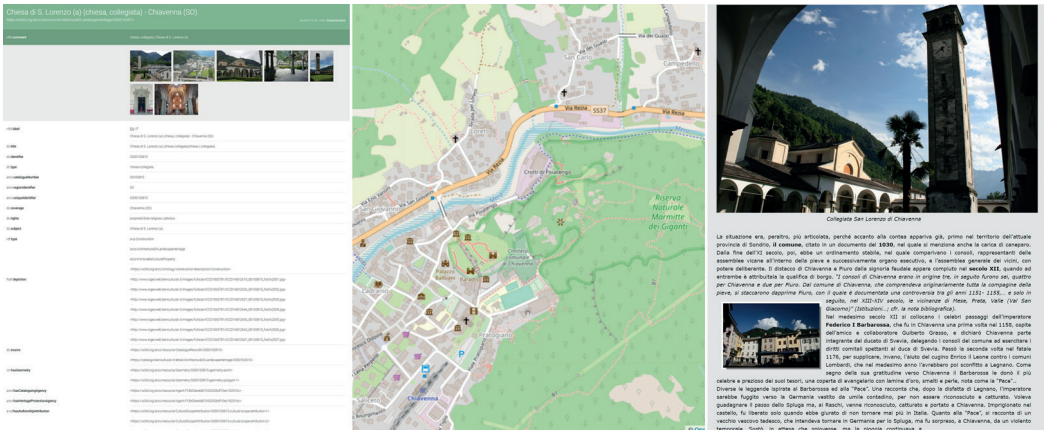
Comparing Top-Down and Bottom-Up Approaches. Maps of Cultural Landscape Digitisation Processes

Marco Vedoà

Abstract

The notions of 'cultural landscape' and 'landscape' suggested in academic literature, as the combination of the human action, the tangible and intangible heritage, and the natural environment is today included National and International policies and regulatory frameworks aimed at the enhancement. However, the application of such practices appears, especially in regulatory frameworks, limited over 'outstanding' landscape features which are recognised as monuments to preserve. In the same direction, digitisation processes and the ICTs developed for this purpose give the impression to highlight exceptional and outstanding features while other territories and elements are excluded from such practices. In order to visualise this divergence, the study focuses on Valchiavenna, a remote and fragile alpine area in Italy and one of the 72 experimental areas identified by *Strategia Nazionale per le Aree Interne*. The paper first analyses the top-down and bottom-up digitisation processes, the data produced, and finally suggests a collection of maps of the features collected within the regional catalogues, the open databases and the local initiatives. Furthermore, the study deepens the collaborations among these practices and the links among the ICTs with the aim to learn the possible connections and benefits for the local communities.

Keywords
Non-outstanding cultural landscape, ICTs for Cultural Landscape, *Strategia Nazionale per le Aree Interne*, Fragile Territories, Open data for Cultural Landscape



Three digitization processes of Collegiata San Lorenzo in Chiavenna, Italy. From the left Dati Beni Culturali, Open Street Map and Paesi di Valtellina.

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Landscape. From academic definition to digitisation in action

Thanks to contribution of several scholars [Sauer 1925; Corboz 1983; Turri 2006, 2008], the notion of landscape has been evolving from a monumental – and pitoresque – view to a holistic concept, based on values, that considers the human action, the natural environment, the intangible heritage. Moreover, the contributions of Widgren [2004] and Settis [2010, 2013] in the las years expanded this view by considering the people experience which allows to appreciate landscape as a collective asset able to improve social conditions. Besides the academic debate, policies and documents set actions and guidelines for the enhancement and preservation seem to suggest different views. The notion of landscape as the complex combination of natural, human and cultural aspects is today included in international and national policies. UNESCO [2012, p. 88] and the Italian Codice dei Beni Culturali e del Paesaggio [MiBACT 2004, art. 136d] agrees with this notion and recognizes the close link between the territory and its intangible and tangible heritage. However, the actions and the guidelines appear limited to a monumental view that focuses on areas bearer of outstanding values for the collectivity. This approach seems dictated by the need to define precise regulatory frameworks that can preserve the values these landscapes and in order to limit actions that may interfere such equilibrium. From a different perspective, the European Landscape Convention (ELC) [Council of Europe 2001, art. 1] expands the definition and, basing on perception, includes 'everyday' and 'degraded' landscapes. In the same direction, the Alpine Convention [1991a, p. 1; 1991b, p. 2] and ICOM [2016, resolution 1] agrees with this wider notion and recognizes landscape as common asset and a relevant aspect for the citizens' wellbeing. Moreover, the Italian Carta Nazionale del Paesaggio states the role the quality of every landscape can play for improving the communities' life conditions and the protagonist role participatory practices play in the enhancement [MiBACT 2018, pp. 8-10].
In this scenario the analysis of the Information and Communication Technologies (ICTs) developed for supporting the preservation and the enhancement of the cultural landscape may offer a representation of how these notions impact on the digitisation processes.
The interactive catalogues and maps offer, in fact, a quantitative and qualitative overview of the processes. Mapping the features digitised in top-down and bottom-up initiatives should show the detail level the practices may respectively reach, and allow to analyse the opportunity offered. The following paragraphs describe the development of a graphic tool that can help to visualise the concentration of the digitised features and the area covered by official cultural and natural heritage databases, open source databases and local initiatives.

