



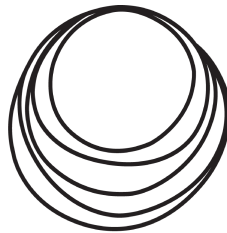
REGIONE DEL VENETO



**TERRACED
LANDSCAPES
CHOOSING
THE FUTURE**

ITALY OCTOBER 2016

EXHIBITION CATALOGUE
A WORLD OF TERRACED LANDSCAPES



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ITALY OCTOBER 2016

EXIBITION
A WORLD OF TERRACED LANDSCAPES

edited by
Franco Alberti and Fabio Mattiuzzo

Introduction

Terraced landscapes are the product of a material culture and are found, with different scenic and environmental characteristics, in various areas of our country, not to mention in other European Alpine regions, or further afield outside Europe.

The extraordinary landscapes of the Cinque Terre readily come to mind, as do the landscapes of the wine-producing areas of Valtellina, Valpolicella, Prosecco, and Friulano and Slovenian Collio, as well as the Amalfi Coast and the morphological terraces of Matera, which are symbolically akin to the terraces of Morocco, Spain, Yemen and to those beautiful terraces of Yunnan in southern China or Cuzco in Peru.

It is a human practice that is not only explained by the usual approaches of geographical or cultural determinism, but instead the main reasons are to be found in the relationship between the morphology of the places and need of the population to cultivate the land. We therefore discover extraordinary similarities in the building methods of these landscapes, which are situated enormous distances apart and were produced by radically different cultures during different historical periods.

The common factor that unites these landscapes is the fact that they belong to agricultural and ecological systems in hilly and mountainous areas, with specific environmental characteristics, as well as historical and cultural conditions, that make them unique. An adaptive aspect that is the product of hard work and creativity performed over centuries by the local people, whose scenic value is put at risk due to the abandonment of crops and the consequent problems of instability of the slopes, until the asset itself is lost.

The protection and enhancement of this heritage, which is the result of ingenuity and inherited culture, is essential. For this reason a structured and broad reflection on the theme of the "terraced landscape" is needed, with an awareness that - regardless of the landscape aspects - this is an environmental system useful in safeguarding the hydrogeological and geological integrity of the land, a common system shared by

different territories, intimately connected by the values of the people who see in it the very essence of their cultural identity.

These considerations on the theme first began, therefore, on a European level, analysing the different experiences in the Italian regions (Veneto, Liguria, Lombardy) and comparing them with those of the regions of France, Austria and Slovenia, before continuing worldwide (China, Asia, Peru, etc.). What emerged was not only the sheer size of this heritage, but also the structural weaknesses and difficulties in preserving it, so much so that it requires recovery of the technical knowledge that was feared lost, along with territorial activities to encourage the reconstruction of the terraces.

The experience recounted in this exhibition is that of a shared experience, combining European culture with that of the Americas and Asia, united by the common aim of making this important heritage of knowledge, culture and landscape available for future generations.

Franco Alberti

A World of Terraced Landscape

The 3rd World Meeting on Terraced Landscapes, which will take place in Italy after the Chinese edition (Mengzi 2010) and the Peruvian edition (Cusco 2014), is going to be a unique opportunity to actively take part in the generation of ideas and scenarios for the future of terraced landscapes in Europe and in the whole world.

The Veneto Region - in collaboration with the Italian section of the World Alliance Terraced Landscapes - within the context of the event will promote a public exhibition of the pictures collected with the inputs of all event participants.

34 proposals for exhibition panels were received from different places of the world, many of them from Italy, especially from Veneto.

The exhibition will take place in the Cloister of Tolentini - University IUAV of Venice on 6-7 October 2016, and in the Botanical Garden - University of Padua on 13-15 October 2016.

The aim is to compare and enhance cultural diversities, local identities and agricultural products, accounting for the variety and beauty of terraced landscapes that local cultures have been able to produce in different times and in different countries.

Fabio Mattiuzzo



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Venice - Padua Exhibition

A World of Terraced Landscapes



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Photo: Franco Alberti (1, 11) Mauro Varotto (2) Fabio Mattiuzzo (3, 4, 5, 6, 7, 8, 9, 10) Arcangelo Piai (12) | edited by Veneto Region



5 - Terraced landscape in Valpolicella

6 - University IUAV of Venice - Tolentini Site

7 - Venice

8 - University of Padua - Botanical Garden

9 - Padua

10 - Prosecco Hills

Photo captions and credits

- 1 - Mengzi 2010 (China)
- 2 - Cusco 2014 (Perù)
- 3 - meeting organization to Piazzola sul Brenta - June 2015
- 4 - meeting organization to Venice - January 2016
- 5 - marogne in Valpolicella
- 6 - University IUAV of Venice - Tolentini Site
- 7 - Venice
- 8 - University of Padua - Botanical Garden
- 9 - Padua
- 10 - Prosecco hills
- 11 - vineyards in Collagù

Photo: Franco Alberti (1, 11) Mauro Varotto (2) Fabio Mattiuzzo (3, 4, 5, 6, 7, 8, 9, 10)
Arcangelo Piai (12) | edited by Veneto Region



The panels in the exhibition

1 | Japan | Shikoku Region

Akehama (province of Ehime)

The pioneer of sustainable agriculture and high valued products

2 | Japan | Kyusyu Region

Tsujun Irrigation Canal and Shiraito Plateau (province of Kumamoto)

The new challenge to continue cultivation keeping the landscape value

3 | China | Central area

Fujian, Gansu, Yunnan, Chongqing, Guangxi

A long history in soil and stone

4 | Perú | Apurimac Region

Chicha Soras Valley

The terraces of the Chicha Soras Valley

5 | Perú | Lima Region

Laraos

The terraces of the Laraos Valley

6 | Yemen | Highland Region

Large terraces in the land of the Arab Phoenix

Agricultural system Sabeen and Nabataean

7 | España | Canarias

La Gomera Island

Heritage and historic rural landscape

8 | España | Canarias

Canary Islands

Heritage and historic rural landscape

9 | Morocco | Northern Moroccan region

Moroccan Rif mountains

Terraced landscape in Northern Moroccan areas

10 | Croatia | Kvarner

Cres town natural amphitheatre

Centuries-old olive groves are full of life

11 | France | South East region

Mediterranean coast

A Terraced Country

12 | Slovenia | Mediterranean landscapes

Slovene Littoral

Griska brda; Vipavska dolina; Kras; Brkini and dolina Reke; Podgrajsko podoljje; Kopraska Brda

13 | Slovenia | Pannonian landscapes

Slovenia Hills (Slovenske gorice)

Jeruzalem

14 | Slovenia | Coastal Landscapes of Istria

Terraced Landscapes facing the Adriatic Coast

Enjoy the scenery with a pinch of salt

15 | Italy | Calabria

The sibaritide

Beside the sea: the terraces of Albidona, Cielo Greco and Broglio

16 | Italy | Calabria

Costa Viola

Between Palmi and Villa San Giovanni: the Strait coastal landscape

17 | Italy | Puglia

Monte Sant'Angelo

The system of terraces and dry-stone walls of Montagna del Sole

18 | Italy | Campania

Isola di Ischia

The biodiversity terraces

19 | Italy | Campania

Costiera Amalfitana

Heritage and historic rural landscape

20 | Italy | Toscana

Mount Spazzavento

Perserving beauty

21 | Italy | Liguria

Tigullio

An unsteady balance: terraces and hydrogeological risk

22 | Italy | Liguria

Cinque terre

A rough coast, villages, wine and terraces

23 | Italy | Piemonte

High Bormida and Uzzone valleys

Polyculture's landscapes

24 | Italy | Trentino –Alto Adige

Trentino

A mosaic of terraced landscapes

25 | Italy | Friuli Venezia Giulia

Borgo Monte – Artegna

"La mont risultive par l'avigni"

26 | Italy | Friuli Venezia Giulia

Trieste coastline

Ecology & Biodiversity

27 | Italy | Lombardia

Terraced Landscapes on the Alps, Alpine foothills and Lake district

Terraced landscapes protection in Lombardy Region planning

28 | Italy | Lombardia

Valtellina (province of Sondrio)

The cultural landscape of terraces as a driver for the development of an alpine valley

29 | Italy | Veneto

Monte Ortone e I Colli Euganei

Terraces and border walls

30 | Italy | Veneto

Torri di Arcugnano

The retaining wall and the Tower

31 | Italy | Veneto

Posina Valley, Laghi Valley, Tovo Valley

Widespread terracing: a hidden pattern

32 | Italy | Veneto

Canale di Brenta

Social and Agricultural Innovation

33 | Italy | Veneto

Canale di Brenta

300 km of dry-stone walls

34 | Italy | Veneto

The Feltre territory

The terraced mountains

1 | The pioneer of sustainable agriculture and high valued products

Akehama is situated in geologic Kurosegawa Zone, Japanese Geopark. Terraced patches like an arena theatre surrounded small fishing village faced the sea. The geology is limestone; it is differing from bound zone. So the field has good drainage, and it is said that there are 3 suns; the first is direct light, the second is the reflection from the sea and the third is the reflection from terraces dry stone wall of white limestone. Akehama is very favourable for cultivation of citrus.

In this area people lived self-sufficiency with fishing and agriculture in former times. But in 60' people started cultivating mandarin orange for sale. And in 1974, some citizen started a challenge to a cultivation of bio citrus; it can say that the action in advance of the time. At the same time, they established a group "Muchachaen". Next year they studied under Mr. Masanobu Fukuoka who is famous as the pioneer of bio all over the world.

Now, "Muchachaen" became a limited liability company, and employs many young people in marginal and inconvenience area by the grace of high value citrus and processed goods and food. They sell products directly by mail order and in metropolitan exclusive stores. The field of Muchachaen is over 110ha; it is about 70 percent farms of this area. And they have original training program for the candidate who wants start sustainable sitriculture.



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Japan | Shikoku Region

Akehama (province of Ehime)

The pioneer of sustainable agriculture and high valued products



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Photo: yousakana.jp (1-7)



1 - orange and sea



2 - undergrowth is rape blossom



3 - dry stone wall of white limestone



4 - many layers of fields are heated up



5 - farmer carry oranges. There is also farming



6 - succeeded cultivation

Photo captions and credits

- 1 - orange and sole
- 2 - undergrowth is rape blossom
- 3 - dry stone wall of white limestone
- 4 - many layers of fields are healed up
- 5 - farmer carry oranges. There is also farming
- 6 - succeeded citriculture
- 7 - terraced fields faced the sea

Photo: yousakana.jp (1-7).



2 | The new challenge to continue cultivation keeping the landscape value

Shiraito plateau is situated in Yamato town of Kumamoto pref. The terraced landscape of rice is reserved as a heritage; National Important Cultural Landscape. Terraced landscape of Shiraito is unable to be tolled without Tsujun irrigation canal. For cultivate rice water is necessary, but there was severely scarce of water. Rice is staple food for Japanese, and moreover, in the old days, rice was used as tax. In 1854, Mr. Yasunosuke Futa, the head of this area, constructed an aqueduct bridge and irrigation canals. All of the expenditure was borne by citizens. We can imagine the intensity of their desire for water. By his exploit, people came to be able to cultivate rice, about 73.8ha of rice terraces were newly reclaimed. Citizens now also hang the wall with his portrait in each house. The aqueduct bridge, Tsujun bridge, was made from stone, and two canals inside. It leads water from the hill of the another side to the Shiraito plateau by the siphonage system, and to avoid mud choke the canals, the bridge connotes cleaning system; farmers used to periodically flush the water from the top of arch from the holes beforehand made at the both side of the bridge. In recent years, the scene which the water flies in an arch became famous, it was used for tourism. But sadly, because of the earthquake in April 2016, the flashing is stopped at present. Shiraito plateau has problem of depopulation and aging society as other country towns have. The pathways along the canals were very narrow, so senior farmers had to scoop up the mud by hands. After Shiraito plateau was selected as national heritage, Yamato town broadened pathways for small cars and small backhoes by the sustainable way. It was the challenge for balance to continue the cultivation and to keep the value of landscape.



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Japan | Kyusyu Region

Tsujun Irrigation Canal and Shiraito Plateau (province of Kumamoto)

The new challenge to continue cultivation keeping the landscape value



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Photo: Naoto Tanaka (1-8, 10, 11) Junko Sanada (9, 12)



5 - Ripened rice is gold, Japanese autumnal scene

7 - Tsujun Irrigation Bridge and rice terraces. Rice is being aired on the fields

10 - before repaired bank is narrow

11 - after repaired 2.5m width pathway is constructing

Photo captions and credits

1/2/3 - terraced landscape

4 - rice is being aired on the fields, hanged on the frame

5 - ripened rice is gold; Japanese autumnal scene

6 - terraced landscape

7 - Tsujun Irrigational Bridge and rice terraces. Rice is being aired on the fields

8 - Flushing Tsujun Irrigational Bridge

9 - farmer is unstopping

10 - before repaired; bank is narrow

11 - after repaired; 2.5m width pathway is constructing

12 - the broadened pathway for small cars; paved only for rut

Photo: Naoto Tanaka (1 - 8, 10, 11) Junko Sanada (9, 12)



3 | A long history written in soil and stone

China is a mountainous country. For thousands of years, the Chinese ancestors have created diverse terraces in different site conditions around the whole nation, including the mainland and Taiwan Island. Terraces have been found in more than 25 provinces, with distinct construction materials, purpose and land use. In northern China (e.g. the Loess Plateau), terraces were created in different forms like bench terraces, half-moon terraces, level ditches. They are mostly rainfed agriculture and dryland afforestation/reforestation terraces due to severe draught and unavailable groundwater. Soil was the major material for terrace construction in such regions, without terrace walls. In southern China, such as Guizhou, Yunan, Hunan, Guangxi and Sichuan, however, most terraces were built with stone, brick or concrete walls. Many terraced landscapes in China have very long history, and some of them have been listed as World Heritage sites. Through terrace construction, multiple benefits to the human and nature have been achieved, including soil and water conservation, cultural development, carbon sequestration for fighting climatic change and grain production for poverty elimination.



