

Racing to restore

Striving for a Sustainable Habitat



The ongoing journey of Delhi's Lt. Governor
Vinai Kumar Saxena

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Preface

Greening the world and combating the unfavourable effects of climate change can be a lifetime work for committed individuals and empowered institutions. That's because the dynamics of engineering the environment can be a slow and gradual process that requires sustained efforts. Also, there is always a mismatch between the administrative boundaries of environmental restoration and the topological boundaries of environmental processes, which requires a broad-based understanding of wide-field nature, before attempting any intervention. This factor makes it all the more a lifetime work for individuals, because large scale environmental interventions are to be structured through experience and wisdom.

Shri Vinai Kumar Saxena has been passionate all his life about the environment and sustainable development. Beginning a professional life in the management sector of an industry, he climbed steps in public life to reach the Constitutional position of Lt. Governor of Delhi. In this professional journey, he addressed a multitude of challenges. He helped manage production of cement in Rajasthan, conceptualized the development of a greenfield seaport in Gujarat and worked for ensuring the water security of people in parched Bhal region of Gujarat. He also helped establishing the Narmada resource management through the nuances of supporting governance as well as neutralising the opposition. He played a role in reviewing international organizations that rendered more damage to the fabric of development, disguising themselves as pioneers of development.

Shri Saxena's role enhanced from being an individual supporter of good initiatives to an administrator and Governor in the later years. His service to the nation as the Chairman of Khadi and Village Industries Commission under the Government of India, was an important opportunity he utilised for creating employment in the rural sector and at the same time, promoting sustainable development through various initiatives like plantation drives, beekeeping activities and encouraging the production and use of environment-friendly earthen pottery. Later as the Lt. Governor of Delhi, he guided the formulation of the 20-year developmental vision – the Master Plan for Delhi 2041 – which bore a distinctive seal of his environmental wisdom.

This book is an attempt to showcase the wide variety of environmental development Shri Saxena initiated and supported in India. It chronicles the consistent and unwavering passion of an individual who relentlessly built and promoted green initiatives, as an individual, as part of institutions and as the head of the government.

The Beginning

In over six eventful decades of his life – from being a corporate leader to occupying the Constitutional office of Delhi's Lieutenant Governor – Shri Vinai Kumar Saxena has throughout remained an ardent environmentalist and a vociferous crusader for Green and Sustainable Development.

Notwithstanding the positions and the responsibilities he held, Shri Saxena acted voluntarily, often surpassing his mandate, to work for the environmental cause that majorly involved large scale tree plantation and revival and rejuvenation of water bodies. From his early years as a young officer in JK White Cement Plant in Rajasthan to being the CEO of the Greenfield Port Project in Gujarat and later, serving as the Chairman of the Khadi and Village Industries Commission (KVIC) for nearly 07 years, Shri Saxena remained committed to environmental protection. Even while serving as the Lieutenant Governor of Delhi, he laid great emphasis on creating Green and Blue Assets in the National Capital by way of planting trees, creating open green public places and reviving and rejuvenating water bodies across the city.

Having joined his first job with JK Cements in 1984 at Gotan in the deserts of Rajasthan, Shri Saxena's first initiative was to create a water body on the barren lands where water and greenery was a rarity. This water body soon started catering to the water needs of nearly 500 villagers around the area. Over 20,000 saplings planted by him and his factory teammates, within the premises of the plant during 1985–90, as part of different initiatives, today stand as fully-grown trees altering the landscape.



UNESCO Dy. Chief (Specialist in Water Sciences) Mr. L. A. Mandalia (second from left) who had specially come down to Gujarat in August 1999 to assess the development of the brackish Bhul region being undertaken by NCCL, talking to Mr. V. K. Saxena in village Bavaliari, dist Ahmedabad.



Mr. V. K. Saxena at the site of deepening of pond at village Kadipur, breaking new grounds.

However, one thing that still remained the most difficult thing to get in the region was drinking water. Moving a step ahead, on Shri Saxena's initiative, the JK Cement management also started supplying drinking water from its own tubewell within the campus to the nearby parched villages on the request of the village Sarpanch. To meet the villagers' water needs, one water tanker was, every day, sent to the villages, within a radius of 50 km from the plant as and when requested. This added to the goodwill of the company among the villagers while it also brought out the humanitarian side of Shri Saxena's personality.

Shifting from Rajasthan to Dholera in the perpetually parched Bhal region of Gujarat for the development of greenfield port project, Shri Saxena, through his NGO - National Council for Civil Liberties (NCCL) which he founded in 1991, took up the deepening of silted village ponds with local people's participation in 13 villages of driest Bhal region of Gujarat during the year 1999 - 2000. This was one of its kind participatory model where the villagers offered "Shramdaan" and NCCL bore the cost of the works. Two to three meters of silt was removed from the ponds which helped store enough rain water for the entire year. The fertile soil dug out from the ponds were put into the fields by the villagers. Shri Saxena further initiated and planted hundreds of trees around these water bodies that survive even today. NCCL also supplied free water in remote villages of Bhal region of Gujarat every year since 2001 till 2005, when the Narmada water finally reached the region. The then Dy. Chief of UNESCO, Mr. L.A. Mandalia, who was a specialist in water sciences, personally visited these villages, witnessed Shri Saxena's water conservation efforts in the region and appreciated the same.



Mr. V. K. Saxena explaining the benefit of water conservation and people's participation before the start of ponds deepening work at village Jasvantpura.



A village women offering "Shramdan" at Bavliari.



Pond deepening work in progress at Dholera, Ahmedabad district in June 2000



A rejuvenated waterbody at Dholera in Sep, 2000. Later, hundreds of trees were planted around these waterbodies

Shri Saxena was also involved in Water Resource Planning and Water Shed Management for Gujarat & Rajasthan. To catalyze the process of deeper scientific understanding of environmental matters by very competent Indian and foreign Scientists, NCCL commissioned a study in the year 2003 called "Trishna" for bringing unutilized water to the parched areas of Gujarat & Rajasthan.

Green Initiatives at Khadi & Village Industries Commission

Promoting Khadi : An Eco-friendly & Sustainable Handcrafted Product



A trained Khadi artisan operating a new model Charkha at Leh

Having been appointed the Chairman of the “Gandhian” organization Khadi and Village Industries Commission in October 2015, Shri Saxena, since day-one, was faced with the dual responsibility of protecting the legacy of “Khadi”, which was given to the country by Mahatma Gandhi and also promoting the use of Khadi as an eco-friendly product.

The spinning and weaving of Khadi which is also known as “Khaddar” since ages, uses no machines or energy or any kind of fuel for its manufacturing. Khadi runs on the principle of “Green Chemistry”. It is a fabric that is compatible with the environment. A metre of Khadi fabric consumes just 03 litres of water as against one metre of mill-produced fabric that needs 55 litres of water. This zero-carbon footprint fabric also solves one of the most pressing issues of today – the water crisis in both rural and urban India.





Hon'ble PM Shri Narendra Modi visiting a Khadi Exhibition at Visakhapatnam in February 2016

Prime Minister's Patronage to Khadi

"You may wear a variety of clothes of different fabrics but buy at least one khadi product too"

– 04 October 2014

"Earlier, it was Khadi for Nation and Khadi for Fashion... and now it is becoming Khadi for Transformation"

– 31 January 2016

"When we buy Khadi, we are lighting a lamp in the lives of lakhs of artisans who toil day and night"

– 27 October 2019



Hon'ble PM Shri Narendra Modi distributed 500 traditional Charkha to women artisans at Ludhiana in Jan 2016

Taking Khadi to where it belonged: The Grassroots



Hon'ble PM Shri Narendra Modi distributed 500 traditional Charkha to women artisans at Ludhiana in Jan 2016

In his very first episode of “Man ki Baat” in 2014, Hon’ble Prime Minister Shri Narendra Modi made a clarion call to promote the use of Khadi. Subsequently, under Shri Saxena’s leadership and with his innovative marketing ideas, in just 7 years, i.e. from 2015-16 to 2021-22, the turnover of Khadi and Village Industries witnessed a whopping growth of 175%. The graph of overall sales went up from Rs. 41,895 crores in 2015-16 to Rs. 1.15 lakh crore in 2021-22.

Similarly, the production of Khadi fabric in 15 years from 2000-2015 was just 945.50 million square meter which increased to 1200.41 million square meters during just 07 years from 2014-15 to 2021-2022 under his leadership. While average Khadi fabric production was 63.03 million square metre per year in the period 1999-2000 to 2013-14, it went up to 150.05 million square metre in 07 years from 2014-15 to 2021-2022.





Hon'ble PM Shri Narendra Modi interacting with women Khadi artisans at Ludhiana in Jan 2016



Hon'ble PM Shri Narendra Modi interacting with a Khadi weaver at Vibrant Gujarat Summit in Jan 2019

The Prime Minister's constant support and appeal coupled with the sustained efforts led by Shri Saxena, also resulted in a complete makeover of brand Khadi. These 7 years saw the transformation of the old-age "Khaddar" into a popular brand called Khadi India. The old dilapidated "Khadi Bhandars" took the shape of swanky Khadi showrooms and outlets. It goes to the credit of Shri Saxena that Khadi made a significant presence in the global arena and quickly became one of the most popular and recognisable Indian brand worldwide.

Honey Mission – India’s first sustainable “Sweet Revolution”

Honey Mission, a flagship program for promoting beekeeping for the larger benefit to the nature, was the first and the foremost initiative that Shri Saxena rolled out as Chairman of KVIC. Acting on the clarion call of Hon’ble Prime Minister Shri Narendra Modi for “Sweet Revolution” in the country, Shri Saxena conceptualized and launched Honey Mission in August 2017 from Rashtrapati Bhawan.

This is the first ever flagship program launched in the country with the core objective of increasing India’s honey production, preserving the ecosystem and providing sustainable employment to rural masses, mostly farmers, women, adivasis and unemployed youth. In just over 4 years of its launch, KVIC, under Shri Saxena’s leadership, distributed over 1.70 lakh bee boxes across the country benefitting 17,000 persons, who further multiplied the bee colonies.



