ALPTER Project - Terraced landscapes of the Alpine arc

FORUM ALPINUM 2007 ENGELBERG, APRIL 18-21, 2007

TERRACED AREAS AS 'INTERMEDIATE LANDSCAPES'

ALPTER PROJECT: TERRACED LANDSCAPES OF THE ALPINE ARC

Terracing used to be one of the most evident and permanent imprints of man on the environment, leading to the development of peculiar landscapes all over the world. In particular, terraced sites are spread throughout the alpine arc, where they identify common morphological and cultural traits.
Nevertheless, they often represent an underestimated natural and cultural heritage, both in quantitative and qualitative terms. Ignored by scientific research and governmental institutions for a long time, terraced landscapes have been studied only after their abandoning and decay caused the first unexpected and harmful damages.
Still today, agricultural terraced areas in the Alps often are not taken enough into account in the perspective of land management. Such an inexplicable disregard in both research and public awareness is partly due to incomplete or even missing information about the distribution and features of terraced sites, which implies a very poor overall acknowledgement of such a valuable resource. Lacking information is in turn caused by the difficulties in quantifying and evaluating the real extent and state of conservation of terraced sites, since abandoned terraces are largely hidden by vegetation, thus becoming hardly visible and recognizable.

ALPTER project, co-funded by the European Union within the INTERREG IIIB Alpine Space programme, was conceived to counteract the process of terraced farmland abandonment in the alpine regions, having consequences like loss of productive land and cultural heritage, increasing geological hazards and biodiversity depletion.

Working in areas all over the Alps, from Slovenian Brda to French Maritime Alps, the project aims at collecting territorial knowledge, developing specific technologies targeting terraced structures and realizing effective recovery examples. The final aim is to promote large-scale recovery, stimulating both population and institutions to adopt sustainable management strategies for their territory.

Among the main project activities are:
- acquisition of basic knowledge;
- development of innovative technologies specifically designed for terracements;
- implementation of pilot works to provide representative example of recovery;
- diffusion of project results among institutions and stakeholders;
- establishment of a network linking several institutions and administrative bodies dealing with this topic.

ALPTER NETWORK

The establishment of a 'Network for terraced landscapes' represents a primary project task, aiming at creating relationships and links among stakeholders variously involved in managing, protecting and recovering terraced areas, from local administrations to research institutes, from ecomuseums to associative movements.

The network already accounts almost one hundred members from nine European countries.

PARTNERS AND STUDY AREAS

ALPTER project involves eight partners, acting on an equal number of study areas:

1. **Region of Veneto**: Brenta River Valley (I)
2. **Region of Liguria**: Genoese Apennines (I)
3. **I.R.E.A.L.P.**: Province of Sondrio (I)
4. **BOKU University of Vienna**: Ulrichsberg (A)
5. **University of Ljubljana**: Goriška Brda (SLO)
6. **A.D.I.**: Roquebilliere, Maritime Alps (F)
7. **Region of Val d'Aosta**: Lower Aosta Valley (I)
8. **Region of Bregaglia**: Bregaglia Valley (CH)

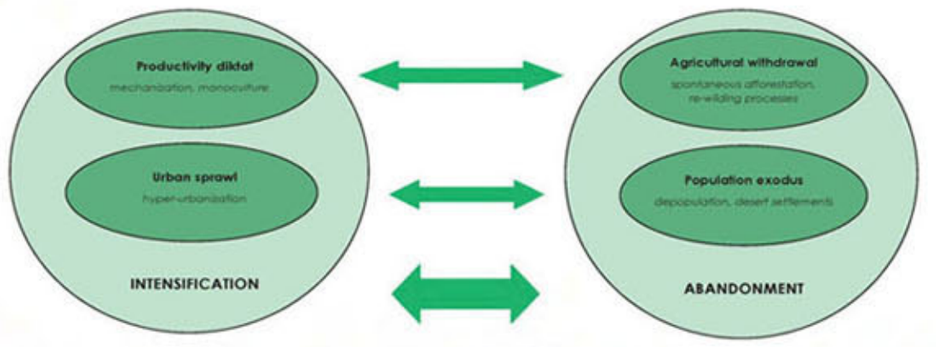
Observer partners:
UNESCO - Regional Bureau for Science in Europe (ROSTE)
Slow Food - Foundation for Biodiversity