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China | Central area

Fujian, Gansu, Yunnan, Chongqing, Guangxi

A long history written in soil and stone



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Photo: Wei Wei (1, 5, 6, 2, 7, 8, 10) Yuanmei Jiao (3, 4, 9) Lixin Wang (11)



1 - agricultural terraces in Dingxi, Gansu province of the Loess Plateau



2 - dryland slope terrace in Chongqing



3 - Liaohua terrace in Yuanyang, Yunnan



4 - Bada terrace in Yuanyang, Yunnan



5 - a farmer working in the Liaohua terrace in Fujian



6 - Liaohua terrace in Fujian



7 - Liaohua terrace in Fujian



8 - Liaohua terrace in Fujian



9 - Longji terrace in Guangxi



10 - terrace in the Loess Plateau of China

Photo captions and credits

- 1 - agricultural terraces in Dingxi, Gansu province of the Loess Plateau
- 2 - dryland slope terrace in Chongqing
- 3 - Laohuzui terrace in Yuanyang, Yunnan
- 4 - Bada terrace in Yuanyang, Yunnan
- 5 - a farmer working in the Lianhe terrace in Fujian
- 6/7/8 - Lianhe terrace in Fujian
- 9 - Longji terrace in Guangxi
- 10 - terrace in the Loess Plateau of China
- 11 - rice terrace in Guangxi

Photo: Wei Wei (1, 5, 6, 2, 7, 8, 10) Yuanmei Jiao (3, 4, 9) Lixin Wang (11)



4 | The terraces of the Chicha Soras Valley

The Chicha-Soras valley is one of the broad valleys of Apurimac, located in the southwestern part of the province of Andahuaylas. It is crossed by the Chicha and Soras rivers. The valley is located in a range of 3000-3700 m; its topography is diverse including a wide range of ecological zones, micro-climates, natural and mineral resources. Pampachiri plays an important role in the valley, the market is relatively vital, provides basic services to the residents, benefiting from the provincial transport.

The Wari people conquered the lands of today's Apurimac between 500 and 1000 AD. The Wari architecture reveals the presence of a territorial domain policy, expressed by the recurrence of building models in the occupied areas, the creation of a road network and the construction of new cities. The Chancas dominated the region in the 13th century and its economy was largely based on agriculture, on a territory which used the different ecological zones and terraces already built by Wari.

A part of both sides of the Chicha Soras valley are today used for agricultural purposes, however a high percentage of the terraced fields display a high degree of deterioration. The result is the marginalization of the valley and disintegration of traditional local institutions. However, Pomacocha community used as an "integral garden" in twenty new terraces where vegetables, ornamental and aromatic plants are grown benefiting the whole community.



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Perù | Apurimac Region

Chicha Soras Valley

The terraces of the Chicha Soras Valley



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Photo: Lianet Camara (1-10)



1 - detail of a diversion canal rebuilt by the community of Pampachiri



2 - deterioration of a terraced slope from abandonment



3 - vegetable garden annexed to a greenhouse built ex novo



4 - group of terraced rebuilt during a training course for workers



5 - view of a side of the valley from the area of San Pedro de Lercay near the thermal area



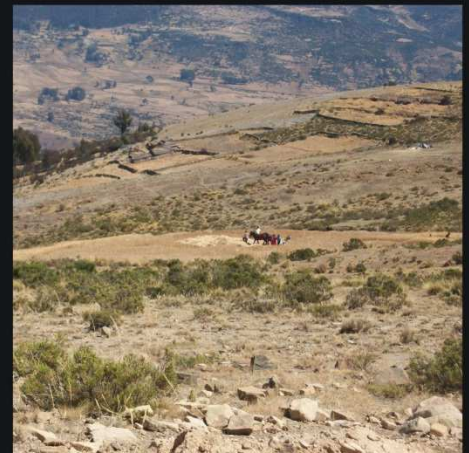
6 - detail of a wall rebuilt by the community of Soras



7 - packaging of quinoa flour produced from the Pomacocho



8 - some of the varieties of corn produced in the Pomacocho



9 - view valley from the community of Soras, one family that accumulates harvests in several parts of the slope

Photo captions and credits

- 1 - detail of a diversion canal rebuilt by the community of Pampachiri
- 2 - deterioration of a terraced slope from abandonment and over-grazing by livestock
- 3 - vegetable Garden annexed to a greenhouse built ex novo by the community of Pomacocha
- 4 - group of terraced rebuilt during a training course for workers
- 5 - view of a side of the valley from the area of San Pedro de Larcay near the thermals area
- 6 - detail of a wall rebuilt by the community of Soras
- 7 - packaging of quinoa flour produced from the Pomacocha community
- 8 - some of the varieties of corn produced in the Pomacocha community
- 9 - view Valley from the community of Soras, one family that accumulates harvests in several plots of the slope
- 10 - view on both sides of a portion of Chicha Soras valley

Photo: Lianet Camara (1-10)



5 | The terraces of the Laraos Valley

Laraos is located in the valley of the same name of the river, a small tributary of the Cañete river. It is a V-shaped valley where the mountain slopes are very marked and oscillate between 20 and 45 degrees. The topography has an impact on agriculture practice depending on rainfall, triggering low levels of productivity. Laraos is located 369 km from Lima and it is part of the Nor Yauyos Cochas Reserve. Laraos is divided into four cuarteles ("neighborhoods") a customary organizational practice.

Laraos is one of the oldest villages of Yauyos, its history dates back to pre-Incan times. The Yauyos occupied the western Andes area and converted the slopes in large terraced systems with impressive hydraulic systems, rivers and lakes were built all around, with ditches, irrigation canals, underground aqueducts, dams of natural lagoons which allowed the production of crops and livestock. In the last years the migration of rural population caused the abandonment of the rainfed cultivation areas.

The main economic activity is agriculture, the main source of employment and livelihood. Farmers use the traditional irrigation for the Maizal, white corn Urubamba type is grown, other varieties grown in the intermediate areas of the valley with rainwater irrigation. In Laraos, alternate crops split the ground in rows, oriented in both a horizontal and a vertical direction, called tauma, this method of soil preparation exploits the growing association of different species and to prevent ponding.



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Perù | Lima Region

Laraos

The terraces of the Laraos Valley



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Photo: Lianet Camara (1-9)



1 - view across the valley of Laraos without cultivation



2 - slope of degraded and abandoned terraces - Cochupampa



3 - a Laraos road, paved in stone with central water channel



4 - view of Laraos community in the upper part of the valley



5 - view of one of the slopes of the Laraos terraces, the Maizal



6 - cloack of a Laraos woman



7 - variety of beans produced by a farmer and looks Laraos park



8 - preparation of horizontal and vertical rows in Laraos terraces

Photo captions and credits

- 1 - view across the valley of Laraos without cultivation, the land is fallow during the dry season
- 2 - slope of degraded and abandoned terraces, below the base of the Cochapampa lagoon dried in the dry season
- 3 - a Laraos road, paved in stone with central water channel
- 4 - view of Laraos community in the upper part of the valley
- 5 - view of one of the slopes of the Laraos terraces, the Maizal area
- 6 - cloak of a Laraos woman, with a characteristic black background and geometric designs
- 7 - variety of beans produced by a farmer and looks Laraos park
- 8 - preparation of horizontal and vertical rows in Laraos terraces
- 9 - traditional irrigation canal used since ancient times

Photo: Lianet Camara (1-9)



6 | Agricultural system Sabean and Nabataean

Yemeni highlands are carved from stone terraces cultivated extensions.

This technique is very old, is widespread in the area and is the basis of the organization of all Yemen landscape.

The structures formed by stone walls and areas used for water collection are still called with the original terms:

MARBID is a low wall of dry stone where the moisture production is collected on the flat surface surrounding

MANHAL is the arrangement of flat stones along the edges of a pad

HARRAH is the word commonly used to describe the low walls and stone embankments in the fields

MASRAF is the dam built across the river to raise the water level (for agriculture)

IGLAMAH is a device which conveys the water to the fields through a hole

The complex system made up of citadels, watchtowers and "samsara" that winds through the mountain ranges and valleys, is organized to control and protect the trade routes but, works as a meteorological observatory.

Currently many cultures have been replaced by plantations of "qat".

This native plant is used as a soft drug chewing the more tender leaves.



Yemen | Highland Region

Large terraces in the land of the Arab Phoenix

Agricultural system Sabean and Nabataean



Yemeni highlands are carved from stone terraces cultivated extensions. This technique is very old, is widespread in the area and is the basis of the organization of all Yemen landscape.

The structures formed by stone walls and areas used for water collection are still calls with the original terms:

MARBID is a low wall of dry stone where the moisture production is collected on the flat surface surrounding

MANHAL is the arrangement of flat stones along the edges of a pad

HARRAH is the word commonly used to describe the low walls and stone embankments in the fields

MASRAF is the dam built across the river to raise the water level (for agriculture)

IGLAMAH is a device which conveys the water to the fields through a hole. The complex system made up of citadels, watchtowers and "samsara" that winds through the mountain ranges and valleys, is organized to control and protect the trade routes but, works as a meteorological observatory.

Currently many cultures have been replaced by plantations of "gat". This native plant is used as a soft drug chewing the more tender leaves.

Photo: Natalia Tarabella - PANGEA (1-15)



1 - North Yemen - The rocky natural amphitheater



2 - Large systems of organization of the valleys



3 - At the bottom of the "marbid" (the stone walls of the terraces)



4 - Large systems of organization of the valleys



5 - North Yemen - Wadi Gazwan - The high walls of the canyon and the wadi bed are a protection for the terrace cultivation



7 - The lower city of Thula with the terraces



8 - North Yemen - Wadi Gazwan - The slight slope of the wadi



11 - North Yemen - The fertile terraces in the province of Mahwit



12 - Thula - Under the acropolis of Thula



6 - North Yemen - The craggy highlands protect the fields and terraces planted



9 - The distribution of water in the fields by means of a device which conveys the water through a hole called "iglamah"



10 - The distribution of water in the fields by means of a device which conveys the water through a hole called "iglamah"



13 - Thula - An overhead view of cultivated terraces



14 - North Yemen - The terracing system

Photo captions and credits

- 1 - North Yemen – the rocky natural amphitheater welcomes green terraces planted
- 2/4 - large systems of organization of the valleys by means of water devices. Along the natural water course, dams called "masraf" intercept the flow of water running to the steep slope and divert them through the cultivated terraces located on both sides
- 3 - at the bottom of the "marbid" the stone walls of the terraces sloping organize and collect moisture
- 5 - North Yemen – Wadi Gazwa – the high walls of the canyon and the wadi bed are a protection for the terrace cultivation.
- 6 - North Yemen – the craggy highlands protect the fields and terraces planted
- 7 - the lower city of Thula with the terraces as the eye surrounding the city
- 8 - North Yemen – Wadi Gazwa – the slight slope of the wadi can be cultivated in the riverbed with the system in terraces. In addition to groundwater and flood, the dry stone walls (marbid) collect the moisture produced on the surface of the terraces
- 9/10 - the distribution of water in the fields by means of a device which conveys the water through a hole called "iglamah".
- 11 - North Yemen – the fertile terraces in the province of Mahwit
- 12 - Thula – under the acropolis of Thula the landscape is marked by terraces planted alternating with fences of raw land and cisterns to collect rainwater that is also used for crops
- 13/15 Thula – an overhead view of cultivated terraces
- 14 - North Yemen - the terracing system for the protection and cultivation of the slope. The water inlets divert flows from their natural course and head along the walls to the terraces them. Towers and stone buildings are laid out in defense of crops.

Photo: Natalia Tarabella | PANGEA - Ancient Techniques Research Center



7 | Heritage and historic rural landscape

La Gomera is a high and small island (370 km², 1.487 m., Altos de Garajonay) very dismantled by erosion. It has a central plateau with a radial network of very deep ravines. The rugged island terrain has hindered the interior communications (basin-islands) and conditioned the use of resources (water, soil, wood) and therefore also the spatial distribution of the population. The island has undergone an intense process of depopulation (emigration). The dominant economic sector is the tertiary (public employees, construction and tourism).

Land terracing began in the sixteenth century and their surface multiplied during periods of economic boom. We may highlight the period during the late nineteenth century (introduction of tomato and banana crops for exportation) and also the Spanish civil postwar period, when the current image of a deeply terraced island was made, hallmark of the island agricultural landscape. It has been an arduous task performed by several generations, who plowed marginal lands or colonized fertile soil and raised walls with abundant stones from the surroundings.

Terraced landscape presents remarkable contrasts according to: exposure to humid winds, landform, type of stone and the system and type of crop. That huge heritage is undergoing from deagrarianization initiated in the late twentieth century. Various public and private institutions have restored walls and cleaned of brushwood to make antierosion and firefighting barriers. These institutions have also experienced new management, compensation and promotion models of sustainable practices and generated synergies with other economic sectors, especially with sustainable tourism.



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España | Canarias

La Gomera Island

Heritage and historic rural landscape

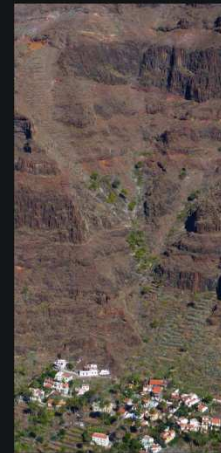


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Photo: J.C. Hernández Marrero (1, 2, 4, 7) J.M. Trujillo Mora (3, 5) M.C. Iglesias López (6)



1 - El Guro



2 - Enjal



3 - Roque Babazor



4 - Valle de Hermigua



5 - La Dama



6 - Desembocadura Hermigua

Photo captions and credits

1 - El Guro.

2 - Erque

3 - Roque Baltazar

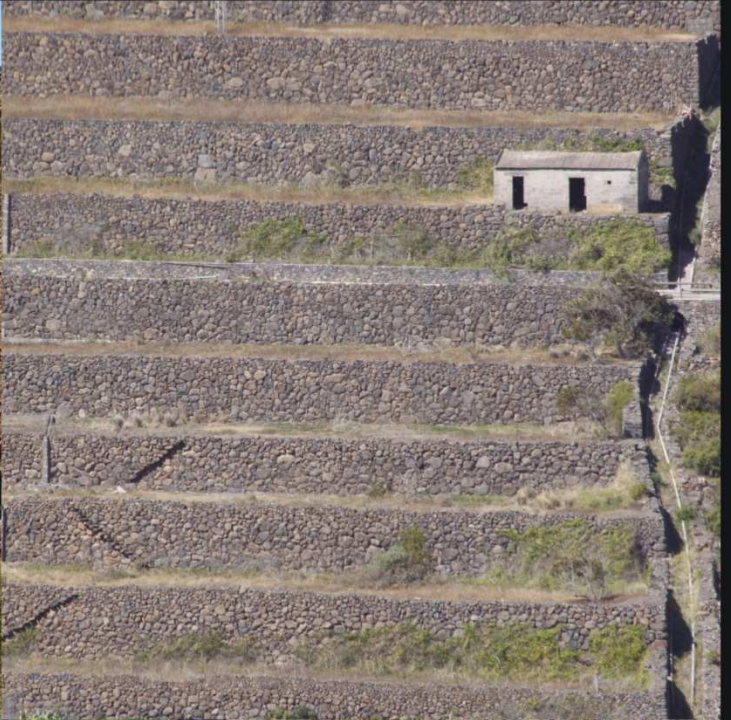
4 - Valle de Hermigua

5 - La Dehesa

6 - Desembocadura Hermigua

7 - Chipude | Lepe | Lajapule | Erque

Photo: J.C. Hernández Marrero (1, 2, 4, 7) J.M. Trujillo Mora (3, 5) M.C. Iglesias López (6)



8 | Heritage and historic rural landscape

The Canary Islands are located in the Atlantic Ocean near the African coast. They are 7 volcanic islands with a total land area of 7,447 km² and very variable topographical, lithological and weather features. The easternmost islands have plain reliefs and low rainfall (Lanzarote and Fuerteventura) while the remaining islands (Gran Canaria, Tenerife, La Gomera, La Palma and El Hierro) are characterized by their mountainous character and moderate rainfall. They support an important demographic pressure and their economy is based on tourism since the mid-twentieth century.