Launch of Honey Mission in August 2017 from the President’s House in New Delhi



An apiary set-up by trained bee keepers at a village near Ghaziabad, Uttar Pradesh

**10,000
MILLION**
BEES IN NATURE



*"If the bee disappeared off the face of the Earth, man
would only have four years left to live."*

- Albert Einstein

The Honey Mission, besides increasing the honey production and creating sustainable livelihood, did a greater benefit to the environment by adding over a whopping 10,000 million bees in the environment. More bees in the nature means more cross-pollination, increase in forest cover and increase in crop yield which is crucial for maintaining ecology, food security and human sustenance.

World Record of Distributing Highest Number of Bee Boxes on a Single Day



2330 bee boxes distributed in Kupwara, Jammu & Kashmir on 12 June 2018

On June 12, 2018, KVIC, led by Shri Saxena, created a world record by distributing the highest number of bee-boxes, i.e. 2330 bee-boxes in a single day in Kupwara district of Jammu and Kashmir with support of Indian Army. In doing so, KVIC broke its previous world record of distributing 1000 bee boxes in Kaziranga, Assam, leaving behind the previous world record of distributing 841 bee boxes in a single day in Israel.

Impact on United Nations sustainable development goals (UN-SDGs)

The spread of Honey Mission in the country also assumes greater significance in wake of the fact that beekeeping alone is capable of meeting at least 07 sustainable development goals (SDGs) of the United Nations.

Goal 1- No Poverty

Honey Mission helped poor beekeepers from pan India, especially from North-East states and SC & ST categories to get sustainable income. It thus, provides equal rights to economic resources through beekeeping.

Goal 2- Zero Hunger

Honey Mission has contributed to agricultural productivity and income through access to productive resources, knowledge, markets and non-farm employment.

Goal 4- Quality Education

Honey Mission beneficiaries got skill development through proper training. It has substantially increased the number of people with technical and vocational skills for employment and entrepreneurship. Honey Mission has ensured equal access to beekeeping and vocational training for the vulnerable and indigenous people.

Goals 5 - Gender Equality

Honey Mission facilitated participation of women in beekeeping which was predominantly a male-driven activity.



Goal 8- Decent Work and Economic Growth

- Honey Mission increased average income for all beekeepers and helped them to sustain per capita economic growth in accordance with national circumstances.
- Honey Mission helped promote development- oriented policies that support productive activities.

Goal 10- Reduced Inequalities

- Honey Mission gave equal opportunities of skill development and beekeeping business for income generation.
- It contributed towards sustainable income growth of the bottom 40% of the population, i.e. the poor, Adivasis and other marginalized people.
- Honey Mission is promoting social and economic inclusion for all.

Goal 15 - Life on Land

- Beekeeping played a vital role in forest conservation and natural systems.
- By promoting beekeeping activities Honey Mission is contributing towards restoring degraded forests and substantially increasing afforestation and reforestation.
- Honey Mission is integrating ecosystem and bio-diversity values into national and local planning, development processes and poverty reduction strategies.



Kumhar Sashaktikaran Yojana

Country's first ever Kumhar Sashaktikaran Yojana for promoting the use of eco-friendly earthen pottery & empowering the potters' community

Launched in the year 2018, Kumhar Sashaktikaran Yojana, was Shri Saxena's another major contribution to environment protection and sustainability. As the name indicates, the scheme aimed at empowering the marginalized community of potters or Kumhars (Prajapati community) by creating avenues of livelihood and preserving and strengthening the dying art of pottery in the country. However, parallelly, the scheme encouraged the use of eco-friendly earthenware/pottery in households as well as in eateries, hotels, restaurants and in the trains.



A Kashmiri youth trained and benefited under Kumhar Shashaktikaran Yojana

It was the dream of Hon'ble Prime Minister Shri Narendra Modi to empower the marginalized Kumhar community and reconnect them with the mainstream of development. To realize this dream, Shri Saxena, as Chairman of KVIC, conceptualized and launched Kumhar Sashaktikaran Yojana in the country. The flagship scheme aimed at empowering the potters, reducing drudgery, and increasing their production and income, while simultaneously preserving the ancient art of pottery and promoting the use of environment-friendly earthenware.

In just 04 years of its launch in 2018, Shri Saxena facilitated the training of potters and distributed Electric Potter Wheels and other modern equipment to nearly 32,000 potter families and benefitted nearly 1.25 lakh persons of this community. As a result of this scheme, pottery emerged as a source of livelihood among the new generation of potters and a significant increase in their income and social status was noted.

At the same time, it also attracted the new generation particularly the people in big cities towards the use of pottery and other earthen products. On Shri Saxena's initiative, the Ministry of Railway declared 400 railway stations as "Plastic-free" zones where only earthenware like kulhar and plates and glasses made of clay are used to serve food and beverages to passengers. Several 5-star hotels too started serving tea and beverages in earthenware.





From 2018–2022, Kumhar Sashaktikaran Yojana spread across the length and breadth of the country. The marginalized potters were trained in several remote areas in states like Rajasthan, Uttar Pradesh, Madhya Pradesh, Himachal Pradesh, Maharashtra, J&K, Leh–Ladakh, Arunachal Pradesh, Tripura, Assam, Haryana, West Bengal, Gujarat, Tamil Nadu, Odisha, Telangana and Bihar.



Electric Potter Wheels distributed to trained artisans at village Likir in Leh, in April 2019



Hon'ble PM Shri Narendra Modi distributing electric potter wheels at Varanasi in Feb 2019



Hon'ble Union Home Minister Shri Amit Shah distributing electric potter wheels at Ahmedabad in Jan 2022

Impact on United Nations Sustainable Development Goals (UN-SDGs)

An impact assessment of Kumhar Sashaktikaran Yojana in the country found to fulfilling at least 05 United Nations Sustainable Development Goals (UN-SDGs).

Goal 1- No Poverty

- Kumhar Sashaktikaran Yojana helped rural potters particularly those from SC & ST categories to secure better income.
- The program ensured all men and women, poor and the vulnerable, equal rights to economic resources through pottery.

Goal 2 - Quality Education

- Kumhar Sashaktikaran Yojana entailed skill development training and contributed towards increasing the number of people with technical and vocational skills for employment and entrepreneurship.
- It provided equal access to vocational training for the vulnerable and indigenous people.



Distribution of electric potter wheels to trained artisans at Ahmedabad in July 2020

Goal 5 –Gender Equality

- Kumhar Sashaktikaran Yojana has facilitated participation of women in pottery making which was predominantly a maledriven activity.
- The program has enabled women with limited or no financial resources to establish an income generating activity.



Goal 8 – Decent Work & Economic Growth

- Pottery making does not generate pollution or waste, making it sustainable over time.
- Kumhar Sashaktikaran Yojana has increased average income and profit for the potters.
- It has helped potters to sustain per capita economic growth in accordance with national circumstances.
- Kumhar Sashaktikaran Yojana promotes development-oriented policies that support productive activities.

Goal 10– Reduced Inequality

- Kumhar Sashaktikaran Yojana gave equal opportunities of skill development and pottery making business for income generation.
- It contributed towards sustainable income growth of the bottom 40% of the population, i.e. the poor and other marginalized people.
- Kumhar Sashaktikaran Yojana promoted social and economic inclusion for all.



Distribution of electric potter wheels to trained artisans at Pokharan, Rajasthan in Aug 2020



Distribution of electric potter wheels to trained artisans at Udaipur, Rajasthan in Mar 2021



Beneficiaries of Kumhar Shashaktikaran Yojana at Sewapuri Ashram in Varanasi



Distribution of electric potter wheels to trained artisans at Samba, Jammu

Innovative Project RE-HAB

(Reducing Elephant – Human Attacks using Bees)

The successful implementation of Honey Mission in the country prompted Shri Saxena to ideate and execute a larger plan to mitigate human-animal conflicts using honey bees. A spin off to the Honey Mission, thus, came in the form of Project RE-HAB (Reducing Elephant – Human Attacks using Bees), that was rolled out on 15th March 2021, in Karnataka's Kodagu district to ward off elephants using Honey Bees and prevent human-elephant conflicts.



Elephant-Human conflicts are frequent in many Indian states. In India, nearly 500 people die every year due to elephant attacks (10 times the fatalities caused by big cats). Approx. nearly 100 elephants are also killed in retaliation by humans every year across the country. Such human-animal conflicts are frequent in states like Karnataka, Assam, West Bengal, Jharkhand, Chhattisgarh and Odisha. Respective state governments have spent crores of rupees on erecting electric fences, electric wire curtains, spiked pillars, rail fences and digging trenches to prevent elephants' entry into human habitation. However, all these efforts have failed. Electrocutation and trenches have become a major cause of elephants' deaths. Courts and animal rights NGOs have raised serious objections on these inhuman methods.



Bee boxes hung along the passage ways of elephants in Kodagu, Karnataka



Project RE-HAB: Effectiveness

**Project RE-HAB
uses bee-boxes
to create a
fence that
keeps elephants
away**

**The bee boxes
are placed/hung
on the passage
ways of elephants
into human
settlements
so as to block
their movements**

**Elephants
fear that bees
might bite
their eyes and
trunk**

**The collective
buzzing sound
of Honey bees
annoys the
elephants**



Project RE-HAB is a cost-effective measure that keeps elephants away from human habitation without causing any harm to the animals and the humans. It is scientifically recorded fact that elephants fear honey bees and surveillance conducted on the periphery of Nagarhole National Park (Karnataka) showed encouraging results and thus proved the efficacy of the Project RE-HAB. The footage recorded by the night vision cameras, installed along elephants' trail to record their movement, clearly showed the elephants running away from the bee boxes. In several cases, the elephants, after encountering bee boxes, did not enter human habitations and instead, they returned to the jungles. The initiative also found great support from the local community. KVIC replicated Project RE-HAB in in Goalpara district of Assam on 03 December 2021.



