allocating Rs 12.21 crore for the five-year implementation period. The government constituted a six-member progress review and advisory committee for the project earlier this year.

Yet, no work has started on the ground — members of the committee are at odds over how to implement the project, raising questions about the ecological restoration of the vast tract of reserve forest in the city's midst.

Vilayati kikar or *Prosopis juliflora* is a non-native, invasive tree species in the Ridge. The hardy tree, said to have been planted by British administrators, requires little moisture and suppresses other plants. The native vegetation of the Ridge is "highly degraded and composed of small patches of thorny scrub," going by the project description for the Central Ridge. "The dry, deciduous forests are almost on the verge of extinction," it explains. The project, therefore, seeks to restore the natural ecosystems that existed before degradation.

"This involves restoring the local flora by suppressing the vilayati kikar," said Ishwar Singh, Principal Chief Conservator of Forests (PCCF). Lantana, a shrub and another ubiquitous invasive species, will be uprooted, but the kikar, a tree, cannot be removed by the roots, he said.

"We cannot fell such a large number of kikar trees. The plan is to prune the branches of the kikar to open up the canopy and allow local flora to grow, and eventually reduce the share of the kikar in the local region," he said.

But members of the advisory committee do not agree. "It's crucial that restoration is done in the right way. It means that vilayati kikar has to be grubbed out, not by using JCBs or heavy earth-moving machines — because that will destroy the habitat — but manually. This will take a long time and will be expensive, but that can't be helped. Then, we will have to plant up the whole of the Ridge with native trees, shrubs and grasses that are adapted to grow on thin, rocky soil," said Pradip Krishen, a member of the advisory committee.

"The vilayati kikar makes up 90 or even 95% of the trees in the Ridge. It out-competes most other kinds of trees because of its reproductive success and the fact that it secretes an alkaloid that inhibits other plants from growing near it. That's why we've lost most of our native vegetation on the Ridge," he said.

Another point of difference was the trees that should be planted. Prof C R Babu of the Centre for Environmental Management of Degraded Ecosystems had suggested a list of trees, but around five or six trees out of 10 do not grow in Delhi and do not belong here, Krishen said. These include *Haldina cordifolia* (a deciduous tree), *Albizia procera* (white siris) and *Dalbergia latifolia* (Indian Rosewood). The project proposal had suggested that Prof Babu would be the project in-charge.

There was a third point of conflict. "Prof Babu announced that part of his project involved digging ditches and water-bodies on the Ridge. But there is no good reason to change the moisture regime on the Ridge. All the Ridge-like lands near Delhi that support natural forests, like Mangar Bani, don't have people digging pools and ditches to store water. There's simply no need. It's a completely wasteful expense," Krishen said.

"When anyone embarks upon ecological restoration, they need to find what is called a 'reference site', which is a site that has the same set of soil conditions, minerals, climate, rainfall, etc. The job of the restoration team is to strive to imitate the reference site, and the way in which plant communities occur, how trees are spaced apart, and so on. Prof Babu, when asked, says he has no reference site," Krishen said.

Prof Babu refused to comment on the matter of the Central Ridge. However, a similar project was initiated for the Aravalli Biodiversity Park in 2004. Prof Babu said that the Aravalli Biodiversity Park, of around 692 acres, was also dominated by *Prosopis juliflora*.

"We have removed *Prosopis juliflora* in a phased manner and have brought back 1,200 species of plants, developing the area into around 50 to 75 biological communities," he said. Forest communities can be developed from any degraded landscape within five years, but development of the canopy would take at least 10 to 12 years, he added.

Faiyaz Khudsar, scientist at the Centre for Environment Management of Degraded Ecosystems at the University of Delhi, said that two methods were used to restore the Aravalli Biodiversity Park's natural ecology. *Prosopis juliflora* was pruned to bring sunlight to the ground and weeds like lantana were removed by cutting the rootstock. This allowed native trees to grow, and once the native species grow tall, the kikar trees die since they are not shade-loving, he said.

Vilayati kikar is a large component of our green cover and 'invasive' is a harsh term used for a tree, said architect Suditya Sinha, another member of the advisory committee. "Resources can be deployed to ensure no new growth of vilayati kikar rather than trying to get rid of all the kikar, many of which are large trees. Cutting down a particular species to plant a so-called 'better' species is something I don't agree with," he said.

"There are differences among committee members about the implementation of the project. But we are sorting out the issue," Singh said.

"The project and the scope of work has been approved by the Ridge Management Board and the Delhi Cabinet. We cannot go beyond what has already been approved," he added.

The scope of work involves opening up of the canopy and not the uprooting of kikar trees, he said. By his estimates, around one-third of Delhi's green cover comprises *Prosopis juliflora*. The advisory committee has met twice, the PCCF said. In addition to the PCCF, Pradip Krishen and C R Babu, the committee comprises Reena Gupta and Suditya Sinha. It is headed by the Principal Secretary (Environment and Forest).

Krishen maintains that vilayati kikar has few other virtues. "Birds don't nest in it. The leaves are not good fodder. Only its seed-pods are edible, and that is how it spreads — in the dung of cattle or goats. Even its timber is no good except as a firewood and for making charcoal," he said. Sinha,

however, pointed out that one of the most important environmental effects of the tree is its ability to provide shade and thereby reduce the heat island effect, particularly in cities.

"I'm all for restoring the Ridge. But it must be done in the right way, with the right species. Maybe we will need to wait until we have the right mix of ecological expertise, Forest Department and design skills. We certainly don't have that combination in place right now," Krishen said.

Sinha added, "The proposal lacks a holistic scientific base and needs meticulous study, and data assimilation of the existing ecology. A tree audit is very necessary, including a complete species and tree count. There is a lack of information on how much we have of this species and number of trees in general."

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