The aboriginals in Canary Islands knew the techniques of dry stone masonry and agriculture, but they did not terrace the lands. European settlers made the first terracing in the sixteenth century for the cultivation of sugar cane. During the seventeenth and eighteenth centuries terraces extended to mid-height lands. During the second half of the nineteenth and early twentieth centuries, the terracing of the hillsides reached to its maximum extension due to the population explosion and the introduction of banana as a new export crop.

The variety of stones, masonry techniques and crops have generated a great diversity of terraced landscapes in the Canaries. The development of "sun and beach" tourism (second half of the twentieth century) has led to the degradation of the spaces occupied by terraces. These cultural landscapes with high heritage value need to be rescued from oblivion and also be revalued. Diversification of tourism, food sovereignty and soil conservation, that is to say, sustainable development of the Canary Islands, require an active conservation of these landscapes.



España | Canarias

Canary Islands

Heritage and historic rural landscape



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Photo: Lidia Romero (1, 2, 3, 4, 7, 9) Alejandro González (8) Antonio Marquez (5, 6) Claudio Moreno (10)



1 - wall detail - Güinguisa, Gran Canaria



2 - wall detail - Güinguisa, Gran Canaria



3 - wall detail - Güinguisa, Gran Canaria



4 - wall detail - Güinguisa, Gran Canaria



5 - terraced Landscape in Viñador, Tenerife



7 - terraced Landscape in Güinguisa, Gran Canaria



9 - terraced Landscape in Ternes, Gran Canaria



6 - Pajayero, La Gomera



8 - terraced Landscape in Lanzarote

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Photo captions and credits

1 - 4 - wall detail - Guinguada, Gran Canaria

5 - terraced landscape in Vilaflor, Tenerife

6 - Papayero, La Gomera

7 - terraced landscape in Guinguada, Gran Canaria

8 - terraced landscape in Lanzarote

9 - terraced landscape in Temisas, Gran Canaria

10 - terraces landscapes in Hermigua, La Gomera

Photo: Lidia Romero (1, 2, 3, 4, 7, 9) Alejandro González (8) Antonio Marquez (5, 6)
Claudio Moreno (10)



9 | Terraced landscape in Northern Moroccan areas

The Northern Morocco is relying on primary production subsistence farming is the main type of agriculture. Deforestation and overgrazing destroyed largely the natural land cover and resulted in degraded land systems or even desertification. More traditional (less intense) agricultural practices are more and more lost and a spatial harmonization of agricultural land uses is missing, so that huge water erosion and soil degradation problems occur and threaten food and water security as well as all regulating ecosystem services. Some operations such terraced landscape that comprise adapted land and soil management and spatial optimization to create pattern with high regulative capacities in terms of soil and matter cycles had established, but are not well represented in current policy making, spatial planning hierarchies and instruments or public funding instruments. Drug (cannabis) cultivation is largely practiced as its economic return is high and from viewpoint of land use intensity it might even have some positive aspects as cultivation is mostly practiced in small parcels or mixed cropping systems. On the other hand, it made the region becoming an international hotspot for illegal drug trade. National and international policies are of course condemning this type of culture and its consequences for societies, and economic incentives, development aid or policy instruments are particularly focusing on how to delete drug cultivation without providing economically and ecologically sound alternatives for regional agriculture. Sustainable regional dialogues and consistent co-development of locally applicable land management and use alternatives including income generation for current and future generations are therefore required.



Morocco | Northern Moroccan region

Moroccan Rif mountains

Terraced landscape in Northern Moroccan areas



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1 - Terraced landscape used as a management process for cutting fields highly fragmented in the northern of Morocco

Photo: Mohammed El-Fengour (1-7)



2 - Terraced landscape for the development of roads



3 - Terraced landscape against erosion process



4 - Terraced landscape established during 1984-89 to stabilize slopes and maintain the ecological balance in northern Moroccan mountain areas



5 - Terraced landscape for planting fruit trees and olives against the instabilities of land in Pierf area in northern Morocco



6 - Terraced landscape for the agriculture of cannabis drugs/60 in northern Moroccan Mountains and to facilitate the irrigation

Photo captions and credits

- 1 – terraced landscape used as a management process for Cutting fields highly fragmented in the northern of Morocco (Case of the low mountains of Ghafsai area)
- 2 – terraced landscape for the development of roads in fragile landscape in northern Morocco (Case of national road N8 between Fez and Taounate)
- 3 - terraced landscape against erosion process on the marl formations slope in northern Morocco by reducing the steep slopes with very friable materials
- 4 - terraced landscape established during 1984-1989 to stabilize slopes and maintain the ecological balance in northern Morocco mountain areas
- 5 - terraced landscape for planting fruit trees and olives against the instabilities of land in Prerif area in northern Morocco (case of Aïn Aïcha slopes zone)
- 6 - terraced landscape for the agriculture of Cannabis (drugs/kif) in northern Morocco Mountains and to facilitate the irrigation by making limits between parcels
- 7 - terraced landscape used for Cannabis agriculture (Drugs) in the north of Morocco

Photo: Mohammed EL-Fengour (1-7)



10 | Centuries-old olive groves are full of life

The island of Cres, located in the north of the Adriatic Sea, is characterised by typical karst topography and covered by a dense net of dry stone wall structures. The most complex and interesting of them are the terraces lying on the slopes around the town of Cres, reaching out all the way to the sea, as if they have always been a part of the landscape's natural appearance.

Even though the first terraces had been built in the Middle Ages, more intensive construction began in the 16th century, when the town of Cres became the administrative centre of the island and the number of inhabitants started to grow. The lack of arable land forced the inhabitants to create new fields for planting vines, which were later replaced by olive trees. Today the stone wall terraces represent one of the most prominent element of the rural anthropogenic heritage on the island, in both pragmatic and aesthetical way, and show the centuries-long work done by the islanders during their battle for survival.

Although it is evident that part of traditional island agriculture is gradually vanishing, those old terraces are still home of active agriculture and they continue to silently teach us the unwritten history, meanings and ties that the local community has had with the surrounding land. Even today, in the midst of the socio-economic changes, most of the island's families continue the tradition inherited from their ancestors to cultivate the olives in such difficult conditions. In the end, they obtain a high-quality oil that is marketed under the protected designation of origin "Extra virgin olive oil Cres".



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Croatia | Kvarner

Cres town natural amphitheatre

Centuries-old olive groves are full of life



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Photo: Robi Sablić (1, 2, 6) Paolo Dunković (3) Ugo Toić (4, 7) Nadir Mavrović (6) Goran Andlar (8)



1 - terraces supported by dry stone walls



2 - terraced olive orchards in Cres bay



3 - higher terraces are connected by stone stairs



4 - detail of a dry stone wall



5 - terraced olive orchards in Volun bay - aerial view



6 - steps of stacked rocks dividing vertically the dry stone



7 - dry stone walls built on the rocky shore

Photo captions and credits

- 1 - terraces supported by dry stone walls
- 2 - terraced olive orchards in Cres bay
- 3 - higher terraces are connected by stone stairs
- 4 - detail of a dry stone wall
- 5 - terraced olive orchards in Valun bay – areal view
- 6 - strips of stacked rocks dividing vertically the dry stone terraces
- 7 - dry stone walls built on the rocky shore
- 8 - terraced olive orchards in Valun bay – areal view

Photo: Robi Sablić (1, 2, 6) Paolo Dunković (3) Ugo Toić (4, 7) Nadir Mavrović (5) Goran Andlar (8)



8 - Terraced olive orchards in Valun Bay - aerial view

11 | A Terraced Country

Terraced landscapes in France occupy a large geographical area which extends far beyond its Mediterranean coast. The most landscaped slopes are essentially located to the east of a line that divides France between Strasbourg, on the Rhine, and Biarritz, to the west of the Pyrenees.

The most famous terraces are located in the Rhone Valley, in Provence and in the Maritime Alps.

However, French geography of landscaped slopes extends over the main mountain ranges. They are found in Corsica, in Balagne. In the Pyrenees, it is on the eastern part, around Collioure and Banyuls (famous for its wines), that the most beautiful terraces can be found. Further north, most of the Massif Central valleys were conquered. The most impressive slopes are located in the Cévennes and in Ardèche. But terraces constructions can also be found further north, from Cantal to Auvergne. In the Northern Alps, terraces are present on limited spaces like the vineyards of Cevin, near Albertville in Savoy. Rarer in the Vosges, they can be found on some steep slopes of the Alsatian vineyards such as in Guebwiller.

Farming terraces of France were mostly built by farmers who cultivated them. Two terraces types can be distinguished: terraces of need, the most numerous, and terraces of opportunity, located on very limited spaces. The first were primarily built to feed people, and received varied cultures associated with sheep and goat poly breeding. Unlike the terraces of need, the others have early specialized in monoculture: olive tree, flower crops, citrus fruits. But it is chiefly the vine that has settled on the best exposed slopes. As evidenced by the prestigious vineyards of the Eastern Pyrenees (wines of Banyuls) and of the Rhone valley (Cornas, Hermitage, Côte Rôtie).



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France | South East region

Mediterranean coast

A Terraced Country



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Photo: Catherine Blanc (2, 3, 5, 6, 8, 9, 10, 11, 12) Jean-François Blanc (4) Damien Malejacq (7)



1 - the terraces in France



2 - olive groves and vineyards - Occitanie (Ardèche)



3 - Cévennes terraces - Cévennes (Lozère)



4 - vineyard rehabilitation - Savoie (Guebwiller)



5 - olive groves on terraces in Forcalquier (Provence)



6 - Banyuls vineyard - Eastern Pyrenees



7 - Corsica - Balagne - San Pasquale - Habide distillation



8 - vineyards - Rhône (Hermitage (Gironde))



9 - Ardèche



10 - stone between the terraces - Lant d'Audoubert sur L'Église (Ardèche)



11 - Saint-Apollon de Fourchaillon (Savoie)

Photo captions and credits

- 1 - the terraces in France
- 2 - olive groves and vineyards - Rosières (Ardèche)
- 3 - calcareous terraces - Goult (Vaucluse)
- 4 - vineyard rehabilitated - Cevins (Savoie)
- 5 - olive groves on terraces in Forcalquier (Provence)
- 6 - Corse - Balagne - San Antonino - hillside abandoned
- 7 - Banyuls vineyard - Eastern Pyrenees
- 8 - vineyards - Tain-l'Hermitage (Drôme)
- 9 - Alsace
- 10 - stairs between the terraces - Les Ollieres sur Eyrieux (Ardèche)
- 11 - Saint-Andéol-de-Fourchades (Ardèche)
- 12 - vineyards A.O.C. brand - Saint Joseph St Désirat (Ardèche)

Photo: Catherine Blanc (2, 3, 5, 6, 8, 9, 10, 11, 12) Jean-François Blanc (4)
Damien Malejacq (7)



12 | Griska Brda; Vipavska dolina; Kras; Brkini and dolina Reke; Podgrajsko podolje; Kopska Brda

In the Mediterranean landscape, cultivated terraces have been a significant feature that has helped shape the appearance of the landscape for centuries. The Mediterranean terraced landscapes are very diverse. The terraces in this region are used for vineyards, orchards and pastures. Only near the sea early vegetable production is also important.

The terraced landscape in southern Goriška Brda is considered as one of the most beautiful cultural landscapes in Slovenia. Agricultural terraces covering about 29% of the overall area of the Municipality of Brda are the predominant landscape element. Farming, especially cultivation of vineyards and orchards, is still the most important activity in this region. The case of Brkini region is typical of an interlacing of Mediterranean and continental elements. During almost 200 years the terraces and their slopes have preserved the same forms.

Most of the terraces in Kopska Brda were built manually; they were set up, turned over, cultivated and maintained from generation to generation. Partly preserved on the southern slopes are even up to three metres high walls of terrace slopes, while a greater part of stone terrace slopes have collapsed.

On Mediterranean karst plateaus, the construction of terraces is made much more difficult due to the removal of extra rock and the use of rock to reinforce the terraces. Due to their rarity and general flatness, the karst terraces affect the appearance of the landscape to a lesser extent. In areas with the most suitable climate, modern viticultural terraces were constructed after mechanized farming was introduced. They are regularly renovated and rebuilt, and are thus in good shape compared to terraces in other areas.



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Slovenia | Mediterranean landscapes

Slovene Littoral

Griska Brda; Vipavska dolina; Kras; Brkini and dolina Reke; Podgrajsko podolje; Kopraska Brda



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1 - Terraces in Krvavce are south-oriented and north-oriented



2 - A greater part of terrace dry stone walls in Krvavce have collapsed

Photo: Matevž Lenarčič (1, 6, 8) Lučka Ažman Momirski (2, 3, 4, 5, 7)



3 - In areas with the most suitable climate modern viticultural terraces were constructed after mechanized farming was introduced



4 - In Vipava valley many old terraces are still visible



5 - In some areas it is hard to distinguish between dry stone walls, which divide the property, and slopes of the terraces



6 - Terraces are also found in the Karst regions



7 - Due to their rarity and general flatness, the karst terraces affect the appearance of the landscape to a lesser extent

Photo captions and credits

- 1 - terraces in Krkavče are south-oriented and north-oriented
- 2 - a greater part of terrace dry stone walls in Krkavče have collapsed
- 3 - In areas with the most suitable climate modern viticultural terraces were constructed after mechanized farming was introduced
- 4 - in Vipava valley many old terraces are still visible
- 5 - in some areas it is hard to distinguish between dry stone walls, which divide the property, and slopes of the terraces
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- 7 - due to their rarity and general flatness, the karst terraces affect the appearance of the landscape to a lesser extent
- 8 - aerial photo of Ostrožno Brdo with the most pronounced terraced area

Photo: Matevž Lenarčič (1, 6, 8) Lučka Ažman Momirski (2, 3, 4, 5, 7)



© - aerial photo of Opatowitz Brdo with the most pronounced terraced area

13 | Jeruzalem

The Pannonian hilly landscapes have exclusively been used for vineyards and fruit orchards since the very beginning. For viticulture in the Ljutomer–Ormož Hills (Ljutomersko-Ormoške gorice, the eastern part of the Slovenian Hills), favorable natural conditions are key factors. Superior varieties of grapes that are distinguished by wines with better flavor and a higher percentage of alcohol grow here.

