

The TeMA logo is displayed in a large, white, sans-serif font. It is positioned over a background image of a city street with a black metal railing and some greenery in the foreground.

TeMA

This Special Issue of TeMA - Journal of Land Use, Mobility and Environment, collects twenty-seven contributes of international researchers and technicians in form of scenarios, insights, reasoning and research on the relations between the City and the impacts of Covid-19 pandemic, questioning about the development of a new vision and a general rethinking of the structure and urban organization.

A photograph of the Milan Cathedral (Duomo di Milano) under a blue sky with scattered white clouds. The cathedral's intricate Gothic architecture, including its many spires and statues, is clearly visible.

Journal of
Land Use, Mobility and Environment

TeMA Journal offers papers with a unified approach to planning, mobility and environmental sustainability. With ANVUR resolution of April 2020, TeMA journal and the articles published from 2016 are included in the A category of scientific journals. From 2015, the articles published on TeMA are included in the Core Collection of Web of Science. It is included in Sparc Europe Seal of Open Access Journals, and the Directory of Open Access Journals.

A night-time photograph of St. Peter's Basilica in Rome. The basilica is brightly lit, and its large dome is a central feature. The surrounding area is dark, with some lights from nearby buildings visible.

Special Issue

Covid-19 vs City -20
scenarios, insights, reasoning and research

A photograph of a wide, multi-lane bridge or road. In the background, a large, ornate building with many windows and a central tower, likely a parliament or government building, is situated on a hill overlooking the water. The sky is overcast.

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COVID-19 vs CITY-20

SCENARIOS, INSIGHTS, REASONING AND RESEARCH

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Given the short time to produce the volume, the Editorial Board of TeMA Journal carried out the scientific quality audit of the contributions published in this Special Issue.

The cover image is a photo collage of some cities during the Covid-19 pandemic quarantine (March 2020)

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Special Issue

COVID-19 vs CITY-20

SCENARIOS, INSIGHTS, REASONING AND RESEARCH

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The Covid-19 pandemic effects in rural areas

Turning challenges into opportunities for rural regeneration

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Abstract

Rural communities tell us the story of a thousand of years of collaboration between nature, culture and humans. The current Covid-19 pandemic is considerably threatening rural areas, posing challenges exacerbated by low available financial resources, not easily accessible health services and greater isolation. Rural areas are also considered safe shelters characterized by better daily living conditions thanks to easy to maintain social distancing and access to nature, to cultural and nature-based recreation activities. The Covid-19 crisis is revealing the crucial role of natural and cultural heritage for social cohesion, local development and mental wellbeing. The paper presents some responses to the Covid-19 crisis collected through an open call for action within the RURITAGE project. It aims at show how rural areas can cope with emergencies and it builds the basis to rethink the current crisis as a crucial tipping point for a resilient development of rural territories. It is key to overcome the idea of rural areas as mere food production system, calling for a broader vision of rural communities as poles of development based on local heritage, natural resources, creativity and social inclusion as essential elements to regenerate rural areas and to rapidly support their transition towards sustainable future.

Keywords

Rural regeneration; Covid-19; Social resilience

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1. Introduction

Looking across the world, rural communities tell us the story of a thousand of years of collaboration between nature, culture and humans. Rural areas embed unique traditions, culture, gastronomy, landscapes, and communities. Nevertheless, they are facing continuous demographic and socio-economic challenges that bring to depopulation, ageing, disengagement, reduced service provision and inhibited accessibility. Even though urban areas have been hit hard by the crisis, the current Covid-19 pandemic threatens rural areas even more, posing challenges exacerbated by low available financial resources, not easily accessible health services and greater isolation issues.

Most available scientific publication on the current Covid-19 pandemic focus on health and medical research (Fu et al., 2020; Wilson & Jack, 2020). A big share of the public debate is focusing on urban densely populated settlements, their mobility issues and the future of urban public space. Not many scholars focus on the effects, challenges and potential opportunities for rural areas caused by the crisis.

According to previous studies (Setti *et al.*, 2020; Xiao et al, 2020), the Covid-19 pandemic has a faster spread and harder impact in terms of death rate in densely populated areas with higher concentration of PM10 and PM2.5. Yet, density is most likely just one of several key factors that determine how vulnerable places are to the virus. Across the world, Covid-19 has taken root and strongly affected areas with diverse geographic, climatic and demographic conditions. Megacities like New York and London experience a strong impact due to large flows of visitors and tourists, diverse global populations, and dense residential areas. Also, the pandemic has been particularly serious in predominantly industrial areas like Wuhan, Detroit, and Northern Italy, that are strictly connected through supply chains and trade exchange (Florida, 2020). Rural areas have been less impacted so far, but controversies were raised in several countries (i.e Asquith, 2020) because of people that wanted to move to second houses to escape from most hit cities and regions and to enjoy calmer and more natural areas (i.e Hart, 2020) Indeed, partial social restrictions or total lockdown experienced in some countries could have reverted citizens' priorities. Landscape enjoyment, local safe food production and delivery, possibility of social distancing, and spread accessible open public areas, that were not much valued before, have been increasingly acknowledged by people living in small apartments in densely populated cities (Venter et al., 2020). At the same time, several experts around the world are calling for a 'rural renaissance', where rural areas would assume a central role in developing sustainable and resilient communities.

As acknowledged in the recently published Communication from the Commission on the EU budget powering the recovery plan for Europe '*rural areas will have a vital role to play in delivering the green transition and meeting Europe's ambitious climate and environmental targets*' (European Commission, 2020). To reach this objective, the Commission is proposing to reinforce the budget for the European Agricultural Fund for Rural Development by 15 billion euros. The overlying idea is to support farmers and rural areas in making the structural changes necessary to implement the European Green Deal (European Commission, 2019), and in particular to support the achievement of the ambitious targets in the new biodiversity (European Commission, 2020b) and "Farm to Fork" strategies (European Commission, 2019) . Nevertheless, still recognizing the core role of agriculture and farmers into rural society, we believe that rural territories and communities embed resources and local heritage that go much beyond this. Deconstructing the images of rural areas as mere crops for food production to build a narrative of rural communities and territories to build a new one, to be conceived as vibrant poles of development based on local heritage, natural resources, creativity and social inclusion, could be crucial to truly regenerate rural areas and rapidly support their transition towards a sustainable future.