Launch of Project RE-HAB at Kodagu, Karnataka on 15 March, 2021



Social Impact

- Project RE-HAB has found great support from the local farmers
- It will save huge expenditure on preventing elephant-human conflicts
- While bee boxes will act as fence against elephants, the honey produced will add to local farmers' income
- Cross-pollination by bees will increase the forest-produce and enhance the food security in wild



Locals contributing to replicate Project RE-HAB by setting up bee boxes in their fields to prevent elephant attacks in Golpara district of Assam

The Mega Plantation Drives undertaken by KVIC

In his role as Chairman of KVIC during 2015–2022, Shri Saxena first initiated a nationwide campaign for plantation of Moringa trees and got over 45,000 moringa saplings planted in states like Uttar Pradesh, Delhi, Bihar, West Bengal, Assam, Gujarat and Rajasthan among others. Plantation of Moringa saplings were essentially aimed at supporting beekeeping activities as well as creating awareness about the medicinal values of Moringa among the masses. Similarly, 1000 saplings of Sandalwood and Bamboo were planted at KVIC's training centre at Nashik, an exercise replicated across the country thereafter, with an aim to monetize the land resources and ensuring financial sustainability of farmers and land owners.

Now



The grown-up Bamboo and Sandalwood trees that were planted at KVIC training centre at Nashik on 25.06.2020



Now

Bamboo



Sandalwood

Now

PROJECT BOLD (Bamboo Oasis on Lands in Drought)

Taking a cue from Prime Minister Narendra Modi's appeal for preventing degradation and desertification of land, Shri Saxena initiated Project BOLD (Bamboo Oasis on Lands in Drought) on 04 July 2021. Project BOLD was aimed at creating green patches of bamboo in arid and semi-arid land zones in the country. Under this project, over 41,000 bamboo saplings were planted more than 42.47 lakh sq.ft in regions as diverse as Udaipur, Jaisalmer, Barmer, Leh-Ladakh, Goa, Gujarat, Varanasi, Sindhudurg in Maharashtra and Jammu.



Before

Original site of Bamboo Plantation at Nichla Mandwa, Udaipur



Bamboo Plantation at Nichla Mandwa, Udaipur. 04.07.2021

After



Bamboo Plantation Site at Nichla Mandwa, Udaipur



Bamboo Plantation at Village Tanot, Jaisalmer. 27 July 2021



Bamboo Plantation at Village Chuchot, Leh on 18 August 2021



KVIC distributed Bamboo saplings to local villagers in Village Chuchot, Leh on 18 August 2021



Bamboo plantation at Agarwada Chopdem in Goa on 06 September 2021



Bamboo plantation at BSF campus in Barmer, Rajasthan on 07 September 2021



Bamboo plantation at BSF camp in Samba, Jammu on 15 September 2021



Bamboo plantation at Sewapuri Ashram in Varanasi on 17 September 2021



Bamboo plantation along Narmada Canal in Ahmedabad on 15 August 2021



Bamboo plantation at Dharoi Dam in Gujarat on 10 August 2021

Bamboo Plantation under Project BOLD

Sr No	Location	Date of Launch	No of Bamboo plants	Area Covered
01	Nichla Mandwa, Udaipur	04/07/2021	5000	6.72 lakh sq ft
02	Tanot, Jaisalmer	27/07/2021	1000	2.50 lakh sq ft
03	Dholera, Ahmedabad	20/07/2021	5000	5.65 lakh sq ft
04	Dharoi Dam, Gujarat	10/08/2021	5000	4.5 lakh sq ft
05	Narmada Canal, Ahmedabad	15/08/2021	10,000	11 lakh sq ft
06	Chuchot Village, Leh	18/08/2021	1000	2.50 lakh sq ft
07	Agarwada Chopdem, Goa	06/09/2021	550	1.10 lakh sq ft
08	Barmer, Rajasthan	07/09/2021	1000	2.50 lakh sq ft
09	Samba, Jammu	15/09/2021	500	1.00 lakh sq ft
10	Sewapuri, Varanasi	17/09/2021	2000	5.00 lakh sq ft
11	Defence Institute of High Altitude Research (DIHAR), Leh	14/10/2021	50	
12	Sindhudurg, Maharashtra	25/02/2022	10,000	
Total			41,100 plants	42.47 lakh sq ft

The Bamboo: Most Sustainable & Renewable Natural Resource

The choice of planting bamboos to restore and rejuvenate degraded landscapes was made judiciously considering the immense scientific and environmental benefits it offers. Bamboo Trees are scientifically proven to emit 30 percent more oxygen than other trees- a hectare of Bamboo absorbs 12 tonnes of Carbon Dioxide annually and affords protection from UV Rays. Apart from this, Bamboo Trees are tough survivors that grow with least water in relation to other trees. They require zero maintenance and are known to restore degraded landscapes by conserving water. Bamboo has an incredible ability to conserve water. Its roots can absorb up to 90 percent of rainwater. This water is directed into the soil and thus recharging groundwater levels.

After his successful experiment of mass bamboo plantation under Project BOLD in KVIC, Shri Saxena continued with the bamboo plantation drive in Delhi. He believed that the exceptional abilities of Bamboo to emit more Oxygen, absorb Carbon Dioxide and prevent land degradation were absolute necessities for Delhi given the state of Air and Land Pollution here.

Accordingly, over three years, nearly 1.80 lakh bamboos were planted at various locations in Delhi, which included over 30,000 bamboos at Baansera alone, which is a bamboo-themed park on the Yamuna floodplains.

Nonetheless, when this initiative was undertaken in the National Capital, certain self-proclaimed "experts" vociferously opined that Bamboo was not indigenous to Delhi and these saplings will not survive and will prove to be a waste of money and time. Not only, have 95 percent of the 1,80,000 Bamboo saplings, planted across Delhi, survived, but have reached a height of 30-40 feet during the last one and a half- two years and are there for anyone and everyone to see.





Creating Green Assets in Delhi

Ever since he took over as Lt. Governor of Delhi in May, 2022, Shri Saxena's contribution to restoration of degraded land through greening and planation, ecological advancements and specific afforestation / plantation activities have been immense.

While dumping yards of solid waste on the banks of Yamuna were developed into lush green open public spaces in the shape of ecological parks like Asita at ITO, Baansera at Sarai Kale Khan and Yamuna Vatika between the Iron Bridge and ITO. Nurseries at Vaishnavi in Ashok Vihar and Roshanara Bagh, too, got functional, providing saplings to one and all at nominal costs.



1.80 Lakh
Bamboos



9.35 Lakh
Tulips



11,000
Sandalwood



2000
Grapes & Guava



500
Chinar &
Cherry Blossom



500 Kg
Meghalaya's
Lakadong Turmeric



2.10 crore
Trees Planted in
03 Years collectively
by all agencies



Baansera

Nearly 37-acre land that was reduced to a massive construction and demolition waste site barely 200 meters from river Yamuna near the heavily congested and polluted Sarai Kale Khan area, now rechristened as Birsa Munda Chowk, in Delhi has been transformed into a lush green public space, thanks to the initiative and sustained efforts of the Hon'ble Lt. Governor, Shri Saxena. In his very first visit to this waste dump, just 2 days after taking over as Delhi LG, i.e. on 28 May 2022, he identified this site for developing a unique bamboo themed park, which is now called "Baansera".

Before



Before



After his first visit itself, Hon'ble LG shared his vision for a bamboo themed public space for the people of Delhi. The vision was not only to provide a novel urban space along the river but also to promote use of bamboo as a sustainable material.

The project was inaugurated on August 9, 2022. 'Baansera' offers a one of its kind experience in terms of spaces designed amidst plantation of bamboos in the form of groves and in setums. Apart from plantations, the park also has amenities designed in eco-friendly material.



Laying of Foundation Stone at Baansera on 09th August 2022

In a record 6-months time, the heap of garbage and C&D waste that existed till June 2022, was transformed into a lush green asset in December 2022. The project "Baansera" (Bamboo Abode) has been developed as a bamboo-theme based urban green space along the river that also aims at promoting the use of bamboo as a flora alternative that supports the environment by transmitting 30% more oxygen and provides raw material for the cottage and village industry. The name has been derived from the Hindi word 'Basera' meaning 'the abode', thus named as Baansera -The Bamboo Abode.



BAANSERA AT A GLANCE

Area
37
Acre

30,000
Bamboos
Planted

15
Species
of Bamboos

03
Water Bodies

Developed in
06
Months

After



Asita

Till May 2022, a massive 225 acre of Yamuna floodplain area near ITO barrage on the eastern banks of the river, was under massive encroachment by squatters and stray cattle that were polluting Yamuna severely. In his continuous efforts for creating "Sustainable Green Assets" in the capital, Shri Saxena, following the Delhi High Court's order to remove encroachment from the Yamuna flood plains, initiated a drive to clean this degraded land into an ecological park while restoring and rejuvenating River Yamuna and its flood plains. This was followed by frequent visits and follow up meetings by the LG to oversee the work progress and in the next six months only, i.e. by November 2022, this area was transformed into the biggest breathable, public green space in entire East Delhi.