Between the two world wars there was a major wine crisis. As a consequence, there was no systematic renewal of vineyards, which were devastated and exhausted as a result of artillery bombardment during the war as well as a result of labor shortages. By the end of the Second World War, the major part of the land was held by Austrian and German capital.

After the Second World War, the land was nationalized. Expropriated areas were taken over by state-owned companies, which were faced with the fact that 70% of the vineyards needed renovation. Thus, in 1957 the first terrace plantations appeared and the vineyard landscape began to change its character. Terrace plantations have enabled mechanized work, thus decreasing manual labor, reducing processing costs, allowing higher quality grapes, and reducing soil erosion and land movement to a minimum. Terrace renovation carried out in the national, public, or social sector encompassed 80 to 90% of all areas.

In the terraced Pannonian landscape, viticultural terraces are limited to low hills, where they were created in the 1960s in order to make mechanical cultivation possible. The beauty of the terraced landscape established Jeruzalem as a tourism destination and some areas were later protected as landscape parks.



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Slovenia | Pannonian landscapes

Slovenia Hills (Slovenske gorice)

Jeruzalem



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Between the two world wars there was a major wine crisis. As a consequence, there was no systematic renewal of vineyards, which were devastated and exhausted as a result of artillery bombardment during the war as well as a result of labor shortages. By the end of the Second World War, the major part of the land was held by Austrian and German capital. After the Second World War, the land was nationalized. Expropriated areas were taken over by state-owned companies, which were faced with the fact that 70% of the vineyards needed renovation. Thus, in 1957 the first terrace plantations appeared and the vineyard landscape began to change its character. Terrace plantations have enabled mechanized work, thus decreasing manual labor, reducing processing costs, producing higher quality grapes, and reducing soil erosion and land movement to a minimum. Terrace renovation carried out in the national, public, or social sector encompassed 80 to 90% of all areas.

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Photo: Matevž Lenarčič (1, 2, 6) Lučka Ažman Momirski (3, 4, 5)



1 - terraced landscape in the Slovenian Hills has a distinctive



2 - highest-quality terraced areas in the Slovenian Hills are protected as nature park



3 - modern viticultural terraced landscape is arranged in single-row terraces



4 - terraces cover slopes from the bottom to the top of the hill



5 - due to landscape prevention terraced slopes are grassed

Photo captions and credits

- 1 - terraced landscape in the Slovenian Hills has a distinctive landscape identity
- 2 - highest-quality terraced areas in the Slovenian Hills are protected as nature park
- 3 - modern viticultural terraced landscape is arranged in single-row terraces
- 4 - terraces cover slopes from the bottom to the top of the hill
- 5 - due to landslips prevention terraced slopes are grassed
- 6 - arial view of vineyard terraces in Jeruzalem in the Slovenian

Photo: Matevž Lenarčič (1, 2, 6) Lučka Ažman Momirski (3, 4, 5)



14 | Enjoy the scenery with a pinch of salt

The excellence of the coastline of Slovenian Istria is accentuated by the old town of Piran and the two Landscape Parks of the salt pans, Strunjan and Sečovlje, surrounded by a rural landscape characterised by terraces.

The favourable exposure, climate and the fertile soil have encouraged the development of agriculture and the natural slopes has been modelled into terraces reaching the limits of the grid of the salt pans. The view from the terraces towards the shimmering landscape of salt crystals, and conversely, the view from the salt pans into the terraced landscape of olive groves, vineyards and small agricultural fields offers unforgettable images, highly variable in different seasons and times of day.

The terraces in the Slovenian Istria existed probably already in Roman times. A testimony of the presence of terraces is the arrangement of 1333 for the territory of Piran: "muros et fossati ipsorum manutenerere". The terraced landscape with dry stone walls predominates until the nineteenth century, then these walls were abandoned and replaced with grassy knolls, in dialect "corona". The strong socio-demographic changes after World War II led to the abandonment of cultivations on the terraces and large areas were invaded by the natural vegetation. In recent years terraces has been recreated in overgrown areas mainly for olive groves.

The pressure of the tourism development emphasise the need for a management plan focusing on an active protection and restoration of the terraced landscapes facing the sea and the salt pans.



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Slovenia | Coastal Landscapes of Istria

Terraced Landscapes facing the Adriatic Coast

Enjoy the scenery with a pinch of salt



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Photo: Romana Kacič (1, 3, 4, 6) Luka Kastelic (2) Joey Palaković (5) Jaka Jeraša, archive Portorož-Piran ICT (7) | edited by ABAKKUM Institute for the landscape, the culture and the art of Piran



1 - the vegetable gardens of Piran are located on a terraced slope and extends to the historical town



2 - lines of salt pans and lines of terraces define the landscape of the Strunjan Landscape



3 - a mosaic of green tonalities characterise the terraced landscape until the Strunjan salt pans



4 - small fields of arctostyles extend especially in the area of Strunjan



5 - dry sandstone walls marking the terracing of the olive grove

6 - terraces formed by grassy knolls, in dialect "corona", Piran

Photo captions and credits

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- 2 - lines of salt pans and lines of terraces define the landscape of the Strunjan Landscape Park
- 3 - a mosaic of green tonalities characterise the terraced landscape until the Strunjan salt pans
- 4 - small fields of artichokes extend especially in the area of Strunjan
- 5 - dry sandstone wall marking the terracing of the olive grove, Strunjan
- 6 - terraces formed by grassy knolls, in dialect "corona", Pacug, Slovenia
- 7 - a terraced olive grove near the steep flysch cliffs of the Landscape Park, Strunjan, Slovenia

Photo: Romana Kačič (1, 3, 4, 6) Luka Kastelic (2) Joey Palakovič (5) Jaka Jeraša, archive Portorož-Piran ICT (7) | edited by ABAKKUM Institute for the landscape, the culture and the art of Piran



7 - a terraced olive grove near the steep Byzantine city of the

15 | Beside the sea: the terraces of Albidona, Cielo Greco and Broglio

In a corner of northern Calabria, on the border with Basilicata, the plain where Sibari once stood meets the Metaponto Coastal Plain, by way of mountains and hills that slope towards the sea. Between the municipalities of Trebisacce and Roseto Capo Spulico we find a system of "terraces" of differing dimensions and heights with beautiful views.

The area is characterized by wooded areas and Mediterranean scrub, ancient olive trees, and maritime pine trees, as well as flat or gently undulating alluvial terraces, covered with olive trees, arable and forage crops. Here we find evidence of the Bronze Age (2nd millennium BC), mainly detectable on the terrace of "Broglio", as well as Mycenaean traces. Around 710 BC the Greeks imposed their dominion over the region and the indigenous Oenotrian people, and founded the city of Sibari.

Examples of how this agricultural landscape has been protected are found in the terraces of "Torre di Albidona" and "Cielo Greco". At Albidona, the Byzantine stronghold of the Basilian monks, who in 1300 built the coastal tower against Saracen raids, was passed onto the family of the current owner as a farm in the mid-nineteenth century, thus preventing property speculation and allowing it to become the popular eco-holiday farm that it is today. On the "Cielo Greco" terrace, the present farm business is reintroducing the traditional crops of the area and restoring most of the existing rural housing buildings transforming them into traditional accommodation, sympathetic to the surrounding agricultural landscape and environment.



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Italy | Calabria

The Sibaritide

Beside the sea: the terraces of Albidona, Cielo Greco and Broglio



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Photo: Italia Nostra - sezione di Trebisacce



1 - ruins of ancient dry walls



2 - the Albidona tower



3 - the terraces in Cielogreco



4 - the terraces in Cielogreco



5 - between Sibari and Metaponto

Photo captions and credits

1 - ruins of ancient dry walls

2 - the Albidona tower

3/4 - the terraces in Cielogreco

5 - between Sibari and Metaponto

6 - agricultural landscape of Albidona

Photo: Italia Nostra - sezione di Trebisacce



16 | Between Palmi and Villa San Giovanni: the Strait coastal landscape

An example from the remarkable coastal landscape of southern Calabria is the "Costa Viola", with its terraces between Palmi and Villa San Giovanni, looking towards the Strait of Messina and as far as the Aeolian islands. Characterized by Mediterranean scrub, olive groves, citrus orchards and vineyards, the area has high and steep cliffs that plunge into the Tyrrhenian Sea, and large and small plateaus on the ascent of the Aspromonte.

The area has been populated since prehistoric times, with stable occupation since the Bronze Age (2nd millennium BC) linked to the use of its particularly fertile soil, with the population distributed, both on the steep coastal flanks dotted with caves, as well as on the plains in impressive hut villages (e.g. Piani di Sant'Elia and Piani della Corona).

Most of the land is now abandoned. In order to restore this agricultural landscape initiatives to raise awareness among local people about the identity and cultural values of the area are in place, as well as efforts to encourage cooperation in projects to recover traditional cultivation methods (such as the ancient masonry technique of "armacie"). In order to create a sustainable economy the conversion of some of the rural buildings into widespread hospitality accommodation is suggested, as is the establishment of a system of vertical links between the terraces, such as monorails, to create pedestrian paths that could become major tourist attractions.



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Italy | Calabria

Costa Viola

Between Palmi and Villa San Giovanni: the Strait coastal landscape



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Photo: Italia Nostra - sezione di Reggio Calabria



1 - monorail across the vineyards



2 - monorail across the vineyards



3 - rural Building



4 - Costa Viola

5 - Terraced and vineyards of Scilla

Photo captions and credits

1 – 2 - monorail across the vineyards

3 - rural building

4 - Costa Viola

5 - terraces and vineyards of Scilla

6 - the terraces of the Stretto di Messina, Bagnara

Photo: Italia Nostra- sezione di Reggio Calabria



17 | The system of terraces and dry-stone walls of Montagna del Sole

In Apulia, on a spur of the Gargano overlooking the Gulf of Manfredonia, between forests and limestone cliffs, mountainous terrain and coastal lowlands, is situated the extraordinary territory of Monte Sant'Angelo (in the province of Foggia). A pilgrimage destination since the sixth century, reached by travelling along part of the Via Francigena, in 2011 its famous Sanctuary of San Michele Arcangelo became a UNESCO World Heritage site ("The Longobards in Italy, Places of Power, 568 to 774 AD").

Here we find a terraced landscape once cultivated with olive trees, almond trees, grapes, wheat and vegetables, stone barns for storing tools and agricultural products, abandoned hermitages, where among sacred frescoes and spontaneous vegetation nest numerous birds of prey. The sheep tracks, bordered by dry-stone walls, connect the past and modernity.

It is not too late to save the terraces of the "sacred mountain" from total abandonment. The jagged stone walls of its mountain slopes help to prevent the hydrogeological and topography instability of the land, and even protect the lovely Mediterranean scrub plain that stretches to the white cliffs overlooking the sea. The protection of such a complex landscape certainly involves agriculture too, enabling the initiation of a protection and enhancement process, which can also create jobs and stimulate growth.



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Italy | Puglia

Monte Sant'Angelo

The system of terraces and dry-stone walls of Montagna del Sole



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Photo: Italia Nostra- sezione di Terre dell'Angelo



1 - rural economy in the terraced landscape of Monte Sant'Angelo



2 - tool shed



3 - hermitage of Monte Sant'Angelo



4 - hermitage of Monte Sant'Angelo



5 - terraced landscape of Monte Sant'Angelo



6 - the plain of Macchia

Photo captions and credits

- 1 - rural economy in the terraced landscape of Monte Sant'Angelo
- 2 - tool shed
- 3 - hermitage of Monte Sant'Angelo
- 4 - hermitage of Monte Sant'Angelo
- 5 - terraced landscape of Monte Sant'Angelo
- 7 - Gulf of Manfredonia, industrial zone and terraced landscape
- 6 - the plain of Macchia

Photo: Italia Nostra- sezione di Terre dell'Angelo



18 | The biodiversity terraces

"Ischia is the largest and most populated Island in the Gulf of Naples. The rural heart of this popular tourist resort in Southern Italy – deservedly called the "Green island" – is still beating. Beside the observable vegetable farming trend, that is the superficial expression of an encouraging recovery of agriculture, there is viticulture, mirroring a specific milieu. Over time, the areas under vines and the landscapes of the vineyards have undergone a differentiation, moulded by volcanic-tectonic eruptions, and now appear as areas with specific geological, geomorphological, historical and anthropic features, being the expression of veritable geo-environmental peculiarities."

Ischia boasts a very ancient history: in the 8th century BC, Greek settlers from Euboea founded here their first colony in the Western world: Pithecusae. Today an archaeological museum displays precious findings such as Nestor's Cup (the earliest evidence of Greek writing in Italy). The symbol of the Island is the Aragonese Castle, located on the Eastern coast. The islet on which it was built is linked to the mainland by a bridge. In the Middle Ages, the Castle became the true centre of the town, with houses, churches and orchards.

