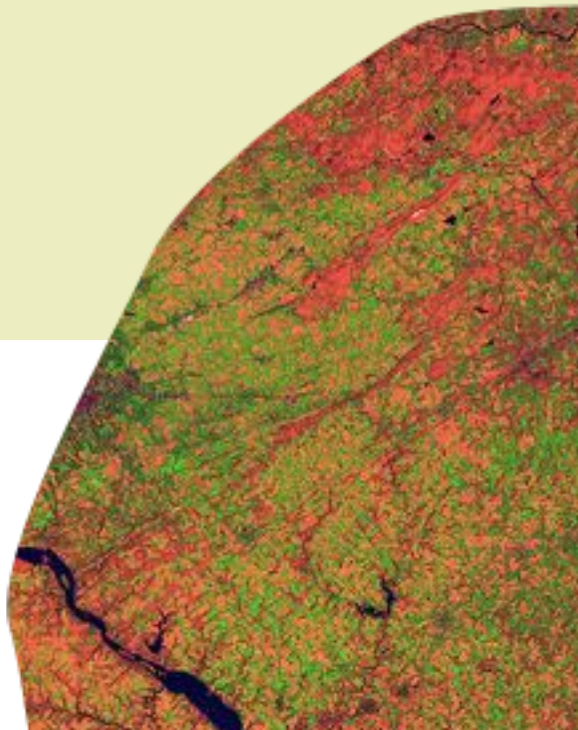
**Title:**

*Author:*

# Occupy Climate Change (OCC!)

*Grassroots initiatives entry*



**Working with Nature in Sanjay Van**

*by Saloni Sharma*

*The Dark Beauty, 21 May 2017 by "Pushpeshpant.10", licensed under Creative Commons Attribution 4.0*

*The first time I went to Sanjay Van, a ridge forest along the foothills of Aravali Range in the heart of South Delhi, was on a field trip for a course on Ecosophy taught by Dr. Aseem Srivastava at Ashoka University. As I, along with my classmates gasped in awe at this nature's paradise — in the middle of the congested metropolis, our teacher shared with us the story of Vinod Rawat, the founder, who made the restoration of this forest his life's mission after the death of his beloved wife.*

*I have visited Sanjay Van many times since. In fact, I believe it was Sanjay Van that has inspired me to follow a research career in the field of Ecological Humanities. I was humbled to share this fact with Devika Rawat, daughter-in-law of Late Vinod Rawat, when I approached her for interview for the present assignment. The answers to the following questions are based on my conversation with her who now leads Working with Nature (WWN), a citizen led organisation founded by her late father-in-law.*

**Where is this grassroots initiative implemented?**

The initiative has been implemented at Sanjay Van, a city forest that is part of Delhi's South Central Ridge formed by the world's oldest fold mountains, the Aravali Range. It is surrounded by densely populated areas of Mehrauli and Vasant Kunj.

**Who are the promoters? Who are the actors involved? What is their background?**

The promoters are Working With Nature (WWN) — a citizen-led group, and the Delhi Development Authority (DDA) under whose jurisdiction the ridge forest falls. WWN was founded by Air Vice Marshal Vinod Rawat and led under the direction and patronage of HE Tejendra Khanna, Lt. Governor of Delhi. The group has worked closely with DDA for Sanjay Van's restoration. Ecologists, Prof. P.S. Ramakrishnan and Prof K.S. Rao, and Bird watcher, Dr. Surya Prakash, have also been part of the team along with volunteers from local areas and villages around the forest. WWN is now led by Ms. Devika Rawat, who continues the Work with Nature at Sanjay Van.

**Who are the beneficiaries?**

The initiative has made space for the city dwellers around to reconnect with nature and rekindle their ecological consciousness. What used to be famous as a degraded land with rumours of ghosts residing in and being a den of thugs, WWN reclaimed the city forest and restored it to its original glory. Because of the efforts of DDA and WWN, the forest now welcomes nature enthusiasts, cyclists, local residents along with everyday visitors who come for respite from the city life and engage in nature walks, yoga and sightseeing. WWN has partnered with many local schools to carry out awareness drives and sensitise children about nature and their environment.

Importantly, the beneficiaries are also the local flora and fauna that reside inside the forest. The native Aravali trees which were almost extinct because of the plantation of Vilayati Kikar, an invasive tree species, are also one of the prime beneficiaries. The forest provides a natural habitat for many butterflies, blue bulls, variety of snakes, small and big lizards like the monitor, golden jackals etc. Owing to the efforts by DDA and WWN, over 150 species of birds and rare migratory birds have been documented.