Mapping the digitation practices. The case of Valchiavenna

The research focuses on Valchiavenna one of the 72 experimental areas Agenzia per la Coesione Territoriale identified for addressing funds after the development of the Strategia Nazionale per le Aree Interne [DPS 2014]. Historically, the area had been one of the most important passages of the Alps to connect Norther Europe with the Italian Peninsula. The valley is the node of two important valleys and their historic routes: Via Spluga and Via Bregaglia that from Switzerland continue southward to Como Lake and the Po Valley. Chiavenna, the main center, lies in the conjunction of the two routes and shows a rich cultural landscape: the presence of historical buildings, traditions, agricultural specialties and the historical land management. The area gathers twelve municipalities which show different economic and demographic data [1]. The norther part, in the municipalities of San Giacomo Filippo, Campodolcino and especially Madesimo the presence of ski resorts and outstanding natural environments had been shaping the local territory towards a tourism vocation. Instead, the southern municipalities (Verceia, Novate Mezzola, Gordona, Mese, Prata Camportaccio, Chiavenna, Piuro, and Villa di Chiavenna) have maintained their agricultural and industrial vocation in the valley floors, and a tourism development along the lateral valleys thanks to the presence of mountain sport routes (i.e. trekking, mountain bike and climbing) and traditional agricultural productions [ACT 2020].

Within the research area, the study analysed three regional catalogues, two open source databases, and four local practices devoted to the digitization and communication of the cultural landscape. The first regional catalogue developed with a top-down approach is Lombardia Beni Culturali LBC (cultural heritage of Lombardy) (www.lombardiabeniculturali.it). The database was developed according to the Linked Open Data (LOD) ontology proposed by the Italian Ministry of Culture, and gathers detailed information of the heritage (i.e. the author, the construction year, the geographical position, the people involved, contacts, etc.). The LOD structure allows then to learn very specific and technical information and the links with other entries. The study considered the elements tagged as "Architecture" as the built heritage that can be related with cultural landscape (fig. 01). The second catalogue focuses on the natural environment: the Sistema Informativo Beni e Ambiti Paesaggistici (SIBA) (Heritage and landscape ambits information system) which recognizes landscapes and viewpoints that are considered exceptional and worth to be preserved for the collectivity. In particular, the study mapped: Monumenti Naturali – MN (natural monuments), Siti di Importanza Comunitaria – SIC (relevant communitarian sites), Aree di Notevole Interesse Pubblico – ANIP (areas of relevant public interest), and Zone di Conservazione Speciale ZCS (special conservation zones). Concerning the ICTs, LBC offers an interactive catalogue while SIBA a webGIS which allows users to search for information and the regulations features are subjected. These two catalogues appear as technical tools that are addressed to experts and professionals which search for ecological, historical and regulatory information. A different approach in terms of digitisation and communication is Intangible Search (IS) (www.intangiblesearch.eu). Promoted by the Archivio di Etnografia e Storia Sociale (AESS) of Regione Lombardia (Regional Ethnographic and Social History Archive), the project is a joint initiative of the alpine local administrations to gather and enhance the intangible heritage of the Alps. The project is an inventory that gathers video interviews and documents of the traditions, events, crafts and agricultural products. The website offers an interactive map and catalogue from which users can learn the intangible heritage narrated with interviews to citizens (fig. 02).