"Even if the area under vines has decreased from 2253 hectares in 1962 to slightly more than 300 in the year 2000, today a progressive relaunch of viticulture can be observed, with an increasing focus on quality. Vineyards are clearly structured and well-organized, with an eye to both market and sustainability, and are the result of hard work. Ischia is still crossed by a backbone of over 2000 kilometres of dry-stone walls (the so-called "parracine"), built placing stone on stone without any mortar, to conquer and define the borders of the fertile lands and vineyards." Freely inspired by "Mille vigne in mezzo al mare" by Ciro Cenatiempo



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Italy | Campania

Isola di Ischia

The biodiversity terraces



PIDA

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Photo: Giuseppe Greco (1, 2, 9) Giovannangelo De Angelis (3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14)



1 - vedragione da Castellorosso casali



2 - environment (Baia di Maronti)



3 - detail



4 - terraced landscapes d'Ambrò Frassullo



5 - terraced landscapes Piano Liguri



6 - labor farm



7 - Vincenzo Trani (terrac farmer)



10 - terraced landscapes Piano Liguri



11 - terraced landscapes Cratica



8 - Francisco Matera (CAI Ischia President)



9 - history wine cellar of the '900



12 - historical d'Ambrò Frassullo

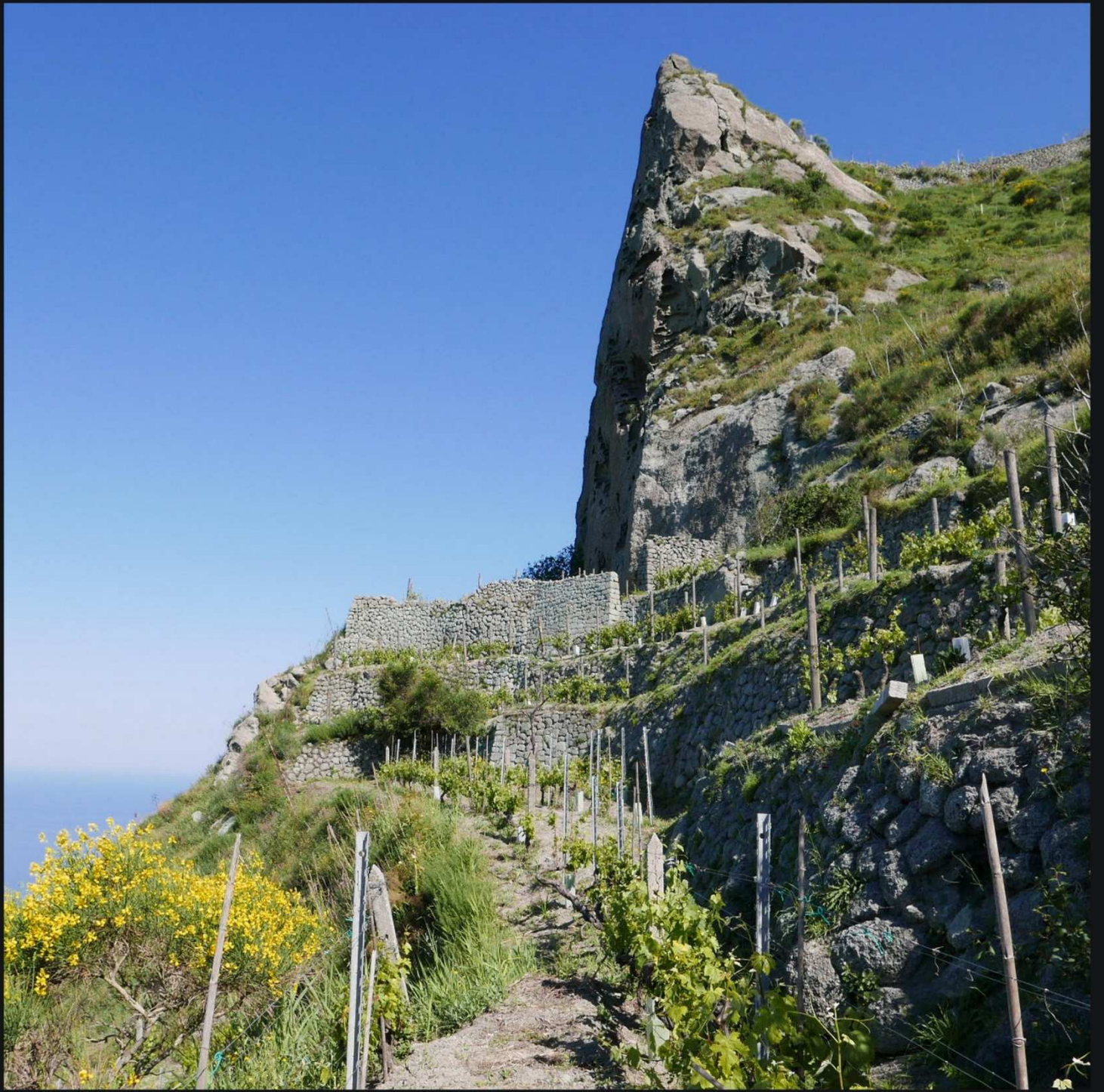


13 - labor farm

Photo captions and credits

- 1 - environment (Aragonese da Cartaromana castle)
- 2 - environment (beach Maronti)
- 3 - detail
- 4 - terraced landscapes d'Ambra Frassitielli
- 5 - terraced landscapes Piano Liguori
- 6 - labor farm
- 7 - Vincenzo Trani (heroic farmer)
- 8 - Francesco Mattera (CAI Ischia President)
- 9 - history (wine cellar of the ' 700)
- 10 - terraced landscapes Piano Liguori
- 11 - terraced landscapes Crateca
- 12 - monorail d'Ambra Frassitielli
- 13 - labor farm
- 14 - terraced landscapes d'ambra Frassitielli

Photo: Giuseppe Greco (1, 2 ,9) Giovannangelo De Angelis (3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14) | CAI Ischia – PIDA Ischia International Architecture Award



19 | Heritage and historic rural landscape

The Amalfi coast takes up the front edge of the Sorrento peninsula. The area, geologically formed by Monti Lattari (an articulation of the southern Apennines), traditionally includes the municipalities ranging from Vietri sul Mare up to Positano.

Characteristics of the Amalfi coast are high acclivities and the particular placing of individual settlements, mostly at the mouth of the valleys or along the hills.

Human settlements in the Amalfi land date back to prehistoric age, to caves used as shelter and that in the Middle Ages became eremitical crypts. The population increased from the 6th century and the development of settlements located in coastal marine basins and inland areas, close to waterways.

Over the centuries the interaction between man and land was very strong: the little land available was in fact torn to nature thanks to the hard work of the farmers, who have modified the mountain slopes, making a succession of sloping shelves, better known as terraces.

Currently the territory of Amalfi consists of 14 small towns, surrounded and divided by vast natural and agricultural areas.

Terraces maintain traditional and valuable crops: citrus trees, grapevines, olive trees. The structure of terraces, which grows to a height of not more than 300 metres, still represents a distinctive character of the area. It is an important production tool and contributes to the enrichment of the cultural and landscape heritage as well, becoming an essential attraction of tourists.



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Costiera Amalfitana

Patrimonio e paesaggi rurali storici



The Amalfi coast takes up the front edge of the Sorrento peninsula. The area, geologically formed by Monti Lattari (an articulation of the southern Apennines), traditionally includes the municipalities ranging from Vietri sul Mare up to Positano.

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Photo: Luigi Ritrovato (1, 5, 8, 9, 11, 12) Gioacchino Di Martino (2, 3, 4, 6, 7, 10) | Campania Region - CAI Cava dei Tirreni



1 - Mule, the traditional mean of transport used to move



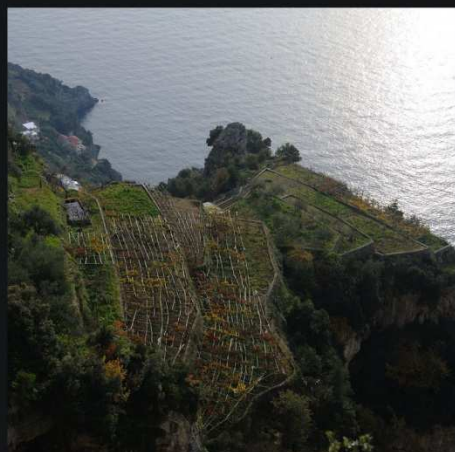
2 - Pisciera a pool that collect rainwater and spring water



3 - support tower on the walls of a terrace



4 - Macerina drystone wall constructed without binders



5 - Positano - terraces carved on the steep slopes that surround the monastery of San Domenico (15th century)



6 - Mason limonari porters, beginning of the XX century. In the past it was a traditional female job



7 - roadways limonari transportation is carried out by unskilled workers from Eastern Europe



8 - Luigi Aceto, historic lemon grower, Capo di Croce in Amalfi



9 - Agrola - the beginning of the Path of the gods



10 - Amalfi, lemon gardens belonging to Andrea Panza



11 - Maceri - terraces overlooking the sea

Photo captions and credits

- 1 - Mules, the traditional mean of transport used to move from a terraced garden to another
- 2 - Peschiera: a pool that collect rainwater and spring water, which is then distributed for irrigation of lemon gardens
- 3 - support tower on the walls of a terrace with the function of overlook on the top (known as belvedere or bellosguardo)
- 4 - Macerina (drystone wall) constructed without cement, mortar or other binders, composition that allows perfect drainage of rainwater
- 5 - Praiano – terraces carved on the steep slopes that surround the monastery of San Domenico (15th century)
- 6 - Maiori, lemons' porters, beginning of the XX century. In the past it was a traditional female job
- 7 - nowadays lemons' transportation is carried out by unskilled workers from Eastern Europe
- 8 - Luigi Aceto, historic lemon grower, on one of the terraces of his property Capo di croce in Amalfi
- 9 - Agerola – the beginning of the Path of the gods with terraces cultivated with vineyards
- 10 - Amalfi, lemon gardens belonging to Andrea Pansa, heir of the historic family that owns the famous bakery. During the collecting of lemons the protective nets are in a rest position
- 11 - Maiori - terraces overlooking the sea, where sea breezes and the mild climate favour the lushness of lemons
- 12 - The Amalfi coast

Photo: Luigi Ritrovato (1, 5, 8, 9, 11, 12) Gioacchino Di Martino (2, 3, 4, 6, 7, 10) Campania Region - CAI Cava dei Tirreni



20 | Perserving beauty

Mount Spazzavento (157 m a.s.l.), over the village of Avane (municipality of Vecchiano, Pisa), is part of the Monti Pisani d'Oltreserchio. This area is very interesting from the agricultural, historical, naturalistic and geologic point of view. At the foot of the mountain, on a slope, the Torre del Rosaiolo stands out. This ancient tower (11th century) was part of a castle amidst mountain and river; it was built on the side of Pisa for protection against Lucca.

In this place, traces of Eneolithic and Bronze era peoples are present. They used caverns as places for burial. Originally, the mountain was covered with Mediterranean scrub, slowly cut down for building ships or houses and replaced with olive trees from the time of the Maritime Republic of Pisa.

Terraces are made of earth in the lower part, and supported by kilometres of dry-stone wall as the incline gradually increases. They go back to the age of the Medici, and are the outcome of the work of a great number of men with no name. Very few people acknowledge and defend this huge, anonymous work of art. The only cultivation present is the olive tree.

New lifestyles, cultivation difficulties, absence of water, recurrent and devastating fires, and the impossibility to use mechanical means (apart from the brush cutter) led people to abandon most of olive groves and terraces after World War II. Today, just a few cultivated hectares produce a delicious olive oil, said to be the best in the Report about Pisa and its Land, 1758. The area is also well-known for its wild asparagus and myrtle, which is used to make an excellent liqueur.



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Italy | Toscana

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Mount Spazzavento

Perserving beauty



Mount Spazzavento (157 m a.s.l.), over the village of Avane (municipality of Vecchiano, Pisa), is part of the Monti Pisani d'Oltreserchio. This area is very interesting from the agricultural, historical, naturalistic and geologic point of view. At the foot of the mountain, on a slope, the Torre del Rosaio stands out. This ancient tower (11th century) was part of a castle amidst mountain and river; it was built on the side of Pisa for protection against Lucca.

In this place, traces of Eneolithic and Bronze era peoples are present. They used caverns as places for burial. Originally, the mountain was covered with Mediterranean scrub, slowly cut down for building ships or houses and replaced with olive trees from the time of the Maritime Republic of Pisa.

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Photo: Helena Saturni-Hakimi Tabrizi (1-12)



1 - reconstructed terraced terraces



2 - view of the Monti Pisani from Mount Spazzavento



3 - series of terrace ends



4 - protruding terrace stones making up steps



5 - restoring terraces



6 - century-old little house for tools. Used also as shelter or for cooking lunch for peasants.



7 - terraces overlooking San Giuliano Terme and Pisa



8 - terraces intercepting dry-stone wall path



9 - dry-stone wall path in spring



10 - dry-stone wall path in summer



11 - terraces with sloping access

Photo captions and credits

- 1 - reconstructed semicircle terraces
- 2 - view of the Monti Pisani from Mount Spazzavento
- 3 - series of terrace ends
- 4 - protruding terrace stones making up steps
- 5 - restoring terraces
- 6 - centuries-old little house for tools. Used also as shelter or for cooking lunch for peasants
- 7 - terraces overlooking San Giuliano Terme and Pisa
- 8 - terraces intercepting dry-stone wall path
- 9 - dry-stone wall path in spring
- 10 - dry-stone wall path in summer
- 11 - terraces with sloping access
- 12 - Rosaiolo Tower, 11th century

Photo: Helena Saturni Hakimi Tabrizi (1-12)



21 | An unsteady balance: terraces and hydrogeological risk

Liguria is a stair-shaped land, of which Tigullio coast and inland are a clear example. Tigullio terraces were created many centuries ago and shape since then that landscape. They extend from the coastal hills round the wide gulf, to the mountains lying behind (from 0 to 1400 m, and 13 km wide). Often clearly appearing, sometimes their traces emerging in loose features in otherwise natural environment.

The stone walls support slender strips of soil, called fascie, allowing agriculture to develop also in difficult environments.

On terraced lands olive trees and vineyards thrive together with kitchen gardens; chestnut grows on the low mountain slopes, while higher ground is suited to grazing land.

Terraces transform slopes in giant stairs, slowing soil erosion, mitigating strong rains effects and settling watercourses which in turn maintain water available and can prevent floods. Their protecting action is essential in a land that is most anthropized and in recent years endured several floods and landslides .

So doing, they create also a wonderful scenery.

The very existence of terraces depends on constant work to adjust them. At the moment, this peculiar feature of Liguria landscape is endangered by lack of maintenance, disappearance of ancient craft knowledge, use of improper techniques and materials; or intentional destruction due to new facilities building.