TERRACED AREAS AS INTERMEDIATE LANDSCAPES

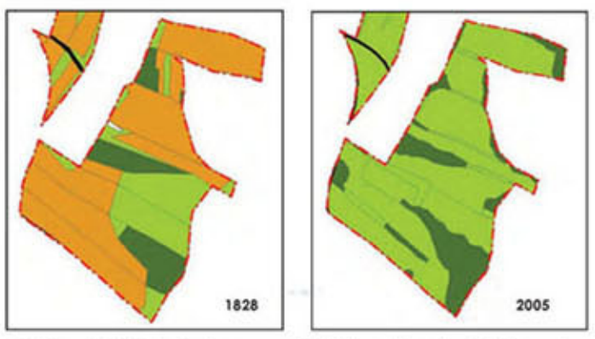
Terraced areas are usually located along middle slopes, embedded between urbanised and cultivated valley floors, on the one side, and pastured and wooded highlands on the other side (see picture on the right).
Terraced areas also represent outstanding examples of semi-natural environments, i.e. intermediate stages between anthropic spaces and purely natural environments, where human activities altered primary natural conditions. It is thanks to their artificial origin that they are characterized by a fragile equilibrium, which requires a continuous flow of external human inputs in order to be kept. In this sense, terraced slopes are to be seen as transitional landscapes, naturally evolving towards something different.
Furthermore, their intermediacy is also between farmland conceived for multifunctional polyculture in a self-subsistence economy, as in the past, and modern mechanized monoculture (e.g. vineyards and olive groves).

TERRACED LANDSCAPES DEVELOPMENT

Terraced landscape development might be seen as a range of evolutional processes leading towards the opposite extremes of those chains of which terraced landscapes represent the intermediate stages: intensification, on the one hand, and marginalization and abandonment on the other hand. The former one might imply either intensification of agricultural practices, such as mechanization and establishment of monoculture or hyper-urbanization, or even both processes. Abandonment embraces two aspects, which do not necessarily come together: agricultural withdrawal, which leads to spontaneous afforestation, and depopulation, causing 'desertification' of formerly inhabited settlements.



EXAMPLE OF TERRACED LANDSCAPE DEVELOPMENT: ULRICHSBERG (UPPER AUSTRIA)



Detail from the Austrian study area map (Ulrichsberg, Upper Austria). Comparison between the historical land use in 1828 (left) and the current land use system (right).

A significant historical analysis has been undertaken by the BOKU University of Vienna as regards the Austrian study area, where land use changes occurred since 1828 have been recorded (right). GIS-based digital map of the study area has then been obtained (left), enabling a comparison between the historical and the current land use system. While the main transformation is from cultivated fields to grassland (meadows and pastures), the share of area shifted from farm- to woodland, although relevant, is not as important as in other alpine regions. Finally, large areas remained unchanged, especially those plots of land which were already used as meadows.
The general trend is thus towards extensification of agricultural activities.

meadows
fields
woods

	1828	2005	CHANGE
Meadows and pastures	29.0%	74.2%	+ 45.2%
Agricultural fields	67.2%	13.6%	- 53.6%
Woods	2.0%	11.7%	+ 9.7%
Streets and settlements	1.8%	0.5%	- 1.3%
Total	100.0%	100.0%	

LAND USE CHANGE	AREA (m²)	PROPORTION
Fields → Meadows	267,731	50.1%
Fields → Woods	26,194	4.9%
Meadows → Woods	26,028	4.9%
Meadows → Fields	12,105	2.3%
Area of land use change	332,058	62.1%
Total surface	534,753	100.0%

Another example of terraced landscape development: the Brenta River Valley (Italy).
Comparison between the sight in the mid seventies (above) and the current appearance (below). Terraces have been abandoned and covered by spontaneous vegetation.

FROM DECAY TO PROMOTION

ALPTER proposes different ways of managing terraced landscapes development processes, by moving from the current state of decay to the promotion of proactive strategies. In particular, these are based on three main pillars:

1. **Productive recovery**: stimulating the primary role of terraced structures as farmland, preventing the establishment of intensive forms of agriculture;
2. **Tourism promotion**: strengthening both tourist supply and demand, by promoting aesthetic appeal, natural and cultural heritage of terraced landscapes;
3. **Enhancing the social value**: promoting public awareness among local communities and visitors, strengthening residents' territorial identity.