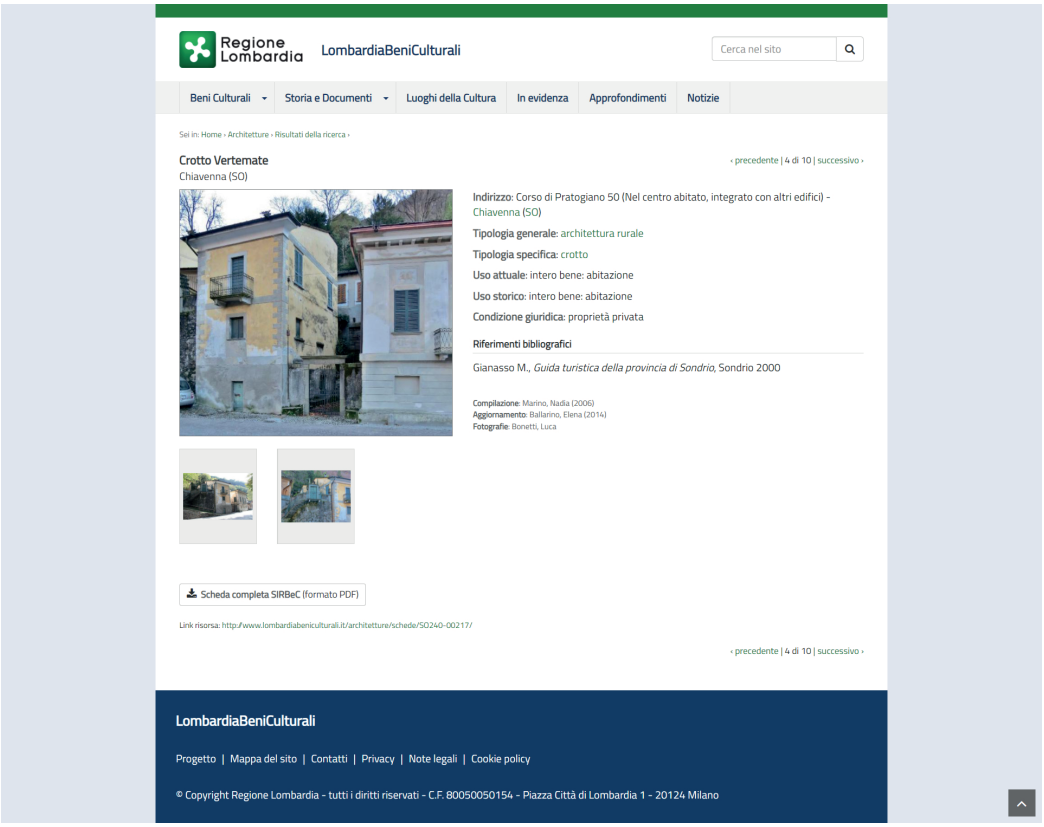

Fig. 01. Screenshot of 'Crotto Vertemate' page available in Lombardia Beni Culturali.

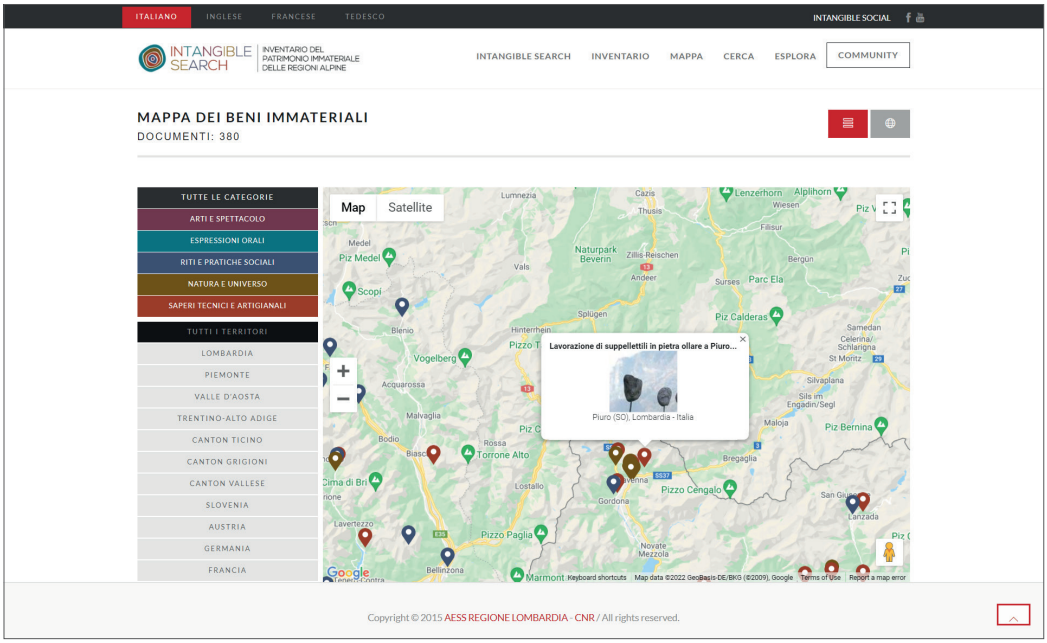

Fig. 02. Screenshot of the interactive map available on Intangible Search web site.