Conservancy is then a prior task



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Italy | Liguria

Tigullio

An unsteady balance: terraces and hydrogeological risk



Sezione Tigullio

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Photo: Annamaria Castellano (1-14) edited by Italia Nostra Sezione Tigullio



1 - olive trees, kitchen gardens on coastal terraced slopes, Soriana



2 - wide terraces in woods and pastures landscape, Val Cichero



3 - grassy terraces in mountain landscape, Orero, Val



4 - mountain grazing lands, Case Foragne (Borzonasca)



5 - stone wall top, S. Giulio Lavagna



6 - terraces in chestnut forest, Sopracroce (Borzonasca)



7 - house in a narrow terraced valley, Carso (Borzonasca)



10 - terraces collapsing, Soriana (Lavagna)



11 - old and new set beside, Soriana (Lavagna)



8 - ancient path going to S. Giulio, on coastal hill (Lavagna)



9 - debris, little mill made water course, Monte S. Giacomo



12 - a new road and walls of various kinds, Lavagna



13 - terraces collapsing, S. Giulio (Lavagna)

Photo captions and credits

- 1 - olive trees, vineyards, kitchen gardens on coastal terraced slopes, Sorlana (Lavagna)
- 2 - wide terraces in woods and pastures landscape, Val Cichero
- 3 - grassy terraces in mountain landscape, Orero, Val Fontanabuona
- 4 - terraces slowly disappearing in mountain grazing lands, Case Poragine (Borzonasca)
- 5 - stone wall top, S. Giulia (Lavagna)
- 6 - terraces in chestnut tilled grove, Sopralacroce (Borzonasca)
- 7 - house in a narrow terraced valley , Caroso (Borzonasca)
- 8 - ancient path rising to S.Giulia, on coastal hill (Lavagna)
- 9 - beudo, little man made water course, monte S.Giacomo (Cogorno)
- 10 - terraces collapsing, Sorlana (Lavagna)
- 11 - old and new set beside, Sorlana (Lavagna)
- 12 - a new road and walls of various kinds, Lavagna
- 13 - terraces collapsing, S. Giulia (Lavagna)
- 14 - the peculiar environment of a stone wall

Photo: Annamaria Castellano (1-14) | edited by Italia Nostra Sezione Tigullio



22 | A rough coast, villages, wine and terraces

Cinque terre is a stretch of coast of about 12 km in the most rough and rocky Liguria frontline, where mountains plunge straight in the sea. The area is inhabited from several centuries B.C. The five villages - Monterosso, Vernazza, Corniglia, Manarola, Riomaggiore, of which only Vernazza has a natural port - have a documented history going back to the Middle Age.

Terraces were the only way for the population to survive and grow, as ancient maps show. Wine has always been a valued product known and sold everywhere.

The Cinque Terre natural environment and historical features are protected by a National Park.

Today they are a top class touristic attraction. Millions of visitors come over by train. This touristic flow exceeds the carrying capacity of both environment and villages, rising problems.

Dangerous floods again and again occurred, due to rivers of short and steep watercourse flowing through narrow valleys, furious storms, and bad hydraulical works. The last happened in 2011 and destroyed Monterosso and Vernazza.

Even works made after the flood are controversial, being felt as altering natural features without firmly increasing safety.

Terraced slopes can't stop extreme disaster, but can surely help settle watercourse and mitigate strong rains effects. Their conservancy and maintenance is key to preserve the landscape and protect the population.



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Italy | Liguria

Cinque terre

A rough coast, villages, wine and terraces



Sezione Tigullio

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Photo: Annamaria Castellano (1-15) edited by Italia Nostra Sezione Tigullio



1 - Riomaggiore



2 - Monterosso



3 - Corniglia



4 - Manarola dal mare



5 - Cinque Terre in a XVIII century map, in which are clearly



7 - Vernazza, the stream after 2011 flood



8 - Monterosso, 2011 flood



11 - Vernazza, traditional making of stone walls



12 - Vernazza, traditional making of terraces



6 - Vineyards on terraces at S. Bernardino Vernazza



9 - Manarola, after flood concrete banks in the stream



10 - Vernazza, concrete embankment to be fixed



13 - Vernazza, stone filled cages to prevent landslides to hit on a path



14 - Monterosso, stone terraces and grassh terraces

Photo captions and credits

- 1 - Riomaggiore
- 2 - Monterosso
- 3 - Corniglia
- 4 - Manarola

- 5 - Cinque Terre in a XVIII century map, in which are clearly shown terraced slopes
- 6 - vineyards on terraces at S. Bernardino (Vernazza)

- 7 - Vernazza, the stream after 2011 flood
- 8 - Monterosso, 2011 flood, the ancient stone walls along the stream endured
- 9 - Monterosso, after-flood concrete banks in the stream
- 10 - Vernazza, concrete embankment to be filled by waters in occurring future floods

- 11 - Vernazza, traditional making of stone walls
- 12 - Vernazza, traditional making of terraces
- 13 - Vernazza, stone filled cages to prevent landslides to hit on a path
- 14 - Monterosso, stone terraces and ground terraces. Use of not local stones and features

- 15 - view of Corniglia: Cinque Terre environment, landscape and terraces

Photo: Annamaria Castellano (1-15) | edited by Italia Nostra Sezione Tigullio



23 | Polyculture's landscapes

The high Bormida and Uzzone valleys are located in Piedmont, at the regional border with Liguria, in the Alta Langa. Oriented in South-North direction, these valleys are characterized by a complex system of ridges and slopes, those facing South usually steeper. Made by Miocene marl, in layers of sands, sandstones, and clays, are altogether inconsistent formations, as shown by the many badlands, detrital bands, and landslides, these latter prevented by terraced works.

Landscape heritage comes from a complex overlapping of cultures: Romans, Goths, Longbards, Saracens, and many feudal properties until Savoia in XVIII century.

It is made of: a terraced system connecting and integrating:

- a network of compact urban centres both on the ridge and at the bottom of the valleys;
- a denser network of rural hamlets, usually built on slopes;
- a thick grid of farmsteads, as well as of smaller cascinnotti and ciabot,

all connected by roads often terraced, and functioning all together as a polycultural rural economy.

The historical landscape structure is still in place, except for some new industrial settlements. Since 1950s the exodus of many peasants towards the new industrial centres, sped up by the diffuse pollution generated by Cengio's ACNA, has produced a large expansion of woods, still going on in areas more difficult to reach, like terraced slopes.

Since a few years, a resettlement process is going on, regenerating parts of historical heritage with new rural, cultural and tourism initiatives of quality.



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High Bormida and Uzzone valleys

Polyculture's landscapes



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Photo: Anna Marson (1, 2, 3, 8, 9, 10, 11, 12) Donatella Murtas (4, 5) Associazione Antichi Mestieri, Castelletto Uzzone (6) Alberto Magnaghi (7, 12) | edited by Osservatorio per il paesaggio delle valli Alta Bormida e Uzzone (La prima Langa)



1 - stone terraces between Cortemilia and Torre Bormida, from wheat cultivation to peach trees



2 - Bergiso extreme terraces irrigated by snow



3 - Castella Valentini, a small ciabot with its terraced vineyard



4 - the archaeological landscape of Ecomuseo dei terrazzamenti e della vita in Montebello (Cortemilia)



5 - learning to build with dry stone, a summer workshop in Cortemilia



6 - Castelletto Uzzone, the ancient crafts shown in the square



7 - Uzzone Valley, water preservation and traditional drying



8 - Langa's cascin: the landscape of stone and hydropneumatics



9 - Casera Piangrana the roof technique 'capra' returns



10 - San Rocco, Pevero, the sacred signs of the stone landscapes



11 - between Torre Bormida and Cortemilia: continuous terracing connects the thick grid of farmsteads

Photo captions and credits

- 1 - stone terraces between Cortemilia and Torre Bormida, from wheat cultivation to peach trees
- 2 - Bergolo, extreme terraces highlighted by snow
- 3 - Contrada Valentini, a small ciabòt with its terraced vineyard
- 4 - the archetypal landscape of Ecomuseo dei terrazzamenti e della vite in Monteoliveto (Cortemilia)
- 5 - learning to build with dry stone, a summer workshop in Cortemilia
- 6 - Castelletto Uzzone, the ancient crafts shown in the square
- 7 - Uzzone Valley: water preservation and chestnuts drying
- 8 - Langa's cascine: the landscape of stones and hydrangeas
- 9 - Cascina Piangrana: the roof technique "ciape" returns
- 10 - San Rocco, Piovero: the sacred signs of the stone landscapes
- 11 - between Torre Bormida and Cortemilia : continuous terracing connects the thick grid of farmsteads
- 12 - Bruceto's Langa (Cortemilia): the terraced hill as infrastructure for a polycultural rural economy

Photo: Anna Marson (1, 2, 3, 8, 9, 10, 11, 12) Donatella Murtas (4, 5) Associazione Antichi Mestieri, Castelletto Uzzone (6) Alberto Magnaghi (7, 12) | edited by Osservatorio per il paesaggio delle valli Alta Bormida e Uzzone (La prima Langa)



24 | A mosaic of terraced landscapes

The territory of the Province of Trento is characterized by a complex orographic structure, with large areas situated at high altitudes, incompatible with agricultural activities: 60% of the province stands at over 1,000 metres above sea level with vast areas situated higher than 2,000 metres above sea level. 53% of the province area is covered by forest, 21% by rocks and glaciers and 12% by meadows and pastures. Agricultural use covers little more than 10% of the territory with agricultural land use decreasing from 241,000 hectares in 1951 to 137,000 hectares in 2010, due to the advance of forest land and the increase of urban areas.

In this difficult context, fortunately the terraced areas of Trentino are still characterized by the great variety of cultural and landscape types. Alongside the healthy productivity of the most valuable and specialized areas, however, it should be noted that vast stretches of once agricultural land have been abandoned. This precious landscape heritage is the subject of study by the Observatory which is overseeing the preparation of the Atlas of terraced landscapes in Trentino.

Tackling abandonment, the protection of the landscape and the management of the transformations related to new production techniques are therefore the central issues for interventions in the terraced landscapes of Trentino. In the context of a growing collective interest in agriculture, the recent establishment of the Banca della Terra (land bank), the creation of the school for dry-stone walling, support measures in agriculture and those made by the provincial Landscape Fund, are important initiatives to ensure the future vitality of the terraces in the Province of Trento.



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Italy | Trentino-Alto Adige

Trentino

A mosaic of terraced landscapes



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Photo: Diego Rizzoli (1, 9) Alberto Cosner (2) Antonio Sarzo (3, 7) Ricci Spaini, ricerche Fondo del paesaggio (4-6) Bruno Rossi (8) | edited by Provincia Autonoma di Trento - Osservatorio per il Paesaggio Trentino



1 - Cembra Valley



7 - Gröden Valley



2 - Terenghola Valley



4 - vineyards on terraces



5 - vineyards on terraces



3 - Valle del no Somme



6 - oases on terraces in Upper Gardà



8 - Cembra Valley

Photo captions and credits

- 1 - Cembra Valley
- 2 - Terragnolo Valley
- 3 - Valle del rio Sorne
- 4/5 - vineyards on terraces
- 6 - olives on terraces in Upper Garda
- 7 - Gresta Valley
- 8 - Cembra Valley
- 9 - Cembra Valley

Photo: Diego Rizzolli (1, 9) Alberto Cosner (2) Antonio Sarzo (3, 7) Ricci Spaini, ricerche Fondo del paesaggio (4-6) Bruno Rossi (8) | edited by Provincia Autonoma di Trento – Osservatorio per il Paesaggio Trentino



25 | "La mont: risultive par l'avigni"

The terrace is situated along the "road" known as the "path of Mount Faeit" on the left bank of the River Clama, heading towards Mount Faeit beyond the large curve at the start of the ascent and on the slope found between two tributaries. The distinguishing feature of the site is the "Lavio di Mont", spatially positioned at the coordinates of 46 degrees, 14 minutes, 14 seconds, north; and, at 13 degrees, 9 minutes, 33 seconds east. Its temporal "coordinates" are measured from the source found at 400 m a.s.l. represented on 1:25000 scale maps.

The origins of the systematic changes to the natural environment of "la mont" go back to the fortifications built by Lombard warriors as defence against the Avars. The first land survey enforcing the prohibition of tampering ordered by "La Dominante" dates back to 1606. Afterwards, "the territory of Faeit" was surveyed, almost entirely, between 1821 and 1824 by the Archdukes. Located in the Municipality of Artegna, there are no records of its hereditary transmission or the year of its unfortunate abandonment.

Mixed cropping has long been used on "la mont" integrating wood production with fodder production derived from cuttings on the slopes. This example provided "potatoes and parsley." The area inspected covers an area of 6 a and 30 ca -half of which was impassable and impossible to survey because of the density of the woody undergrowth, landslides and circumstantial collapse – and shows primary samples being the direct result of previous collapses onto the "strada de loge".



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Italy | Friuli Venezia Giulia

Borgo Monte - Artegna

"La mont: risultive par l'avigni"

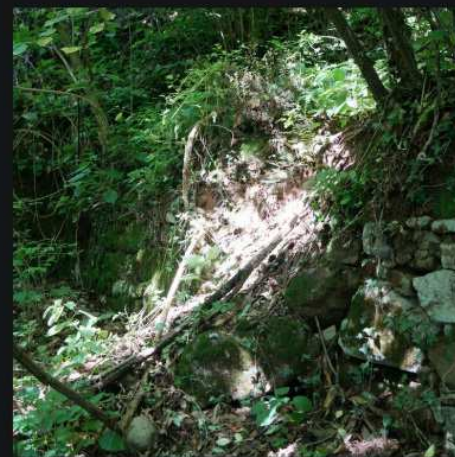


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Photo: Alessandro Montoro (s-g)



1 - the wall. The sun shines on the scene of the "corner"



2 - the wall. Mountain longitudinal wall



3 - Terraced slope of land in chestnut orchard. Scazzalacqua (Borzonasca)



4 - Quality of air. Laboratory in "la mont"



5 - the people. Memories from days of yore



6 - detail. "bushy" collapse



7 - collapse. "Scazzalacqua lungo" in "la mont" primary



8 - collapse. Wall abandoned on grassy roof

Photo captions and credits

- 1 - the walls. The sun shines on the scene of the "crime"
- 2 - the walls. Mountain longitudinal wall
- 3 - terraced strips of land in chestnut orchard, Sopralacroce (Borzonasca)
- 4 - quality of life. Itinerary in "la mont"
- 5 - the people. Memories from days of yore
- 6 - details. "Imminent" collapse
- 7 - details. Debris along the primary road network
- 8 - details. Water channelled on grassy road
- 9 - quality of life. Washerwomen of yesteryear

Photo: Alessandro Montoro (1-9)



26 | Ecology & Biodiversity

The slope encompassed between Miramare and the villages of Contovello, Prosecco and Santa Croce is a distinctive and spectacular stretch of nature linking the Karst plateau to the Adriatic Sea.

The ancient terraced areas ("pastini") still significantly characterize the landscape of this part of the coast of Trieste, despite the profound changes that occurred since the second half of the nineteenth century and the progressive abandonment of the cultivated land, especially in the lower range.

This landscape is the result of centuries-old activity of the locals, who transformed the harsh territory facing the sea into arable land. They built dry retaining walls, stairs, fences, pedestrian links, access to funds, that nowadays are only partially in use. This complex landscape is a unique ensemble of spontaneous rural architecture of great value with a rich presence of biodiversity.

The first documents relating to the wine, the vineyards and olive groves of this area date back to the medieval period between the fourteenth and fifteenth centuries. Until the late nineteenth century the vineyards in the coastal strip between Duino and Trieste were widespread and occupied between 20 and 50% of cultivated areas.

Until the late nineteenth century, the vineyards along the terraces of Barcola, Prosecco, Contovello and Santa Croce stemmed much of the wine that reached the cities of the Austrian-Hungarian Empire ; in the previous centuries it was offered as a tribute to the Doge of Venice.



