

Use of Digestate and Compost as Soil Fertilizers and Soilless Substrates for Forest Plant Seedlings.

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Background and Explanation of the Issue



People have been actively using the forest since long before the beginning of history; and the effect on the forest have also been known since. The oldest known written story, the *Epic of Gilgamesh* recorded on tablets in Assyria around the **7th century BC**, includes reference to the **problems of Forest Loss**. As of today, the devastating nature of our forest is still stirring at us in the face as a result of the activities of the ever increasing population of the world. Subsequently, forest loss and degradation has become a world-wide problem.

As at the early 2000s, the net annual estimates of forest loss stood around **10.4 million hectares** and those for degradation (yet to be calculated) is universally agreed to be even higher. This has made the arguments for forest restoration to be more compelling.

Indeed, the need for large-scale restoration has also been recognized for centuries (for instance, the oldest records of forest management in the world have been kept without a break for barely 2000 years in Japan). Nonetheless, the expected improvement is far fetched...hence the **urgent need** for coordinated actions between all stakeholders across the globe.

Recent Interventions

In the last 20 years, hundreds of aids and conservation projects have promoted and carried out tree planting schemes and the development of tree nurseries, aimed at both supplying goods such as fuel-wood and at restoring ecological functions and protecting biodiversity.

According to a global assessment of restoration potential, there are more than two billion hectares of deforested and degraded land around the world where opportunities for some type of restoration intervention may be realised.

Therefore restoring forests and forest landscapes is an important step in regaining the health and functionality of these ecosystems.

The Forest Landscape Restoration (FLR) Concept

Forest landscape restoration (FLR) is the ongoing process of regaining ecological functionality and enhancing human well-being across deforested or degraded forest landscapes.

It is more than just planting trees – it is restoring a whole landscape to meet present and future needs and to offer multiple benefits and land uses over time.

FLR manifests through different processes such as: new tree plantings, managed natural regeneration, agroforestry, or improved land management to accommodate a mosaic of land uses, including agriculture, protected wildlife reserves, managed plantations, riverside plantings and more.

Successful FLR is forward-looking and dynamic, focusing on ***strengthening the resilience of landscapes and creating future options to adjust*** and further optimise ecosystem goods and services as societal needs change or new challenges arise.

The Safi Sana Approach To Forest Landscape Restoration (FLR)

