Living Stones: conservation and reuse of terraced landscapes as expression of the circular economy model

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Sustainable and equitable development

Terraced Landscape conservation and reuse contribute in many ways to the NUA and SDGs
Global and local challenges

The big issues:

• **Unsustainable (linear) production-consumption models**, producing wastes and negative externalities (e.g. climate change, impacts on human and ecosystems health, biodiversity loss…) – Ecological Footprint 2018: on 1° August we exceeded Earth’s capacity to regenerate natural resources

• Rapid urbanization and rural exodus

• Inequalities, climate justice
Climate Change
Climate Change
and Heritage

www.climateheritage.org

#PatrimonioClimatico

Carbon mitigation
Adaptation
Planning
Climate Science
Communication & Awareness Raising
Circular Economy

• The Circular Economy can be defined as ‘the new sustainability paradigm’ – the way in which sustainability can be achieved turning LINEAR models of production - consumption into CIRCULAR as REGENERATIVE and SELF-SUSTAINABLE models.
Circular Economy

• In 2018, the World Circular Economy Forum held in Japan has stressed that Circular Economy represents the way in which all SDGs can be achieved
Circular Economy: main principles

• «Decoupling growth from resources consumption»

• Closed loops / closed metabolisms

• Reuse, Reduce, Regenerate, Repair, Repurpose, Refurbish, Recycle, Recovery…

• ReSOLVE: Regenerate, Share, Optimize, Loop, Virtualize, Exchange
Circular Economy: reuse/regenerate

• New «USES» to existing assets: Objects, *but also*
  Buildings
  Sites
  Landscapes
  Knowledge
  Sense, meanings
Horizon 2020 project CLIC
Adaptive Reuse of Cultural Heritage and Landscape in the perspective of the Circular Economy
Innovative circular business, financing and governance models

www.clicproject.eu | @CLIC_EU
The CLIC approach

abandoned / underused heritage buildings, structures, sites, landscapes

have VALUE

also as «common goods»

Instrumental value

TEV: Total Economic Value
Both Use and Non-use values - «the benefits that people have from ecosystems» (e.g. natural capital accounting, ecosystems services evaluation)

Non-instrumental value

«Intrinsic Value»
Independent from human ‘benefit’ and related to life-generation capacity, as well as to sense and meanings, beliefs, imaginations... orienting the choice of new use values (which new uses / functions compatible with the «intrinsic value» of landscape heritage?)
From linear to circular models

**Linear economy:**
- Economic-financial value only
- Focus on non-living assets (materials, goods)
- Self-centric, individualistic model (competition)
- Short term and mono-dimensional return horizon
- Generate externalities and then find a way to mitigate them
- Sectorial approaches

**Circular economy:**
- Generation of economic, but also social and environmental values
- Focus on living assets (people and nature)
- Synergistic, symbiotic, cooperative model
- Short AND longer term horizon and multidimensional returns evaluations
- Avoid generation of externalities (economic/inequalities, social, environmental…)
- Systemic approach

... CE needs new evaluation models, new metrics, «beyond GDP»
Circular models in Terraced Landscapes

Identify new productive uses of terraced landscape answering contemporary NEEDS:

• decent jobs (e.g. how to make agriculture in terraces a credible employment option for youths?) – focusing on income, but also on personal ‘sense of being useful’

• relational needs (see: lessons from the longest study on happiness: quality and density of relationships is the most important factor predicting long and healthy life)

• cultural needs (identity, belonging, knowledge…)

• health (healthy food, ecosystems health, benefits of nature conservation…)

• protection, safety (terraced landscapes conservation enhances resilience to hydrogeological risks)

• rights of future generations (cultural heritage and landscape is a non-renewable resource to be conserved and transmitted to future generations…)
Circular models in Terraced Landscapes

Reuse of stones, water, soils: Terraced Landscapes are an implicitly circular and sustainable land management model. The CE can be declined in terraced landscapes through specific actions:

- Enhancement of efficient closed water cycles recovering ancient water systems with channels and cisterns
- **Reuse of local stones** and enhancement of traditional skills of “dry-stone walls making” (recently recognized by UNESCO as intangible heritage of Outstanding Universal Value)
- Valorization of the ecological function of dry stone walls that make terraced landscapes (nonintensive) a natural and cultural heritage; the Honghe Declaration defines terraced landscapes as “agri-cultural and ecological systems” able to preserve the world’s biodiversity and cultural diversity (Honghe Declaration, 2010);
- Enhancement of social and cooperative dimension of terraced systems
- **Quality food production**: locally based and sustainable agri-food networks
- Conservation of local cultivar (agro-biodiversity)
- Enhancement of rural “circular” tourism/hospitality also as supporting source of income for small-scale farmers
Circular models in Terraced Landscapes
Circular models in Terraced Landscapes

Synergic agriculture and livestock farming (e.g. Olives and sheeps in Cres)

Burren Farming for Conservation Programme, Ireland
Payments for Ecosystem Services models (e.g. Vittel, France)
Artisans Batisseurs en Pierre Seche, France
ITLA Italy project of schools for professionalization of dry stone walls makers
Sabios Giyas Interpretes, Canaria Island, Spain

Adotta un terrazzamento, (adoption of land), Italy

Parque de las Papas, Peru
Eco-labelling (e.g. Solidarity Purchase Groups, Amalfi Coast, Italy)
Start-up recovering local cultivar in Amalfi Coast, Italy
Laona Foundation, Cyprus

«Voluntourism» experiences

Keywords: Burren, Farming for Conservation, Payments for Ecosystem Services, Synergic agriculture, livestock farming, Olives, sheeps, Vittel, France, ITLA, Italy, Sabios Giyas Interpretes, Canaria Island, Spain, Parque de las Papas, Peru, Eco-labelling, Solidarity Purchase Groups, Amalfi Coast, Italy, Start-up, recovering local cultivar, Laona Foundation, Cyprus.
Conclusions

Implementation of «circular» models for terraced landscapes regeneration and reuse: what lacks, what can be enhanced

- **RECOGNITION** of the multidimensional values and benefits of terraced landscapes conservation, regeneration and reuse – also in terms of avoided costs

- **INNOVATION**: social innovation, technological innovation… enabling new uses, products, services, infrastructure, «creatively hybridizing** tradition and innovation, «linking past and future» through heritage

- **SYNERGIES and cooperative approaches** to «share» risks and reduce costs of regeneration / reuse, generating new relational values

- **SYSTEMIC approaches linking SHORT AND LONGER-TERM VISION / RETURN**: ensuring income for small-scale farmers as well as longer term social, cultural, economic and environmental returns

- **ENTREPRENEURIAL capacity**: from «for-profit» business to «for-purpose» businesses; from «volunteering» and public funding to «self-sustainability» of productive activities.
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