

## **73,000 LUNGS OF PALGHAR** PAL MIYAWAKI FOREST, PALGHAR, MAHARASHTRA



In 1981, **Sardar Ascharj Singh Ahuja**, established Pal Fashions Private Limited's textile processing unit at MIDC, Tarapur. He turned the vacant part of the land into a lush patch, by planting trees and setting up a kitchen garden, making fruits and vegetables available for the canteen.

From 1999 onwards, **Pal Fashions** expanded largely through green manufacturing like emerising, dew drop printing, garmenting, setting up the world's latest technology in schiffli and multihead embroidery, and are today pioneering waterless printing.

The company stopped using fossil fuel in 2008. Thermic fluid heater and steam boiler are successfully operating **ONLY** on renewable energy i.e. bio-waste briquettes since 10 years. The huge reduction in emission of Green House Gases makes **Pal Fashions** eligible for **Carbon Credits**.

Since 2013 major efforts and investments have been made in evolving the wet processes to reduce water consumption by over **30%** through recycling and reuse.

After shrinking their carbon footprint and reducing the environmental impact, **Pal Fashions** has embarked on their most ambitious **SUSTAINABILITY** mission, a massive drive to plant many native species and to develop a dense forest with 1000s of trees through the Japanese technique pioneered by Dr Akira Miyawaki.

On 5<sup>th</sup> November 2016, the birth anniversary of **Sardarni Kulwant Kaur Ahuja**, the company planted over 2,500 saplings on MIDC plot OS-20. Since then **Pal Fashions** planted over 22,500 saplings, excellent growth and unprecedented survival rate of over 95% has been achieved. This **OXYGEN BANK** has more than **25,000 SURVIVING TREES** today.

TARAPUR FIRST, India's Best Industrial Environment is being built by Pal Fashions in collaboration with Maharashtra Industrial Development Corporation (MIDC), Tarapur Industrial Manufacturers' Association (TIMA) and Tarapur Environment Protection Society (TEPS) with a target of achieving 100,000 Lungs of Tarapur by 2019. Presently there are over 64,000 trees spread across 10 forests in the Tarapur industrial area.



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**Dr Akira Miyawaki** is a Japanese botanist and expert in plant ecology, specializing in seeds and the study of natural forests. He was active worldwide as a specialist in the restoration of natural vegetation on degraded land.

Seedlings or saplings with extensive root systems are randomly planted in densely mixed species that match natural forest systems. The trees reach four meters after 5 years, eight meters after 10 years and over 20 meters after 25 years.

Weeding and other human support for tree growth are required only for the first three years after planting.

The result is a diversified forest that is allowed to grow naturally after 3 years. According to Dr Miyawaki's theory of forest regeneration, the best forest management technique is no management at all. The Miyawaki method for restoring tropical forests







Approximately three years after planting, the seedlings will grow under severe competition which leads to natural selection among the seedlings. You do not have to be aware of the natural selection because you don't grow trees but forests.

By 15-20 years after planting, the early model of a dense mature

Miyawaki Method is a unique concept of Potential Natural Vegetation proven to work worldwide, irrespective of soil and climatic conditions. More than 4,000 forests have been successfully created worldwide using this method.

He has planted around 50 million trees all over the world, and in 2006 he won the Blue Planet Prize, equivalent to the Nobel Prize in the environmental field.

The main features of the Miyawaki Method are

- Upto thirty times more dense compared to conventional plantations.
- At least 50-100 different native species are planted in the same area.
- 30 times better noise and dust reduction.
- Upto 30 times better carbon-dioxide absorption as compared to a monoculture plantation.
- Guaranteed growth of atleast 1 meter every year.
- A completely maintenance-free, wild and native forest after the first 3 years.
- A completely chemical fertiliser free forest that sustains itself and supports local bio-diversity.



