

Nature based Solutions - NbS



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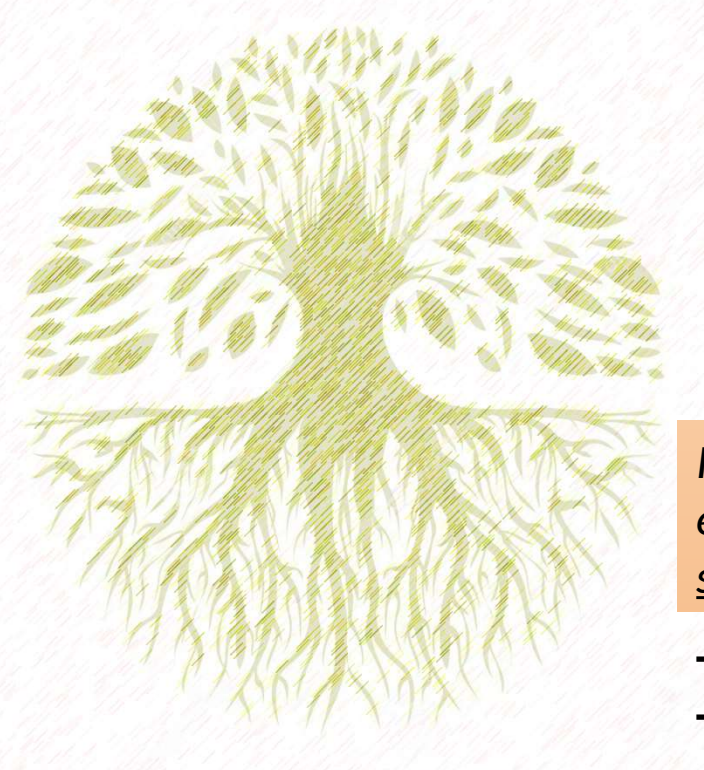


NbS – Rise of the concept

The concept was put forward in the late 2000 in the context of finding new solutions to mitigate and adapt to climate change effects whilst simultaneously protecting biodiversity and promoting sustainable living.

Study delivered for the World Bank, 2008. MacKinnon, K., Sobrevila, C., Hickey, V. Biodiversity, climate change and adaptation: nature-based solutions from the World bank portfolio, Washington DC

International Union for the Conservation of Nature (IUCN), 2009. No time to lose – make full use of nature-based solutions in the post 2012 climate change regime. Position paper on the Fifteenth session of the conference of the parties to the United Nations Framework Convention on Climate Change



NbS – Different Perspectives

Different stakeholders view NbS from different perspectives

– not a clear concept -

General objective = sustainable management and use for tackling societal challenges

IUCN NbS = Actions to protect, sustainable manage and restore natural or modified ecosystems, which address societal challenges effectively and adaptively, while simultaneously providing human well-being and biodiversity benefits

Type 1 of NbS* – Minimal interventions in ecosystems (of biosphere reserves)

Type 2 of NbS – Some interventions in ecosystems and landscapes (agro-ecology, evolution oriented forestry etc)

EC NbS = Solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience...NbS can transform environmental societal challenges into innovation opportunities, by turning natural capital into a source for green growth and sustainable development

Type 3 of NbS – managing ecosystems in extensive ways (green and blue infrastructure, restoration of degraded or polluted areas, greening cities)

Type 4 of NbS – Hybrid solutions (mixing protected and managed areas)