The proposed format appears addressed to a larger target that can comprehend experts, professionals and common users. Concerning open source databases, the study analysed the Wikidata entries, the database developed according to a LOD ontology that allows performing semantic queries and an interesting tool for heritage valorisation [Freire, Issac 2019; Catalani 2018]. The Wikidata LOD ontology allows to gather detailed information such as, for example, the geographical position, the construction year, the historical figures related to the features, the catalogue in which they are gathered. Wikidata is in fact the central hub that connects data to the entire Wikimedia Foundation ecosystem (i.e. Wikimedia Commons, Wikipedia and WikiVoyage). Thanks to the Wikidata SPARQL end point – the application for performing semantic research – the study collected, within the municipalities above mentioned, data tagged as historical buildings, traditions, natural monuments, and local specialties (fig. 03).
With the same aim, the Open Street Map (OSM) database was queried over the area with the tags that identifies the cultural and natural heritage, and the panoramic points (historic=* tourism=viewpoint and tourism=attraction) [Bonfantini 2017]. The result of the Wikidata and the OSM queries was furtherly manually checked to avoid multiple identical entries and to eliminate data that are not part of the cultural landscape (i.e. administration entities, school buildings, etc.).
The four local practices identified in Valchiavenna are: Ecomuseo della Valle Spluga e della Valle San Giacomo (www.ecomuseovallespluga.it) the ecomuseum of the northeastern valley, InfoPiuro (www.infopiuro.it) the municipal tourism and cultural agency of Piuro in Val Bregaglia, and Consorzio Turisico Valchiavenna (www.valchiavenna.com) the tourism consortium (CT) that gathers all the municipality of the valley, local activities, restaurants and accommodation services, and the cultural and sport activities (figs. 04, 05). In addition, the study considered an interesting website Paesi di Valtellina (www.paesidivaltellina.it) that digitizes the landscape of the province of Sondrio especially for trekking routes. The website developed by a local citizen offer a catalogue of the trekking routes, the local traditions, the history, and the built and natural heritage categorized per municipality. All these initiatives document on their websites the intangible and tangible heritage, as well the exceptional natural landscapes, with dedicated pages and in some cases with thematic routes. In order to visualize the digitization processes, the study mapped all the elements described in the pages and categorized them as tangible or intangible features. Moreover, the analysis of the local website reveals a further interesting point: the digitization of the cultural heritage seems to play the role of connector among the initiatives, as they share information about heritage by linking pages and promoting activities and events.
This aspect appears, in fact, relevant as it could strengthen the collaboration among

