

The Sayebaan Project

About Us

The Sayebaan Project began when two friends recognised that their school did not have enough green spaces and that constantly rising temperatures, as a result of climate change, would quickly make the school campus a difficult place to study and work. Instead of simply complaining they recognised that as students it was their duty to not only recognise the problems in their local environment but also to actively work to solve them.

With this driving ideal in mind we formed a small team within our school and undertook the systematic process of afforesting our school campus. This included strenuous research on local and indigenous species, consultation with experts, identification of appropriate places for plantation as well as logistics, financing and procurement.

This was followed by a series of plantations which were designed to involve the maximum possible number of students in order to inculcate a passion to take ownership of our local environment and develop a relationship with nature. Following the immense success of our plantations at our school's level we expanded to our local area by identifying an underused park 'Family Park' in Clifton Block 5 as an ideal location to create urban forests. Following the Miyawaki Method we successfully planted two small urban forests and took up the maintenance of this project.

After successfully taking ownership of both our school campus and the surrounding area, and gathering experience and resources in the process, we have designed the **Sayebaan Project** to provide other schools with a framework as well as relevant resources to be able to improve their local environments.

Our Mission –

Our overarching goal is to inculcate a sense of ownership in students. We have noticed that many students are dismayed by the lack of resources and support in Pakistan which leads them to sometimes become cynical and lose faith in the possibility of improving their local environment and societies. It is worrying that Pakistan's youth, which has the potential to be its greatest asset, even the solution to so many of its woes, is losing itself in a pit of apathy.

This project specifically aims at school campuses and the areas around them because these are areas that all students visit on a daily basis and have a natural connection with. Our framework gives them a plan to follow but gives them the independence to innovate, negotiate and take initiative on their own.

While combating global warming and climate change this project creates a culture that encourages students to contribute to their communities in any way that they can. We have noticed that students who were active in our afforestation efforts soon became some of the most active contributors to the school community. Planting trees teaches students that in themselves and their ability to take initiative they have the ability and skill needed to solve the larger, terrifyingly daunting problems of society.

We hope that these projects will one day create a generation of students who responsibly give back to their communities and contribute in creating neighbourhoods, cities, and countries that are hospitable and loving, formed around a fundamental feeling of kindness and community.

Our Framework

Our framework provides schools with a step-by-step plan to plant trees in and outside their campuses. While we provide this as a framework we look forward to seeing students innovate and experiment in the process of achieving these goals. These steps can be applied with certain modifications to both in-school and out-of school plantations

Step 1 Organising Pre Planting Stage

Forming A Team -

In order to organise a successful project students should form a team. We encourage school's to form a team structure that is most appropriate to the culture and competence of their student body. Some examples of a team structure could be that of a society with an elected or nominated council.

Alternatively, at a junior and primary school level teachers may choose to administrate the project directly but delegate responsibilities to various students. We have noticed that dividing responsibilities according to the skills that students possess is a means of involving all students and encouraging them to actualise their potential without leaving anyone behind.

We encourage students to give their project a memorable name that resonates with their school community. At KGS we named our project, the Lignum Project after a tree that was planted along our school's entrance pathway.

Gathering Students -

Students may want to use social media or other resources like posters or announcements in assemblies to encourage students to come to plantations.

An introductory session is a useful means of broadcasting the project to all students after which interested students can be encouraged to join the team or come to plantations. Older students may find it useful to use social media advertising such as instagram profiles, facebook pages or whatsapp groups. Moreover, teachers or leading students may have to think pragmatically about what will attract the most students to these plantations. For example, we noticed that many students at a college level were

motivated to come when informed about the benefits this extracurricular may provide when applying to universities.

Plantations can be scheduled with other popular events like Independence Day, Sports events, Plays as these events attract large crowds. Plants can be given as gifts or even prizes. It's important to give out a positive message that encourages other people to serve the environment.

Budgeting -

If plant species are chosen responsibly, the costs of a plantation are really not very large. However, the cost of a large scale plantation can be covered through donation boxes, bake sales or other profit making events such as shows, raffles etc.

If the need arises the Sayebaan Project may provide schools with a fund for plantations.

Where can we plant trees?