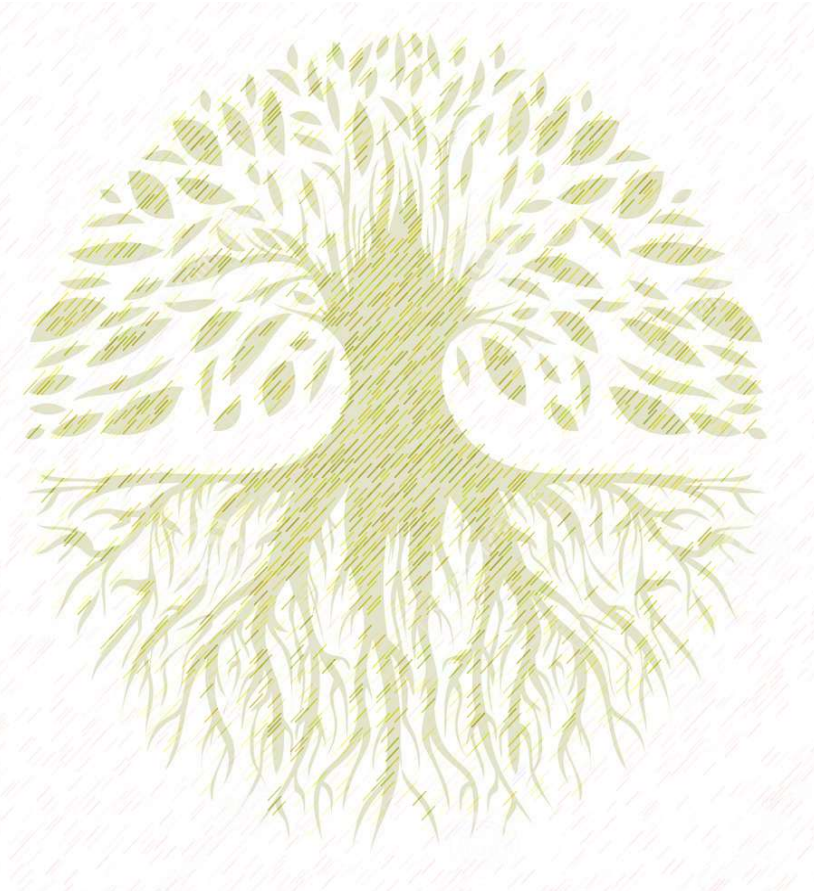
*Proposed typology by Network BiodivERsA, 2015, according to question “How much engineering of biodiversity and ecosystems is involved in NbS”

NbS – Societal Goals ahead

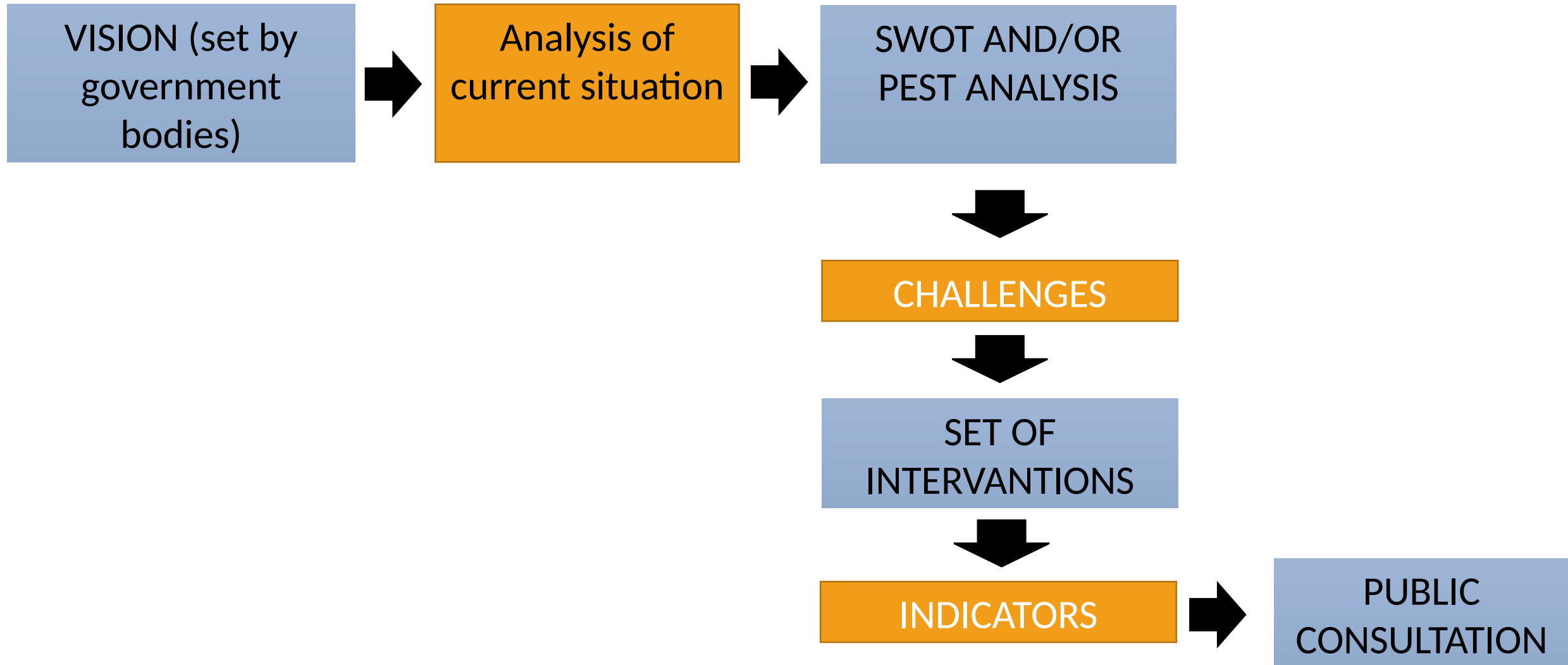
All definitions pose ahead of NbS incorporation greater goals mainly human well-being or green growth

