



IV Terraced Landscapes World Congress ITLA
“RE-ENCHANTING TERRACES”
March 13th-22nd, 2019 in Canary Islands, Madeira, the
Azores and Cape Verde

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

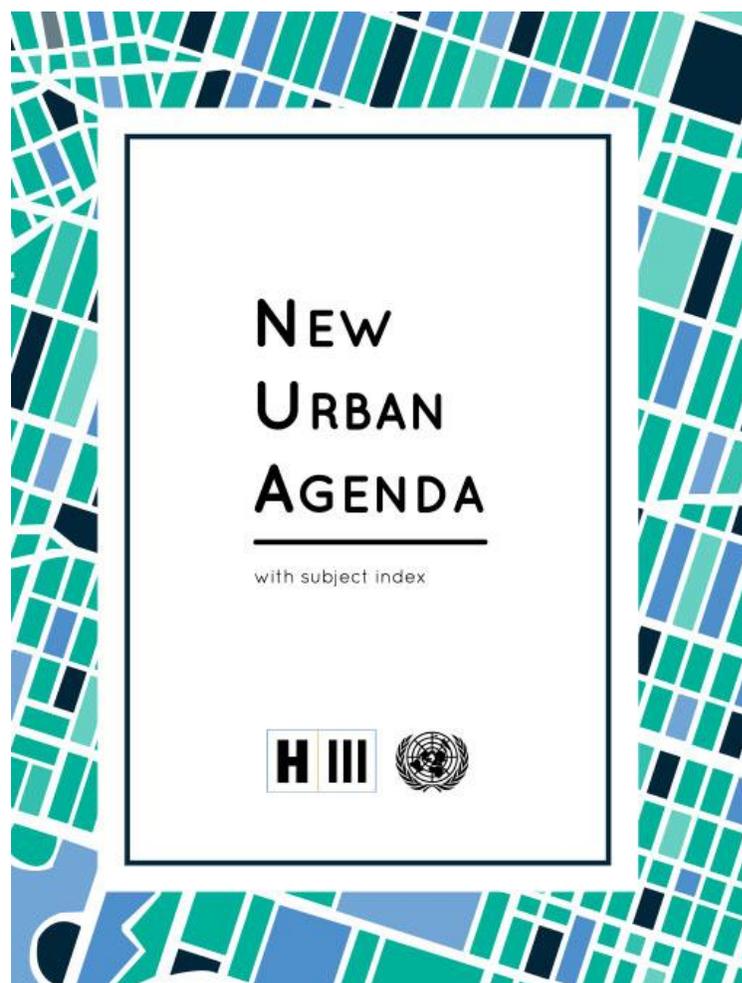
Antonia Gravagnuolo | Institute for Research on Innovation and Services for Development (IRISS) -
National Research Council, Italy (CNR), ICOMOS Italy

Mauro Varotto | Department of Historical and Geographic Sciences and the Ancient World -
DiSSGeA, University of Padova



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^o August we exceeded Earth's capacity to regenerate natural resources
- Rapid urbanization and rural exodus
- Inequalities, climate justice

Overstepping Ourselves

As our Ecological Footprint continues to exceed Earth's biocapacity, we overdraw from our future.



1961
74%
of biocapacity



1985
114%
of biocapacity



2012
156%
of biocapacity

Source: Global Footprint Network, Earth Overshoot Day, 2012



Climate Change and Heritage

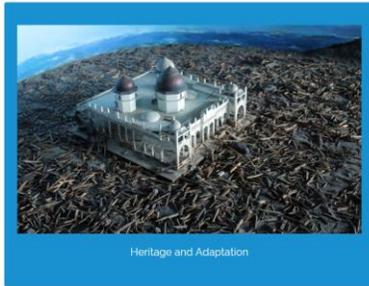


Climate Heritage
N E T W O R K

Cultural Heritage is a Climate Action Issue. Climate Action is a Cultural Heritage Issue.