Before



Before

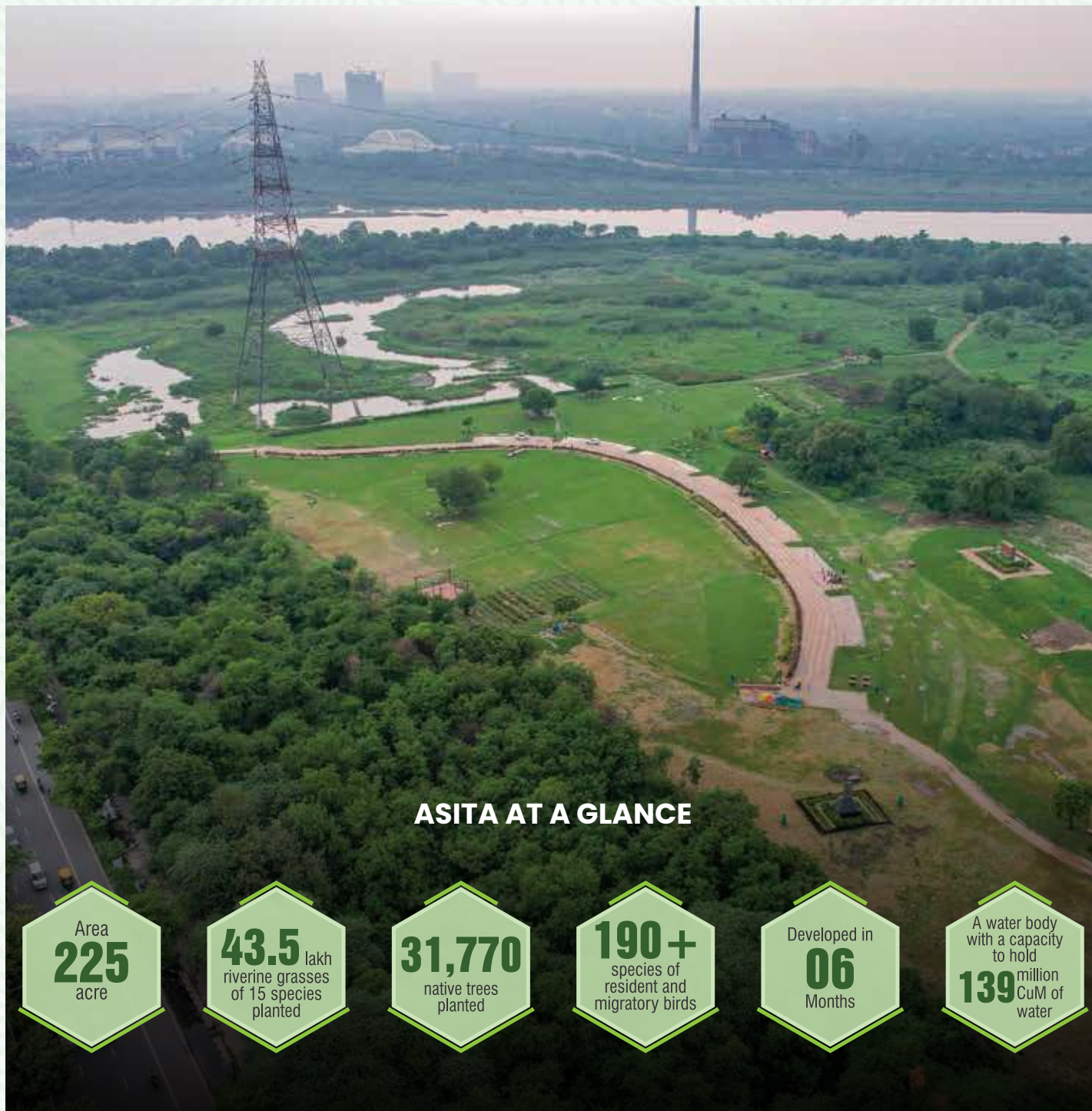


Laying of Foundation Stone at ASITA. 07 September 2022

Asita, as this Project has been named, is yet another name of the river Yamuna. The area along the edge of the river has been developed as an 'Ecological Zone' with kachha trails for people to walk through the floodplain forest and grasslands. The floodplain forest has been created with plantation of nearly 43.5 lakh riverine grasses of 15 species and nearly 32,000 native trees.

At Asita, a large muck-filled depression was also restored as a waterbody and the natural surroundings turned this stretch of Yamuna into a sanctuary for over 190 species of resident and migratory birds that flock this site every year.





ASITA AT A GLANCE

Area
225
acre

43.5 lakh
riverine grasses
of 15 species
planted

31,770
native trees
planted

190+
species of
resident and
migratory birds

Developed in
06
Months

A water body
with a capacity
to hold
139 million
CuM of
water

Yamuna Vatika

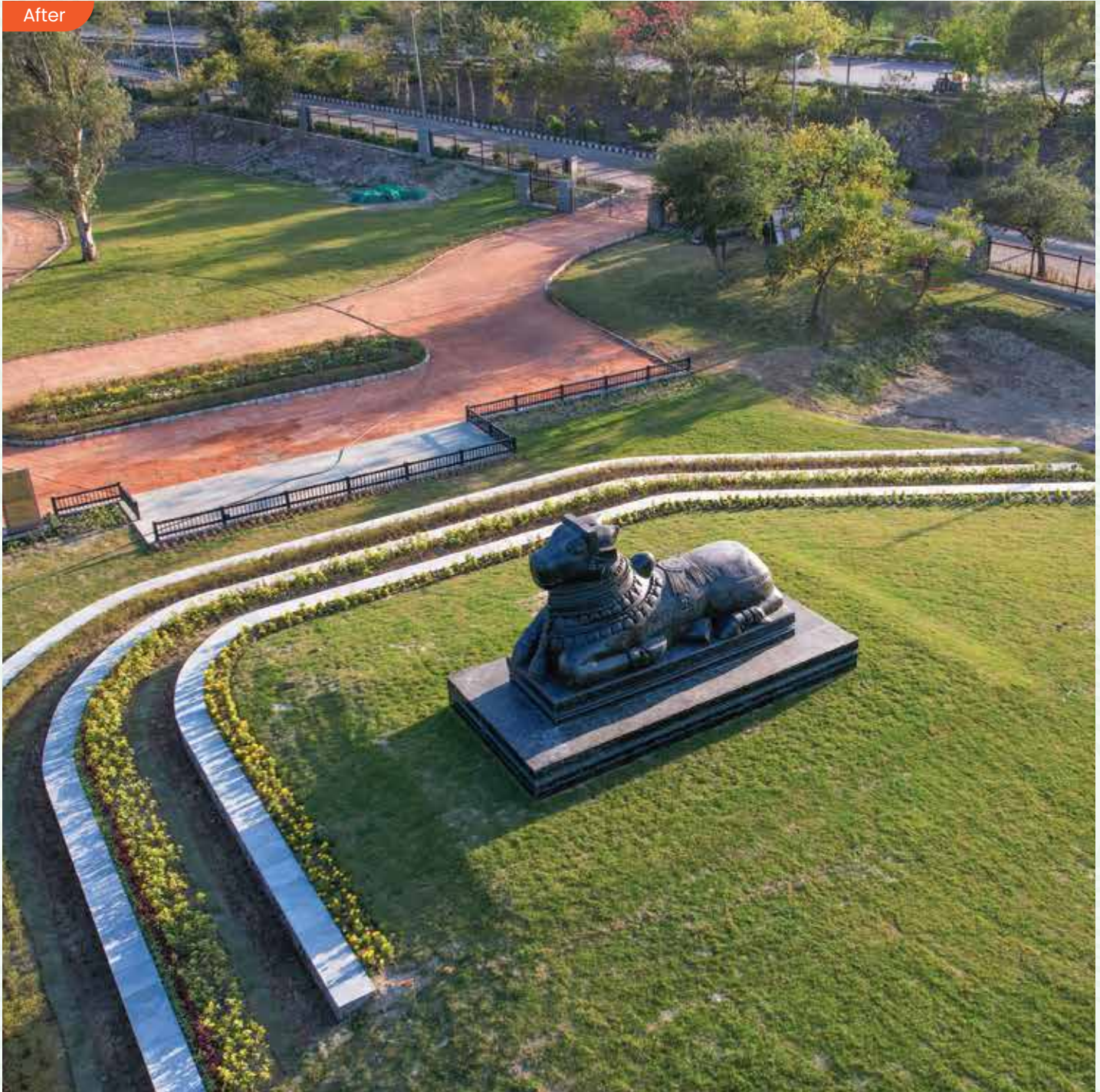
While the transformation of Asita on Yamuna's eastern bank continued in full swing, a similar exercise was undertaken to restore and rejuvenate the western bank of the river. Under the guidance and supervision of Shri Saxena, DDA undertook the development of Yamuna Vatika, spread over 450 acres, as a multi-activity, open green space for addressing the air and water pollution concerns of the city.

Yamuna Vatika, is also planned to serve as a recreational hub for people. Stalled for years due to unauthorized occupation, works on developing the Vatika started in right earnest with encroachments being removed and the area planted with exotic species like Cherry Blossom and Chinar.

Before



After



Just like the sunflower fields of Tuscany or the lavender farms of Provence, Shri Saxena, envisioned a resplendent flower field at Yamuna Vatika. The flower field developed by DDA swept over in breathtaking hues of yellow and orange during the winters. This stretch of Yamuna floodplains that used to be a muck-filled, garbage dump just a year ago, was transformed by DDA into vibrant fields of marigolds, redefining the landscape of Delhi and reviving the Yamuna floodplains into breathable public green spaces. This incredible transformation of Yamuna Vatika, after Baansera, Asita and Vasudev Ghat, came as another testament to Shri Saxena's unwavering commitment towards urban rejuvenation and ecological