NbS = A NEW STRATEGY

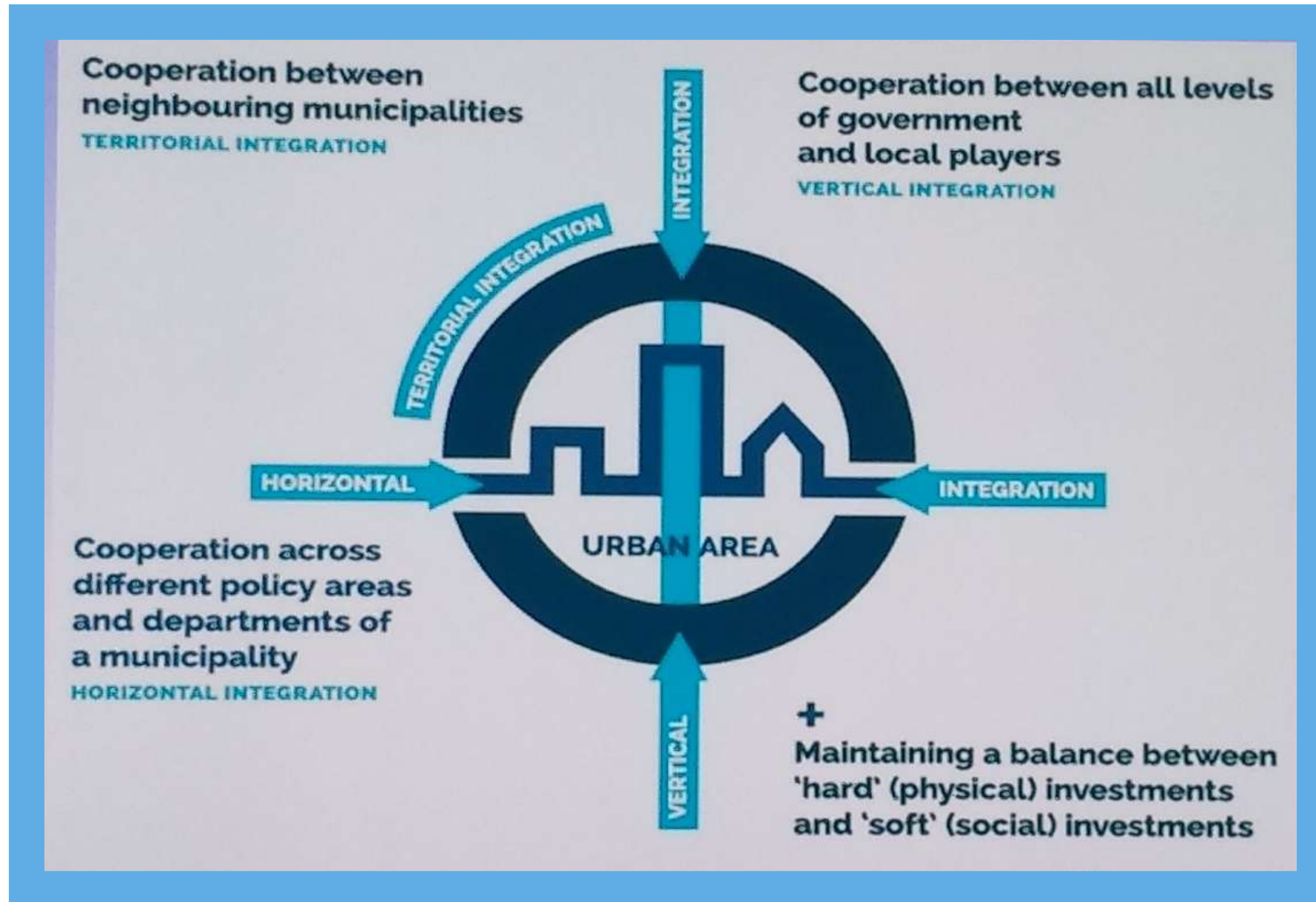
**A WHOLE NEW WAY OF DOING THINGS IN URBAN ENVIRONMENTS
FROM BUSSINESS AS USUAL TO INNOVATIVE INTERVANTIONS IN ALL
POLICY SECTORS**



