

Tharfood

Report: First test results are great!

Wim van der Zwan 19-12-2018

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## First test results are great!

In September 2018 the team of Tharfood started planting trees in the Thar desert. This was the first project in India where the Growboxx<sup>®</sup> was used. Although this was our first practical experience with this new device, we achieved a survival rate of 94% after two months.

This demands a follow up. During our work we designed a new way with both reforestation of the desert and benefits for the local community.



## Description of the test

### Location

Almost one hour away from the city of Jaisalmer we fenced a plot of 300 by 450 feet. The climate is typical for the region:

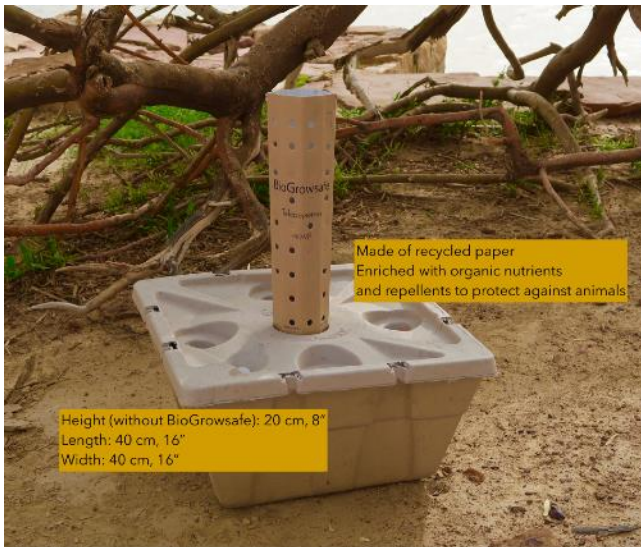
- Hot summer days with temperatures higher than 40°C/110°F
- Cold winter nights with temperatures lower than 5°C/40°F
- An average of 3 to 5 rainy days with all together 200 mm per year

We have chosen this location to test the first delivery in India of the Growboxx<sup>®</sup>. The main reasons were the availability of a substantial water pond and the challenge. If it is possible to plant trees here, it can be done in lots of other places.

### Method

At first, we would have liked a more scientific approach, but soon it became clear that we were not ready for that. Due to practical issues and our lack of experience with the Growboxx<sup>®</sup> we started a learning experience. Now we can say we have a solid method to plant trees.

In September our supplies arrived and we started planting 370 trees.



## Growboxx®

In 2017, the UN recommended the Growboxx® in their Global Opportunity Report. Next to that this device has won several awards. The mass production started in August 2018.

The box is made of recycled paper and promises a high survival rate. In earlier test they achieved 95% and more. Also important is the limited usage of water. We used 30 liters to prepare the soil and

another 20 liters during planting. After that refilling the box with extra water does not seem to be necessary.

## Trees

For the selection of trees our starting point was the preference for indigenous species. In the cities of Jaisalmer and Jodhpur we found high quality nurseries. We planted 25 different species. Most of them are fruit trees.

Amaltas	10	Jamun	21
Amla	9	Khejri	7
Annar	7	Khumbat	10
Apple ber	79	Mango	24
Aradu	12	Mendi	11
Babul	9	Mossmi	9
Ber	10	Nimbu	16
Champa	13	Pommegranate	2
Chikku	14	Rohida	2
Gourel	6	Sesame	5
Guava	27	Siris	17
Gunda	36	Vig	5
Gundi	9		

## Research questions

Our focus was on the following questions:

1. What is the survival rate of the trees?
2. How much water is needed?

## Testresults

The trees are planted in the period from 21/10/2018 till 7/12/2018. On 12/12 we counted 370 plantations and 22 mortalities. This means a survival rate of 94%. This result confirms the tests of the supplier Groasis.

Status			
OK	Dead	Total	Survival rate
348	22	370	94%
Age			
Average	Modus	Min	Max
23d	27d	5d	52d
Period	Min	Max	
	21/10	7/12	

The main cause for mortality we discovered in the first two weeks. Termites ate the paper box, which causes leakage and drought. Roots did not develop and the tree died. The second cause was our inexperience in planting the small apple bar saplings. Normally we cut the main root for planting to activate the root system. For the apple bar saplings this was not a good idea. This tree survives better with an uncut root.

The usage of water was a little bit more than expected. During the preparation of the soil we used 30 liters of water. This is done to develop the capillary system in the soil. While planting we used about 20 liters of water to put in the box. Due to leakage and some big sized saplings we had to refill sometimes. The refill took 5 liters per tree. This mainly concerned the trees that were planted in the first three weeks and has suffered from termites. .

## Bonus

Because cattle could not graze in our fenced area, sewan grass (*Lasium sindicus*) had the time to mature. It was confirmed by the local people that if there has been rain, the grass will grow almost everywhere around the village. This is also typical for the region. sewan grass is the main source of fodder for the goats, sheep, cows and wild life that inhabits the area.



## Conclusion

The first results are very hopeful. Now it is too early to draw conclusions but it seems that we can confirm the previous results of the supplier and that it is possible to plant trees on arid grounds with a high survival rate with a minimum amount of water.

## Next steps

In the upcoming period, we will extend our plantation within a new fence on a more remote location. There we will plant 32 forest trees. These trees will most likely not be cut by people because of their religious meaning (peepal and banyan) or added value (neem)

Next to the tree the Growboxx® has seed pockets to grow vegetables, flowers of other plants. Until now we are not able to grow vegetables in a cost effective and successful manor. The main opponent is mice and the climate. Our search for the right species and planting method will be continued. Until now there are two successes, basil and green peas.

## **Project Green Kandiyala**

In May 2019 we will start the follow up. These components will be the main part of our scope:

- 12.000 trees, which will restore the soil and the landscape
- A fenced area of 125 ha
- Rainwater harvesting; the amount harvested should be enough for our own project; we will use new and affordable harvesting techniques
- Cultivation and sales of sewan grass, the whole year long, preferably fresh green grass
- Local farmers will have the whole year long acces to high quality fodder for their cattle
- Agreement with the government about land usage and additional water supply when needed
- After the temporary usage of the land, the governance will go from the project organization to a local NGO; a better way of land utilization will be a major part of their duty
- A business case for future projects

We will find answers to the following questions:

- How much water can we harvest?
- What is the yield from sewan grass (dry and fresh)?
- What are the costs for reforestation? Can we earn this investment back in a few years?
- What are the benefits for the village?

The whole project will be a showcase for reforestation of the Thar desert and the development of rural India.

In the upcoming months we will reach out to possible partners. The next report will be written in February 2019.

## Contact

If you want to see more about us, you can follow us on our website and on our social media: [Youtube channel](#), [Facebook](#) and [Instagram](#). Tharfood is a Dutch-Indian cooperation.

Yours sincerely,

Wim van der Zwan, founder and investor