Identifying Suitable Areas for Plantation

Trees, regardless of where they are planted in the school campus, will yield some benefit or the other to the community; however, to maximise its benefits, it is important that high potential areas are identified. These areas are those which the school community studies, gathers, or passes through. For example, central courtyards, main gates/ entrances, canteens, playgrounds, or heavily used paths are ideal places to begin planting as they will benefit the most people. As a rule of thumb, the higher traffic in the area, the more impactful shade will be. Even along sports fields, certain trees can be planted along the periphery so children can enjoy their shade without it obstructing their games.

When we began The Lignum Project, we took screenshots from Google Maps and annotated upon the image to mark where we intended to plant. In your case, you may instead prefer to work upon an architectural plan or blueprint for more clarity though we recommend that plain coloured paper be used for visibility. See our maps for reference. The right map being the most primitive map and the left map being our most recent.



Which trees should we plant?

Selecting Appropriate Species

Once a site has been thought of, appropriate trees must be selected for the site. This is because certain tree species have more favourable characteristics from one site to another.

For example in high-wind areas, trees with strong woods must be favoured over brittle ones. Another factor may be the growth rate of certain trees. If a slow-growing tree, such as Lignum, is planted in a high traffic area, it lengthens the time before benefits can be reaped. Additionally, it may encounter issues like branches being snapped or obstructing student flow as such trees may take longer to mature as compared to others. So, it may become more of a nuisance than an asset for many years. Another factor may be the size of a tree. Certain tree species develop more extensive canopies than others and may outgrow the space with time.

To minimise future difficulties that may arise, factors like mature size, wind direction, branching habit, and even angle of the sun should be considered so that drawbacks can be limited. Given that Karachi is water insecure, drought resilient, hardy species should be prioritised that require the least upkeep and factor inputs so that they continue to thrive in difficult conditions like extreme heat or prolonged drought. We strongly recommend that you contact us in this regard as it is difficult to have all the necessary knowledge of what may be successful and what may not be in your scouted area. Given that we have past experience with such matters, we can be an

asset in this matter and help ensure the school community can benefit from these trees as early as possible.

Step 2-Planting

When should we plant?

Choosing the appropriate time to plant

There are two distinct best times to plant trees. The first being in the winter which is to say throughout January and February. The second is during the monsoon season which may vary between July and August. So, when the weather is cooler and when clouds provide shields from the harsh sun is when it is best to plant. Certainly you may plant in other seasons however be aware that hot, arid weather stresses saplings, resulting in higher rates of failure or at the very least, higher upkeep in its initial days. Mild weather also makes the overall planting process more pleasant so we strongly recommend that most planting be done in the aforementioned seasons.

How to Plant

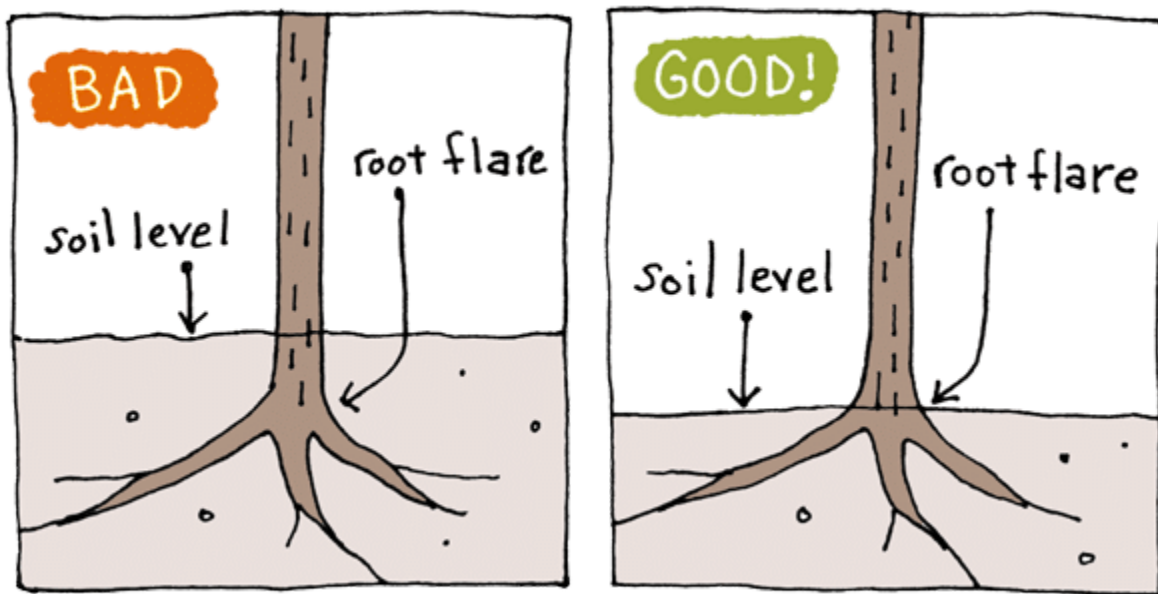
We recommend that saplings between 3 and 8 feet tall be selected. Any taller may cause the young tree to snap while planting and any shorter than that may become an inconvenience for many months to come. If you are planting seedlings, we recommend you plant them in cooler, partially shaded areas away from high traffic.