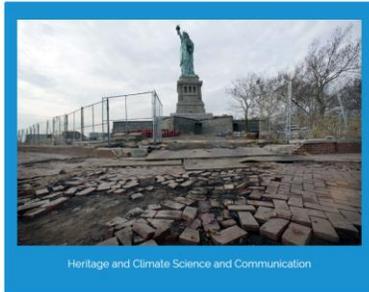
Heritage and Carbon Mitigation



Heritage and Adaptation



Planning for Loss and Damage



Heritage and Climate Science and Communication

www.climateheritage.org

#PatrimonioClimatico

Carbon mitigation

Adaptation

Planning

Climate Science

Communication & Awareness Raising

Climate Change and Heritage Working Group



Outline of Climate Change and Cultural Heritage

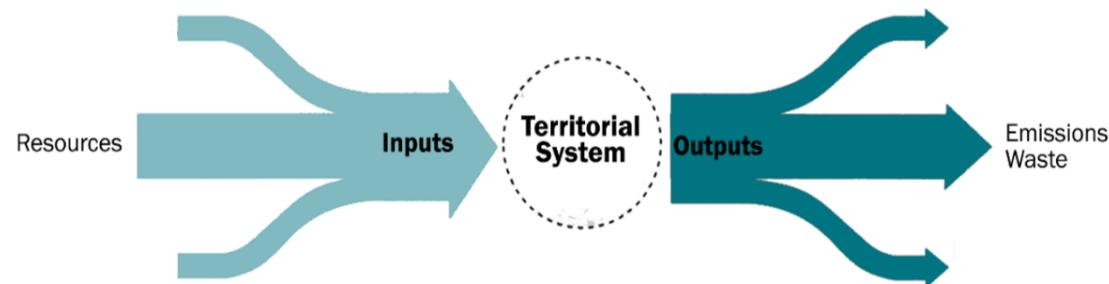
Zero Draft

December 2018

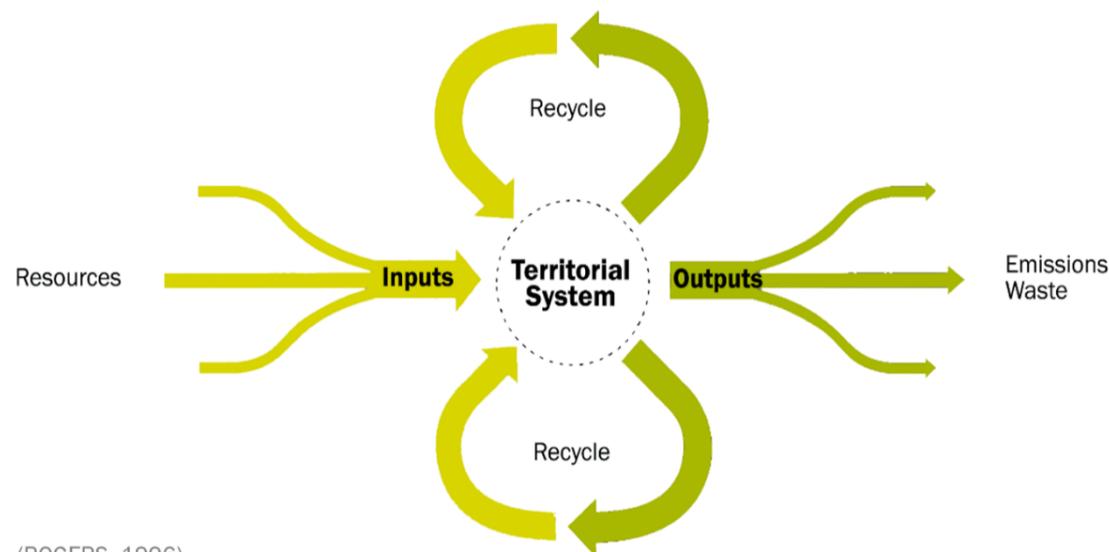
ICOMOS
international council on monuments and sites

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



Linear models: generating wastes and other externalities



(ROGERS, 1996)

Circular metabolisms in industry/production and territorial organization: less or no wastes and negative externalities

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

The logo for the CLIC project, featuring the letters 'CLIC' in a bold, white, sans-serif font. The 'C's are stylized with a grey-to-white gradient and a circular arrow-like shape.