Indeed, RURITAGE perceive heritage in its wider sense including natural and cultural heritage, beyond tangible monuments and artefacts, recognising intangible forms of traditions, social practices, and knowledge as the values that tie communities together and as a resource for sustainable local development. The whole paradigm

for regenerating rural communities lies on the identification of six powerful drivers that boost regeneration in rural communities all around the world. These six drivers identified in the project are the so-called RURITAGE Systemic Innovation Areas (SIAs), namely Pilgrimage, Local Food Production, Art and festival, Landscape Management, Migration and Resilience.



Fig. 1 RURITAGE paradigm for heritage-led rural regeneration: the six Systemic Innovation Areas

With the aim of gathering and exchanging rural experiences to support each other during the Covid-19 pandemic, RURITAGE has launched a call for actions of knowledge, skills, ideas, and resources of social resilience across the world (RURITAGE, 2020b). So far 62 initiatives of rural responses during Covid-19 have been submitted from all over the globe, although mainly centered around Europe. The call has received initiatives within each RURITAGE SIA, creating a collection to aid and inspire other rural communities. The collection is found as an open resource on the RURITAGE website, where the actions are published gradually under the section Rural Resilience Actions (RURITAGE, 2020a).

Starting from the analysis of those practices, this paper attempts at giving some examples of how rural areas can cope with emergencies through the enhancement of their local, natural and cultural heritage, and it also aims at building the basis to rethink the current crisis as a crucial tipping point for a lasting resilient development of rural territories. In this moment, when an overall coordination at EU level on how to respond to the crisis in rural areas is missing, RURITAGE would like to propose a new strategic agenda, valuing local cultural and natural heritage to transform rural areas into long-lasting sustainable laboratories. This does not refer to rural areas as potential safe place for short period holidays or safe shelters in times of crisis but rather include a strategic and long-term vision for regenerating rural territories through community-built strategies for sustainable development and inclusive repopulation. To this aim, the second section builds upon the 6 RURITAGE SIAs, underlying current challenges and potential opportunities within the Covid-19 scenario, including the role of relevant stakeholders and targets. The third section briefly discusses the results and presents the main conclusions of the paper, developing the basis to set a strategic agenda for rural sustainable development in the future.

2. Covid-19 effects in RURITAGE Systemic Innovation Areas: challenges and opportunities

2.1 Pilgrimage

The tourism sector directly contributes to 4.4% of GDP, 6.9% of employment and 21.5% of service exports in OECD countries, on average, and continued growth provides real prospects for sustainable and inclusive development (OECD, 2020b). Prior to the Covid-19 outbreak, the travel and tourism sectors were expected to make up 10% of global Gross Domestic Product (GDP) in Europe (European Commission, 2020d). Pilgrimage,

holy and hiking routes are currently valuable options of sustainable and slow tourism in Europe and all over the world (Balestrieri & Congiu, 2017; Nolan & Nolan, 1992). Within RURITAGE, the cases of Camino de Santiago (Spain) and Via Mariae (Romania) demonstrate how rediscovering local cultural and natural heritage along pilgrimage and hiking routes poses great opportunities for less explored areas to gain recognition and boost local economy.

As easily understood, the tourism and travel sectors have been particularly hit hard by the crisis. The European Union's tourism industry is estimated to lose around one billion euros in revenue per month because of the outbreak (European Commission, 2020d). The Travel & Tourism sector faces a staggering 100 million jobs losses due to the coronavirus pandemic, according to the World Travel & Tourism Council. The impact on the travel and tourism ecosystem particularly hit the small and medium enterprises sectors.

This crisis is creating huge challenges also to the pilgrimage and hiking routes because of travel restrictions on the one side, and also due to the intrinsic cross-border nature of some religious pilgrimage route and events, such as the Hajj in Islam and Santiago de Compostela in Catholicism that draw millions of pilgrims every year. Ensuring health and safety of local populations and of pilgrims in such emergencies could be quite challenging (Escher, 2020) while small hotels, business working in the food and beverage sectors could struggle in adapting to the current safety measures imposed by local governments. On the other hand, most of the less known pilgrimage and hiking routes – that could better face the issue of managing lower numbers of tourists – dispose of limited financial resources, that could be further reduced because of the current crisis. At the same time, if properly planned and managed, pilgrimage and hiking routes can be considered amongst the safest tourism destinations in the current Covid-19 crisis, thanks to the intrinsic nature of such activities that can easily adapt to the current imposed social distancing rules and that naturally take place in open-air natural environment, thus facilitating their adaptation to the current challenge.

It is therefore crucial to raise a great coordination among all involved and interested stakeholders, from regional to local authorities to local businesses involved in the activities – mainly hotels, restaurants and other accommodations structures – to guarantee the adoption of appropriate measures for safe destination, keeping small local and family-run businesses alive. Big opportunities are raising both for internationally recognized pilgrimage and hiking routes, that could redirect their targets towards family and domestic tourists, and also for smaller and less known places that can claim for the re-discovering of local cultural and natural heritage, involving rural communities into long-lasting regeneration process. Also, pilgrimage and hiking could take this chance to connect to other nature-related activities – i.e. open-air sports, fishing, etc. – that will support market diversification increasing the potential number of visitors of the area. In some cases, i.e. KATLA Geopark in Iceland, they are taking the chance of this moment, when there is no visitors entering the country – to improve and re-develop part of the pilgrimage related infrastructures also temporarily employing people that lost their jobs due to the crisis. Finally, current limitations to big mass events and crowded hotspots, are calling for a spread tourist offer during the upcoming seasons that could be boosted and sustainably maintained through time by involving and engaging with the creative sectors' local stakeholders and organizing small events along the pilgrimage and hiking routes, such as small concert, open air movies, theatre representations. All this will be possible only thanks to a strong and coordinated responses by the whole pilgrimage and hiking routes, able to involve the whole stakeholder chain. In this sense interesting results could also shortly come from the survey designed by the Cultural Routes Programme of the council of Europe (Council of Europe, 2020).