## Miyawaki Method works in these six steps:

- 1. First, start with soil. To identify what nutrition the soil lacks.
- 2. Identify what species should be growing in this soil, depending on climate.
- 3. Then identify locally abundant biomass available in that region to give the soil whatever nourishment it needs. This is typically an agricultural or industrial byproduct, but it can be almost anything, it must come from within 50 kilometers of the site, which means we have to be flexible.
- 4. Once the soil is amended to a depth of one meter, plant saplings that are up to 80 centimeters high, packing them in very densely, 3 to 5 saplings per square meter.
- 5. The forest itself must cover a 100-square-meter minimum area. This grows into a forest so dense that after eight months, sunlight can't reach the ground. At this point, every drop of rain that falls is conserved, and every leaf that falls is converted into humus. The more the forest grows, the more it generates nutrients for itself, accelerating further growth. This density also means that individual trees begin competing for sunlight, another reason these forests grow so fast.
- 6. The forest needs to be watered and weeded for the first 2 or 3 years, at which point it becomes self-sustaining. After that, it's best to disturb the forest as little as possible to allow its ecosystem, including animals, to become established. **palforests.com**



**Shubhendu Sharma**, an experienced industrial engineer turned eco-entrepreneur, is the Founder & Director of **Afforestt**, a company which creates urban forests.

This journey started when he volunteered to assist Dr Akira Miyawaki, to cultivate a forest at the Toyota plant in Bangalore.

Using the unique Miyawaki Method to grow saplings, Afforestt converts any land into a self-sustainable forest in a couple of years. They have successfully created 111 forests in 7 years.

On 27<sup>th</sup> August 2017, he presented Enviro Creators Foundation's 1<sup>st</sup> Prize for Best Forest to Pal Miyawaki Forest.

### The soil is amended before saplings are planted



#### A two-year-old forest



### A freshly planted sapling



### A bird visits Sharma's backyard forest





In April 2014, **Dipen Jain** and **Dr R K Nair** brought Shubhendu Sharma to Umargaon to create the 1<sup>st</sup> forest in Gujarat by using Miyawaki Method.

Since then, Dipen Jain and Dr R K Nair have planted over 320,000 trees. They formed the **Enviro Creators Foundation** which supports interested individuals and organizations to create forests in their neighbourhood.

**Pal Fashions** has received invaluable support from these highly committed environmentalists and shall carry out all plantation under their active guidance, to build India's largest man-made **OXYGEN BANK** in Palghar district of Maharashtra.



Miyawaki Method's 1<sup>st</sup> forest in the State of Gujarat







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विरार, ता. ७ श्रमजीवी' ही सर्व करणारी, माणसांवर संघटना आहे. संघटने प्रकारचा जातिभेद, । नाही. ही संघटना करणारी आहे. ज्य संघटना निर्माण केली संघटनेसाठी जे प्रयत्न त्या सवींना कृतज्ञता माणसांवर प्रेम करीत देशाच्या उज्वल कटिबद्ध होण्याचे आव संघटनेच्या संस्थापर विद्युल्लता पंडित आ विवेक पंडित यांनी केले आफसीकी संघटने वर्घापनदिनानिमित्त कार्यकम रविवारी

नाशिक जिल्ह्यातील ३०० हन अधिक पाड्यांमध्ये साजरा कर या ठिकठिकाणच्या





अवतीभवती



## ઉમરગામના ઉદ્યોગપતિએ 5500 વૃક્ષોનું રોપણ કર્યું તારાપુર MIDC ખાતે વૃક્ષનું રોપણ કર્યું निभित्ते मહाराष्ट्र राજ्यना तारापुर

ખાતે જીઆઇડીસીમાં આવેલ 'પાલ

કેસન' નામક જાણીતી કંપનીની

એક બિનઉપયોગી જમીન જ્યાં

ઈન્ડસ્ટ્રીયલ વેસ્ટ નાખવામાં આવતો

હતો એ જમીન ઉપર ત્રણ દિવસમાં

28 प्रश्नतिना विविध वृक्षना

5500. છोડोनुं જપનીસ पद्धतिथी

વૃક્ષારોપણ કરવામાં આવ્યું હતું.