CIRCULAR MODELS LEVERAGING INVESTMENTS
IN CULTURAL HERITAGE ADAPTIVE REUSE

A low-angle, upward-looking photograph of a grand, multi-story building with a central courtyard. The architecture is classical, with many windows and columns. The lighting is warm, suggesting late afternoon or early morning. The text is overlaid on this image.

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](https://twitter.com/CLIC_EU)



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Italian National
Research Council



Institute for Research on Innovation
and Services for Development

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**:

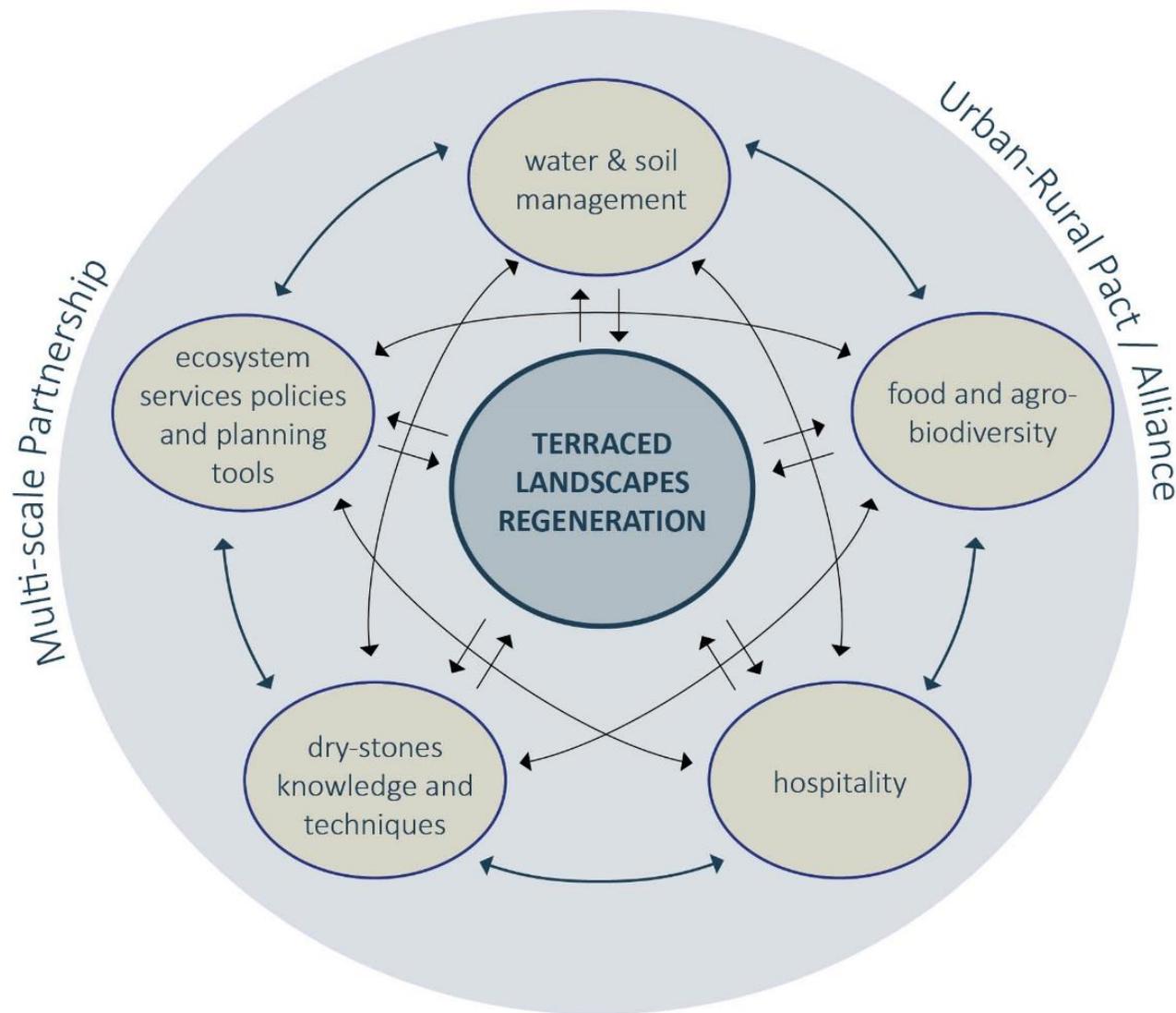
- **decent jobs** (e.g. how to make agriculture in terraces a credible employment option for youths?) – focusing on income, but also on personal ‘sense of being useful’
- **relational needs** (see: lessons from the longest study on happiness: quality and density of relationships is the most important 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)