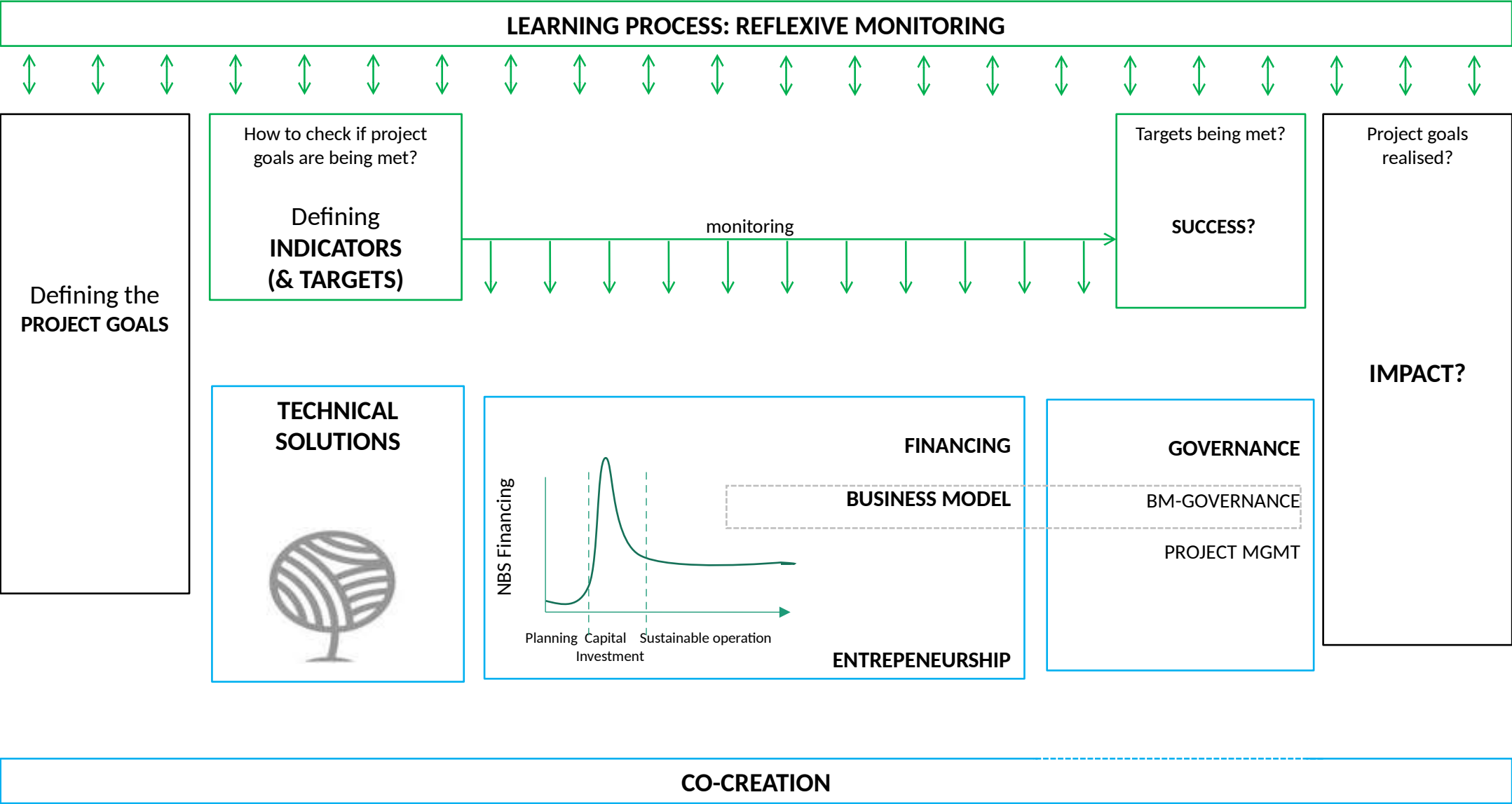
“Old school” STRATEGY