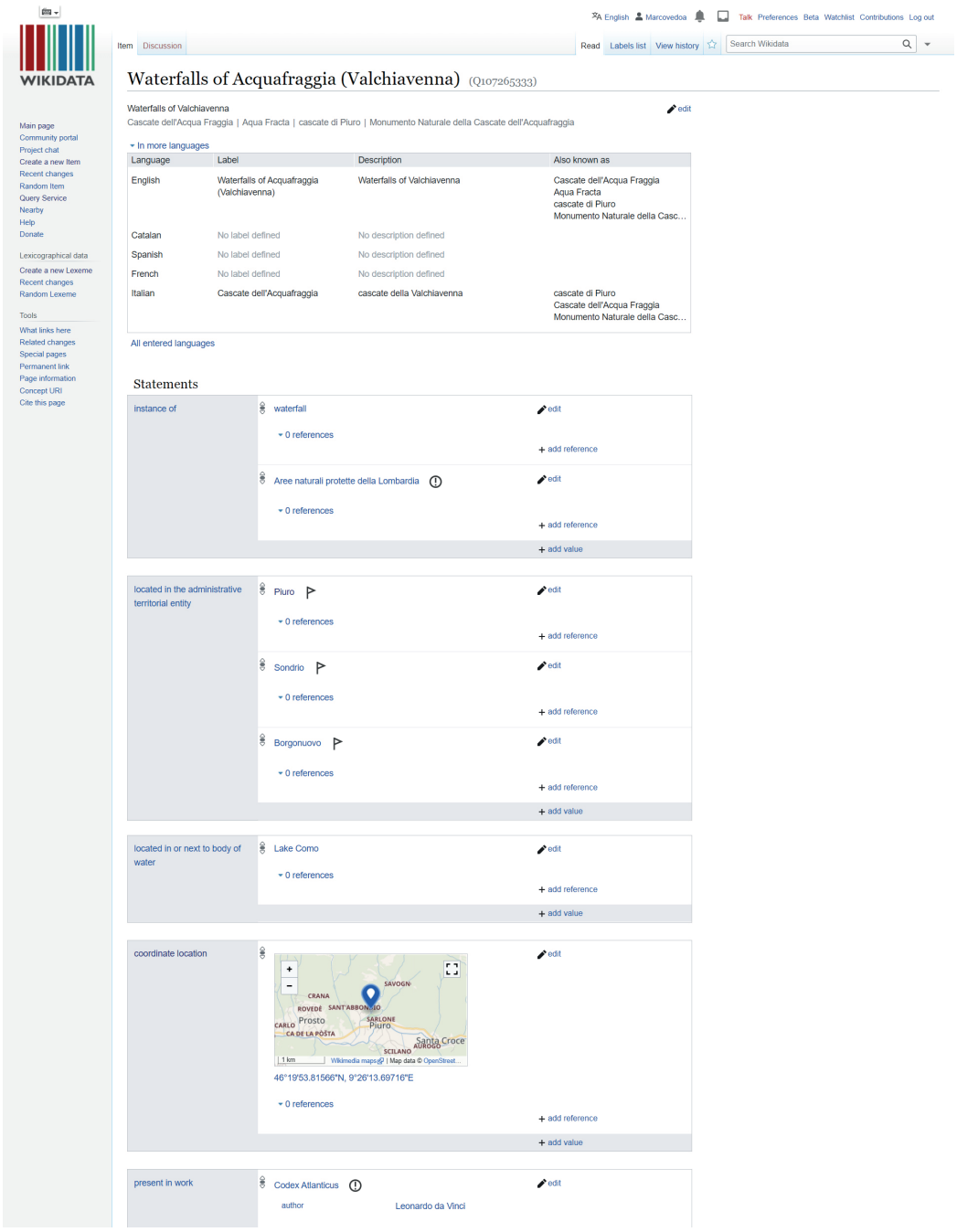

Fig. 03. Screenshot of 'Cascate dell'Acquafraggia' Wikidata page that shows the LOD structure.

the projects and increase the knowledge of the local heritage also in a proactive vision. The first maps help comparing the three categories separately and shows at first glance the areas in which the cultural landscape is digitized. LBC concentrates its action on Chiavenna the most relevant centre of the valley and the one with more monuments and place of culture. SIBA encloses large mountain and valley floor areas as exceptional landscapes (fig. 07) and IS identifies 15 intangible features that are shared by the entire valley and 14 localized in specific places.

The data gathered offered to build a map that show the concentration of the digitized features categorised into the platforms in which they are collected. From this perspective seems possible to visualize the detail level of the digitization processes but also the connections among the practices (fig. 06).

Fig. 04. The web page of 'Focaccia di Gordona' an intangible heritage feature described in the Consorzio Turistico Valchiavenna web site.