આ નિમિત્તે 'પાલ ફેસન' કંપનીના

એમ.ડી. ચરણ આહુજા, સ્ટાફ,

સ્થાનિક શાળાના 200 જેટલા

વિદ્યાર્થીઓ, સ્થાનિક આગેવાનોએ

હાજરી આપી વૃક્ષારોપણ કાર્યમાં

ભાગ લીધો હતો.

तमना टाम उपास्यत रहा

ભારકર જ્યૂઝ ઉમરગામ

ગુજરાતમાં ઇકોફ્રેન્ડલી મેન તરીકે જાણીતા બનેલાં ઉમરગામ અપેરલ ઈન્ડસ્ટ્રીયલ અસોશિએશનના પ્રમુખ એવા ઉદ્યોગપતિ અને પર્યાવરણ પ્રેમી રાધા કુષ્ણ નાયર દ્વારા ગુજરાત બાદ મહારાષ્ટ્ર રાજ્યમાં પણ પોતાની સેવાભાવી કામગીરીનું સુકાન વાળ્યું છે.

સારા કામ કરવા હોય તો રાજ્યના સીમાડા નડતાં નથી भूण हक्षिश ભाરતના વતની અને ઉમરગામમાં સ્થાઈ થયેલ રાધા इण्डा नायर दारा प्रश्वासत्ताङ पर्व

#### palforests.com

#### PAL FORESTS TEAM AT WORK



PAL FORESTS TEAM AT WORK



SHRI AVINASH DHAKANE, DEPUTY CEO MIDC



ARCHITECT SHRI UJAWAL BABRE OF U A BABRE & ASSOCIATES



BRAHMA KUMARIS BOISAR



JOSEPH EBNOTHER WORLD RENOWNED PAINTER FROM SWITZERLAND



SWAMI DR UMAKANTANAND SARASWATI JI MAHARAJ OF JUNA AKHADA



SHWETA CHAUDHARY MRS INDIA EARTH 2017



CSR ACTIVITY FOR 40 EXECUTIVES OF HSBC BANK ON 18<sup>TH</sup> NOVEMBER 2017 & 17<sup>th</sup> NOVEMBER 2018





EXECUTIVES OF KPMG INDIA CSR ACTIVITY ON 2<sup>ND</sup> DECEMBER 2017

वृक्षवल्ली आम्हा सोयरी...

तारापूरमध्ये साकारले कृत्रिम वन; चार एकरांवर २५ हजार रोपटी

नीरज राऊत : सकाळ वृत्तसेवा पालचर, ता. ४ : प्रद्षण आणि अपघातांसाठी चर्चेत राहिलेल्या तारापर औद्योगिक वसाहतीत कृत्रिम वन साकारण्य अभिनव प्रयोग हाती घेण्यात आला आहे. औद्योगिक पङ्घात प्राणवायूचे प्रमाण वाढवण्याच्या आणि भूगर्भातील पाण्याची पातळी कायम राखण्याच्या उद्देशाने चार एकरांवर तब्बल २५ हजार स्थानिक प्रजातीच्या रोपांची लागवड करण्यात आली आहे. अशा प्रकारचा राज्यातील हा पहिलाच प्रयोग असल्याचे समजते. राज्य सरकारने 'वसुंधरा पुरस्कार' देऊन या प्रयत्नाची दखल घेतली आहे.

वतला आह. तारापूर औद्योगिक वसाहतीमधील पडीक जमिनीवर कचरा टाकण्यात येत असे. पाल फॅशन्स कंपनीने रोपांच्या लागवडीसाठी ही जागा घेऊन कचरा, जुनी माती हटवली. या जमिनीला कुंपण घालून लाल मातीचा भराव टाकला. रोपांच्या लागवडीसाठी पट्टे आखून कोकोपीट, गांडूळखत, भाताचा पेंदा टाकून पूर्वतयारी केली. रोपांच्या लागवडीला सुरुवात नोव्हेंबर २०१६ मध्ये झाली; मे २०१७ पर्यंत २५ हजार रोपांची लागवड करण्यात आली. रोपांचे उन्हापासून रक्षण करण्यासाठी आणि पाण्याचे बाष्पीभवन रोखण्यासाठी पन्हा पेंडा अंधरण्यात आला. रोपांची लागवड करताना ५ ते ७ फुटांचे किमान अंतर ठेवण्याची प्रथा मोडीत काढून जंगलातील झाडांच्या घनतेनुसा म्हणजे एक चौरस मीटर क्षेत्रात विकोणाच्या टोकांना तीन वेगवेगळी झाडे लावण्याचा प्रयोग करण्यात आला. स्थानिक झाडांची रोपे लावण्यात आली. त्यामुळे रोपे जगण्याचे प्रमाण वाढले. दीड वर्षांत ही झाडे १० ते १५ फुट उंच झाली आहेत. या कुत्रिम वनात