YAMUNA VATIKA AT A GLANCE

Area
450
Acre

04
Large
Water Bodies

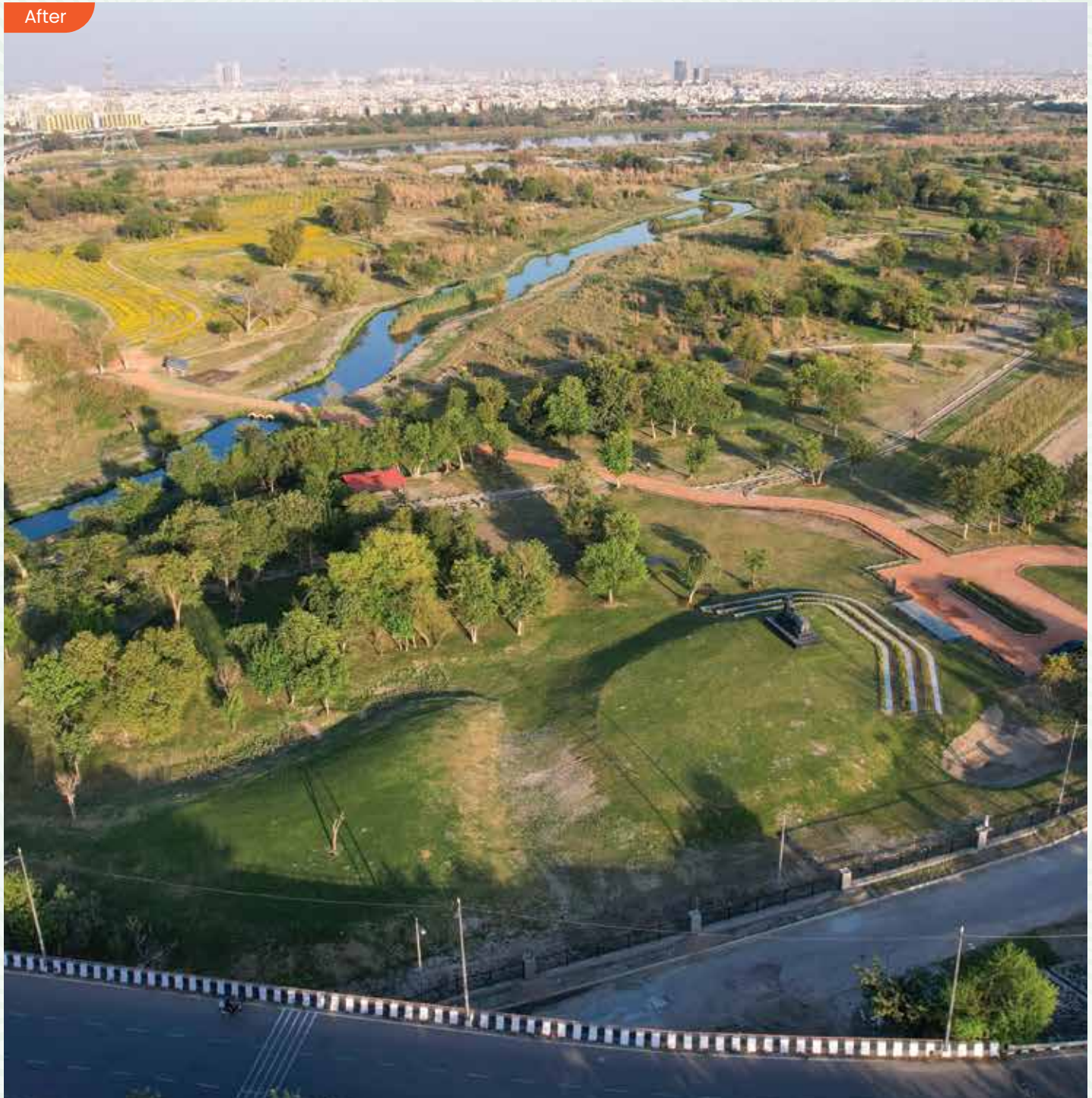
57
tonne
Nandi Statue
installed

Multi-activity
Open
Green
Space

Serves as a
Recreational
Hub
for People

Variety of
plant like
Cherry Blossom
and
Chinar

After



Amrit Bio-Diversity Park

Located on the eastern bank of the Yamuna, this 90-hectare expanse is another initiative that Shri Saxena undertook to rejuvenate the Yamuna floodplains and create a breathable public green space for the people of Delhi. This park has six water bodies, about 14,500 trees of various species and 18,000 shrubs. The facility includes walkways, lawns and car parking areas. This is the fifth facility that has been developed on the Yamuna floodplains. Asita, Baansera, Yamuna Vatika and Vasudev Ghat are the others.

The project aims to improve Delhi's air quality and create open, serene spaces for families to enjoy. Named this park Amrit as this place was filthy, and we really worked hard to bring it to its natural form. There are so many depressions in the area, and these are untouched and kept in their natural form so that whenever flooding happens in the area, these will get filled with water. It will automatically invite birds and habitat to the area.



After



Vaishnavi Park

Just two days after taking over as Delhi's LG, Shri Saxena visited Ashok Vihar area in densely populated North Delhi and identified a 10-acre land that was heavily encroached and polluted. Instantly, he envisaged an eco-tourism hub and a recreational green space to be developed on the site. The park, completed in just 20 months, features native and medicinal plants, walkways, water bodies and a massive green space, which highlights the connection between plants and the nine planets in Indian culture. It reflects a growing commitment to enhancing urban green spaces and promoting local tourism. The park was inaugurated on 27 August, 2024.

Before



After



Area
10
acre

28.05.2022
LG's First Visit

29.12.2022
Foundation Laid

27.08.2024
Vaishnavi Park
Inagurated



Restoring Delhi's Green Heritage

As the National Capital underwent a thorough makeover and aesthetic upgrade in run up to the G-20 Summit, the momentum continued post-Summit and next on the agenda was redevelopment of four parks along the Ring Road behind the Red Fort, Daryaganj and Ansari Road. With specific objectives in the mind – creating open, green recreational spaces for the residents of Old Delhi and its neighbourhood and decongesting the Kartavya Path – Shri Saxena visited this historical stretch on 06.05.2023, and envisaged the redevelopment of the four parks namely, Dilli Chalo Park, Ghata Masjid Park, Urdu Academy Park and Sadbhavana Park opposite the Samadhi Complex.

Kranti Udyan

Ghata Masjid and Urdu Academy Parks have been clubbed and renamed “Kranti Udyan”, after the valiant soldiers of the first Freedom Struggle of 1857, who marched from Meerut and assembled here after crossing the Yamuna. This park is right behind the walled city of Daryaganj near Red Fort. This park is intended to emphasize organic forms and is designed as a neighbourhood park to fulfil the requirements of nearby residential areas. The key features include two seating pavilions, sculpture terraces, shaded senior citizen plaza, a yoga lawn, a children play area, a multipurpose playground, an open gym and other public facilities.



After



After



Sadhbhavana Park

The site of Sadhbhavana Park shares its south boundary with Ekta Sthal and is visited by residents of Daryaganj and other Old Delhi areas. The west side of the park abuts the Old City Wall and at some location, its architectural style is similar to the Red Fort Wall and probably dates back to the Mughal era. The design of the park envisages French landscapes, with the grand water feature 'fountain with the horses (Apollo)' as focal element of the park. The two water channels would mark the central axis of the park with reflection of surroundings in water, adding to the symmetry. White marble has been used as primary material in pathways and water features. High sitting plaza inspired from traditional "baradari" has been provided with flower beds around it.

Chhatris and life size sculptures of various forms will also be incorporated as part of the redevelopment. Exotic species like Cherry Blossom will be planted along the rear pathway and Chinar trees will be planted in the backdrop of the "Apollo Plaza", depicting the grandeur and royalty on the lines of the Versailles Gardens of Paris.

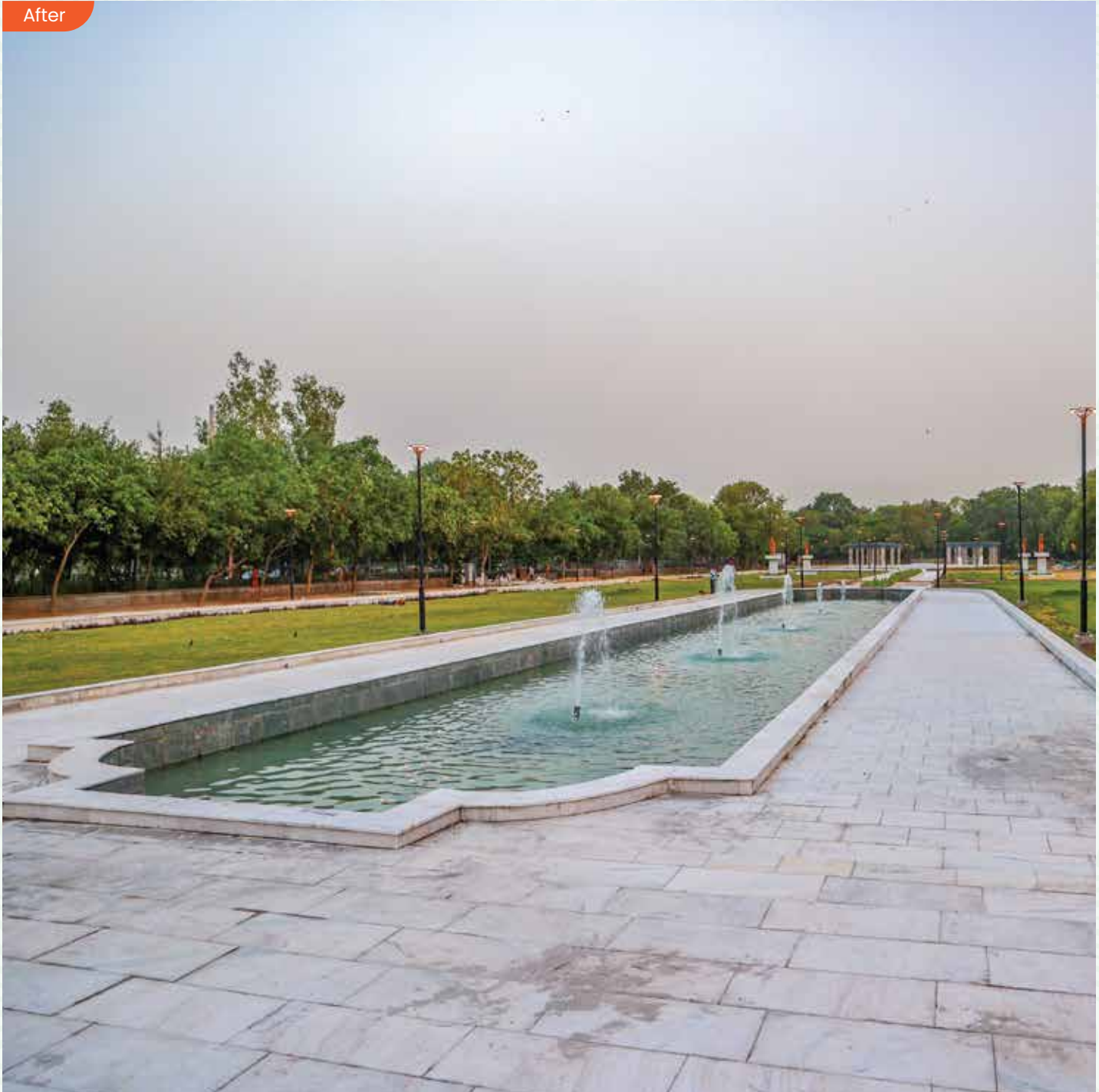
Before



After



After



Dilli-Chalo Park

Lying on the rear side of the historic Red Fort, the park, spread over 17 acre, is designed in Char Bagh style. The area falls within the 'Protected zone' of the Red Fort and lies along the eastern wall of the Fort and the Mumtaz Mehal, Rang Mehal, Khas Mehal, Diwan e Khas, Hammam, and Shah Burj stand prominent from the Park. Keeping in view the existing vegetation, the design keeps into consideration various built elements of the Red Fort.