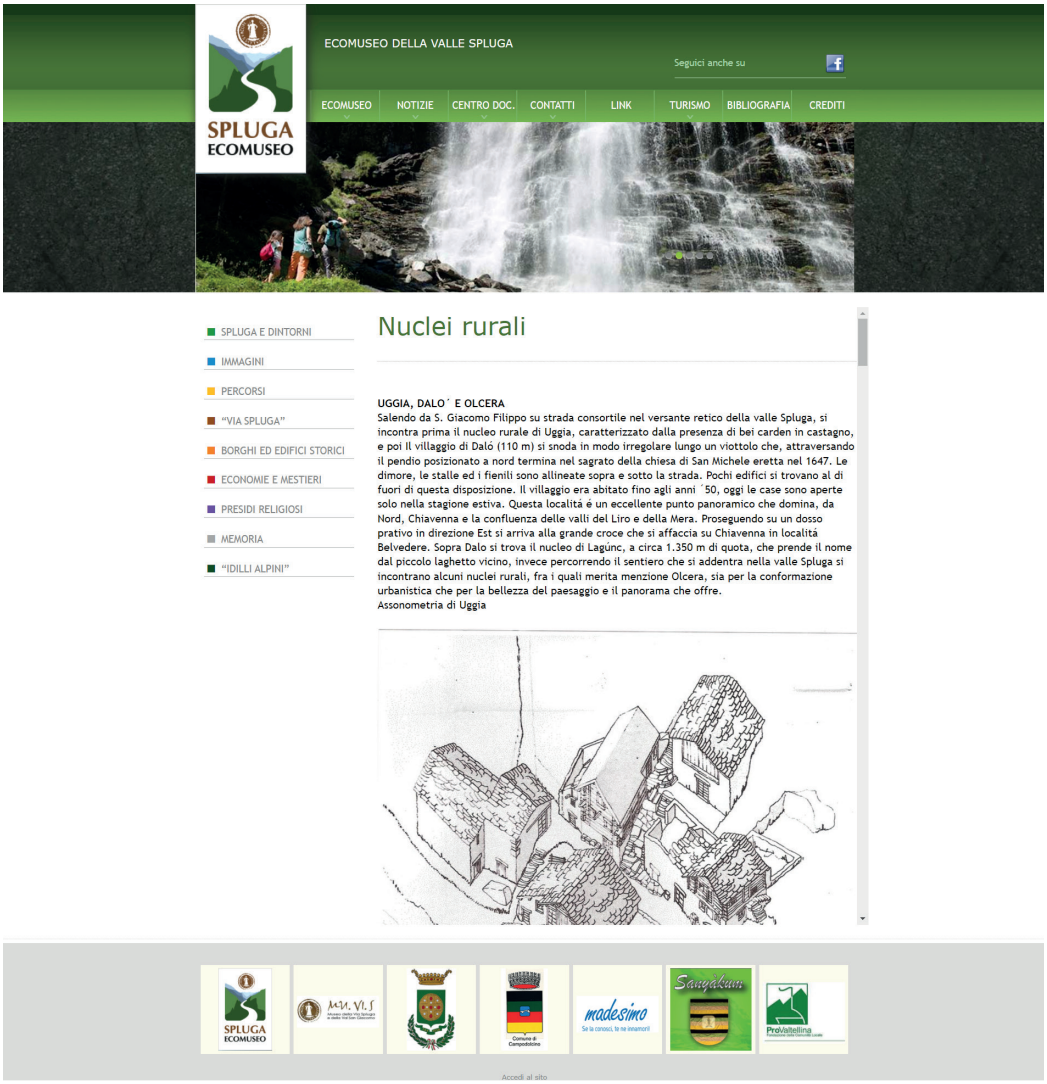

Fig. 05. The web page dedicated to alpine villages and pastures available on the Ecomuseo della Valle Spluga web site.

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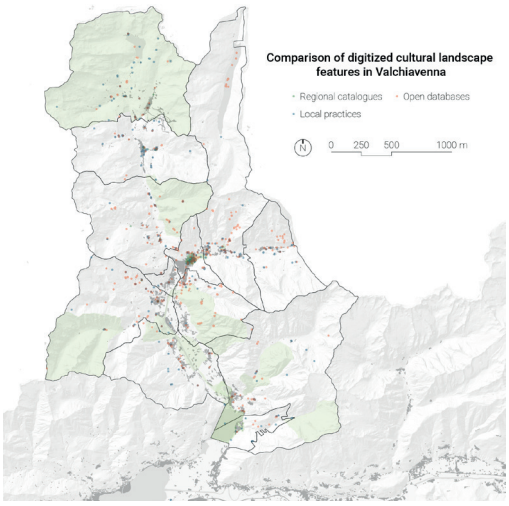

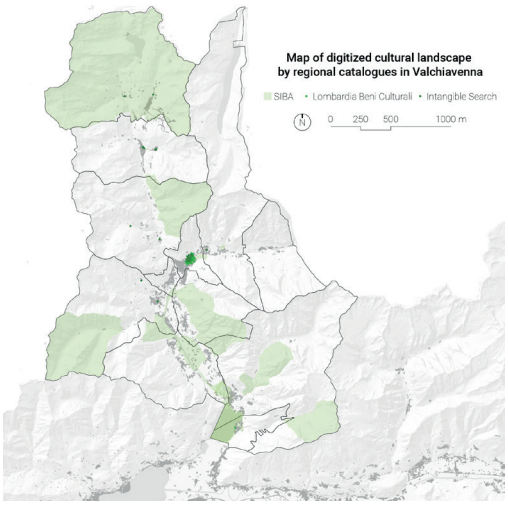

Fig. 06. The concentration of features identified in the regional catalogues, open databases and local digitisation processes.

Fig. 07. The concentration of features identified in the regional catalogues (top-down).