वेगवेगळे पक्षी वास्तव्याला आले आहेत. औद्योगिक वसाहतीमधील श्विमण्यांमधन





काळाकुट्ट धूर निघत असताना 'पाल फॉरेस्ट' साकारला आहे. राज्य सरकारने 'वसुंधरा' नावाच्या या कत्रिम बनात पहाटे आणि पुरस्काराने सन्मानित केलेला हा उपक्रम पायंकाळी शुद्ध हवा ; तसेच पश्यांच्या गलघर जिल्ह्याला हरित बनवण्यासाठी आदर्श किलबिलाटामुळे प्रसन्न वातावरण असते. वापी येथील एन्व्हायरो क्रिएटर्स, सुबेंदर शर्मा, दीपक ठरेल, असा विश्वास व्यक्त केला जात आहे. औद्योगिक वसाहतीमधील इतर मोकळ्या जैन, आर, के, नायर आदींचे मार्गदर्शन आणि जागांवर आणि परिसरात या प्रकारचे कत्रिम प्रोत्साहनातून तारापूरमध्ये हा नवीन हरित पड्डा वन साकारण्याचा 'पाल फॉरेस्ट'चा संकल्प

आहे. या अभिनव पद्धतीच्या लागवडीमुळे झाडांची झपाटचाने वाढ होण्यासोबत हा प्रकल्प स्वयंपूर्ण होण्यात मदत होईल. अनेक वनौषधी आणि दुर्मिळ वृक्ष असल्याने वनस्पतीशास आणि जीवशास्त्राच्या अभ्यासकांसाठी हे कृत्रिम चन उपयुक्त ठरेल. तारापूरमधील सामुदायिक सांडपाणी प्रक्रिया केंद्राच्या (सीईटीपी) परिसरात सुमारे ६००० रोपांची लगवड करण्यात येत आहे. या रोपांची लागवड

जांभूळ, गुलमोहर, नीम, आसोपालव

आचूळ, गुलमाहर, नाव, आसापालव, फणस, अर्जुन, बदास, आंखा, कंरज, बेल्पत्र, सुरू, बांहु, पळस, पिंपळ, विंच, बाहुली, चंदन, सावर, शिवण, गलफोरो, अरिथा, सेरू, मोह, बारोसील, शेवगा, पेरू, काजोला, सीताफळ, काजू, पिवळा गलमोहर, कडलिंब, अशोक, ऐन



SAU VIDYA VINOD ADHIKARI VIDYALAYA LALONDE SECOND PHASE PLANTATION ON 26<sup>TH</sup> JANUARY 2017 साफ वातावरण का सृजन करें : संत सीचेवाल

#### अमर उजाला ब्युरो

#### कपरथला।

पदमश्री व पर्यावरण प्रेमी संत बलबीर सिंह सीचेवाल ने मंबई की सिख संगत को न्योता दिया कि वह 2019 में श्री गुरु नानक देव के 550वें प्रकाश पूर्व में शामिल होने के लिए सल्तानपुर लोधी पहुंचे।

सिख संगत के निमंत्रण पर मुंबई पहुंचे संत सीचेवाल ने धार्मिक. स्कल और पर्यावरण से संबंधित समागमों में हिस्सा लिया।

दो दिवसीय दौरे के दौरान सबसे अधिक चर्चा पवित्र काली बेई की ऐतिहासिक और पर्यावरणीय पक्ष पर हई। बांद्रा स्थित गुरुद्वारा श्री गुरु सिंह सभा में जुडी संगतीं को संबोधित किया। उन्होंने बच्चों से अपील की कि वह साफ-सुथरा वातावरण का