Structures like chhatris, lanterns water fountains, pools and channels accentuates the formality with low floral plantations adding to the natural aesthetics of the site. An amphitheatre is positioned to accentuate one of the burj of the Fort while entering into the site. Low height plantation along the porous boundary edge near the Red Fort would maintain a visual connection with the Fort. The materials being used are red sand stone with occasional motifs in Dholpur stone or marble and handmade tiles as lining of the water bodies.



Under Redevelopment



Roshanara Bagh Hi-Tech Nursery

While concrete steps were taken to restore the Historic 400 year old Roshanara Bagh to its past glory, a simultaneous exercise was undertaken to develop a hi-tech nursery at Roshanara Bagh. This 57 acre asset in North Delhi was rejuvenated with a lake, garden, nursery, walkways and public utilities right in the middle of the City. Under the guidance of Shri Saxena, MCD developed a hi-tech nursery of rare & exotic plants and flowers, on 8.5 acre of land.



After



This nursery has the capacity to provide about 3 lakh plants and saplings annually for plantation across the city at nominal prices. This nursery was inaugurated by the LG on 28th December 2022.



Enriching Delhi's Flora

Alongside the multiple initiatives that were undertaken to address the legacy issues plaguing the National Capital, the Hon'ble LG brought together all concerned agencies to carry out a massive plantation drive along the Yamuna floodplains, parks, reserve forests and along several arterial roads in Delhi. This included a large number of bamboos that are known to sustain the environment by emitting 30% more oxygen than any other plant species. Shri Saxena also got exotic species like Chinara, Cherry Blossom, Sandalwood, Water Apple, Green Apple and the famed Lakadong Turmeric of Meghalaya planted in different parts of the Capital. Interestingly, not only these plants have shown good survival rate, but have also yielded fruits.

The experiment, which primarily aimed at enriching Delhi's floral diversity, has also busted the myth that these plant species can only be grown in specific climatic conditions and not in places like Delhi.



Sandalwood, Cherry Blossom and Chinara saplings planted at Raj Niwas in May 2023



Mar, 2023



Jul, 2025





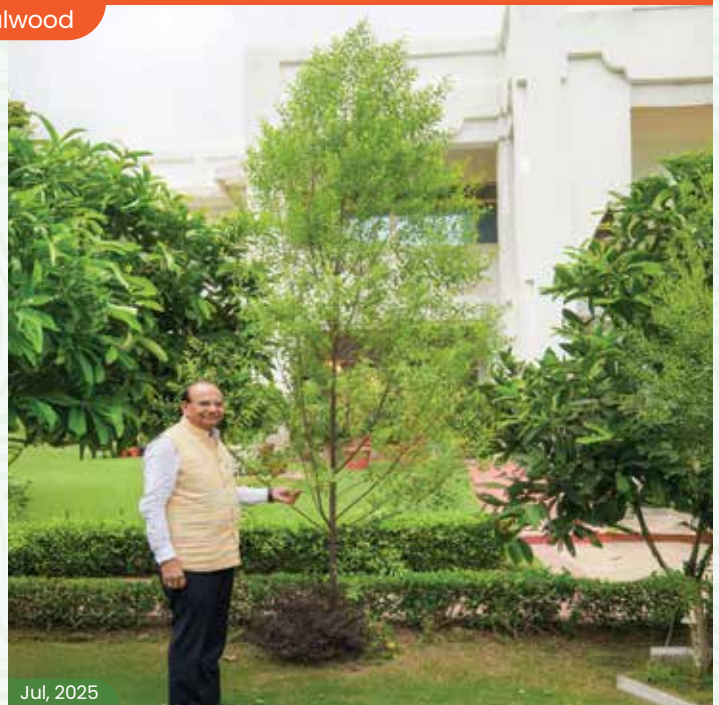
Green Apple



Chinar



Sandalwood



Cherry Blossom



Meghalaya's Lakadong Turmeric Introduced in Delhi

Shri Saxena's successful experiment of introducing Chandan, Chinar and Cherry Blossom in Delhi continued with plantation of yet another exotic species – the famed Lakadong Turmeric of Meghalaya. In June 2024, nearly 500 KG of high-quality Lakadong turmeric seed – rhizomes (the underground stem of the turmeric plant) – was procured from Meghalaya and planted under the thick bamboo groves at Baansera on the banks of the Yamuna.

Baansera, which has over 30,000 bamboo plants, created a symbiotic environment in which both turmeric and bamboo could thrive. With over 80% survival rate, nearly 600 KG of turmeric was harvested in January-February 2025, which marked the successful trial cultivation of this globally acclaimed crop in Delhi. Plantation of Lakadong turmeric in Delhi was also in lines with Hon'ble LG's persistent innovative and inter-cultural approach aimed at adding diversity to Delhi's flora.



Mission Tulip

In continuation with his endeavours to enrich Delhi's ecology with new flora species, Hon'ble LG has also paved the way for growing of exotic Tulips, indigenously, for the first time in Delhi. For this purpose, an innovative fabricated Tulip Cold Chamber was set up by the NDMC at Lodhi Garden where Tulips are being grown under controlled climatic conditions. The aim is to grow Tulips locally rather than importing it from abroad and thus save a huge cost. The Tulip Cold Chamber comprises a "cold storage chamber" and a separate "Tulip propagation chamber".

On the initiative of the LG, various agencies procured and planted 9.35 Lakh Tulips across the city between 2022-2025. For the first time, Tulips were also planted in DDA and MCD parks, outside the limits of Lutyens' Delhi and these exotic flowers were also made available to common citizens through sale at DDA nurseries.





Mission Tulip, started under the guidance of Shri Saxena, aims at the production of Tulips in the National Capital. For this purpose, tie-ups have been made with leading agriculture and research institutes like CSIR- Institute of Himalayan Bio- Resource Technology, Palampur (Himachal Pradesh), Sher-e-Kashmir University of Agricultural Sciences and Technology, Srinagar and Defence Institute of High Altitude Research, Leh for procuring Tulip Bulbs and the necessary technical expertise. The idea is to reduce the import of Tulips in the next 3 years and gradually become self-reliant in the production of Tulips so that Delhi is prepared to export Tulips fourth year onwards.

Methodology

Programming

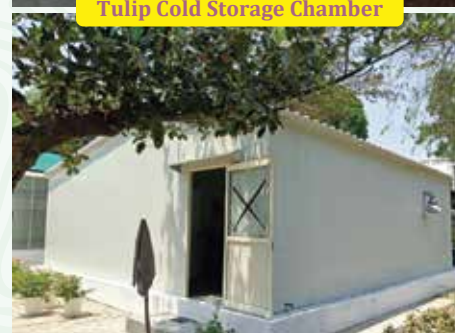
In April 2023, around 2000 Tulip bulbs of 8-10 cm size harvested from the NDMC area were stored in the cold storage chamber at temperatures ranging from 15 to 20 degree Celsius. The bulbs will be stored for at least 3 months.

Forcing

In the first week of August, these bulbs will be kept for forcing at temperatures ranging from 5 to 9 degree Celsius for a period of 10 weeks.

Production

Around the 3rd week of October, the forced bulbs will be put in the production chain by sowing them in the growth chamber at 15 to 20 degree Celsius temperature for the next 4-5 months.





Distribution of Sandalwood plants at Village Qutabgarh on 02 September 2022



Plantation at a newly developed grazing ground for cattle at Jaunti Village on 02 Dec 2023

Plantation specifically done on the initiative of Shri Saxena

Date	Plantation Details	No. of Plants
25 Jun 2020	Sandalwood and Bamboo planted at KVIC's Nashik Training Centre	1,000
2020 - 2022	45,000 Moringa & 25,000 Bamboo planted by KVIC across the country	70,000
2021-2022	Bamboo plantation by KVIC under Project BOLD	31,100
24 July 2022	Plantation at Asola Bhati Mines Sanctuary	1,00,000
28 July 2022	Special plantation drive by MCD	1,00,000
July-Aug 2022	Sandalwood saplings planted on the campus of Universities and vacant land of Delhi Police	10,000
02 Sept 2022	Sandalwood planted at Qutabgarh Village	1,000
21 Mar 2023	Bamboo & Flowering Trees planted at Garhi Mandu	83,500
07 May 2023	Cherry Blossom, Chinar, Amaltas, Gulmohar and other Flowering Trees planted on Yamuna Floodplains	1,700
22 July 2023	Massive tree plantation at Asola Bhati Mines	5,50,000
July-Aug 2023	Flowering plants and bamboo planted along the arterial roads in run up to the G-20 Summit	20,000
13 Apr 2023	Guava & Grapes distributed and planted at Qutabgarh Village	2,000
2022 - 2023	Tree plantation at Asita Park	6,000
2022 - 2023	Bamboo plantation at Baansera Park	30,000
06 Mar 2025	Bamboo plantation at Bhalswa Landfill	45,000
06 Jun 2025	Bamboo plantation at Okhla Landfill	8,000
	TOTAL	10,59,300



05.06.2022 Nehru Park



24.07.2022 Asola Bhati Mines



09.08.2022 Baansera



10.09.2022 Neela Hauz



07.05.2023 Yamuna Island



05.06.2024 Aastha Kunj



12.05.2025 Shanti Stupa



06.03.2025 Bharat Vandana Park



06.06.2025 Okhla Landfill Site

Water Conservation Initiatives

Shri Saxena's crusade for environmental protection was not only confined to creating "Green Assets" by way of tree plantation but he contributed significantly and pro-actively to enriching the vital "Blue Assets" as well, that entailed reviving and rejuvenating the dead lakes and ponds and creating new water bodies. Having successfully revived over a dozen water bodies in the Bhal region of Gujarat in the late 90's and the early 2000's, Shri Saxena replicated the model in Delhi and Varanasi, during his stint as Chairman KVIC. With participation of the local villagers, he took up the revival of water bodies in Qutabgarh Village in Delhi and Admapur Village in Varanasi.