The first step is to dig an appropriate cavity in the soil. The site should be ideally at least three feet away from a wall or other structure to allow the root system to develop and prevent the tree from bending against a wall. The terracotta pot the tree is in will be a guide as to how large the hole should be. The hole should be approximately the same size, not too large nor too small. You may place the pot in the cavity and if it fits snugly, you may proceed with planting.

The second task is to release the tree from the pot. For this, ensure the tree hasn't been watered in the past day or two so the soil can easily slide out. The pot may be turned upside down and shaken until the tree releases. The root ball and soil must remain as intact as possible to minimise shock. If the tree does not release, you may

push the soil through the drainage hole and retry. If a tree proves exceptionally stubborn, it is best if you seek help from a gardener.

The third step is to lower the tree in the hole. You may want to fill in the cavity with a little more soil before planting the tree. Aim to use both hands to keep the soil intact as far as possible. Then, gently place the sapling in the hole. It is important now to ensure the tree's root flare (where the trunk/stem transitions into its primary roots) is showing slightly.



Via <https://atreegarden.com/how-to-save-a-tree-planted-too-deeply/>

Then, fill the hole with some more soil and compact the soil around firmly so that the sapling stands upright. With very lanky specimens, a support stick may be necessary. Take a step back and gauge whether the tree has been planted correctly. Its branches shouldn't be growing into any structure or any important thoroughfare.

Step 3- Maintenance

Post-Planting Stage

Logging Before-and-Afters

It is highly recommended to log what the sites look like before, and after plantations. We recommend taking progress pictures quarterly to keep record of how the trees fare. Many students may even want to name their trees or attach plaques with their names next to the trees to create a sense of ownership and commitment. You may compile these images and information in a Google Drive for example. We are currently in the process of developing a website as well where we hope to store this data.

Establishing a Connection with Students

We highly recommend that students be involved in this process as far as possible from organising events, helping select trees from nurseries, to the planting itself.

The wider student body can be included at the plantations while the logistics may be handled by a dedicated student team. After planting, we found that many students named their trees which helped establish deeper connections with their trees, some even made social media profiles of their trees with pictures and regular updates. We also recommend incorporating these projects into the daily activities of pre-existing groups like sports teams, student council and other societies.

Upkeep and Maintenance

In the first two weeks we recommend the trees be watered generously everyday or every second or third day (depending on the weather). Watering frequency may be reduced but in the tree's initial 6 months we recommend deep watering every second or third day. Water pressure must be limited. When using watering cans, keep the spout low to the ground and ideally reduce the pressure by placing your hand between the soil and the stream. If using a hose, you should spray the water into softer streams. You shouldn't water the soil directly for the first four weeks so that the soil remains stable and does not erode.

After planting, you may fertilise saplings with well-rotted manure. We do not recommend excessive fertilisation or even chemical fertilisers as they will likely burn tender roots. You may supplement this again with more manure in the spring the next

year and afterwards fertilisation isn't all too necessary. If you plant fruit trees however you may want to continue this process each spring. Of course, if you choose exotic species they will require more manure, more water, and more maintenance which is one of the primary reasons why we strongly recommend planting Karachi's indigenous trees over anything else.