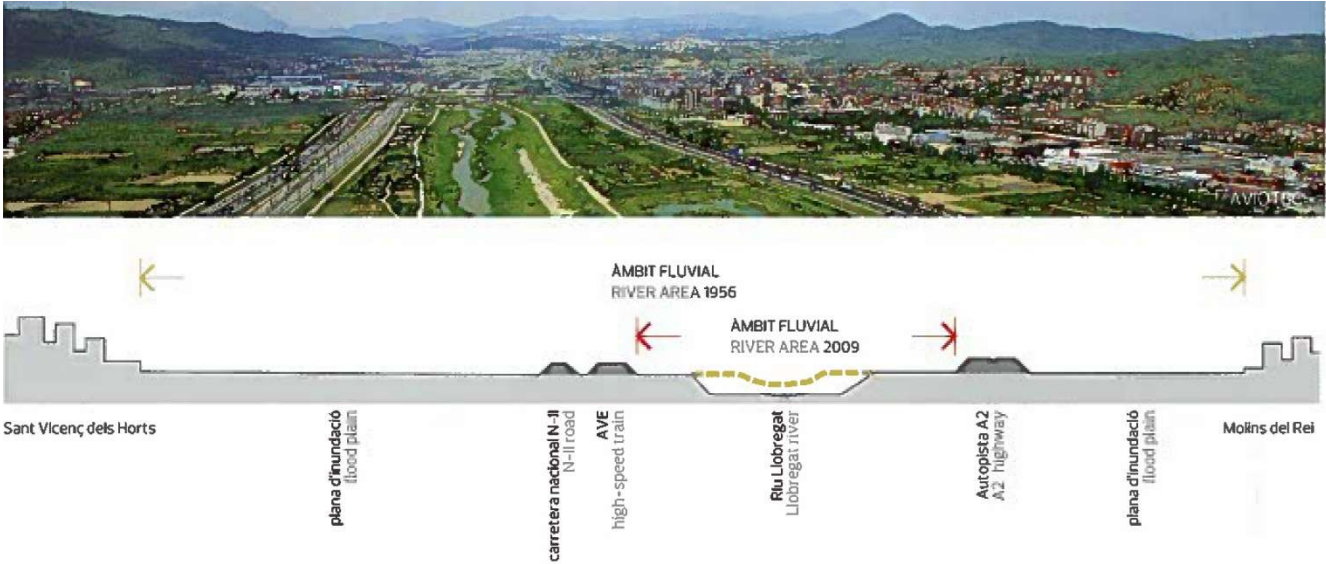
INTEGRATED URBAN STRATEGY



NBS FRAMEWORK (STRATEGY)