2.2 Local Food

Sustainable food and drinks production and local gastronomy embody agricultural practices, rural landscape, local history and traditions, and symbolizes the cultural heritage of a territory. Food serves as a strong

connection between nature and human society bringing together land, heritage and the people. As in the case of RURITAGE Role Models, the Coffee Landscape of Colombia and the local Agro-food production in Puglia, local food production is a diverse and dynamic channel for sharing stories, forming relationships, create development and building communities. While food production is mostly located in rural areas, population is increasingly living in densely populated urban areas (Seto et al., 2017) far away from places where the food is actually produced. In the last decades, the global food trade changed the eating habits of consumers which moved from local and retail markets to supermarkets and discount stores. Moreover, the significant change in lifestyle, the increase in working hours, and the decreasing availability of time to cook, led to triumph of supermarkets, fast food services and discount store (Cappelli & Cini, 2020). On the other side, a huge movement in slow food production and consumption, healthy lifestyle and zero kilometres philosophy is rising. The current Covid-19 emergency re-opened the discussion on food security in Europe which seemed to be distant memories due to shortage in agricultural workers (Hobbs, 2020; News European Parliament, 2020) and issues in food transportation and global logistic (Gray, 2020). There is a well-known issue concerning the lack of agricultural workers that has resulted in unharvested and unsold stock. Food producers and farmers are currently greatly challenged to find temporary workers due to travel restrictions. However, there are recognised ethical challenges of temporary labour for agriculture where workers are often treated differently than inhabitants (Chung, 2019). Instead of temporary labour, there are opportunities to enable formal engagement for workers.

On the top of this, a report coming from the UK (Loopstra, 2020) described how the Covid-19 lockdown not only exacerbated food insecurity among those who regularly struggle, but also created new economic vulnerabilities due to loss of work and income, or even because people are self-isolating and unable to get the food they need. This situation created several private solidarity actions, where businesses, public sectors and the civil society have teamed up together to provide services to the local communities. In Izmir, Turkey, the municipality has stepped into support at the same time local food producers and vulnerable people and families. They developed food-aid packages containing locally produced food that are funded by private donations either online or directly in stores. The municipality delivers packages directly to vulnerable groups and economically disadvantaged families. In this way, less benefited members of society are supported as well as the local entrepreneurs and farmers. Also, in areas where initiatives have not been directly coordinated by authorities, local food producers and farmers are forced to rethink and adapt their businesses. Across rural Europe, many initiatives for distributing food directly from the producers to the customers' homes are taking place. The initial aim has often been to maintain an active production in order to adapt to current challenges. But at the same time, by receiving deliveries to the door, inhabitants are less exposed to risk. This is both a way to ensure the health of vulnerable inhabitants but also an action to strengthen local production and entrepreneurs. For elderly and vulnerable groups this action can be a potential lifesaver. The action of food delivery has taken different shapes depending on where it has been initiated and the kind of local entrepreneurs, producers, and farmers. Most businesses have made their usual products possible to order via their homepages or directly by phone. In other areas, initiatives have arisen from networks of local farmers, through the support of social networks, where customers can place an order via Facebook pages, while in others there was a top-down approach achieved in cooperation with regional authorities. Another model has been to list local producers on the municipality website where the inhabitants can easily reach and buy local food/products directly from the manufacturer.

Both in urban and rural areas the crisis sped up and supported the development of new business models based on sustainable door-to-door food delivery. It is now crucial to work on the sustainability of these new business models as these logistic innovations towards online commerce of food can arguably be an excellent opportunity to reach and maintain new customers for local food producers. In rural areas, there is a need of further

developing local capacity and skills towards digital tools for advertisement, logistic and e-products. Local authorities and relevant stakeholders – small farmers and local producer associations - could build upon this new trend to boost the capacity of local farmers through on online training and educational tools as well as interactive webinars to spread knowledge.

In the medium-long term, this change of perspective could increase awareness of food independence in communities and it can also contribute to develop a greater trust-building between local farmers and inhabitants. Also, through the crisis, there is a high potential of reinforcing the role of local producers and farmers and to boost the recognition of local communities' bond with their territories. The reinforcement of such relations could enhance the local microeconomy also in non-crisis situations, since it allows to increase local employment and improve people's quality of life (Cappelli & Cini, 2020), contributing to the regeneration of rural territories. The crisis has highlighted the importance of the rural world as the food producer for the sustainability of life and the deep relations between the urban and rural worlds. Rural areas should not lose this opportunity but start to work on this further in relation with the closest peri-urban and urban areas, building and reinforcing existing Short and Slow Food Ecosystems of relevant producers, consumers and other stakeholders.

2.3 Migration

Beyond the challenges presented by the migration crisis, migrant arrivals in rural contexts serves as a great opportunity for rural regeneration (Green et al., 2009; Greve Harbo, Lisbeth; Ström Hildestrand, Åsa; Heleniak, Timothy; Sigurjónsdóttir, 2017). Indeed, despite the challenges posed, rural areas can take advantage of the opportunities provided by an influx of migrants as a source of new vitality to restore declining villages. In areas suffering from population decline and closing services, the arrival of migrants can create new opportunities for growth.