ENHANCING PRODUCTIVE AND SOCIAL VALUE

Terracements represent the second major group of relief forms resulting from agriculture worldwide. They have been always satisfying two main functions: providing a valid defence against soil erosion and hydrogeological hazards and enlarging farmland surface along steep slopes. Recovering and/or enhancing their productive value by promoting agrarian products is thus the most significant way of maintaining terraced sites. It is obviously hardly possible to repropose the cultivations which used to be grown in the past, while it is necessary to identify valuable products which might succeed in niche markets. The promotion of a "territorial brand" based on terraced landscapes is fundamental to this end. An example is given by wine, olive oil and herbs sauces produced within the 'Cinque Terre' National Park, in Liguria (see on the right).

Mechanization is a major issues for the recovery of terraced farmland: while it is often necessary for starting up viable farming activities, tractors might cause damage to terraced structures and their drainage system. The usage of machinery is thus to be subordinated to its respectful implementation.

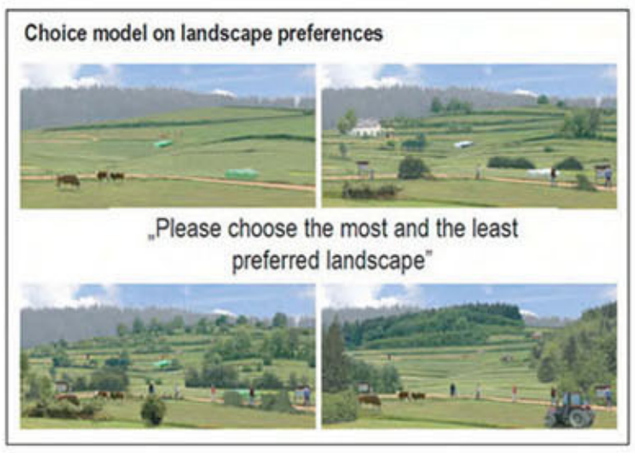
Maintaining cultivations is important also for preventing the progressive invasion of abandoned land by shrubs and trees through the process of spontaneous afforestation. Keeping sustainable forms of farming is thus a means to protect the high biodiversity of such semi-natural environments.

In order to be significant as well as successful, productive and tourist promotion has to come together with a process of reappropriation of traditional landscapes and strengthening the feeling of territorial identity by local communities. The pilot project carried out in the Bregaglia Valley (Switzerland) moves from this precise consideration. Here terraced chestnut woods have been always representing the main natural and cultural trait of the landscape.

Yet, peculiar landscape features such as the massive presence of terracements might be perceived as elements of territorial identity also by new dwellers from other regions or even countries. An example is given by North-African immigrants living in the Brenta River Valley, who seem to be interested in cultivating terraced fields which were abandoned by local residents (see picture below).

TOURISM PROMOTION

Terraced landscapes do not just represent an outstanding natural and cultural heritage, but they also hold a noticeable aesthetic value. Their tourist appeal and potentialities are thus still to be largely explored and exploited.
To this end, it is necessary to work both on tourist demand and supply. As regards the former one, the BOKU University of Vienna carried out an interesting survey among potential visitors to their terraced pilot area (see image on the right). Interviewed people were asked which image they preferred, among several different scenarios: the results suggest that "the more terraced, the more preferred", which means that terracements seem to be appreciated elements of the landscape.
Supply is also to be strenghtened, by offering a number of facilities and services. Co-operatives and eco-museums, such as the 'Cortemilia's Eco-museum on vineyards and terracements' (Piedmont), for istance, provide a wide range of educational activities, especially addressed to pupils and students (see pictures on the right).



TO KNOW MORE...

www.alpter.net

...for up-to-date studies, good practices and the 'Network for terraced landscapes', counting more than 60 members from all over Europe.

Regione Veneto
Urban Planning Dept.
Phone: +39 041 279 2070
E-mail: info@alpter.net

Project Management:
Franco Alberti
Luca Lodatti
Laura Fagarazzi

Authors

Laura Fagarazzi, Luca Lodatti
Veneto Region, Urban Planning Dept.

Mauro Varotto
University of Padua

Credits

A. Arnberger, C. Brandenburg
BOKU University of Vienna

L. Azman, A. Fiktak
University of Ljubljana

L. Garbellini
IREALP - Alpine research Institute

G.Brancucci, G.Paliaga, F. Nervi
University of Genoa - POLIS Dept

A. Rollando
GAL Appennino Genovese

G. Gaggero, O. Gattulli
Region of Liguria

J.-M. Castex, A. Dagorne
A.D.I.

S. Werder, M. Michael
Region of Bregaglia

M. Freppaz
University of Turin

F. Molino
Region of Valle d'Aosta