

Date: 11-Jul-2022



Sustainable Afforestation Activities – Creating Greener World For Our Children



PTI



Taking Challenges, Together



Agenda



1. Background
2. Purpose of the Session
3. Need for Afforestation
4. Journey of Vinay & Ajay Jain Foundation Afforestation
5. Outcome of the activity
6. Challenges & Learnings
7. Benefits
8. Request to audience & Way forward



Background



Background



- The effect of climate change is visible here in Delhi where summer temperature has reached 49 degrees centigrade, winter temperature as low as 2 degrees centigrade.
- No rainfall, less rainfall or heavy rainfall have become normal.
- The alarm sounded to PPAP when around Diwali of 2016, the skies of New Delhi were dark for 11 consecutive days, people started falling sick, it was difficult to breathe the air, children were using the inhaler as they had breathing issues, people started running away from the city.
- It was getting impossible to live in Delhi.



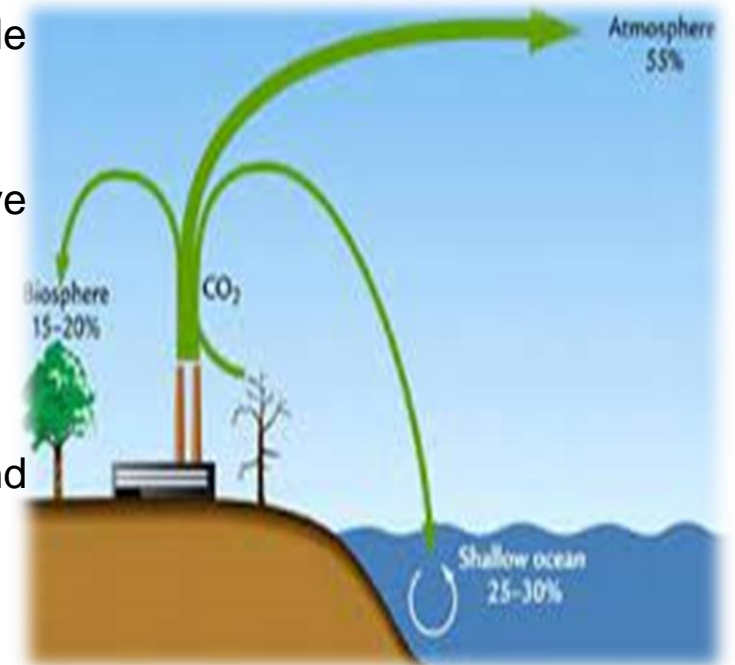
Purpose of the session

- Create awareness of catastrophic consequences of climate change and focus on combating global warming through mass plantation activity
- Share PPAP's learning and experience on the plantation of native specie trees with our supplier partners.
- Share PPAP's "Modus Operandi".
- Share importance of biodiversity for "Only one Earth".
- Educate the society to enable them to take mass action to address the environmental degradation.



Need for Afforestation

- On the **industrial side**, to mitigate the climate change TKM has supported supplier with the following:
 - Installation of renewable energy equipment,
 - installation of energy efficient equipment,
 - waste reduction,
 - zero water discharge,
 - ban on single use plastic, etc.
- On the **environmental side**, restoration of natural resources through sustainable reforestation is the need of the hour along with saving forest, rivers, soil, etc.
- Trees play a critical role in regulating climate and hydrological cycles, preserve biodiversity and restore soil.
- The only way to restore “Only one Earth” is by way of preserving its lungs – the trees.
- Afforestation helps in creating carbon sinks, capture and store CO₂, conserve soil and water.



“Grow trees now and they will save you in future”

Journey - Vinay & Ajay Jain Foundation

Vinay and Ajay Jain Foundation (VAJF) is a not-for-profit trust created for conducting CSR activities for PPAP Automotive Ltd and is working in the field of Environment, Education and Health.

VAJF's critical initiative is to conduct sustainable afforestation with the plantation of native specie trees.

VAJF's goal is to create a showcase model of afforestation which is genuine, meaningful, sustainable, cost effective and easy so that it can be replicated across the country.



Research

- Visited Yamuna Biodiversity Park at Jagatpur, in Delhi to understand Government initiatives.
- Had insightful meetings with the head of CEMDE (Centre for Environmental Management of Degraded Ecosystems) and Delhi Biodiversity Foundation to understand about their ten years' experience and its outcome.
- Met several Environmental experts to get their learnings and experience.
- We studied various models for afforestation including Miyawaki.
- We found out that the Miyawaki model was very expensive and not suitable for our climatic conditions so when we went in for our own indigenous model of plant spacing of 8 feet by 8 feet, manuring and watering each plant individually.



Journey: Phase-II

Development of in-house nursery

- Studied the seed germinations process at Mangar Bani Forest and Aravalli Biodiversity Park.
- Started procuring seeds from the Aravalli Mountain belt – Dehra Dun, Saharanpur, Jaipur, Jodhpur, Ajmer, Bhopal, Jabalpur, etc.
- Started sowing seeds in fortified manure comprising of – Cow dung, Vermicompost, Chicken & Goat droppings, Leaf mold, Garden waste, Husk, Sand, etc.
- Used large size bags to grow saplings– 9 inches wide and 14 inches tall.
- Initially, nurtured the saplings for minimum one year to withstand extreme cold and extreme heat of NCR.
- Now focused on two-year-old saplings as this reduces mortality and costs.



