

Nature Based Solutions Case Studies from Sao Paulo (Brazil) and Sant Miquel de Balenyà (Catalonia)

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Nature Based Solutions need a transdisciplinarity approach



Restoration and renaturalisation of the Tiete River (Sao Paolo, Brazil)

Nature Based Solutions Go Beyond Urban Law



Urbanization project or Landscape project? (Sant Miquel de Balenyà, Catalonia)

Nature Based Solutions: A process more than a final design

Principle

Explains why and how this technique is efficient against floods/erosion

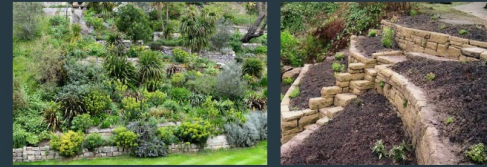
6 Criterias

- **Affordability:** is a very affordable technique
- **Efficiency against erosion:** is a very efficient technique against erosion
- **Aesthetic:** is a very aesthetically pleasing technique
- **Implementation:** is a very easy to implement technique
- **Maintenance:** is a very easy to maintain technique

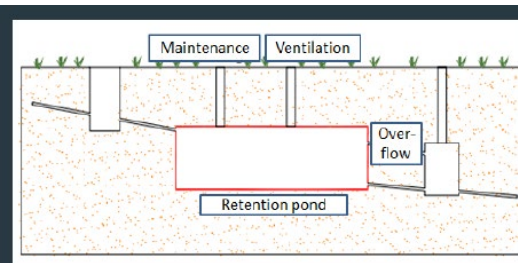
Terraces lined with wood



Terraces lined with stones



Topological modifications



Buried water retention pond

Useful information to enhance: soil survey on the eroded areas

1 Erosion and flood quantification

Measure the volume of soil which is moving ("disappearing")
Measure the volume of water during the flood
Why ? to qualify the intensity

How?

ask a professional for 2, 3 and 4

2 Acid-base state

Study: pH water (real acidity at the roots), pH KCl (acidity of reserves), total and active limestone.

3 Organic state

Study: Organic matter, organic N, C/N.
Advice and objectives: advice on organic fertility. Elaboration of an organic amendment plan.

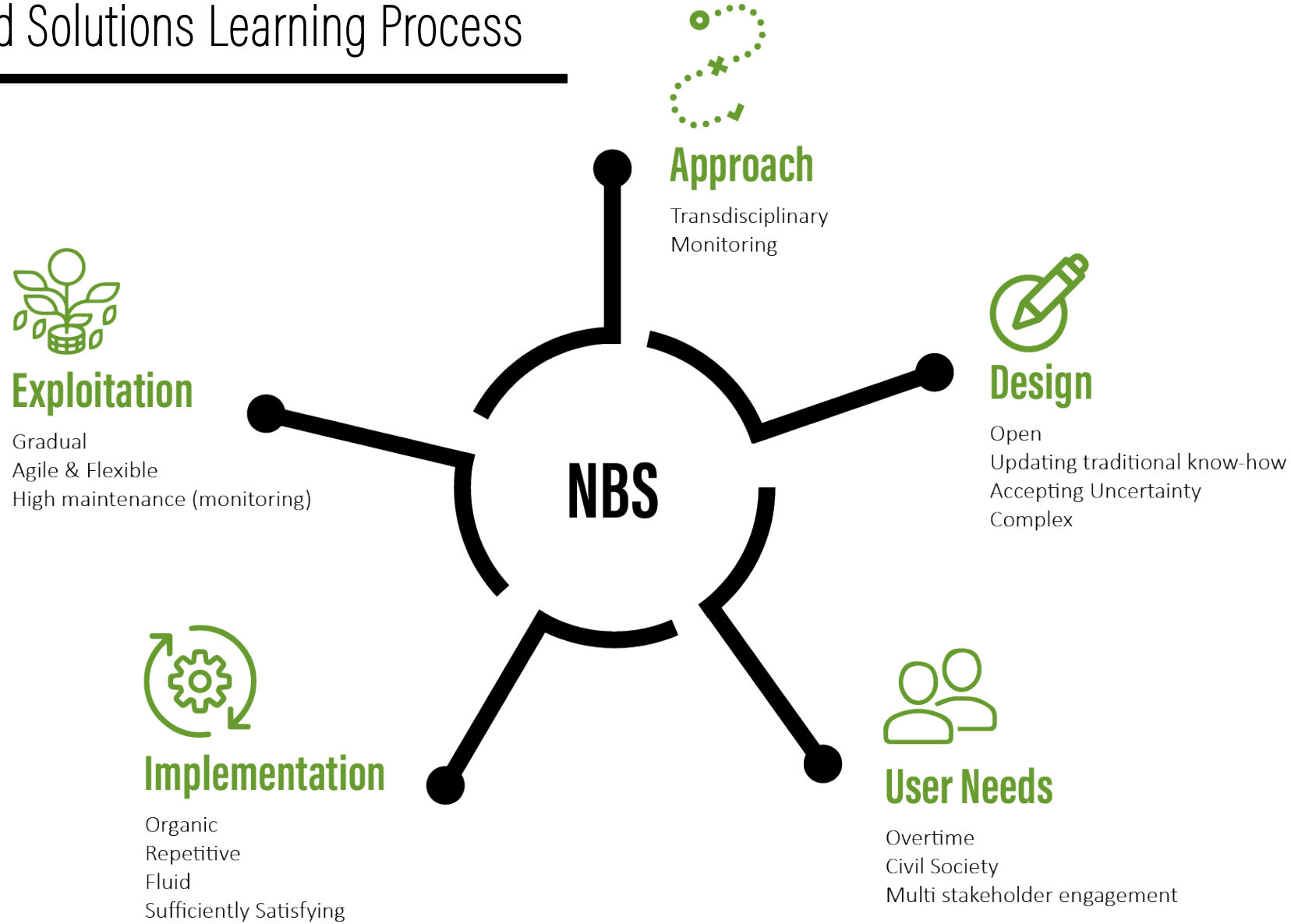
4 Particle size analysis

Study: Characterising the fine part of the soil, particularly on the clay content

Good practices limiting soil erosion

- limit the use of heavy machineries and vehicles in these areas
- manage fire carefully
- Limit deep tillage
- disturb minimal area when excavating

Nature Based Solutions Learning Process



Thank you

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