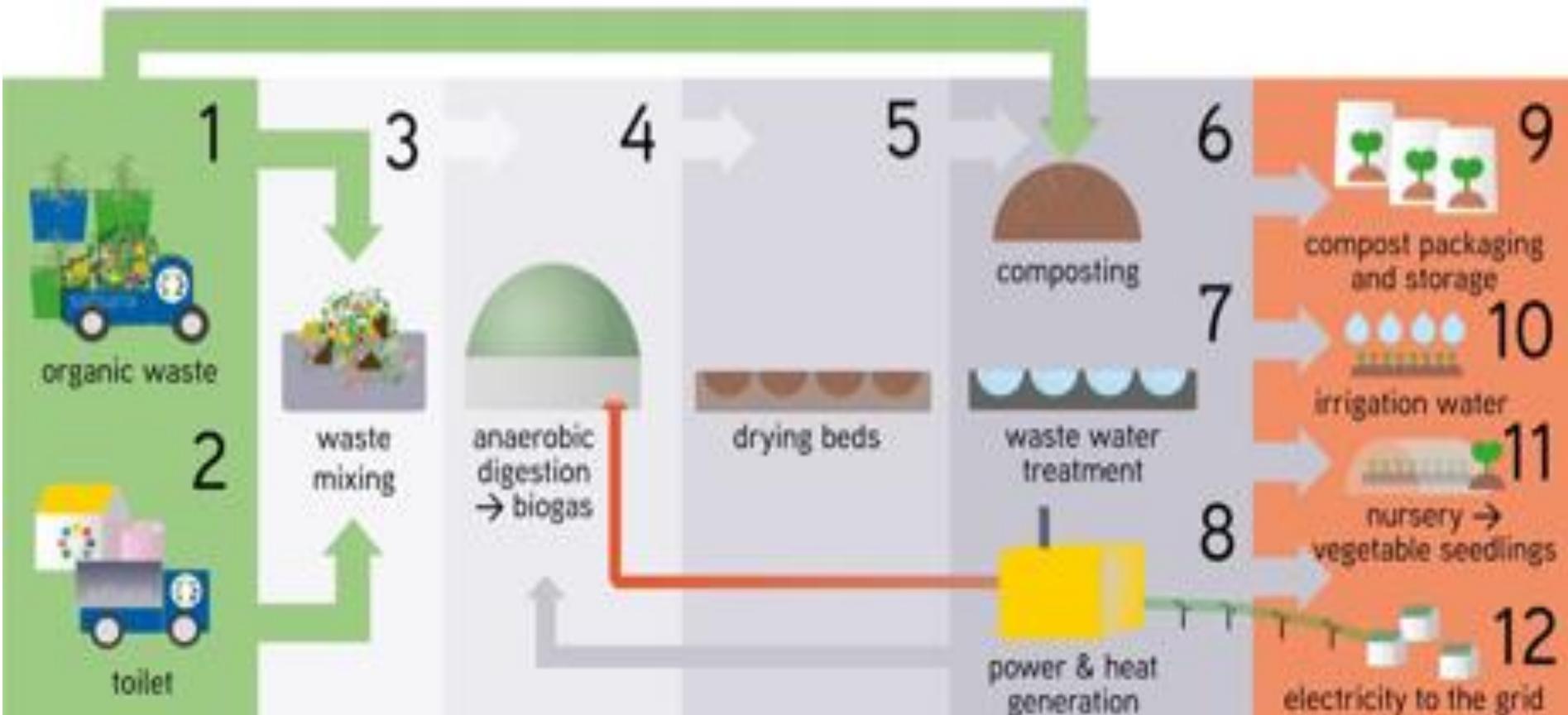
We are SAFI SANA Ghana Limited, a waste to resource social enterprise located at Ashaiman, Adjei-Kojo. We have one of the biggest **anaerobic** digester in Ghana that treats about **45 tons** of waste daily and produces **electricity** and **organic fertiliser (compost)** for public consumption. We are certified and accredited by all the requisite regulatory bodies in the country.

From our process:

- We produce about **12 – 18 Tons (i.e. 400 – 600 bags)** of **Organic Fertiliser** on monthly basis
- With a Greenhouse capacity of over **54,000 seedlings**, we raise/supply food crop farmers and tree planters

Our environmentally friendly model uses the digestate and compost as soil fertilizers and soilless substrates for Forest Plant Seedlings, aimed at ensuring Forest Landscape Restoration.

The Safi Sana Process



Compost Production Process



Finished Product (Asaase Gyefo)



Significance of Digestate and Compost for Forest Plant Seedlings

- The digestate/compost from anaerobic digestion is nutrient rich and increases the organic matter needed for the plant/tree growth
- It reduces the need to apply chemical fertiliser and pesticides
- It helps to reduce soil erosion and nutrient runoff
- It is a soilless medium, so using it for plants production helps minimize/gets rid of planting infesting diseases
- It improves the soil health and ensures great productivity/yield
- In the process of coming out with a digestate/compost, we kill two birds with one stone....we rid the environment of filth and in tend get a medium/formula for conditioning the soil

Challenges



Like any other human initiatives, this project also has challenges. Some key ones are as enumerated below:

- The process is highly capital intensive
- Difficulty in securing sustainable/reliable supply of feedstock
- Minimal/Limited public awareness of the benefits
- Low interest/commitment from government towards establishing facilities like
- Requires thinking outside the box to come out with more modernized control system/technology



Thank You