Journey: Phase-III

Our experiments:

- Started donating saplings to various agencies for their projects.
- Result: poor handling and negligence led to 90% mortality.
- Participated in a mass plantation drive at Tughlakabad in July 2019
 - 10,000 saplings donated.
 - 500 school children participated.
 - Mortality 80%.
- Participated in mass plantation with industrial workers
- Despite training them on the site - Mortality 70%.



Journey: Phase-III

Our Learnings:

- Dedicated and trained manpower only can do the sustainable afforestation activity.
- We created a dedicated team for plantation, prepared Standard Operating Procedures and gave them complete training.
- Arranged tools and equipment's for conduct the activity scientifically.
- Nurseries selling plants in Delhi have a market for ornamental trees and shrubs. There is no market for native species trees as such nobody grows them and therefore nobody sells them.
- We visited nurseries in NCR, Jaipur, Jodhpur, Dehra Dun, Saharanpur for the procurement of native species trees but nobody had them as there is no market for them.
- We decided that the option with us was to grow the native species trees was ourselves.



Journey: Phase-IV

Afforestation

- Afforestation requires huge land mass.
- The question which arose – Where to do it?
- We tied up with Delhi Development Authority through CEMDE.
- Location was the degraded forest around the 600-year-old Tughlakabad Fort.
- In the year 2019, PPAP commenced its journey of SELF plantation through SELF created SOP's.
- With our 5 decades of industrial experience, we decided to make it a showcase model, which is sustainable, biodiversity, efficient and cost effective.



Journey: Phase-IV

Afforestation

- We introduced Auger machine to make the pits (previously pits were made by JCB who were charging Rs 250 per pit). We could make a pit in 2 minutes at a cost of Rs 20.
- We used modern tools which eliminated Muda, Mura and Muri.
- Our manure was fortified to provide good nutrition to the plants (2-3 years food requirement).
- We made scientific arrangements to water the plants and minimize the wastage of water.
- We staked the plants for sustainability.



Outcome of Journey

- Plantation done in 70 Acres of land.
- For Biodiversity, we have planted 125 different species.
- Monoculture – planting a single species is not very good for the environment or for the soil or for capturing water from the atmosphere).
- Since July 2019, we have planted 90,000 saplings but only 60,000 saplings have survived despite the following:
- Trained manpower.
- Daily watering.
- Daily supervision.
- Daily PDCA.
- Mortality is due to number of factors – disease, lack of water, extreme weather, vandalism, etc.



Challenges & Solutions

1. **Irrigation of Plants:** No borewell at site. Water tankers required. Water tankers taking long time to empty and engage workers for long time (approx. 4 to 4.30 hours).
 - **Solution:** Modified portable water pump (mounted on a rickshaw) for fetching water from the tanker with 4 extension pipes for speedy discharge of water.
 - This helped with water saving.
 - Irrigating more water in summers and less water in winters.

2. **Vandalism by Monkey/ Nilgai (Indian Antelope):** We noticed that plants are not growing and most of saplings were damaged by Monkeys and Nilgai.
 - **Solution:** We identified the plants which were not eaten by Nilgai and planted such plants which are not being eaten by Nilgai and damaged by Monkeys. We also protected plants with chicken mesh and bamboo sticks.

3. **Space and digging of pits:** Some pits were dug close together, some were far apart. This digging was due to not taking care by tractor's driver.
 - **Solution:** Using 8 feet length gauge for marking and motorized earth augers to dig pits.



Challenges & Solutions

4. Hurdle in Fast growth of Plants: Despite giving plants the proper care, it was observed that they were not developing quickly.

- **Solution:** We utilized the **Jeevamrit** spray (organic plant nutrient) on a quarterly basis for fast growth of plants.



5. Low Productivity: Daily carrying and storing of tools at the main storage which was about 1 km from the working location.

- **Solution:** Construction of hut at every 25 acres, equipped with all necessary amenities – fuel storage, portable pumps, modified tools, PPEs, drinking water, meals, rest area etc.



Benefits



- Shall contribute to sequesterate approx. 1364 tCO₂ per annum.
- Shall contribute maintaining the average temperature of earth below 1.5°C and stabilizes the climate
- Enrich Delhi NCR with sufficient breathable oxygen and make it liveable city.
- Enhance the hydrological cycle and water table.
- Urban forest to attract birds, bees, butterflies, insects to maintain natural biodiversity and natural harmony.
- Varieties of native species trees & shrubs availability in Delhi NCR
- Generating employment (gender diversity) of locals in Nursery and Biodiversity Park.
- Create awareness & engage employees, volunteers and associations for contribution towards SDGs.



Benefits - Aligned with SDGs

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Request to suppliers

- Spread the importance of Afforestation for a “Greener future for our children”
- Automotive industry to become an inspiration to society.
- Bring a good name to automotive industry.
- Conduct mass plantation activity wherever you can. Partner with industrial associations, residential societies, private and government parks, roads, dilapidated open spaces to meaningfully increase the green cover of India and help the Government of India meet its commitment to Global fraternity on meeting its carbon targets.
- Let's work together to beautify India with involvement of employees & families.



Way forward



PPAP offer to supplier partners:

- 50,000 saplings of different species.
- Visit to our Showcase site at Tughalaqabad Fort for learnings.
- Education and training.
- Sharing our Booklet – “Creating a Greener World for our Children” – Hindi and English.
- Contact TKSA for support by PPAP.



https://www.ppapco.in/assets/pdf/01_Sustainable%20Reforestation%20eBook_English_20%20May_2019.pdf



THANK YOU



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