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Italy | Friuli Venezia Giulia

Trieste coastline

Ecology & Biodiversity



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Photo: Riccardo Scodeller (1, 5, 6) Franca Cian (2, 3, 4, 7) Walter Bauzon (9) Foto storica d'archivio (8)
| edited by WWF Trieste



1 - terraced vineyards



2 - stairs leading to the terraces



3 - detail of a dry wall



4 - olive trees and vines



5 - various vegetation growing along a dry wall and along a path



6 - a basket of herbs (rosemary, thyme and sage)



7 - before the harvest



8 - the harvest

Photo captions and credits

- 1 - terraced vineyards
- 2 - stairs leading to the terraces
- 3 - detail of a drywall
- 4 - olive trees and vines
- 5 - 'Sedum sexangulare' growing on a karst drywall, arid and sunny
- 6 - a set of ferns (Asplenium), mosses and lichens
- 7 - before the harvest
- 8 - the harvest
- 9 - panoramic view of Contovello terraces

Photo: Riccardo Scodeller (1, 5, 6) Franca Cian (2, 3, 4, 7) Walter Bauzon (9) - Foto Storica D'archivio (8) | edited by WWF Trieste



9 panoramic view of Comolevo terraces

27 | Terraced landscapes protection in Lombardy Region planning

Terraced landscapes in Lombardy Region are very diffuse, above all on the Alps, Alpine foothills and Lake district (1: Map of main terraced areas in Lombardy Region). They are the result of centuries of agricultural activity that shaped entire slopes and hillsides, once intensely cultivated but today often at risk of abandonment, such as terraced olive groves on Como Lake (2: Tremezzina). A world-wide famous terraced landscape on Garda lake is characterized by the limonaie, lemon-houses (3. Historical card of Limone del Garda), nowadays turned into olive groves, vineyards , vegetable gardens or ecomuseum (4. Tignale). Promising new planting vineyards also concern marginal terraced areas, such as Brianza (5: Montevicchia) and Valchiavenna (6: Chiavenna).

To face the tendency to abandonment of terraced landscapes and encourage their sustainable reuse Lombardy Region intends to give particular relevance to them in the new Regional Landscape Plan (RLP) at present in progress. The current RLP already provides a specific regulation and addresses to the local land use plans for the protection of the lake scenario and lakeshore, which also implies the preliminary evaluation by the Region of the related land use plans. This activity has been a laboratory to test the effectiveness of RLP, driving Lombardy Region to go further in strengthening its guiding rules to local authorities. The aim is to promote a coordinated planning and a shared governance of landscape transformations by adopting ways and instruments tailored for these unique landscapes.



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Terraced Landscapes on the Alps, Alpine foothills and Lake district

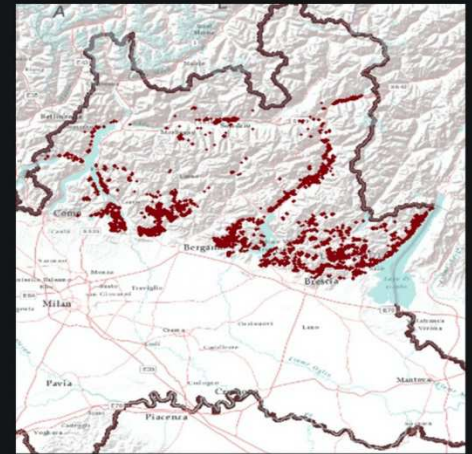
Terraced landscapes protection in Lombardy Region planning



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Photo: F. PUTIGNANO e R. CENTEMERI (1) Luisa PEDRAZZINI (2) collezione privata Valerio Arosio (3) Alberta CAZZANI (4) Stefano AGOSTONI (5) Francesca PUTIGNANO (6) edited by Regione Lombardia - Direzione Generale Ambiente Energia e Sviluppo Sostenibile



1 - Main terraced areas in Lombardy Region



2 - Tremezzina (province of Como)



3 - Historical card of Limone del Garda (province of Brescia)



4 - Tignale (province of Brescia)



5 - Montevecchia (Province of Lecco)

Photo captions and credits

- 1 - main terraced areas in Lombardy Region
- 2 - Tremezzina (Province of Como)
- 3 - historical card of Limone del Garda (Province of Brescia)
- 4 - Tignale (Province of Brescia)
- 5 - Montevicchia (Province of Lecco)
- 6 - Chiavenna (Province of Sondrio)

Photo: Francesca Putignano e Rosanna Centemeri (1) Luisa Pedrazzini (2) collezione privata Valerio Arosio (3) Alberta Cazzani (4) Stefano Agostoni (5) Francesca Putignano (6) | edited by Regione Lombardia - Direzione Generale Ambiente Energia e Sviluppo Sostenibile



28 | The cultural landscape of terraces as a driver for the development of an alpine valley

The Valtellina features terraced slopes, especially on the right bank of the river Adda. They are mainly planted to vine and are formed by terracing the steep mountain slopes with dry-stone walls. These retaining stone walls intensify the sun's heat, creating an ideal microclimate for growing quality grapes (in particular Nebbiolo), which are used to produce the renowned Valtellina wines.

The landscape shaped by the Valtellina terraces is the result of a collective intelligence which, around the year 1000, was able to elaborate a specific development model. In particular, the *accola* contract (widely used in the area) foresaw renting unproductive land for a symbolic fee, like a candle. If the property became cultivable, the lessee would obtain the exclusive benefit: therefore, mountain hardships became investment opportunities.

The Valtellina terraces are a cultural landscape where bell towers rise up in the vine-cloaked slopes and next to a tower, the houses built touching against each other form the nucleus of a rural village. Ancient building techniques continue to preserve the self-defining heritage of the dry-stone walls, which extend for a total of about 2.500 kilometres. Today, as in the past, you can walk among the painstakingly aligned stones and carefully hand-tended vine rows.



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Valtellina (province of Sondrio)

The cultural landscape of terraces as a driver for the development of an alpine valley

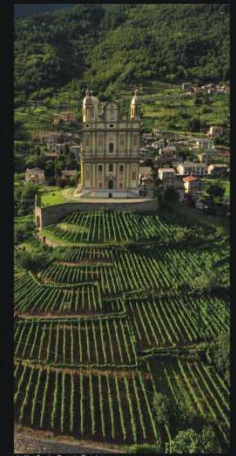


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Photo: E. Pola (1, 5) Clicklaps - R. Moiola (2) J. Merizzi (3, 4, 8) Consortium for the Protection of Valtellina Wines - A. Gherardi (6) M. Briggatti (7) | edited by Fondazione Sviluppo Locale (SO)



4 - the very rough morphology in Tirano, on the Italian side of the Valtellina

5 - in Baruffa, one of Tirano's four hamlets

7 - a dry-stone wall, near the Sanctuary of the Madonna della Società

Photo captions and credits

- 1 - the Church of Santa Perpetua rises in Tirano, on a hillock along the old Bernina road, in the midst of centuries-old terraced vineyards
- 2 - bare tree winter landscape, highlighting the residential section of the castle and the dry-stone wall structures, which contain the snow-covered dormant vines
- 3 - the Santa Casa (Shrine of the Holy House of Loreto) in Tresivio was built on the edge of the settlement over an existing church dedicated to St. Mary
- 4 - the very rough morphology in Triasso, on the Rhaetian side of the Valtellina, causes an extreme fragmentation of the territory, which, when used to grow vines, leads to a highly fragmented agricultural landscape, created by the laborious building of dry-stone walls, where vine growing is very difficult due to the steep mountain slopes
- 5 - in Baruffini, one of Tirano's four hamlets: terracing, stone stairs allowing access to the various terraces, and dome-shaped stone shelters for keeping farming tools near newly planted vines
- 6 - grape drying on cane mats for a period of 2-3 months in the middle of winter to produce the Valtellina "Sfursat" or Sforzato di Valtellina Docg wine
- 7 - a dry-stone wall, near the Sanctuary of the Madonna della Sassella
- 8 - the former convent of San Lorenzo dominates the terraced slopes of the Valtellina valley. In the past, the vineyards belonged to the nuns of the convent

Photo: E. Pola (1, 5) Clickalps - R. Moiola (2) J. Merizzi (3, 4, 8) Consortium for the Protection of Valtellina Wines - A. Gherardi (6) M. Brigatti (7) edited by Fondazione Sviluppo Locale (SO)



8 • The former convent of San Lorenzo dominates the terraced slopes of the Valli di Lario valley. In the past, the vineyards belonged to the nuns of the convent.

29 | Terraces and border walls

In the area around the Euganean Hills, a mountain range in the province of Padua, a few isolated hills occur, such as Monte Ortone, located in the north-eastern part of the hilly area close to the village with the same name, situated in the municipalities of Teolo and Abano Terme. The Euganean Hills, of volcanic origin, are a geographical feature in the surrounding countryside and are made up of volcanic materials (basalt, trachyte) and white and red calcareous material (scaglia).

From the Middle Ages to the late eighteenth century Monte Ortone hill belonged to two religious communities: the Augustinian monastery at Monteortone and the Benedictine monastery of Santa Maria di Praglia. Throughout the modern age the hill was a resource for firewood and "mazze", wooden supports for vines. Crop cultivation was only possible on the lower slopes.

In the mid-eighteenth century the monks of Praglia, having set up a mill within the abbey walls, decided to plant an olive grove along the new terraces on the southern slope of the hill, and built a farm building to accommodate a farmer from Arezzo who had been contacted to manage it.

Nowadays Monte Ortone appears wild and uncultivated, as a result of the abandonment of the crops. The hillside flora is the same as the remaining area; rural buildings are few, while the foot of the eastern side is occupied by two thermal complexes.



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Monte Ortone and the Euganean Hills

Terraces and border walls



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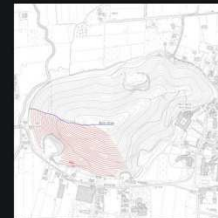
Photo: Adelmo Massimiliano Lazzari (2, 6, 7, 8-14) Aerofotoeca online Laboratory of Cartography University IUAV of Venice and Veneto Region (4) Elaboration: Giulia Grandis (5)



1 - rural house, August 1967



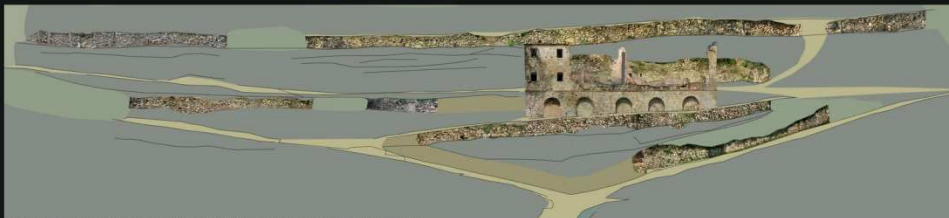
2 - rural house after restoration



3 - Dry stone walls marked in red, the retaining border wall in blue



4 - aerial photograph, 1960 revision_088_79



5 - view of the southern slopes of Monte Ortone illustrating the relationship between the system of terraces and the farm building



6 - front view of the retaining border wall



7 - overhead view of the retaining border wall



8 - front view of sections of dry-stone wall



9 - front view of sections of dry-stone wall



10 - front view of sections of dry-stone wall



11 - front view of sections of dry-stone wall



12 - front view of a section of dry-stone wall with corbelled steps



13 - side view of a section of dry-stone wall with corbelled steps

Photo captions and credits

- 1 - rural house, August 1967
- 2 - rural house after restoration
- 3 - regional technical map. Dry-stone walls marked in red, the retaining border wall in blue
- 4 - aerial photograph, 1981 reven_18B_79
- 5 - view of the southern slopes of Monte Ortone illustrating the relationship between the system of terraces and the farm building
- 6 - front view of the retaining border wall
- 7 - overhead view of the retaining border wall
- 8-11 - front views of sections of dry-stone walls
- 12 - front view of a section of dry-stone wall with corbelled steps
- 13 - side view of a section of dry-stone wall with corbelled steps
- 14 - view of terraces on the western side of Monte Ortone

Photo: Adelmo Massimiliano Lazzari (2, 6, 7, 8-14) Aerofotoeca online Laboratory of Cartography University IUAV of Venice and Veneto Region (4) Elaboration: Giulia Grandis (5)



30 | The retaining wall and the Tower

Monte Crocetta (76 m a.s.l.) is an elongated hill on the eastern end of the spur that divides the Valli di Fimon and the Val di Fontega. It is located in the northern Berici Hills, to the north-west of the urban area of Torri di Arcugnano, a town that is named after the two medieval control and sighting towers on the two peaks of Monte Crocetta. One of the two towers was demolished after 1806; the remains of the other are still visible. The hill slopes steeply to the north and east; on the south it drops rapidly towards the town of Torri di Arcugnano, while to the west it ends with a pass that separates it from the hills of Monte Roccolo and Monte Cucco. On this side, at about mid-slope, we can observe a large dry-stone retaining wall cutting straight across, and about 14 metres in length.

Trial excavations conducted in the late 1960s on behalf of the then Archaeological Superintendence of the Veneto Region brought to light artefacts and remains of a settlement dating back to various stages during the Bronze Age (2nd millennium BC). The remains of the wall, whose foundations were built on the oldest layer of the settlement, probably belong to this period. The retaining wall was perhaps part of a terracing project with the function of adapting the land to housing needs.

At present the Mount Crocetta site is covered in vegetation and the state of conservation of the tower and the wall structures is very bad and in need of restoration.