Sanjay Van is part of Delhi's Ridge which is known as the lungs of the city. All the residents of the city, who might have lost a city forest to encroachment and real estate but now can celebrate the restoration of the city's ecological heritage also benefit from this project.

**How does this initiative engage with climate? Does it tackle mitigation, adaptation, both or other dimensions of climate change?**

The project tackles both — mitigation as well as adaptation. The forest helps with the heavy pollution that Delhi faces every year. The tree cover cleanses the air and provides oxygen. Additionally, Sanjay Van has a medicinal forest which consists of traditional medicinal trees. These trees are specifically good for improving the air quality.

The forest trees are resilient and adapting to the heat as the climate is getting warmer. These are native Aravali trees which belong to the Acacia family. These trees are thorny and not very tall, therefore, they do not require much water. However, they are rich with properties that benefit us and the environment.

**What are the main objectives? What are the main values?**

The primary objective of the initiative has been to restore Sanjay Van. Once the forest is restored, the other objective is to preserve it.

Within the restoration work, the goal was to restore Aravali vegetation. The native Aravali vegetation had become extinct from Sanjay Van because it was overrun by the invasive tree, Vilayati Kikar. In Hindi, *Vilayati* means foreign and *Kikar* refers to Acacia tree type. Vilayati Kikar is a foreign species which was planted in the 1990s along the periphery of Delhi. This was done to stop the arid soil from Rajasthan desert towards Delhi and to also restrict pollution from increased construction activities. In a slight oversight by the committee who was appointed for the resolution of this problem, a tree was identified which grows very fast — in about 5 years time — to provide the city with tree cover. This tree was Vilayati Kikar. It's roots go very deep drinking away ground water and banishing other trees to take roots. Gradually, the native trees began disappearing while Vilayati Kikar proliferated.

Therefore, the objective of the project was to plant trees without uprooting Vilayati Kikar. This year the decision to uproot these invasive trees has been passed. However, when this initiative was implemented, the challenge was to restore native Aravali vegetation without uprooting Vilayati Kikar. This was done by continuously eradicating its seed pots, uprooting young saplings and filling of open areas and extending forest cover with the native trees.

Next, the project also had the objective of making inexpensive water harvesting structures in order to recharge underground water which could provide a fertile land for rapid generation and restoration of natural biodiversity. It also arrested erosion of soil and gradually created large water bodies in the forest. Under the advisory of Dr Rajendra Singh who is known as the Waterman of Rajasthan, check dams were created and abandoned water bodies were replenished with recycled waste water. The forest now boasts 5 lakes which attract more birds. However, the upkeep and care of the water bodies is an ongoing mission.

Furthermore, the vision of WWN also posits making a bird sanctuary inside

the forest. For this, selective planting of fauna friendly vegetation has been implemented. Furthermore, regular checks to maintain sufficiently clean water at the five lakes inside the forest are undertaken so that biological life can be sustained and bird friendly fish in the ponds could be introduced. Because of these efforts, several rare birds have spotted in Sanjay van after many years of absence.

Lastly, replicating the restoration model of Sanjay Van to other ridges of Delhi is also in the vision of WWN.

The restoration work is presently in its last leg with supplementary plantation conducted annually during monsoon.

The preservation and maintainance is an ongoing drill and the role of WWN is to engage citizens in the management of their forest while also liasoning with DDA.

The real estate in Delhi is very expensive and ecroachment of land was a looming threat. The best way to overcome this challenge was to connect people to the land, get more people to come to the forest and become its guardians.

WWN connects people to the forest, raises sensitisation and awareness drives, arranges painting competitions for school children, coordinates nature walks, gather volunteers for the upkeep, engages in plantation work etc.

The main value that has guided the work of WWN is to create awareness and build a reconnection with nature. Oneness with nature is part of the traditional Indian value system and the goal of this initiative has been to rekindle these values — making people to connect with nature and care for their environment.

**What is the timeline? Are there already visible effects?**

The duration of the project was foreseen to be between ten and twelve years to see visible changes as trees take 8-10 years time to grow. During this period, rigorous efforts by DDA with the support from WWN were undertaken for the plantation which resulted in the survival rate of the trees at 75-80% .

