HYDRO 2

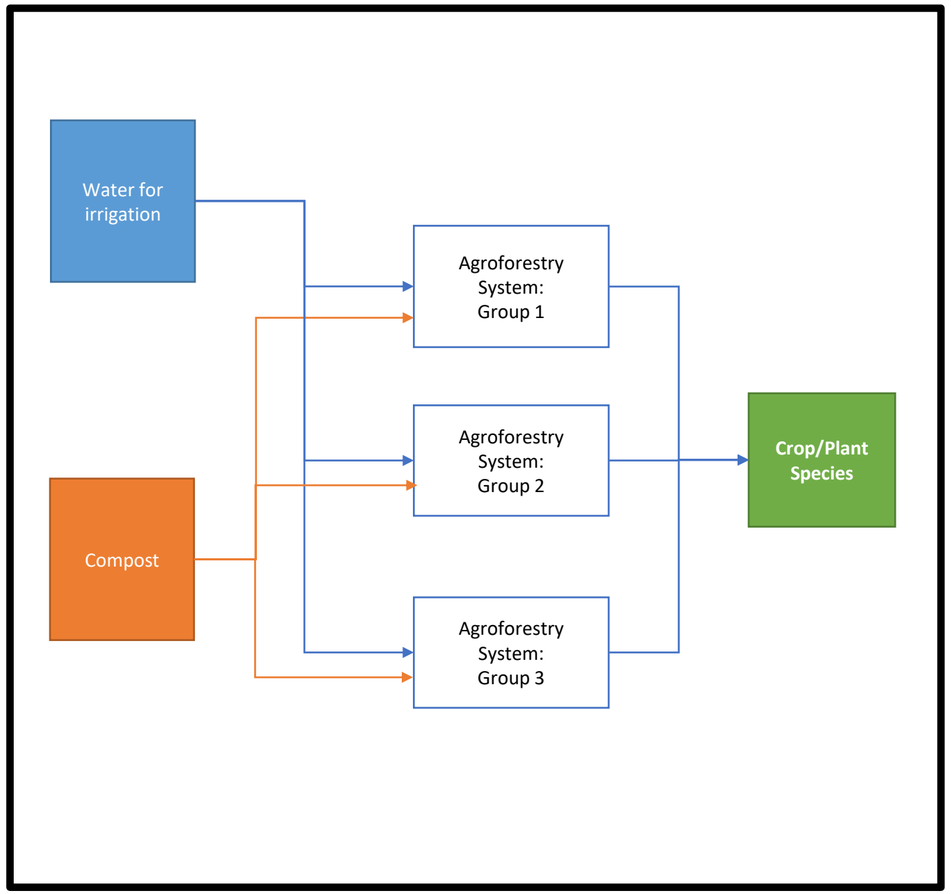
Reuse of nutrient-rich water and compost recovered in Hydro 1 to cultivate an agroforestry system

System Description

In HYDRO2 the nutrient-rich water from HYDRO1 is used to cultivate 1 ha of an agroforestry system that produces edible and non-edible trees, shrubs and herbs.

The agroforestry system is divided in 3 main groups: (1) forestry trees for fruit and timber production; (2) orchards/bushes; and (3) herbs and annual crops. The plant setup is co-creatively elaborated with the public for a definition of business cases and to form resilient ecosystems.

The agroforestry fertigation system combines traditional irrigation methods with precision irrigation and is carried out by applying both drip and channel irrigation, using treated wastewater of different quality: i. treated effluent from constructed wetlands which is filtered and disinfected, ii. treated effluent from constructed wetlands which is disinfected and iii. disinfected UASB effluent.



Approximately 1 ha with >5000 edible and non-edible trees and shrubs irrigated with:

- ❑ 100 m3/d Disinfected Wastewater from Costructed Wetlands using Drip Irrigation or Channel Irrigation

Benefits

- Savings of freshwater
- Wastewater reuse for fertigation
- Recycling nutrients in agriculture (no fertilizer import)
- Valorization of marketable products, cultural activities
- Annual production of > 0,7 tons of fruits, herbs, vegetables per 1000 m2 irrigated with reclaimed wastewater
- Payback period around 5 years when integrated with HYDRO1