Name of the practice	*website*	*Category*	*Typology*	*Tangible features*	*Intangible features*	*Total features*
Lombardia Beni Culturali	www.lombardiabeniculturali.it	Regional catalogue	Top-down	73	-	73
SIBA	www.cartografia.servizirl.it/viewsiba	Regional catalogue	Top-down	16	-	16
Intangible Search	www.intangiblesearch.eu	Regional catalogue	Top-down	-	29	29
Wikidata	www.wikidata.com	Open Database	Bottom-up	125	2	127
Open Street Map	www.openstreetmap.org	Open Database	Bottom-up	357	-	357
CT Valchiavenna	www.valchiavenna.com	Local initiative	Bottom-up	63	11	74
Ecomuseo della Valle Spluga	www.ecomuseovallespluga.it	Local initiative	Bottom-up	64	14	78
InfoPiuro	www.inforpiuro.it	Local initiative	Bottom-up	28	3	31
Paesi di Valtellina	www.paesidivaltellina.it	Local initiative	Bottom-up	126	28	154

The website developed by a local citizen offer a catalogue of the trekking routes, the local traditions, the history, and the built and natural heritage categorized per municipality.
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The data gathered offered to build a map that show the concentration of the digitized features categorised into the platforms in which they are collected. From this perspective seems possible to visualize the detail level of the digitization processes but also the connections among the practices (fig. 06).
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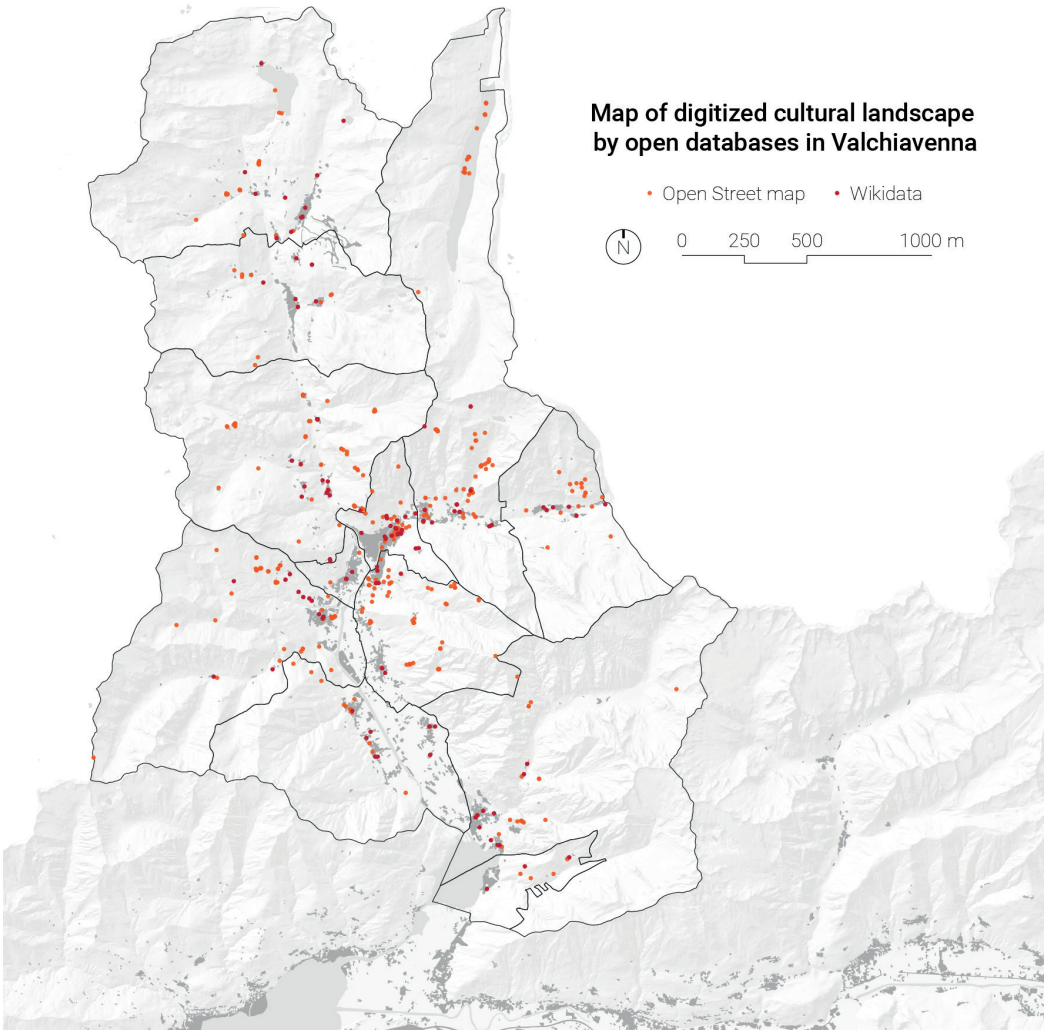
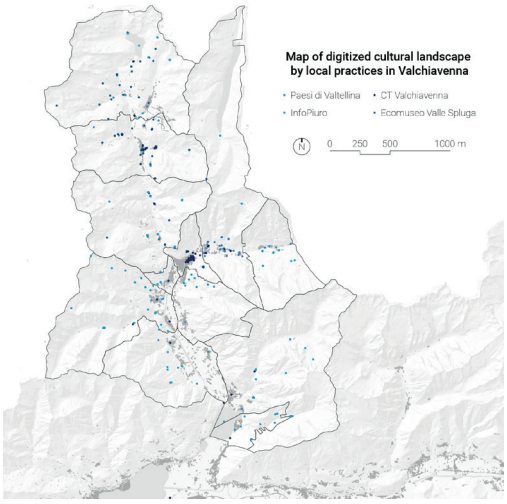


Fig. 08. The concentration of features collected in Open Street Map and Wikidata.