मुंबई के जंगल में पौधरोपण करते संत बलबीर सिंह सीचेवाल। अमर उजला

हो सकता है। जुह बीच पर एक देव ने सबसे अधिक समय धार्मिक समागम के दौरान संत सुलतानपुर लोधी ही गुजारा था।

सजन करें, इससे ही समाज तंदरुस्त सीचेवाल ने कहा कि श्री गुरु नानक



Stall A70 Hall 2 MMRDA Grounds

**EXHIBITING AT MAGNETIC MAHARASHTRA 2018** 

ઉમરગામના ઉદ્યોગપતિએ 5500 વૃક્ષોનું રોપણ કર્યું તારાપુર MIDC ખાતે વૃક્ષનું રોપણ કર્યું

HICSE 0223 | GH231H

ગુજરાતમાં ઇકોફ્રેન્ડલી મેન તરીકે જાણીતા બનેલાં ઉમરગામ અપેરલ ઈન્ડસ્ટીયલ અસોશિએશનના પ્રમુખ એવા ઉદ્યોગપતિ અને પર્યાવરણ પ્રેમી રાધા ક્રુષ્ણ નાયર દારા ગુજરાત બાદ મહારાષ્ટ્ર રાજ્યમાં પણ પોતાની સેવાભાવી કામગીરીનું સુકાન વાળ્યું છે.

સારા કામ કરવા હોય તો રાજ્યના સીમાડા નડતાં નથી भूण हक्षिश ભाરતના वतनी अने ઉમરગામમાં સ્થાઈ થયેલ રાધા इण्डा नायर द्वारा प्रशासत्ताङ पर्व

निभित्ते मહाराष्ट्र राज्यना तारापर ખાતે જીઆઇડીસીમાં આવેલ 'પાલ કેસન' નામક જાણીતી કંપનીની એક બિનઉપયોગી જમીન જ્યાં ઈન્ડસ્ટીયલ વેસ્ટ નાખવામાં આવતો હતો એ જમીન ઉપર ત્રણ દિવસમાં 28 प्रश्नतिना विविध वृक्षना 5500. છોડોનું જપનીસ પદ્ધતિથી વૃક્ષારોપણ કરવામાં આવ્યું હતું. આ નિમિત્તે 'પાલ કેસન' કંપનીના એમ.ડી. ચરણ આહુજા, સ્ટાફ, સ્થાનિક શાળાના 200 જેટલા વિદ્યાર્થીઓ. સ્થાનિક આગેવાનોએ હાજરી આપી વૃક્ષારોપણ કાર્યમાં ભાગ લીધો હતો.



PAL FUTURE FOREST AT MIDC BOISAR on 24.2.2018





PAL TEPS FOREST INITIATED ON 23.03.2018 INTERNATIONAL DAY OF FORESTS AT CETP MIDC BOISAR



#### VISIT OF SHUBHENDU SHARMA, AFFORESTT



#### VISIT OF PADMA SHRI BALBIR SINGH JI SEECHEWAL





MARCH 2017

MAY 2017



PAL MIYAWAKI FOREST SEPTEMBER 2018



# PAL MIYAWAKI FOREST BUILT IN MIDC INDUSTRIAL AREA









Forests are meant to give environmental benefits like absorption of green house gases and carbon dioxide thereby releasing oxygen, reducing noise and dust pollution, conserving soil as well as for recharging the ground water.

Miyawaki Methodology is to plant different species of native trees close together even on small plots of land. This enriches the green cover and reinforces soil conditions leading to a coexistence where each tree draws vital nutrients from the root systems of other trees around it.

More than 50 different native species can be planted in the same area without using any chemical fertilizers and still achieve over 95% survival.

Thick layer of rice straw on the soil bed reduces evaporation and keeps the soil moist at all times.

In the first year, watering twice a day is required besides removing the weeds.