This is the case of Lesvos UNESCO Global Geopark (GR), that has developed integration and information programs for newly arrived as well as citizens on local cultural and natural heritage and of PIAM Onlus (IT), that works on migrant's hospitality and inclusion in Asti province, also rediscovering the autochthonous varieties of ancient wheat as local food and heritage as a way for boosting migrants' integration (Conticelli et al., 2019) through the connection with local food, territory and traditions. They have demonstrated that it is possible to boost and accelerate the process of integration and regeneration by means of (i) integrating migrants within the local agro-food chain and the creative industries, (ii) restoring old and unused buildings to give hospitality to the migrants, (iii) offering training to migrants and residents related with organic farming, arts, built heritage restoration, traditional crafts and trades, etc. (iv) facilitating the connection with residents with defined food- (ethnic cuisine) and art-related activities (traditional dance, music performance), (v) offering internships for migrants in local businesses, farms, tourism related activities, (vi) developing integration and information programmes for migrants and citizens, (vii) offering educational programmes and guided tours, specifically tailored for migrants to make them aware of the cultural and natural heritage of the territory.

The Covid-19 pandemic has posed new challenges to the areas hosting migrants and refugees, because of the need to stop many integration activities (i.e. language courses, work on the field) due to total or partial lockdown measures, thus in some cases exacerbating already existing problems. Many government services have been suspended because of the ongoing coronavirus pandemic. To help approximately 220,000 migrants in Germany resume their lessons, the Federal Office for Migration and Refugees has invested about 40 millions of euros to continue the courses in a digital format and currently, nearly 83,000 immigrants are participating in digital integration and language courses (Bathke, 2020). As social distancing rules and guidelines have been implemented across Europe, authorities and migrant associations have expressed concerns about the living

conditions of some of the most vulnerable members of society. In Italy, migrants living in reception centres have written an open letter to authorities expressing their concerns about living in close, confined spaces and officials have voiced concerns about the conditions of asylum seeker camps on the Greek islands (European Commission, 2020c). On the other hand, the imposed sanitation measures forced all reception centres to adopt adequate sanitation, including the ones that did not have acceptable quality levels before the emergency. In this sense, the pandemic could boost the finding of a permanent solution to overcrowded asylum camps and low living conditions.

One crucial part of the response to the Covid-19 pandemic is to make sure that all members of society have the information they need to stay healthy and follow quarantine guideline (World Health Organisation (WHO), 2020b). To ensure that migrants are not overlooked in the response, civil society organisations have been busy translating and communicating vital information to their communities. Authorities have also made an effort to communicate critical information in multiple languages (European Commission, 2020c). Moreover, support measures to improve communication and counter xenophobia have been activated in many areas in order to provide accurate and timely evidence-based information, aiming at dispelling fears and misperceptions among host populations regarding refugees or migrants and the Covid-19 outbreak (World Health Organisation (WHO), 2020a).

Because of the pandemic, countries have tightened their borders and restricted the entry of most foreign nationalities. This has strongly affected some economic sectors, and mainly the agricultural one that strongly relies on seasonal migrant farm workers. Covid-19 has also posed controversial challenges to migrant domestic workers. For some, workload has increased, and free Sundays have been denied as the whole family is staying at home and is demanding more constant assistance. Others have been let go by employers confined at home, refusing contact with outsiders (Jordan and Dickerson, 2020; IOM-CREST, 2020).

In some countries, like for instance in Canada, temporary migrant workers were among those permitted entry; they have been deemed essential workers due to the central role they play in supporting Canadian farmers and the food supply (Hastie, 2020). In Italy, to find a solution to the urgent need for farm workers, PIAM Onlus has promoted an agreement with farmers organizations, through which refugees are employed in the agriculture sector under the supervision of the managers of reception centres. These procedures involve regular working agreements, therefore counteracting illegal exploitative activities (a phenomenon that is known as "caporalato" in Italy).

The pandemic has thus emphasized that migrant workers (farm workers, but also workers in health sector and migrant caregivers, etc.), are essential to the local economy due to their expertise and skills. As highlighted by the Communication from the Commission "Guidelines concerning the exercise of the free movement of workers during Covid-19 outbreak" (European Commission, 2020a) it is necessary that those workers are treated in the same manner as the workers that exercise critical occupations referred to above. Beyond allowing such workers to continue crossing the borders, it also needed to guarantee that the employers provide them for adequate health and safety protection. Identifying and disseminating good practices, strengthening dialogue and coordination between recruiters and employers, and stimulating business action in global supply chains to effectively protect migrant worker health, well-being and rights, could definitely enhance the commitment and capacity of employers and labour recruiters to protect migrant workers, including seasonal workers, not only during the pandemic but also after the end of the emergency, and thus could help in addressing improving the future integration of migrants in local communities.

2.4 Art&Festival

Cultural and creative sectors tend to be considered less accessible for rural communities. By enabling participants of all ages and abilities to take part in artistic activities, RURITAGE intends to use culture, art and

festival as a mean to further increase territories' attractivity, creativity and to eventually revitalize local communities. Accordingly, RURITAGE clearly aspires to make the arts more accessible to rural communities to experience, participate, and work in.

The cultural and creative industries is one of the sectors most heavily affected by the Covid-19, with performances and concerts cancelled, and theatres, museums, and cinemas that have been closed. As in urban areas, cultural life and social exchange in rural areas is halted. SMEs are largely affected by the Covid-19; in Italy, for example, approximately a third of SMEs in the creative sector will suffer from a 15% decline (OECD, 2020a). According to a preliminary estimation by Eurostat, the Covid-19 crisis might affect about 7.3 million cultural jobs across the EU. Over 30% of the affected workers are self-employed and lack adequate social protection (EU Science Hub, 2020). On the 27 March 2020 the Culture and Education Committee Chair, Sabine Verheyen, stated that the cultural and creative sectors across Europe have been disrupted by the impact of stringent public health measures. Verheyen claimed that cultural and creative businesses are among those struggling the most and in most need of financial support. Under the Coronavirus Response Investment Initiative, European Member States will be able to use Structural Funds money to support small businesses and employment schemes. Verheyen asserted that businesses and individuals in the cultural and creative sector should receive access to this financial support (European Parliament, 2020). As there is no common strategy on EU level yet, most EU countries have developed own approaches. For instance, Italy has set an emergency fund addressed to performing arts, cinema and audio-visual media and has removed taxes for cultural sites. At the same time, in Denmark, there is a funding coverage of 75% of cultural work salaries (EUNIC Global, 2020). Rural access to creativity and culture has not been explicitly mentioned in any of such initiatives.