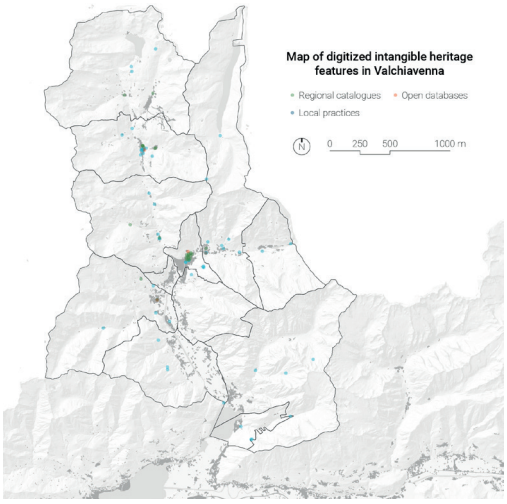


Fig. 09. The concentration of features identified in the four local initiatives (bottom-up).

Fig. 10. Comparison of the concentration of intangible heritage features identified in the regional catalogues, open databases and local initiatives.

However, the LOD collect raw information of the cultural landscape. The features, especially in OSM, contain only the indication of the position, the name and the typology of the elements. The objective of these practices is, in fact, to be a data warehouse from which gather raw information and the links they generate with other entries and external sources (i.e., official catalogues, archives, museums and local initiatives). The local digitisation projects reach a more detailed level and suggest an approach that integrates the different kind of heritage such as the intangible and intangible features and the natural environments (fig. 09). In addition, local initiatives, as they aim at involving locals and pushing tourism, offer ICTs closer to users and propose the local cultural landscape as a resource. The web sites offer detailed descriptions and media able to communicate the heritage from the local communities' perspective. Concerning the development of a data ontology the projects lack a precise structure, in many cases, in fact, even the localization is reported with generic information. The focus on the intangible heritage allows a further consideration. As seen, IS offer a ICT for discovering the features but appears limited to traditions and traditional crafts and Wikidata only limits on two local recipes. These two initiatives also report intangible features that are shared in the entire area while local initiatives report a more detailed digitisation. Especially the ecomuseum, InfoPiuro and Paesi di Valtellina digitised traditional crafts, events, and even legends from specific places (fig. 10).

Conclusions

The representation of the catalogues and the map of the networks summarise the three category according to the view proposed. Official catalogues appear related to a monumental view of the cultural landscape and focus their action on the recognized built and natural heritage. The concentration of the feature in specific places give the impression that the perspective is dictated by the need to set regulations. Open database seems to have a vision of warehouse in which collect basic and linked information useful for the storage of knowledge and the development of third part projects. Local initiatives instead appear driven by a storytelling approach that propose the cultural landscape enhancement as an experience to share.
In this direction, local initiatives appear closer to the local social and economic capitals and able to combine tradition with innovation [Salerno 2018; Borowiecki & Navarrete 2017]. InfoPiuro and the CT involved local activities with the aim to build a network devoted to the tourism promotion and the cultural landscape enhancement. For example, these initiatives valorise the agricultural specialties and traditional dishes by involving and promoting local producers and restaurants, and push the development of new activities based on the valley traditions. CT promoted in 2020 the development of a new product: the distillation of a gin elaborated according to the distillatory tradition and the officinal herbs of Valle San Giacomo. The CT also collaborated in the creation of the thematic trekking path Via Spluga (www.viaspluga.it) which promotes the historical route through a sustainable tourism practice.
Furthermore, a better integration among all the digitisation projects, especially between local and open database, may offer new opportunities to improve digitisation processes. The possibility offered by Wikidata and OSM to link external resources like ecomuseums seem the connection point for driving a more integrated digitisation process for cultural landscape. Combining the structured open databases with the detailed and storytelling based digitisation of the local initiatives may drive the development innovative tools for sharing cultural landscape and build a link to the local development.

Note

[1] Data retrieved in January 2022 from Istituto Nazionale di Statistica ISTAT for the period 1951-2020 (https://dati.istat.it).

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