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Sustainability of a local commons with a global value:
Venice and its lagoon

The aim of the conference

The number of local commons, or "common pool resources" – as the late Nobel Laureate in economics Elinor Ostrom called them – with a global value is increasing around the world. Local commons are non-excludable (it is impossible or very costly to exclude somebody from using) and rivalrous (use by one person reduces the availability for use by somebody else). Examples of commons with a global value are not only unique ecosystems and natural sites, but also historical monuments and art cities.

Venice and its lagoon are an emblematic and special example of a local commons with a global value. A number of interrelated environmental, cultural, social and economic factors have developed historically to make it one of the most complex challenges for a consistent strategy aimed at achieving long-run sustainable development.

The debate on the future of Venice intensified dramatically after the flood of 1966 and the subsequent international campaign to safeguard the city promoted by UNESCO which, after an in situ analysis in 2014, expressed "cause for concern." The factors causing concern include: very large ships and tankers in the lagoon, damage because of wave movements generated by boats, excessive tourist pressure, and irreversible transformations in the lagoon due to the implementation of large infrastructure projects with no in-depth environmental impact studies.

The issues of safeguarding Venice and its surrounding lagoon have been tackled in the past from various points of view in discussions on a wide range of topics: how to defend the city from the waves, hydraulics and lagoon morphology, pollution, the effects of climatic change and of human intervention on the lagoon, the preservation of the monumental heritage, sustainable growth, alternative development models to tourism (Venice as a city of services, Venice as a digital city...), prospects for the

port, cruise ships, the relationship between the natural and built environment and the growth of the urban fabric, and so on. In recent years, we have witnessed an inability to halt the gradual depopulation of the historic centre, the disappearance of shops not geared to tourism, and the gradual transfer of the most important economic activities to the mainland.

Today, exactly 50 years on from the dramatic flood, faced with the failure of many of the tools devised at that time to safeguard of the city, there is an urgent need to explore what kind of sustainable development can be envisaged for a city like Venice and what legal and organizational instruments would be capable of guiding its evolution in the right direction in the face of the apparently inexorable primacy of market laws.

This investigation may bring a value added not only for Venice and Italy. Its ambitious aim would be to start from Venice as an emblematic example and then proceed to invite the world to reflect on the issues at stake. The theme of managing and regulating tourism is deeply felt by all art cities and places with great landscape values in Italy and the world. The issues of the decline of the ruling classes in the bourgeois sense of the term and the rise of corporations, especially in the art cities, are of universal interest. Moreover, the themes to be discussed are linked to contemporary developments. Mass tourist flows and giant cruise ships are new phenomena. The issue of understanding and managing complex systems is increasingly topical. The conference would thus also aim to set in motion a process of searching for tools of enquiry and data analysis, and the resultant proposals could be examples for the rest of the world.

To pursue its objectives, the conference will bring together a selected number of distinguished international scholars from different disciplines and representatives of international institutions. They will be asked to express their views and give advice on how to meet this complex challenge.

The aim of this position paper is to provide some basic information for the conference participants.

Human impacts on Venice and its lagoon

The lagoon is the natural context for Venice as a city, but the lagoon cannot be considered independently of the urban reality of Venice. Without this reality created by human action over the centuries, the lagoon would probably have disappeared, as has happened to many lagoons in the world.

Venice has transformed the lagoon into a unique wetland worldwide because it contains not only a natural but also a cultural heritage in a living city. Maintaining

the fragile equilibrium between a city lived in by people, urban structures, cultural heritage and the environment is the specific objective of sustainable development for Venice.

Throughout the city's history there have been periods in which human choices, although undermining resilience, have not implied irreversible impacts on it. But in more recent years negative impacts have become so serious as to drive the city to the brink of irreversibility.

The industrialization of the mainland coastal belt of the lagoon from the 1920s to the 1960s brought big economic benefits in terms of increasing employment and incomes. However, it had serious negative impacts in the form of soil, air and water pollution on the natural capital.

Groundwater withdrawal for the purposes of industry greatly contributed to subsidence, with an altimetric loss of more than 20 cm over the last 100 years; the industrial and agricultural development of the drainage basin have produced pollution and eutrophication in the lagoon; erosion and morphology losses have increased because of the digging of a new channel (the so-called Canale dei Petroli) to allow oil tankers and large container ships to access the Malamocco inlet and reach the Marghera industrial port; and atmospheric pollution has seriously damaged the architectural and art heritage of the city.

The exceptional high tide of November 4, 1966 led to a national special law for Venice being approved in 1973, which was followed by a second special law in 1984. The objectives of the special laws were: re-establish the hydrodynamic equilibrium of the lagoon; preserve the environment from pollution; reinforce socio-economic vitality; safeguard the architectural and cultural heritage; and protect Venice from flooding.

The last objective dominated, however, although some significant results were obtained in terms of lower pollution from the drainage basin because of a clean-up plan carried out under the responsibility of the regional government.

The high water challenge

To specifically deal with the issue of protecting Venice from flooding, three types of actions were decided: reinforcing the sea-wall defenses; strengthening "local defenses" by raising urban walkways and canal sides as high as possible; and implementing the MOSE (Experimental Electromechanical Module) system of mobile gates at the three inlets of Lido, Malamocco and Chioggia.

The MOSE project will be completed in the next few years. There are, however, still a number of unresolved issues concerning how the system will be operated once the construction phase has been completed. Who will decide when to close the gates? Who will ensure that the high maintenance costs will be covered?