Although culture has already been accessible online for many years, the globally occurring lockdown made virtual access the only way to approach culture. Many significant cultural institutes have moved partly online as a way to boost and enrich reality. The biggest European museums designed online tours allowing visitors to see parts of the collections, while smaller venues are following. Culture in rural areas has not been at the centre of this debate. Nevertheless, in rural areas, libraries have made their collections available online where some have even provided videos of librarians reading out loud directly to children. The same applies for rural-based festivals, where some will instead manifest themselves virtually (Rowen, 2020). However, digital tools are not only used by grander organizations but also by smaller art groups, study circles or networks which continue meeting virtually while performing and executing their art. An example of this is a smaller study circle on the island Gotland, Sweden, where seniors paint together virtually on a weekly basis. By encouraging societal groups to sustain their usual practices but in a new format can help to maintain a sense of community in rural areas.

The effect of abandoning tangible experiences for the benefits of online participation should also be noted. Although digitalization is generally conceived as an opportunity, increasing accessibility and connectivity, it has its limitations. By bringing culture online there is a risk of creating something excluding, in particular in rural areas where there is a lower access to internet connection. There is also a lower usability among an older population, who often constitute a noticeable part of rural inhabitants. In this case, accessibility may turn into unapproachability, depending on technological access and skills. In regard of this, it is suggested that the online activities are mainly complimentary means (Kuźelewska & Tomaszuk, 2020). The urge for tangible art experiences and social exchange can be stressed as a result of post-isolation and social distancing. The fear of disease transmission can also pose for more vulnerable groups both physical and psychological problems that go beyond government regulations and that could lead to exacerbate vulnerability and exclusion.

At the same time, there may be an emergence of other type of events and gatherings. The easiest solutions approached by several local authorities is to create a spread offer of open- air events with smaller audiences

and closer contact. However, the questions on how limited audiences would affect the ticket prices and the affordability for locals should be raised. The demand for arts will perhaps increase and offer more frequent opportunities for artists to perform and for locals to take part in performances. For example, interactive transformational festivals can be sustainable opportunity for people of all ages explore, participate and work within (Rowen, 2020). By developing more flexible “menus” of art and festivals for communities, adapting to local needs, conditions and practices, a more sustainable rural cultural exploration may emerge.

The state of emergency at local level has forced to redirect resources towards the health care systems, in order to respond to the most urgent needs, leaving little room to the cultural sector, in lack of an EU strategy. The crisis can arguably have caused a fear of widening social inequality while revealed the crucial role of culture for cohesion and mental wellbeing. However, the current restrictions can be viewed as an opportunity to strengthen the rural arts and festival scene from within. Reinforcement of the local scene can possibly enhance the local sense of recognition and further on interest in heritage and history. The restrictions may even allow local artists to gain greater appreciation and therethrough, lead to a regeneration of the local art scene and provide a catalyst for creative grassroots projects where the outcome might be a social meeting place for locals which creates a sense of belonging and pride within the rural communities.

2.5 Resilience

RURITAGE explores the concept of resilience as driver of regeneration, turning challenges in learning and development opportunities, by enhancing the role of cultural and natural heritage for building resilience against the threats of climate change, natural disasters and social and economic crisis, simultaneously boosting economic growth, creating jobs and livelihoods, strengthening access to health and education, and contributing to foster the responsible ownership of cultural and natural heritage in rural areas. Within RURITAGE, Psiloritis UNESCO Global Geopark (GR) and KATLA UNESCO Global Geopark (IS) are good examples of how responsible ownership of cultural and natural heritage in rural areas can turn a challenge as a natural disaster into an opportunity for revitalizing the rural territory basing on participative projects, on resilience training for the community and on traditional storytelling as a mean to understand the environment, foster awareness on the relation among landscape, hazards and man’s interventions. The Covid-19 crisis has highlighted that new crises of unforeseeable nature are likely to emerge, as the combination of environmental degradation, societies with increasing inequalities and deep economic interconnections have made the world more vulnerable, thus underlining the need to approach societal resilience from a 360-degrees system approach (Giovannini et al., 2020). The Covid-19 shock is so extreme in its duration and intensity that it is simply impossible to address it through absorptive capacities or a simple adaptation of the system. Therefore, it should become an opportunity to progress and “bounce forward” through adaptation and transformation (Giovannini et al., 2020).

The lack of fast internet connection, already considered a crucial hamper in the development of rural territories, could be one of the main barriers to allow smooth and fast communication, creating trouble in distance learning for pupils and smart-working for adults and contribute to make rural inhabitants even more isolated during the lock-down measures. Also, people in rural areas are suffering of more severe mobility issues, due to social distances and private cars’ use restrictions. Reaching rural areas in the time of crisis was and still is much more difficult than it was before. At the same time, social distancing, the lack of adequate open public green areas and the possibility of smart-working or working from home could drive people living in densely populated settlements to look for moving to more natural environments. In most cases, rural areas have proved to be safe shelters compared to urban agglomerations: a lower rate of infection and better daily living conditions during confinement. This perception could lead to big opportunities for repopulating ageing rural areas, and to make rural areas attractive poles of development. Some rural areas are already thinking about developing co-working space with fast internet connection to host digital and nomad workers in their territories. This

process represents a huge opportunity but could also lead to an unplanned gentrification issue. Indeed, urban smart workers tend to have much higher income than rural inhabitants and could speed up a rural gentrification process. To avoid such unwanted consequences, this process should be carefully planned and managed by local administration. Improve services and infrastructures – both for mobility and internet connections - for rural inhabitants is crucial to create long-lasting communities of people that decide to stay, live and work in rural territories.