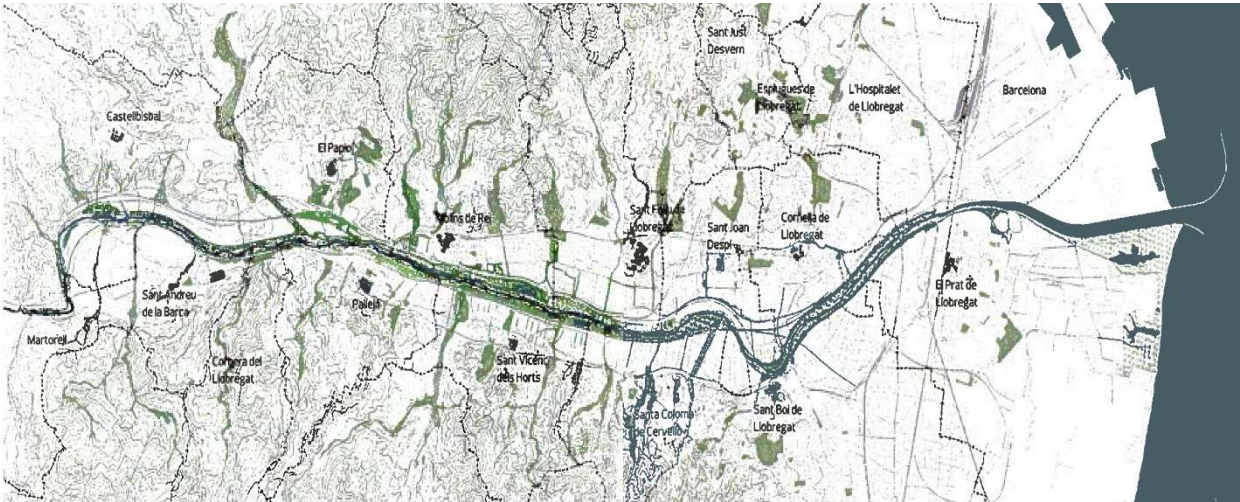


BARCELONA – LLOBREGAT RIVER PARK



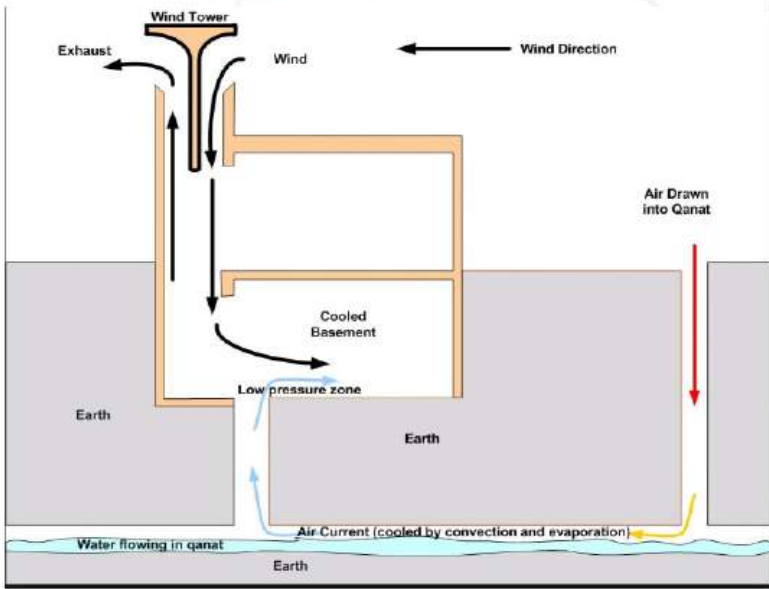
[fig.04]

comparació de la secció transversal comparison between cross-sections
Tram objecte d'atenció de l'estudi morfodinàmic (comprès entre el Papol i Santa Coloma de Cervelló), 1956 y 2009.
Stretch under the morphodynamic study consideration (between Papol and Santa Coloma de Cervelló), 1956 and 2009.

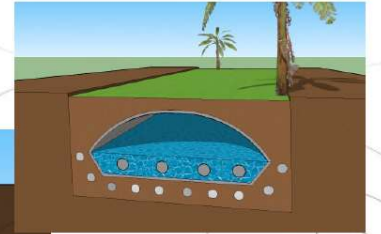
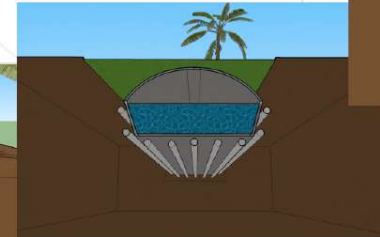
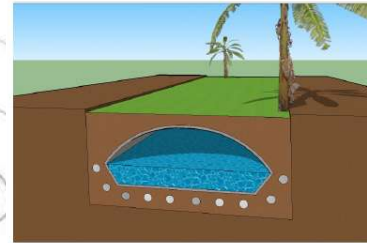


- Qanats (II)