The land area of Sanjay Van is 783 acres. To carry out the restoration, little pockets of land were selected to start the work. The forest has 4 layers: the taller

trees which are called the emergents, the canopy trees which provide a cover to the forest, the bushes and the creepers. The plantation therefore, had to have a balance of the four layers and the plantation was organized accordingly.

The water bodies took approximately 5 years to come up and now require regular maintenance.

Therefore, the project has taken 12 years to complete restoration and preservation efforts are endlessly going on.

**Which limits does it encounter?**

Since the water bodies were created with treated waste water, every now and then the untreated sewage water is pumped in the system from unauthorised colonies in the area. This can have massive repercussions for the health of the ecosystem.

This challenge is mitigated by identifying the source of untreated water. Grass is grown that separates the heavy particles. The water bodies are in step formation at different heights, and as the water goes down, it becomes cleaner. The lakes are also cleaned and oxygenated annually. Furthermore, grass that can separate chemical impurities in the water is also planted.

The second issue that was faced during restoration was the sourcing of native trees. In order to source the native saplings, volunteers travelled to Rajasthan to source the saplings of Aravali trees.

However, there are nurseries within the forest now from where the saplings can be procured for plantation.

Thirdly, encroachment and construction was a challenge, however, with more people coming in the forest, these concerns are diminishing as such activities are difficult to carry out with more people watching.

However, with more and more people coming the fourth issue arises — problem of plastic waste. Daily cleaning and picking of plastic waste is carried out, dustbin pairs have been installed throughout the forest and cleaning drives

are organised. It is however an encouraging reminder that before the restoration, the forest was a dumping ground but now with the collaborative efforts of government and citizens — DDA and WWN — the forest has come a long way.

Fifthly, the *nilgai* or the blue bulls in the forest are scavengers to the young plants. Pigs and cattle owned by locals in the adjacent areas sometimes graze and forage in the forest. This has negative repercussions on the ecology but such sensitive issues require solutions that promote mutual coexistence. Human tampering with plantation — deliberate or otherwise, is also an issue.

In order to check this, tree guards have been installed and when the sapling attains sufficient height, they are removed. WWN has also pushed DDA to build a boundary wall around the forest which is under construction.

Finally, there are 45 religious shrines in the 783 acres of the forest and owing to the court order which states that anything built before the 1990s cannot be demolished, the forest has to coexist with these shrines. Some of them can often interfere with the preservation and disturb the forest. However, these topics require careful treading so that such riddles of conservation are solved in a manner beneficial to ecology and local populace.

**Are any shortcomings or critical points visible? What other problematic issues can arise from its implementation?**

The project's main goal was to plant native Aravali vegetation, however, during the course, it was learnt that a rigid approach is not serving well and flexibility is crucial. A native tree called Dhak, known as 'the flame of the forest' — owing to its big red flowers in spring — had disappeared due to Vilayati Kikar. Because it couldn't adapt as well as hoped, an understanding towards adaptation was realised and the absolute resolution to plant native trees was revisited. As a result, some non native trees were planted; flexibility was incorporated to include different trees — as long as they were not invasive but friendly to the environment and good for the birds and bees. These trees adapted well to environment as opposed to the native species.

Additionally, maintenance of water has been a critical point. Because of poor water quality, a lot of migratory birds are lessening in number. Clean water invites more birds and the challenge to keep water clean is an ongoing mission.

**How would it be potentially replicable in other settings?**

The model worked out by WWN and DDA at Sanjay Van is already being replicated in other ridge forests of Delhi. And, it can also be replicated anywhere in the world.

To revive a forest, trees are the most important element. Identification of the local flora is the first step because local trees adapt best to the environment and require lesser nurturing. Secondly, revival of water sources is crucial for the sustenance of the newly restored vegetation. Check dams are already being created in many parts of the world. These dams ensure that the rain water goes into the ground and builds groundwater reserves. Additionally, it is important to make sure the soil isn't eroded.

**Is this initiative conducive to broader changes (law, institutional arrangements, long-term sustainability or community preparedness, etc.)? If yes, which sustainability or community preparedness, etc.)?**

This initiative is undoubtedly conducive to broader change as it has inspired many such initiatives being carried out across Delhi. It has fostered a sense of community with nature and promoted goodwill amongst the people it has touched.

Mainly, it has demonstrated the success of government-citizen partnership and also showcased how empowered citizens can bring positive changes to their natural environment.

Nature brings out the best in people and the restoration of Sanjay Van is one such product of this idea.

*Sanjay Van was Devika's father-in-law's life's purpose and mission.*
*His ashes are dispersed there.*