Moreover, the need to face a completely new scenario lead to invent new ways to contribute to health, training and education of the population, thus empowering the human capital, i.e. through improved the skills and abilities of people to develop and enhance their resources. Covid-19 emergency showed, even more clearly than before, that to boost digital skills in the local community is a real priority.

The main challenges that both urban and rural areas are currently facing is the need to recover activities after the pandemic in safe conditions and to give children the possibility to attend educational and social activities while schools are closed. With reference to the former, business and local activities had to face both a great loss of revenue, for which financial support by the governments is needed, and the adoption of measures to guarantee safety conditions and the respect of social distancing among workers and users that are not always clear and that make it difficult to understand what needs to be done. Moreover, to implement the safety measures, costs are needed that small businesses are not able to sustain and for this reason they prefer to remain closed. On the other hand, new economic activities linked to the crisis have born and could become permanent. In Ireland, for instance, a collect-and-deliver service offer services from pharmacies and local shops for passengers, delivering critical medical supplies for the elderly, the vulnerable, and the sick within rural areas. Finally, after a long period of “home-schooling” and social distancing, new measures are needed to give children the chance to safely attend educational and social activities.

To turn the COVI-19 crisis into a new opportunity or revitalization for total areas, opening up new possibilities of counterbalancing depopulation and ageing characterizing many rural areas, policy measures are needed able to provide better infrastructures (physical and technological) for guaranteeing the physical and technological accessibility to the areas. Strengthening digitalization, training, sustainability combined with a stronger local financial capital, represents strategic measures to support people and local community.

2.6 Landscape management

RURITAGE not only intends landscape as cultural or protected landscape, but more as rural territories with multi-level governance, and heritage-based planning and management strategies. The cases of the Wild Atlantic Way (IE), the Duero-Douro cultural landscape (ES,PT) and the Austrått and Ørland, manorial landscape (NO) well represent example of diverse integrated landscape management and governance models that boosted regional development through their natural and cultural heritage. Even though rural areas may have been less hardly hit by the pandemic, the current Covid-19 crisis is presenting huge challenges to regions that are trying to boost rural regeneration through dedicated networks, funds and agreed strategies and visions. At the same time there is a shared fear that funds dedicated to rural development and environmental protection may be reduced in the following years and reallocated to more urgent public sectors (i.e health, education, etc.), even though European Union is working on increasing the European Agricultural Fund for rural development. This would of course further exacerbate existing unemployment and issues, forcing even more rural inhabitant to move to urban areas.

Also, the values of the natural and cultural capitals of rural territory have not been altered, and this offers good opportunity to offer safe and beautiful tourist and work destination. The reduction of tourists has given a respite to those areas that received more visitors, favouring their ecological recovery.

In this sense, regional and local authorities have a great occasion to increase the value of their natural capital integrating ecosystem and their services into decision making process and local policies. In line with the EU Green New Deal (European Commission, 2019), local authorities and stakeholders could use this moment to focus on shaping a more sustainable future rethinking how *'to protect, conserve and enhance the EU's natural capital, and protect the health and well-being of citizens from environment-related risks and impacts'*. Also, as mentioned in the recently released EU Biodiversity Strategy for 2030 (European Commission, 2020b) *'the recent Covid- 19 pandemic makes the need to protect and restore nature all the more urgent. The pandemic is raising awareness of the links between our own health and the health of ecosystems'*. Investing in green infrastructure, wellness corridor, and slow mobility infrastructure can on the one side improve and restore natural ecosystem, but at the same time creating options for sustainable tourism.

Regional governments, tourism agencies, cluster of innovators in heritage and landscape management have a great opportunity to rethink tourism in a more sustainable way and to work on the peculiar characteristics on their areas. Indeed, rural territories have now the possibility to develop their distinctive characteristics, building on their natural and cultural heritage resources and enhancing human capitals.

Cultural and nature-based tourism is increasingly growing in the last decade and it is very likely that it will keep growing after the Covid-19 pandemic. Working on an integrated management of the landscape and heritage could support regions and rural territories to find their local distinctiveness and identity, building their own local brand for regeneration. There is arguably a great opportunity to create or reinforced existing networks to build a community response around a common purpose.

3. Discussion and Conclusion

At the moment, not much scholars have focus on the effects, challenges and potential opportunities for rural areas caused by Covid-19 crisis. Fragmented responses in rural areas are starting to raise around EU and beyond through reinforced networks, better collaboration, cooperation and solidarity for strengthened resilience.

Partial social restrictions or total lockdown experienced in some countries could have reverted citizens' priorities leaving space for 'rural renaissance', where rural areas would assume a central role in developing sustainable and resilient communities. Social distancing, the lack of adequate open public green areas and the possibility of smart working could persuade urban inhabitants to move to more natural environment. This cannot be seen as a spontaneous process, since it requires local authorities to improve basic infrastructures and services, but also properly plan future development of the areas, to repopulate ageing and uninhabited rural areas avoiding unplanned gentrification issues. Also, the tremendously fast digital transition we are living should not leave anybody behind and should be carefully planned in rural areas, allowing people to get the basic digital literacy to access information and activities available online. At the same time, sustainable nature-based recreation, landscape enjoyment and pilgrimage and hiking activities, could boost the development of a new form of slow, sustainable and proximity tourism enhancing the value of local cultural and natural heritage and human capital. The pandemic has emphasized that migrants and refugees are essential resources for the local communities due to their expertise and skills, and that their social inclusion would be a great achievement for rural communities. Actions for enhancing the commitment and capacity of employers and labour recruiters to protect migrant workers, could help in addressing improving the future integration of migrants in local communities. Last, rediscovering local food production and demanding a short and slow food chain could not just improve the quality and the health of the food we eat, but also contribute to reduce greenhouse gas emissions related with the food industry, nurturing at the same time local farmers and rural microeconomy and.