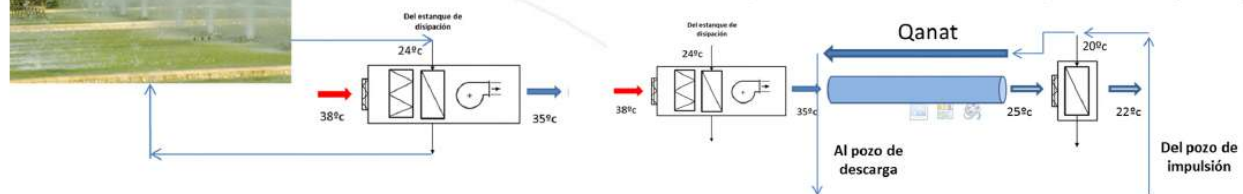
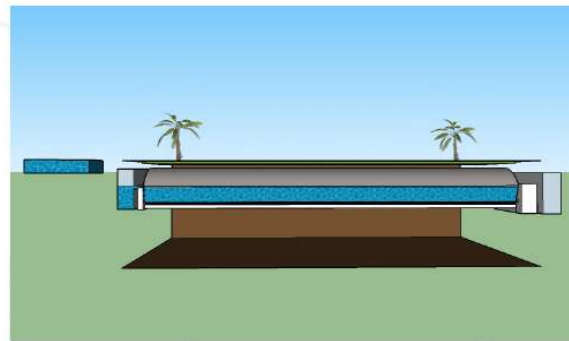
- Qanats



- Qanats (II)



- Qanats (III)



OTHER NbS URBAN STRATEGY PROJECTS RECENTLY FUNDED BY EC

GreenQuays, *Partnership: City of Breda Netherlands, 2 Universities, the Regional water authority, a private company, an NGO and a citizens association (Netherlands)*

A co-design process for renaturing urban rivers & streams in dense city areas where there is insufficient space for natural riverbanks. The solution includes developing and testing of a new technology called “Nature Inclusive Quay” that supports the development of complex vertical ecosystems.

Pratos Urban Jungles (PUJ), *Partnership: City of Prato, 2 architecture studios, 1 research institute, 1 public utility office, 2 SMEs, 1 NGO (Italy)*

Co and re-design of two buildings (one private and one public) and one underutilized regenerated public space as high-densely green areas into life-giving green active hubs within the city.

Where are we

Under **Policy Objective 5** (Promoting climate change adaptation, risk prevention and management) &

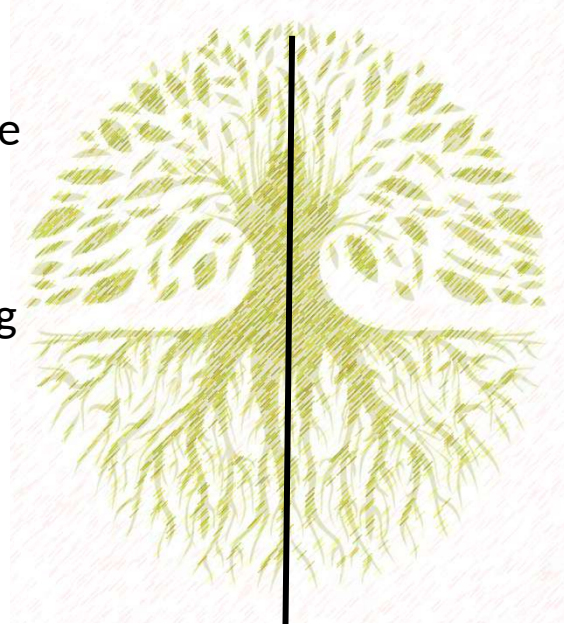
Policy Objective 6 (Preserving and protecting the environment)

the EC supports (through HORIZON 2020) 5 research clusters for NbS. Ex:

- ThinkNature platform led by the Technical University of Crete
- CONNECTING NATURE led by the Trinity College

A forthcoming meeting of all research clusters will further develop of how NbS can be incorporated in EU policies

and



what's the future

Climate change is very high in the agenda of the new EC government

Vice president Frans Timmermans will lead the **Green New (Social) Deal** that includes:

- The Green book (policy paper)
- New objectives that include reducing gas emissions up to 50% by 2030 and turn Europe into the first climate neutral continent by 2050
- The imposition of the 1st European Climate Law
- New border taxes to climate offensive products
- Faster incorporation of innovation towards climate change adaptation