Adotta un terrazzamento,
(adoption of land), Italy

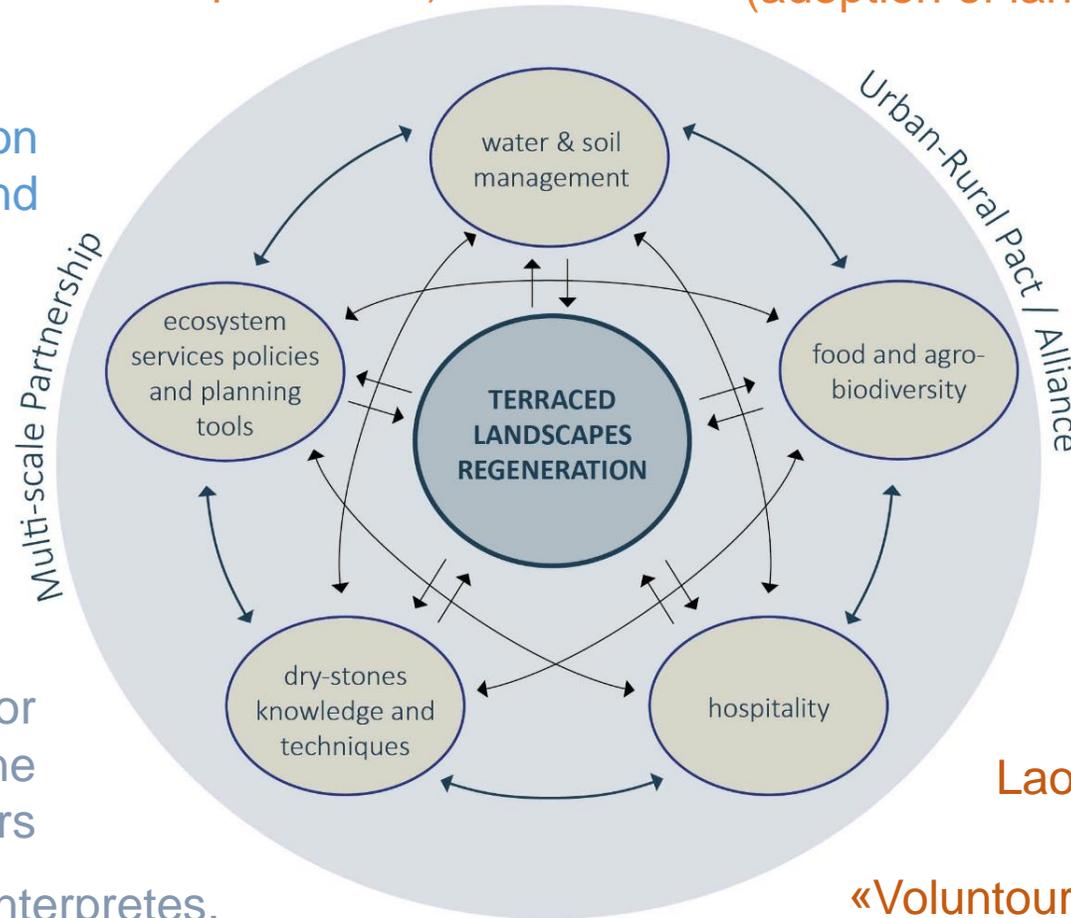
Burren Farming for Conservation
Programme, Ireland

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 Giusas Interpretes,
Canaria Island, Spain



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

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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DiSSGeA, University of Padova – mauro.varotto@unipd.it