The Covid-19 crisis has caused a fear of widening social inequalities while revealing the crucial role of natural and cultural heritage for social cohesion, rural regeneration, and mental wellbeing. Competent authorities on

rural territories should build on this momentum to develop comprehensive heritage-led regeneration plans based on local heritage and resources. Building equitable, sustainable and inclusive rural communities will require to work on reinforcing human capital, through capacity building and awareness-raising activities, and social and cultural capitals, taking back arts to rural and working on the recognition of local heritage by local communities. Also, local authorities should urgently act to maintain and enhance natural capital, through a better integration of ecosystem and their services into decision making process, and to further develop built capitals, working on essential infrastructure for mobility and fast internet connection. It is urgent to give shape to a network that will improve not only the response to crises but also the competitiveness of rural territory. In line with this, the EU Commission is proposing to reinforce the budget for the European Agricultural Fund for Rural Development. These investments could sustain and enhance local food production and the recognition of natural capital as a crucial characterizing element of rural areas. Nevertheless, there is a strong need for further integrated framework of policies and investments able to sustain such a complex environment of natural, cultural, human, social and built capitals, as intrinsic and inalienable resources of rural communities. Such a coordinated response could support the renaissance of rural areas as vibrant poles of development based on local heritage, natural resources, creativity and social inclusion as essential baseline to regenerate rural areas and rapidly support their transition towards sustainable future.

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References

- Asquith, J. (2020). People Have Been Flocking To Rural Areas During COVID-19 Lockdowns. *Forbes*. Retrieved from: <https://www.forbes.com/sites/jamesasquith/2020/03/29/people-have-been-flocking-to-rural-areas-during-covid-19-lockdowns/#6d634a4b6578>
- Balestrieri, M., & Congiu, T. (2017). Rediscovering rural territories by means of religious route planning. *Sustainability (Switzerland)*, 9(3), 1–13. <https://doi.org/10.3390/su9030363>
- Bathke, B. (2020). *Germany invests in e-learning after 220,000 migrants had to interrupt integration courses - InfoMigrants*. InfoMigrants. Retrieved from: <https://www.infomigrants.net/en/post/24834/germany-invests-in-e-learning-after-220-000-migrants-had-to-interrupt-integration-courses>
- Cappelli, A., & Cini, E. (2020). Will the COVID-19 pandemic make us reconsider the relevance of short food supply chains and local productions? *Trends in Food Science and Technology*, 99(January), 566–567. <https://doi.org/10.1016/j.tifs.2020.03.041>
- Chung, H. (2019). Dualization and subjective employment insecurity: Explaining the subjective employment insecurity divide between permanent and temporary workers across 23 European countries. *Economic and Industrial Democracy*, 40(3), 700–729. <https://doi.org/10.1177/0143831X16656411>
- Conticelli, E., De Luca, C., Egusquiza, A., Santangelo, A., & Tondelli, S. (2019). Inclusion of migrants for rural regeneration through cultural and natural heritage valorization. *INPUT ACADEMY 2019. Planning, Nature and Ecosystem Services (Pp 323-332)*, 323–332. <https://doi.org/10.6093/978-88-6887-054.6>
- Council of Europe. (2020). *Survey: Covid-19 and the Cultural Routes of the Council of Europe: impacts and responses - Itinerari culturali: newsroom*. Council of Europe. Retrieved from: <https://www.coe.int/it/web/cultural-routes/-/survey-covid-19-and-the-cultural-routes-of-the-council-of-europe-impacts-and-reponses>
- Escher, A. R. (2020). An Ounce of Prevention: Coronavirus (COVID-19) and Mass Gatherings. *Cureus*, 12(3), 12–14. <https://doi.org/10.7759/cureus.7345>
- EU Science Hub. (2020, April 8). *The expert investigating the pandemic's impact on Europe's cultural activities | EU Science Hub*. European Commission's Science and Knowledge Service. Retrieved from: <https://ec.europa.eu/jrc/en/news/expert-investigating-pandemic-s-impact-europe-s-cultural-activities>