(A. Broglio, L. Fasani, *Le Valli di Fimon nella preistoria*, Neri Pozza ed., 1975; AA.VV., *Preistoria e protostoria*, vol. II of *Il Veneto nell'antichità*, in A. Aspes (edited by), Banca Popolare di Verona 1984)



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Torri di Arcugnano

The retaining wall and the Tower



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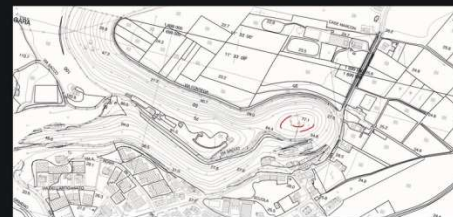
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Photo: Aerofotoeca online Laboratory of Cartography and GIS University IUAV and Veneto Region (1)
Leone Fasani - Archive Section of Prehistory of the Civic Museum of Natural History of Verona -
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1 - aerial photograph, 1985 revision, DIB, 378, Monte Crocetta, Arcugnano



2 - regional technical map. Dry-stone walls in red, Monte Crocetta, Arcugnano



3 - wall stratigraphy, Monte Crocetta, Arcugnano



4 - wall stratigraphy, Monte Crocetta, Arcugnano



5 - wall stratigraphy, Monte Crocetta, Arcugnano



6 - medieval tower, Monte Crocetta, Arcugnano

Photo captions and credits

- 1 - aerial photograph, 1981 reven_12B_378, Monte Crocetta, Arcugnano
- 2 - regional technical map. Dry-stone walls in red, Monte Crocetta, Arcugnano
- 3-5 - wall stratigraphy, Monte Crocetta, Arcugnano
- 6 - medieval tower, Monte Crocetta, Arcugnano
- 7 - panoramic view of the archaeological site, Monte Crocetta, Arcugnano

Photo: Aerofotoeca online Laboratory of Cartography and GIS University IUAV of Venice and Veneto Region (1) Leone Fasani - Archive Section of Prehistory of the Civic Museum of Natural History of Verona - permission of the Ministry of Cultural Heritage and Activities and Tourism - Archaeological Superintendence of Veneto, reproduction prohibited (3-7)



31 | Widespread terracing: a hidden pattern

The study area is located in the northern part of Vicenza, in the Venetian Alpine foothills. The area includes the territories between the cities of Arsiero, Laghi and Posina. More precisely the valleys of Tovo, Laghi and Posina, surrounded by the Priaforà, Pasubio, Majo, Gamonda mounts and the plateau of Tonezza. The region is a closed area encircled by mountain ranges and whose main downstream access is the Valposina tunnel, located in the city of Arsiero.

The histories of these villages are strictly linked to each other: since the Late Middle Ages they all have been colonized by Cimbrian populations; later they became the domains of the Earls of Velo and the Scaligeri family; later on, they had been included in the Venetian Republic (called "La Serenissima"); then, they had been conquered by Napoleon and afterwards annexed to the Lombard-Venetian Reign during the XIX century. It was a crucial area during the First World War (Strafexpedition 1916) and the population had to fled to the lowland, whereas a massive part of the inhabitants migrated abroad during the Second World War (mainly France and Germany, but also Brazil and U.S.A.).

In the analyzed region the terraces spread widely across the landscape, from the valley floor to the mountain slopes, firmly connected to the "contrade" (little villages), which reveals how their function was related to the inhabitants' needs. The migrations listed above had led to a progressive desertion of the territories and to a subsequent landscape modification. The forest began to occupy the place once used for the crops although nowadays the marks of the terraces' existence are still visible.



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Posina Valley, Laghi Valley, Tovo Valley

Widespread terracing: a hidden pattern



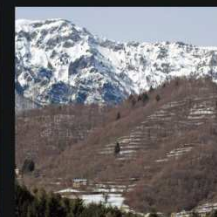
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1 - Ferro valley, Laghi



2 - Posina valley, Contrada Xomo-Podenta-Spagnoli, Posina



3 - Cavalano plateau, Laghi



4 - Posina valley, Contrada Sella, Posina

Photo: Omar Oliviero (1, 3, 10, 11) Giorgio Schiesaro (2, 5, 7, 8) Gaetano Pento (4) Renzo Priante (9) edited by AVVI group practice



5 - Ferro valley, Contrada Bruschi, Laghi



6 - Public Domain marked, europiana 1944-1958, Österreichische Nationalbibliothek - Austrian National Library

View from Mount Priafora, photos of June 1950



7 - Tovo, Arsiero



8 - Tovo valley, Contrada Antrochi, Arsiero



9 - Posina valley, Contrada Ruste, Posina



10 - Tovo valley, Contrada Bruschi, Arsiero

Photo captions and credits

- 1 - Ferro valley, Laghi
- 2 - Posina valley, Contrada Xomo-Polenta-Spagnoli, Posina
- 3 - Cavallaro plateau, Laghi
- 4 - Posina valley, Contrada Sella, Posina
- 5 - Ferro valley, Contrada Bruschi, Laghi
- 6 - © Public Domain marked, europeana 1914-1918, Österreichische Nationalbibliothek
- Austrian National Library - View from Mount Priaforà , photos of June 1916
- 7 - Tovo valley, Fraine-Antinori trail, Arsiero
- 8 - Tovo valley, Contrada Antinori, Arsiero
- 9 - Posina valley, Contrada Ruste, Posina
- 10 - Tovo valley, Contrada Brunelli, Arsiero
- 11 - Mount of Calgari seen from Mount Majo, Arsiero

Photo: Omar Oliviero (1, 3, 10, 11) Giorgio Schiesaro (2, 5, 7, 8) Gaetano Pento (4)
Renzo Priante (9) | edited by AVVI group practice



32 | Social and Agricultural Innovation

Canale di Brenta is a valley stretch that runs for 30 km between the settlement of Primolano, at the border of Trentino region, and the plain outlet the village of Campese, near Bassano del Grappa. It's enclosed between steep rocky slopes of Monte Grappa and the Plateau of Seven Communities. It's a fluvial-glacial valley with human earliest evidences dating to the Upper Paleolithic. On both sides terraced areas climb at a considerable height on the steep ridges. The oldest terraces date back to Roman times (third century A.D.) although some mega-structures appear to have been made by early human settlers. The wider uptake of terraces for farming with stone dry walls were built from the second half of XIX century to the middle of XX with the diffusion of tobacco monoculture. Such a mono-cultural economy started collapsing after the II World War and mountain and cultivated terraces were definitely abandoned during the third quarter of XXI century. Nowadays, a new awareness for the terraced landscape is blooming, as a strategic asset against hydrogeological risk, and valuable opportunity to restart with a context-led farming linked to variety of microclimates and spatial features. Currently, the drywall terraces are cultivated with private vegetable gardens. Ancient seeds recovered to produce fine cigars. Experiments with new cultivations like saffron and truffle are also being. People are catching on vineyards, indigenous orchards, fruit and local vegetables. Making effective use of land is becoming a new endeavor against landscape destruction and land abandonment, as effectively witnessed by 'Adopting a terrace' movement. The Observatory of the Valley landscape coordinates experiments, cultural initiatives, research and training.



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Canale di Brenta

Social and Agricultural Innovation



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Photo: Osservatorio locale per il paesaggio del Canale di Brenta, Angelo Chemin, Guido Medici, Progetto ALPTER, Nicola Bertoncello, Istituto Statale di Istruzione Superiore "A. Parolini"



1- ancient well for the recovery and production of rainwater in the high ground terraces. Survey, measurement, restoration and enhancement



2- "Mattarel" hamlet. Rock, drywalls, stairs, terraces, vegetable gardens and orchards

3- cultivation of tobacco



4- The "pa" stone, worked stone for pounding tobacco leaves

5- agricultural institute of Pove del Grappa. Course of drywall

6- the "pa" stone, worked stone for pounding tobacco leaves

7- Agricultural institute of Pove del Grappa. Course of drywall



8- terraces in St. Gaetano, livellar enclave with a performing agriculture, due to the widespread artificial irrigation system

9- plateau of Caselleto, hillside enclave abandoned at 500 meters

10- hypogean landscape, bournon in cavern

Photo captions and credits

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- 2 - "Mattietti" Hamlet. Rock, drywalls, stairs, terraces, vegetable gardens and orchards
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- 4 - the "pila" stone, worked stone for pounding tobacco leaves
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- 6 - the "pila" stone, worked stone for pounding tobacco leaves
- 7 - Agricultural Institute of Pove del Grappa. Course of drywall
- 8 - terraces in St. Gaetano, livelier enclave with a performing agriculture, due to the widespread artificial irrigation system
- 9 - plateau of Casarette, hillside enclave abandoned at 500 meters
- 10 - hypogeum landscape: fountain in cavern
- 11 - Canale di Brenta Valley

Photo: Osservatorio locale per il paesaggio del Canale di Brenta, Angelo Chemin, Guido Medici, Progetto ALPTER, Nicola Bertoncetto, Istituto Statale di Istruzione Superiore "A. Parolini".



33 | 300 km of dry-stone walls

The final mountainous stretch of the Valley of the River Brenta, situated between Primolano and Campese, before the landscape levels out into the plains at Bassano del Grappa, is known as Canale di Brenta. It is characterized by extensive terraced areas that climb from the river bed up the steep cliffs.

The earliest terraces date back to settlements from the third century AD. With the founding of the monastery of Santa Croce di Campese in the twelfth century, the construction techniques of dry-stone walling and the regulation and collection of water spread throughout the valley. The most intensive construction period, due to major migration and the consequent need to create farmland even in inaccessible areas, occurred between the second half of the nineteenth and the first half of the twentieth century. Then, during the decades that followed, the mountains were abandoned. Hydrogeological disasters – such as the “Brentana” flood of 1966 – emphasized the need for the restoration of the terraced landscape. Interventions of this kind occurred in Valstagna, Campolongo and Campese.

Currently the terraces are used for vegetable gardens, some of which are quite extensive, and there are also ongoing trials to introduce new innovative crops and recover ancient varieties of plants of the valley. Part of the terraces are in an abandoned state, but there is a growing awareness of how to make effective use of the land. The magnitude of the terraced system is an impressive feature of the landscape that characterizes and enhances the valley.



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Canale di Brenta

300 km of dry-stone walls



osservatorio di
Bassano del Grappa

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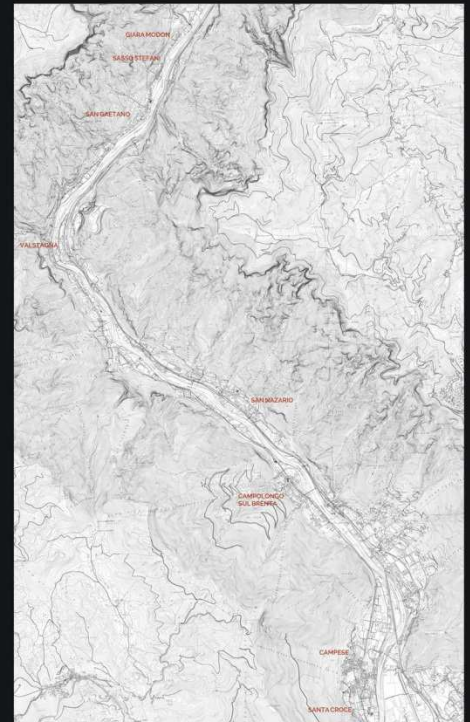
Photo: Osservatorio per il paesaggio del Canale di Brenta (1, 2, 3, 4, 7) Angelo Chemin (5-6)



1 - 1938 Campese, Bassano del Grappa



2 - Valstagna view from Mt. d'Asiago



7 - Regional technical map. Locations plotted in red indicate where terraces are more common. Canale di Brenta



3 - Sasso Stéfani, Valstagna



5 - Gaisi Modon, Valstagna



6 - San Nazario



4 - Monastery of Santa Croce, Campese

Photo captions and credits

1 - 1938 Campese, Bassano del Grappa

2 - Valsugana view from Col d'Astiago

3 - Sasso Stefani, Valstagna

4 - Monastery of Santa Croce, Campese

5 - Giara Modon, Valstagna

6 - San Nazario

7 - regional technical map. Locations marked in red indicate where terraces are more common, Canale di Brenta

8 - Valle del Merlo, San Nazario

Photo: Osservatorio per il paesaggio del Canale di Brenta (1, 2, 3, 4, 7) Angelo Chemin (5-6)



34 | The terraced mountains

The terraced landscapes in the territory of Belluno are particularly significant around Feltre, where the gentle slopes of the Val Belluna slowly disappear, giving way to the more rugged terrain of the valleys of the Piave and Cison rivers. The three proposed scenarios - Incino, Arsié and Faller - differ in their geographical conditions, morphology, and method of dry-stone walling.

The terraced areas are characterized by a mainly south-eastern to south-western exposure and are situated at an altitude of between 300 and 700 metres a.s.l.. The morphological complexity of the territory and of the lithologic composition contributed to the differences in manufacture, ranging from the use of unworked or roughly hewn stones to the use of dressed stone or slabs. Frequently the terraced levels are connected vertically via dug or cantilevered steps in the walls. The materials used are local, made up of "biancone" stone - maiolica - grey-white limestone, slabs of "scaglia rossa" and shapeless granite, sometimes very large pieces. Originally used for the cultivation of beans, grapes, corn and tobacco until the second half of the twentieth century, except for some sporadic cases of preservation and maintenance of the dry-stone walls (with restoration carried out on the initiative of individual owners or as part of a micro-enterprise), the terraces of the Feltre area are presently in a general state of disrepair..



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The Feltre territory

The terraced mountains



Italia
Nostra

territorio di
Belluno

The terraced landscapes in the territory of Belluno are particularly significant around Feltre, where the gentle slopes of the Val Belluna slowly disappear, giving way to the more rugged terrain of the valleys of the Piave and Cison rivers. The three proposed scenarios - Incino, Arsie and Fallèr - differ in their geographical conditions, morphology, and method of dry-stone walling.

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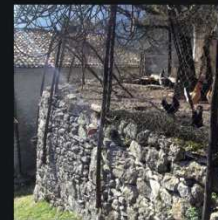
Testo, foto ed elaborazioni di ISOIPSE Sinergie Strategie Territorio



1 - terraced levels connected vertically, Incino, Arsie



2 - Terraces, Arsie



3 - Terraces, Incino, Arsie



4 - Terraces, Fallèr, Sovramonte

Incino
Comune di Arsie (BL)



6 - typical elevation and section

Arsie
Comune di Arsie (BL)

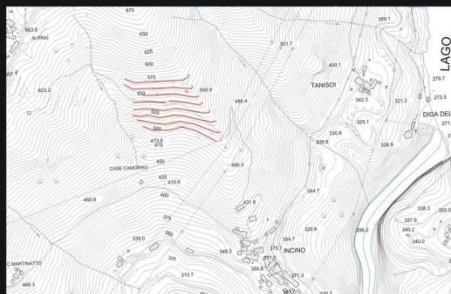


7 - typical elevation and section

Fallèr
Comune di Sovramonte (BL)



8 - typical elevation and section



6 - regional technical map dry stone walls in red



7 - regional technical map dry stone walls in red



8 - regional technical map dry stone walls in red

Photo captions and credits

- 1 - terraced levels connected vertically, Incino, Arsié
- 2 - terraces, Arsié
- 3 - terraces, Incino, Arsié
- 4 - terraces, Faller, Sovramonte
- 5 - typical elevation and section
- 6 - regional technical map: dry-stone walls in red
- 7 - typical elevation and section
- 8 - regional technical map: dry-stone walls in red
- 9 - typical elevation and section
- 10 - regional technical map: dry-stone walls in red
- 11 - cultivated terraces, Incino, Arsié

Photo: ISOIPSE Sinergie Strategie Territorio



Exhibition “A World of Terraced Landscapes”

Veneto Region in collaboration with ITLA Italy

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