Maintenance is low in 2nd and 3rd year by which time the trees exceed 5 meters in height. The forest no longer needs anyone to look after it. In 10 years it develops into a 100 year old forest.

The growth rate is 10 times faster and 30 times denser than conventional plantations. HENCE THE EFFECTIVE COST IS VERY LOW ... THE RESULTS ARE PHENOMENAL.











PLEASE VISIT OUR WEBSITE www.palforests.com FOR FURTHER QUERIES, KINDLY WRITE TO info@palforests.com FOR COMPLETE TRAINING AND FREE ASSISTANCE IN SETTING UP A FOREST YOU CAN CONTACT 7045913394













# ACKNOWLEDGEMENTS

**Pal Fashions** is extremely grateful to the **MIDC** and to **Shri Avinash Dhakane**, Deputy CEO, for allotting open space OS-20 for tree plantation. This has become a model project for replicating across all MIDC areas and also around any industry in Maharashtra.

**Dipen Jain & Dr R K Nair** for their invaluable guidance in developing an abandoned land parcel into a dense plantation, which are now the **LUNGS OF TARAPUR**.

Architect Ujwal Babre of U A Babre & Associates for providing all architectural for site development on the plot.

Dhruv Construction, Tarapur for carrying out boundary wall construction and site development of the plot.

**Pal Fashions Green Team** which comprises of volunteers who have undertaken to devote their valuable time for the plantation and also the maintenance thereafter. The company expresses heartfelt gratitude to each of the Team members for contributing towards **SUSTAINABILITY.** With their support, **Pal Fashions** commits itself to achieve **CARBON NEUTRAL** status at the earliest.

The combined efforts of all contributors will ensure that **Pal Fashions** surpasses their ultimate goal to plant and maintain **1,00,000** trees in Tarapur, creating India's largest man-made **OXYGEN BANK** and achieve a permanent **CARBON NEGATIVE** status.



Pal Forests Team



#### 25,000 TREES OF 33 SPECIES SI.No. SPECIES NAME BOTANICAL NAME QUANTITY Jamun Syzygium Cumini 1650 1 Bengali baba 1450 2 Aegle marmelos Delonix Regia 1450 3 Gulmohar 1500 Peltrophorum 4 Copper pod 5 Neem Azadirachta Indica 1250 Polyalthia Longifolia 1000 6 Asopalav 7 Jackfruit Artocarpus Heterophyllus 1000 8 Arjun Chejda Terminalia 1000 Prunus Dulcis 9 950 Badam 10 Mango Mangifera Indica 950 Millettia Pinnata 950 11 Karanj 12 Belva Patra Aegle Marmelos 950 13 Saru Casuarina 950 14 Bamboo Bambusa Dendrocalmus 800 800 15 Panas pipla Hespesia Populnea 16 Emblica Officinalis 700 Khatti amli 17 Raintree 700 Samanea Saman 18 Mitti Amli Phyllanthus Emblica 700 19 Rakt Chandan Peterocarpus Santalinus 600 20 Kadam Anthocephalus 600 21 Sewar Sewar 600 22 Shivan Gmelina Arborea 600 23 Garmalo Cassia Fistula Linn 500 24 500 Galfora Galfora 25 500 Aritha SapindusMukoross 26 Cleme ciliata 500 Seru 27 Moho 450 Madhuca Longifolia 28 Borasalli Mimusops Elengi 300 29 Drumstick Moringa Oliefera 300 250 30 Peru Psidium Guajava 250 31 Kajolia Kajolia Sitaphal Annona reticulata 32 150 150 33 Kaju Anacardium occidentale



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104, New Tejpal Premises, Andheri Kurla Road Saki Naka, Andheri East, Mumbai 400072 India. Tel +91 22 66959999 | www.palfashions.com PAL FASHIONS SUPPLIES FABRICS TO CONVERTERS FOR THESE BRANDS



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On 5<sup>th</sup> June 2017, World Environment Day our Hon'ble Chief Minister Shri Devendra Fadnavis Ji presented the Vasundhara Special Appreciation Award for Tree Plantation to **Pal Fashions Private Limited**.