- EUNIC Global. (2020). *How is the European cultural sector responding to the current corona crisis?* EU National Institutes of Culture. Retrieved from: <https://www.eunicglobal.eu/news/how-is-the-european-cultural-sector-responding-to-the-current-corona-crisis>
- European Commission. (n.d.). *COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Europe's moment: Repair and Prepare for the Next Generation*. <https://doi.org/10.1017/CBO9781107415324.004>
- European Commission. (2019). *Green New Deal*. <https://doi.org/10.2307/j.ctvd1c6zh.7>
- European Commission. (2020a). *COMMUNICATION FROM THE COMMISSION: Guidelines concerning the exercise of the free movement of workers during COVID-19 outbreak*. <https://ec.europa.eu/esco/portal/how>
- European Commission. (2020b). EU Biodiversity Strategy for 2030. *COM(2020) 380 Final*. <https://doi.org/10.1017/CBO9781107415324.004>
- European Commission. (2020c). *European Web Site on Integration - European Commission*. European Commission. Retrieved from: <https://ec.europa.eu/migrant-integration/news/covid-19s-impact-on-migrant-communities>
- European Commission. (2020d). *The EU helps reboot Europe's tourism | European Commission*. European Commission. Retrieved from: https://ec.europa.eu/info/live-work-travel-eu/health/coronavirus-response/travel-and-transportation-during-coronavirus-pandemic/eu-helps-reboot-europes-tourism_en
- European Parliament. (2020). COVID-19 impact on culture: new funds must reach creative sectors immediately | News | European Parliament. In *European Parliament*. Retrieved from: <https://www.europarl.europa.eu/news/en/press-room/20200326IPR75912/covid-19-impact-on-culture-new-funds-must-reach-creative-sectors-immediately>
- Fu, L., Wang, B., Yuan, T., Chen, X., Ao, Y., Fitzpatrick, T., Li, P., Zhou, Y., Lin, Y. fan, Duan, Q., Luo, G., Fan, S., Lu, Y., Feng, A., Zhan, Y., Liang, B., Cai, W., Zhang, L., Du, X., ... Zou, H. (2020). Clinical characteristics of coronavirus disease 2019 (COVID-19) in China: A systematic review and meta-analysis. *Journal of Infection*, 80(6), 656–665. <https://doi.org/10.1016/j.jinf.2020.03.041>
- Giovannini, E., Benczur, P., Campolongo, F., Cariboni, J., & Manca, A. R. (2020). *Time for transformative resilience: the COVID-19 emergency*. <https://doi.org/10.2760/062495>
- Gray, R. S. (2020). Agriculture, transportation, and the COVID-19 crisis. *Canadian Journal of Agricultural Economics/Revue Canadienne d'agroeconomie*, April, 1–5. <https://doi.org/10.1111/cjag.12235>
- Green, A. E., de Hoyos, M., Jones, P., & Owen, D. (2009). Rural development and labour supply challenges in the uk: The role of non-uk migrants. *Regional Studies*, 43(10), 1261–1273. <https://doi.org/10.1080/00343400801932318>
- Greve Harbo, Lisbeth; Ström Hildestrand, Åsa; Heleniak, Timothy; Sigurjónsdóttir, H. R. (2017). *From migrants to workers: Regional and local practices on integration of labour migrants and refugees in rural areas in the Nordic countries*.
- Hart, K. (2020). Coronavirus may Prompt Migration out of American Cities | The Harris Poll. In *The Harris Poll*. Retrieved from: <https://theharrispoll.com/coronavirus-may-prompt-migration-out-of-american-cities/>
- Hastie, B. (2020). The coronavirus reveals the necessity of Canada's migrant workers. *The Conversation*. Retrieved from: <https://theconversation.com/the-coronavirus-reveals-the-necessity-of-canadas-migrant-workers-136360>
- Kuźelewska, E., & Tomaszuk, · Mariusz. (123 C.E.). European Human Rights Dimension of the Online Access to Cultural Heritage in Times of the COVID-19 Outbreak. *Int J Semiot Law*. <https://doi.org/10.1007/s11196-020-09712-x>
- Loopstra, R. (2020). *Vulnerability to food insecurity since the COVID-19 lockdown Preliminary report. April*.
- News European Parliament. (2020). *Covid-19: emergency measures to help EU farmers and fishermen | News | European Parliament*. News European Parliament. Retrieved from: <https://www.europarl.europa.eu/news/en/headlines/society/20200416STO77203/covid-19-emergency-measures-to-help-eu-farmers-and-fishermen>
- Nolan, M. L., & Nolan, S. (1992). Religious sites as tourism attractions in Europe. *Annals of Tourism Research*, 19(1), 68–78. [https://doi.org/10.1016/0160-7383\(92\)90107-Z](https://doi.org/10.1016/0160-7383(92)90107-Z)
- OECD. (2020a). *Coronavirus (COVID-19): SME policy responses*. <https://doi.org/10.1787/04440101-EN>
- OECD. (2020b). *OECD Tourism Trends and Policies 2020-Policy highlights*. 1–16. <https://doi.org/10.1787/6b47b985-en>
- Rowen, I. (2020). *Tourism Geographies An International Journal of Tourism Space, Place and Environment The transformational festival as a subversive toolbox for a transformed tourism: lessons from Burning Man for a COVID-19 world*. <https://doi.org/10.1080/14616688.2020.1759132>
- RURITAGE. (2020a). Resilience in Practice– Ruritage. RURITAGE. Retrieved from: https://www.ruritage.eu/resources/resilience_actions/
- RURITAGE. (2020b). *Rural Resilience Actions in times of COVID-19 – Ruritage*. RURITAGE. Retrieved from:

<https://www.ruritage.eu/news-events/news/ruralresilienceactions-covid-19/>

Seto, K. C., Golden, J. S., Alberti, M., & Turner, B. L. (2017). Sustainability in an urbanizing planet. *Proceedings of the National Academy of Sciences of the United States of America*, 114(34), 8935–8938. <https://doi.org/10.1073/pnas.1606037114>

Setti, L., Passarini, F., Gennaro, G. De, Barbieri, P., Perrone, M. G., Piazzalunga, A., Borelli, M., Palmisani, J., Gilio, A. Di, PISCITELLI, P., & Miani, A. (2020). The Potential role of Particulate Matter in the Spreading of COVID-19 in Northern Italy: First Evidence-based Research Hypotheses. *MedRxiv*, 2020.04.11.20061713. <https://doi.org/10.1101/2020.04.11.20061713>

Venter, Z. S., Barton, D. N., Gundersen, V., Figari, H., & Nowell, M. (2020). *Urban nature in a time of crisis: recreational use of green space increases during the COVID-19 outbreak in Oslo, Norway*. 1–23.

Wilson, M. P., & Jack, A. S. (2020). Coronavirus disease 2019 (COVID-19) in neurology and neurosurgery: A scoping review of the early literature. In *Clinical Neurology and Neurosurgery* (Vol. 193, p. 105866). Elsevier B.V. <https://doi.org/10.1016/j.clineuro.2020.105866>

World Health Organisation (WHO). (2020a). *COVID-19: How to include marginalized and vulnerable people in risk communication and community engagement*. <https://doi.org/10.1186/s40249-017-0375-2>

World Health Organisation (WHO). (2020b). *Preparedness, prevention and control of coronavirus disease (COVID-19) for refugees and migrants in non-camp settings*.

Xiao Wu, Rachel C Nethery, M Benjamin Sabath, Danielle Braun, F. D. (2020). Exposure to air pollution and COVID-19 mortality in the United States: A nationwide cross-sectional study. In *medRxiv preprint*. medRxiv preprint. <https://doi.org/10.1017/CBO9781107415324.004>

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