Asita Park

Responding to Hon'ble Prime Minister Shri Narendra Modi's call to save the water bodies across the nation through 'Jal Shakti Abhiyan', Shri Saxena, while at KVIC, first initiated and undertook the restoration of two dead ponds in Admapur village in Prime Minister's Parliamentary constituency of Varanasi. He also took up the task of deepening and cleaning at least one pond in a village in all the states and union territories of India. Besides Admapur, he also made efforts to restore parts of Dal Lake in Srinagar and revived a dead pond in Qutubgarh village in Delhi.

Before



Before



After



The Qutabgarh Pond restored in 2019

Before



After



Restoration of a pond in Village- Admapur, Varanasi in July 2019

Further, Shri Saxena personally intervened and got a check dam constructed at KVIC's Nagpur centre at a nominal cost of just Rs. 2 Lakh as against the original estimate of Rs. 23 Lakh. This check dam not only saved a huge cost but also went a long way in meeting the water needs and recharging the groundwater





A check dam constructed at KVIC's Nagpur centre



Augmenting and Reviving Delhi's Blue Assets

Shri Saxena's efforts to restore and rejuvenate water bodies gained further momentum with his appointment as the Lt. Governor of Delhi. What followed next was identifying the dying lakes, ponds and waterbodies in Delhi, some of them being heritage ones, and his successive visits and meetings to ensure prompt action to bring these water bodies back to life.

The dried up lake in historic Roshanara Bagh, the sludge-filled waterbody at the heritage Mehrauli Archaeological Park, the ancient Anang Tal Baoli, Lal Kot Baoli and Rajon ki Baoli are some of the heritage water bodies whose restoration has been taken up in a mission mode by Delhi Development Authority (DDA) and other agencies, on the initiative of Shri Saxena. Apart from these, a massive exercise was undertaken to restore Sanjay Lake in east Delhi, Bhalswa Lake in north west Delhi and creation of five new water bodies in Dwarka sub-city in south west Delhi. Water conservation by restoring and creating water bodies in every village is also a key focus of the ambitious "Delhi Gramodaya Abhiyan" ideated by Shri Saxena and being executed by DDA at a cost of Rs. 960 Crore.



Roshanara Bagh Lake

As part of the sustained efforts to rejuvenate Delhi's dying water bodies, Hon'ble LG directed the restoration and revival of a big water body in the heritage Roshanara Bagh. The water body has since been dredged and restored with a lined walkway on the embankment. The lake, thus created, has also been connected with the neighbourhood areas prone to water logging, with an aim of channelizing the rainwater to the lake.

Before





Restoration work underway at Roshanara Bagh Lake

After



After



DDA Mehrauli Archaeological Park

The Mehrauli Archaeological Park, that was lying in shambles since several years, has found a new lease of life with intervention and persistent monitoring of Delhi LG, Shri Saxena. This 200 acre heritage site, apart from housing over 60 heritage monuments, also has a huge waterbody along the Metcalfe Boat House as its key attraction. It was, however, completely dried up, filled with huge quantity of silt and garbage.

This pathetic condition of the park in general and the waterbody in particular grabbed the attention of Hon'ble LG during his visit to the Mehrauli Archaeological Park and the rejuvenation of the waterbody began immediately. It now is completely revived with aerator fountains, cascade and illumination, adding to the aesthetic appeal and the delight of the visitors.





Now



Now

Rejuvenated water body at DDA Mehrauli Archaeological Park

Sanjay Lake

During his successive visits to Sanjay lake, Shri Saxena had instructed DDA to construct channels from the adjoining NH-24, from where water used to flow down into the neighbouring residential localities, into the Sanjay Lake. He had also asked for large pipes to be positioned by making large holes in the boundary wall of the neighbouring residential areas, so as to ensure water flows from these areas into the Sanjay Lake. This simple exercise, apart from rejuvenating the lake, successfully prevented waterlogging in these residential colonies during heavy rains.





A section of rejuvenated Sanjay Lake in East Delhi

Bhalswa Lake

Rejuvenation of Bhalswa Jheel, one of the biggest waterbodies in North Delhi, was taken up in October 2022, after Shri Saxena inspected the lake on repetate complaints from the locals. Interception of drains and pipeline for segregating the waste from the nearby Bhalswa dairy and carrying the sewerage to the supplementary drain across the lake was undertaken. Simultaneously, dredging, removal of silt, sludge, dung and garbage encroaching the lake was carried out. The lake, lying in a pathetic state, has shrunk from the original 148 acre area to a mere 85 acre at present due to silt and garbage deposition. Following the LG's instructions, DDA took up the work on a war footing and was cleaned and spruced up in just 15 days, ahead of the Chhath Festival when lakhs of devotees gathered at the Ghat. The restored Bhalswa lake is proving to be a critical asset to the environment and aesthetics of the National Capital.

Before



Now

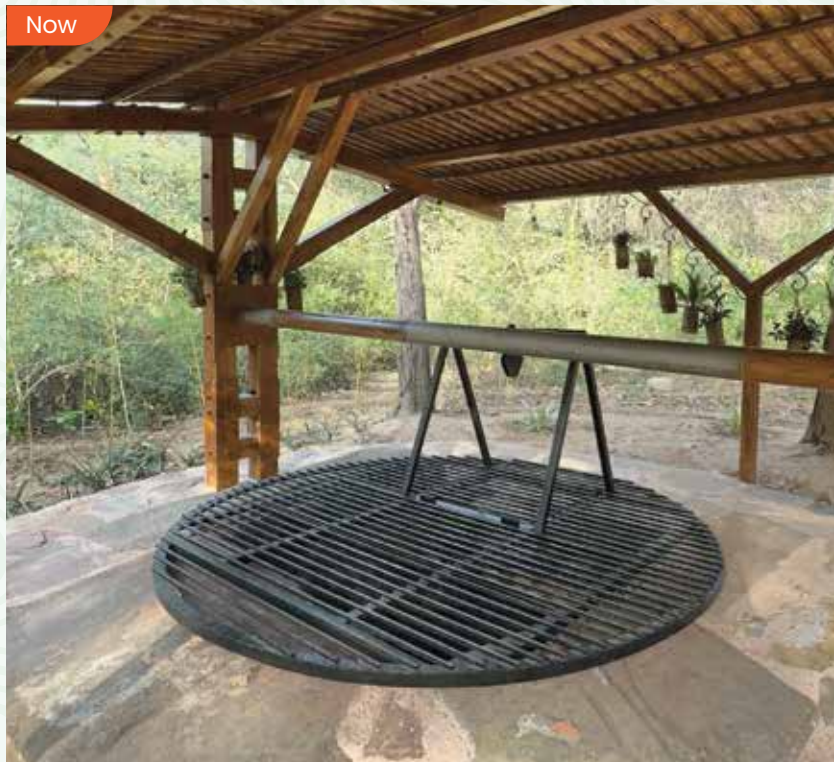


Cleaned and rejuvenated Bhalswa Lake in North West Delhi

An ancient well at Quila Rai Pithora at Anang Pal Tomar Van

Alongside a number of historical monuments that were resurrected in Anang Pal Tomar Van (Sanjay Van), an ancient well, believe to have been constructed during the pre-Islamic Hindu era, also found a new lease of life. Shri Saxena, during his visit to the site found the well in a dilapidated condition, filled with muck and stench.

On his directions, restoration of the well was taken up, the water was clean and the entire structure was brought back to life. The well is located adjacent to the large fortification of Prithviraj Chauhan's fort.



Creating/reviving 05 waterbodies in Dwarka Sub-city

After taking over as the LG, Shri Saxena took up the construction and commissioning of Airport Drain, which was pending for nearly 3 years owing to government apathy. It was the non-existence of this drain that caused heavy flooding in and around IGI Airport and the Dwarka Sub-city every year. However, with persistent efforts, the Airport Drain was commissioned in December 2023, in a record time of 15 months.

The idea was to channelize the rain water from IGI Airport to PWD Trunk Drain No.02, and in the process recharging 05 new waterbodies created by DDA on the initiative of Shri Saxena. These water bodies are located in DDA parks in various sectors of Dwarka. Existing depressions were dredged and de-silted for up to 2 to 3 meters so that rain water could be collected in these water bodies when the Airport Drain

Before



Now



Water body at created Store Wala Park Sector - 08 Dwarka

Before



Now



Water body at Pond Wala Park in Sector - 08 Dwarka



Before



Now

Water body behind Store Wala Park Sector - 08 Dwarka



Rejuvenation of a water body underway at Sector - 20, Dwarka

Before



Now



A rejuvenated water body at Sector – 23, Dwarka

Mission ENDURE to mitigate Dust Pollution

(ENSuring Dust REDuction)

Shri Saxena's contribution in reducing dust pollution in Ahmedabad City, way back in 2004, is widely recognized. To make the city of Ahmedabad dust free, Shri Saxena through his NGO – NCCL in July 2004, launched an ambitious project called Mission ENDURE (ENSuring Dust REDuction). Mission ENDURE was the first ever endeavour of its kind and size in the country in which an NGO was promoting a practical, positive and participatory solution to reduce dust pollution in a large city like Ahmedabad. Over 2.25 lakh sq. meter of footpath were constructed under the project in Ahmedabad, with public participation.



This eco-friendly scheme not only reduced dust pollution but also allowed rainwater to recharge the aquifer. Mission ENDURE has won Dubai International Award instituted by UN-HABITAT. NCCL was selected for this award from 650 entries from 140 countries. This project was showcased at World Urban Forum for Worldwide emulation.