Oftentimes the soil underneath trees is swept and kept free of leaf litter. We advise against doing so as fallen leaves help keep the soil cool and moist during the hot weather which can help reduce watering frequency. This also returns nutrition to the soil which limits the need for fertilisers. You may instead wish for a green ground cover such as grass or another plant. Ideally, each tree should have a 3 feet radius from its trunk of open, breathable space as this is where many of the tree's roots are which would otherwise compete with grass or other plant roots.

Events with the Trees

We find that plantations can be a part of the regular school calendar whether for its own purpose or to commemorate an event alongside. We recommend plantations to be organised around Sports Days, Graduation Ceremonies, Guest Events, Independence Day Celebrations, or along with various other programmes in your school's calendar to mark the occasion.

Planting Outside School

Once students have planted in their schools and successfully learnt to care for these plants, it may be time for them to plant at a larger scale. As schools tend to have limited space we encourage students to look in a small radius around their school campus for areas to plant a larger number of trees. This could mean parks, unforested (what do you call the area near sidewalks) empty grounds. Most public areas have the potential for plantations and sometimes even urban forests.

At this stage we would recommend that students search for such an open space, find a map (Using google maps), decide where to plant and what to plant. Our team will be available to guide them through these processes.

After this stage we will be able to present a plan to the local government and seek approval. Once we receive this students will be able to schedule student-led plantations at this location. It would be advisable to end these plantations with a celebratory plantation with the planting of a commemorative tree and setting up a plaque at this location.

Maintenance will be managed, in most cases, by local government employed maalis. However, it is imperative that students survey this location regularly to ensure that the trees are well maintained.

Resources –

Finances:

As mentioned earlier a plantation is usually quite inexpensive if the proper procedure is followed and plants are chosen wisely. The costs that are needed can be raised through the steps mentioned under the “Budgeting” heading of Step 1.

Government Permissions

When planting outside school you will need permissions from local or city government offices such as the Parks Department or DHA. The Sayebaan Project will be able to get permission from the government for school projects affiliated with our organisation.

Planning And Organization:

Having organised numerous successful plantations our Project Leaders will be able to help schools organise their plantations. This may include choice of plants and location, procurement and budgeting and maximisation of student involvement.

Nurseries

Lalazar Nursery (Clifton Block IX)
Kehkashan Nursery (Clifton Block V)
Shalimar Nursery (Phase VIII)

Personalities for Reference

Our Project works closely with several prominent figures in the field of architecture, urban planning, and environmental protection. We often consult with these experts such as Shahzad Qureshi, founder of Clifton Urban Forest, before our projects. Moreover, we may also be able to host talks and workshops with relevant professionals. The experts we have consulted with include Shahid Abdulla, Marvi Mazhar, Shahzad Qureshi.

Resources

Name	Notes	Link
Trees for Karachi by Hamza Allawala	This database has been written specifically for Karachi. We strongly recommend you select species from this list.	Trees for Karachi
Flowers of India	This website has thousands of plant species in the Indian Subcontinent with pictorial references.	Flowers of India
The Trees of Mumbai by The Bombay Natural History Society	Mumbai has a similar coastal ecosystem as Karachi (though the latter is much more arid).	Trees of Mumbai
Pradip Krishen's list of 100 most suitable trees for Delhi (NCR) by Pradip Krishen	Pradip Krishen is one of the subcontinent's leading environmentalists. While this resource is designed specifically for Delhi, it may be helpful to learn more about different varieties of trees.	Pradip Krishen's list of 100 most suitable trees for Delhi (NCR)

Karachi's Hardiest Trees

You may take quick reference with these trees when planting as these trees are successful all over Karachi.

Local Name	English Name
Badaam	Sea Almond
Baer	Indian Jujube
Bargad	Banyan
Casuarina	Coastal She-Oak
Gab	Malabar Ebony
Goondi	Saucerberry

Jamun	Java Plum
Keekar	Arabic Gum
Khaggal	Athel Tree
Nariyal	Coconut
Neem	Indian Margosa
Paras Peepal	Cottonwood Hibiscus
Paras Peepal	Indian Tulip Tree
Peelu	Mustard Tree
Peepal	Bodhi Tree
Pilkhan	White Fig Tree
Sohajna/ Moringa	Drumstick Tree