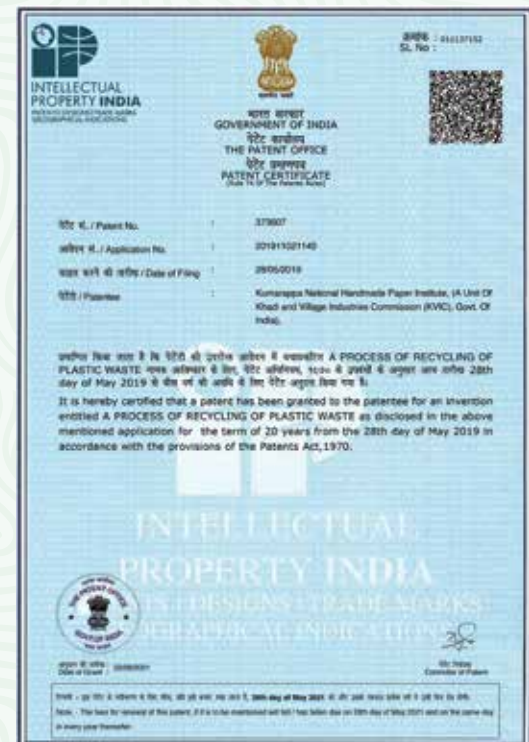


Innovations for Environment Protection

In his sustained efforts to protect the environment, Shri Saxena, apart from using the traditional methods also employed his sharp scientific acumen and was instrumental in developing several innovative projects and products that were eco-friendly, that saved the environment from potential hazards and at the same time created large scale employment in the village industry sector. The most notable among these include Plastic Mixed Handmade Paper and Khadi Prakritik Paint made from Cow dung, which Shri Saxena ideated, conceptualized and executed while at the helms of affairs at KVIC as its Chairman and even got patent for the two innovations.

Plastic Mixed Handmade Paper

Under the guidance of Shri Saxena, KVIC, in September 2018, innovated a unique way to reduce plastic menace, under its project REPLAN (REDucing PLASTic from Nature). Its unit Kumarappa National Handmade Paper Institute (KNHPI), Jaipur, developed handmade paper by mixing up to 20% plastic waste with the paper pulp to make cost-effective paper carry bags and other items. This innovation ideated by Shri Saxena, got Patent certificate in August, 2021. This is the first of its kind project in India, where plastic waste is de-structured, degraded, diluted and used with paper pulp while making handmade paper and thus reduces plastic waste from nature. In just 02 years of its launch, KNHPI consumed nearly 50 MT of waste plastic from Jaipur city.





Making of Plastic Mixed Handmade Paper at KNHPI, Jaipur

Khadi Prakritik Paint made from Cow Dung

Shri Saxena's another innovation that got widely appreciated, has been the first of its kind distemper and emulsion paint made from cow dung which was named "Khadi Prakritik Paint". The project was conceptualized by Shri Saxena in March 2020, its manufacturing, testing and trial use was completed by November 2020. The cow dung paint was launched on 12 January 2021, which got the patent certificate on 23 September 2022.



(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :08/01/2021

(21) Application No.202111000982 A

(43) Publication Date : 23/09/2022

(54) Title of the invention : PAINT COMPRISING COW DUNG

(51) International classification

:B44D0003120000,
A61K0035240000,
C10L0005420000,
A01K0001010000,
C09D0005020000

(31) Priority Document No

:NA

(32) Priority Date

:NA

(33) Name of priority country

:NA

(86) International Application No

:NA

Filing Date

:NA

(87) International Publication No

: NA

(61) Patent of Addition to Application Number:NA

Filing Date

:NA

(62) Divisional to Application Number

:NA

Filing Date

:NA

(71)Name of Applicant :

1)Kumarappa National Handmade Paper Institute

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(72)Name of Inventor :

1)Shandilya Giriraj Singh

2)Vinai Kumar Saxena

3)Badri Lal Meena

4)Moh. Esa Khan

5)Saakshy

(57) Abstract :

The present invention relates to a paint composition, such as distemper paint and emulsion paint comprising dung preferably cow dung. The paint composition additionally comprises fillers and binders. The present invention also relates to a process to prepare the paint composition. The cow dung is first refined, followed by bleaching the cow dung thus refined. Further, binders and fillers are also added to the bleached cow dung.

No. of Pages : 12 No. of Claims : 16

Khadi Prakritik paint is eco-friendly, anti-bacterial, anti-fungal, cost-effective, non-toxic product and free from heavy metals. This paint contains low Volatile Organic Compounds (VOC). Apart from creating extra income for farmers and Gaushalas by sale of cow dung to these paint manufacturing units, this project is also proving helpful in preventing the disposal of cow dung in open that leads to clogging of drains and thus cleans environment.



Unique Khadi Anti-Bacterial Fabric

Shri Saxena's another innovative idea of developing a unique anti-bacterial fabric was executed by KNHPI, Jaipur, under KVIC. This innovation too got the patent on 12 January 2024. The fabric is treated with anti-bacterial agent extracted from cow dung which prevents bacterial growth in the fabric, making it of great use in hospitals and other medical facilities.

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202111054593 A

(19) INDIA

(22) Date of filing of Application :25/02/2022

(43) Publication Date : 12/01/2024

(54) Title of the invention : PROCESS TO EXTRACT ANTIBACTERIAL AGENTS, TEXTILE OR FABRIC TREATED WITH THE ANTIBACTERIAL AGENTS AND METHOD OF PREPARATION THEREOF

(51) International classification	:D06P0001440000, C02F0001500000, D06M0023000000, D06M0011830000, D06M0011460000	(71)Name of Applicant : 1)Kumarappa National Handmade Paper Institute Address of Applicant :Ramsinghpura, Sikarpura Road, Sanganer, Jaipur-303902, Rajasthan, India Rajasthan India
(31) Priority Document No	:NA	(72)Name of Inventor :
(32) Priority Date	:NA	1)Vinal Kumar Saxena
(33) Name of priority country	:NA	2)Badri Lal Meena
(86) International Application No	:NA	3)Saakshy
Filing Date	:NA	
(87) International Publication No	: NA	
(61) Patent of Addition to Application Number:	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :

The present invention relates to a process of extracting antibacterial agents from cow dung. The process comprises (i) diluting fresh cow dung with a mixture of water and cow urine to obtain a diluted cow dung slurry; (ii) mixing and stirring the diluted cow dung slurry; (iii) clarifying the slurry of step (ii) to obtain a clean cow dung slurry; (iv) dewatering clean cow dung slurry of step (iii) to extract cow dung liquid; (v) drying the cow dung liquid of step (iv) in presence of cow urine per liter of cow dung extract to obtain antibacterial agent. The present invention also relates to a process of making a textile or fabric treated with the antibacterial agents extracted from cow dung.

No. of Pages : 27 No. of Claims : 9

Cow Dung Mixed Flower Pots

Even as Shri Saxena, as Delhi LG, supervised over a massive tree plantation drive in the capital, he ideated another way of reducing the plastic menace, sustaining plantation and creating income for the poor. In December 2022, he instructed for replacing the black plastic bags that are used for wrapping the soil surrounding the roots of the saplings for plantation, with dried up cow dung mixed soil, in the shape of soft solid earthen pots. Now the plastic bags have been discarded and the saplings are being planted in these soft pots that dissolve into the soil once planted and apart from mitigating the pollution caused by the plastic earlier, also provides the sapling with fertilizing nutrients. Earlier this plastic planted into the soil along with the saplings used to cost soil degradation or if removed, would lie as heaps of non-degradable plastic waste.



Social Commitment

Apart from his passion and commitment for the cause of the environment, Shri Saxena was always on the forefront for the social cause. While it was his voluntary efforts to provide drinking water to the villagers in the parched regions of Rajasthan and Gujarat, his NGO- NCCL also took up the noble task of reconstructing and modernizing 12 dilapidated houses of tribals in Adivasi village Vanaj in Gujarat. This was followed by reconstructing six houses in Admapur Village in Varanasi.

Project “Rainbow Hills”

On 21.11.2014, Shri Saxena’s NCCL launched its Project “Rainbow Hills” from village Vanaj in Sabarkantha district of Gujarat for re-constructions/repairs and modernization of tribal houses in the picturesque Adivasi Vanaj village which is situated on a small hillock facing a huge lake. The 12 selected houses in village Vanaj, were constructed by the Adivasis using mud for walls and local wood for ceiling. These dilapidated dusty houses were in unhealthy conditions to live in. NCCL completed repair and reconstruction of these 12 houses in just 3 months.

Under the scheme, repairing of walls, floor, roof, Verandas, etc. were done including construction of toilets. The aim of the scheme was to provide basic amenities to the poor Adivasis, without disturbing their lifestyle, traditions and surroundings. These Adivasis were also guided to rent out one room in these neatly re-constructed houses to the tourists visiting the picturesque lake, to generate income for them.



Before





Tribals' houses being reconstructed by NCCL

After



After



After



Reconstruction of Village Houses in Admapur, Varanasi

In the year 2018, this successful social experiment was replicated in Admapur Village of Varanasi. NCCL renovated 6 dilapidated mud houses of the village into concrete houses at the cost of Rs. 1 lakh per unit.



A reconstructed house in village Admapur in Varanasi

The work goes on...

Balancing development with greening is an unsolved dilemma of governance. It is easy to split the matter to point out errors, if we are overtly idealistic and blind towards the requirement of the other part of the duo. The United Nations has long debated the meaning of the phrases - environment for development, development for environment and finally settled down with 'environment and development'. Thus, they need to co-exist. And that's the origin of difficulty of balancing. And there is no clear definition or gold standard about the proportions of development and environment in sustainability.

This dilemma of the duo is not so much pronounced when the environmental governance is attempted by individuals. However, when the same act of environmental protection is attempted by those in governance, the dilemma of the duo becomes a very difficult matter to address. And thus, depending upon the perspectives of people, the balance appears a little skewed and at times, development appears to have been accomplished through the abuse of the environment.

Every person in a decision-making level of governance is faced with this difficulty. And at times, although a clear balance cannot be managed in situ, compensatory approaches are made to build an overall balance.

All said and done, it is important to continue with the spirit of greening the world in the face of exacerbated effects of climate change that we are witnessing in the present times. A deeper understanding of the necessity of greening and a wider appreciation of the difficulties in governance are necessary in moving into a future of judiciousness and planetary justice.

Despite various external and internal challenges of environmental degradation, Shri Saxena's endeavours have been consistent. Even while serving as LG Delhi, apart from ensuring plantation of trees in a perpetual mission mode, Shri Saxena has taken various long term steps to curb dust pollution and the war against vehicular emission is next on the agenda. The work goes on.

Racing to restore

Striving for a Sustainable Habitat

The ongoing journey of Delhi's Lt. Governor
Vinai Kumar Saxena