The phenomenon of acqua alta (high water) has gradually become more frequent. MOSE has not yet been completed and it is still not known when it will be fully operational. Moreover, neither is it known how long the barrier will be able to protect the city from future flooding, given that the continual rise in sea level might even make it obsolete fairly quickly. Criticism has come from several quarters that there has been a lack of a continuous production of firm scientific data (on tourism, MOSE, the impacts of the rising sea level on the lagoon, the long-term effects of digging channels inside the lagoon, but also the socio-economic situation of the city) by the independent bodies set up for the purpose, whose authoritativeness should guarantee the validity of their analyses and combat the lobbies producing or interpreting data for the benefit of vested interests. The River Thames Flood Barrier at Woolwich Reach in England, a structure with mobile gates built in ten years, has been operational since 1984. The body responsible for its management, the Environment Agency, has already drafted a monitoring and action plan until the year 2100 to meet the challenge of the predicted rise in sea level. Similar long-term studies are ongoing in Holland to modify over the next few decades the ambitious Delta Plan, which includes the mobile barrier of Maeslantkering, constructed to protect from expected higher sea levels. No such long-term study has been conducted in Italy.

Morphological degradation

The dramatic morphological degradation due to erosion and loss of sediment has been aggravated by the industrial economic model. For a number of years financial resources have been devoted to morphological reconstruction.

Recently a final draft of a morphological plan was completed, but it has not yet been adopted and implemented, mainly due to the lack of government financial resources. Hence the serious risk that the morphological challenge will not be appropriately dealt with in the future.

Cultural heritage

Venice is uniquely endowed with a cultural heritage requiring constant conservation. The quality of the architectural heritage has been seriously threatened by atmospheric pollution and high water. Moreover, a growing number of tourists concentrate visits on specific areas such as San Marco, thus contributing to congestion and degradation. The preservation and restoration of the monumental

and art heritage of Venice consequently have rising costs that are more and more difficult to sustain due to continual cuts in public funding.

The Venetian cultural heritage – whose safeguarding was declared "a problem of primary national interest" (Special Law, 1973) – is increasingly treated as a resource to be exploited rather than a good to be protected. Its fate is in the hands of Italian and foreign lobbies and vested interests (hotel owners, tour operators, motorboat taxi drivers, gondoliers, shopkeepers, etc), who make enormous profits (not always disclosed) without giving anything back to the city and without taking care of the preservation of the same monumental goods that are the source of their almost unconstrained profits. The enormous flow of money from tourism does not go to the city. It is not used to tackle the problems of the wear of monuments caused by tourism itself, or to support costs, such as, to give only one example, collecting the rubbish produced by daytrippers.

How to transform the global economic value of the Venetian cultural heritage into a global willingness to help pay for its maintenance is very much an open issue.

The economic challenge

At the beginning of the 20th century Venice was chosen to play a central role in a model of industrial economic development. But from the 1960s onward, the Venetian economy based on the industrial model gradually suffered a crisis. Material production has now practically disappeared in the historic center of Venice and the decline of the industrial model is particularly evident in the collapse of the industrial area of Marghera with over 20,000 jobs lost in the last fifty years.

Deindustrialization and plant phasing out have reduced without eliminating environmental costs, such as negative cumulative health effects. Huge brownfield reclamation problems due to industrial companies abandoning their plants in the area are still unsolved.

In the last three decades a radical change has taken place in the economic model of the Venetian area: tourism has become the prevailing economic activity.

A growing share of global tourism is concentrated on art cities and historic centers within wider urban areas: Venice, a unique world art city, is the natural destination for a growing tourist demand. Furthermore, tourist demand is potentially unlimited, considering that Venice is on everyone’s wish list worldwide pending the availability of financial means to visit the city. It is, therefore, not surprising that tourism driven by global market mechanisms is, and will continue to be, the most successful economic activity in Venice.

However, past experience has shown that simply moving from an industrial to a post-industrial economic model based on tourism does not guarantee the sustainability and resilience of a social-ecological system. This is self-evident in the case of Venice.

From 2000 to 2008, the estimated number of tourists visiting Venice every year rose from 14 million to over 20 million. According to recent estimates, the figure is now about 25 million or even higher. The development of day-trip tourism has already come to prevail over the development of residential tourism in Venice's historic center. This structural transformation in tourist demand is creating most of the problems for the resilience of the Venetian social-ecological system.

Although the economic benefits of tourism are likely to be greater than social environmental costs, they are not used to cover those environmental costs. For economic agents benefitting from tourism, Venice constitutes a positive externality because of the flow of income created without any incentive to contribute to the city's maintenance.

A number of instruments can be identified to re-orient tourism towards sustainability. Price measures can be used to cover environmental costs and to support incentives to environment-friendly tourism. Information and communication technologies can be used to govern tourist flows. Given the growing estimated future flow of tourism, particularly from high-population emerging countries, it is inevitable that quantity control measures (such as access regulation) will be required in the future to combat threshold effects. Unfortunately, there are no indications that the right path has been taken allowing us to post credible, significant signals.

In this situation, and in the absence of specific actions, market laws continue to mold reality unchallenged, according to a logic that does not take into account protection and highlights an increasingly overt conflict between the requirements of insular Venice, especially the historic centre, and mainland Venice. Furthermore, often those who call for the economic development of the Municipality of Venice, or a "metropolitan city", the port and airport, seem to overlook the specific problems of the historic centre and the lagoon, while using the name Venice to obtain visibility and funding.

The future of the port of Venice

Tourism as the dominant activity in the Venetian economy has even gone so far as to restrict the future of the port of Venice, once considered the basis for the development of industrial and commercial activities. At present the only activity in the port generating growing income is passenger services, mainly dependent on large cruise ships. The commercial and industrial activities of the port are

encountering big problems; the first because of the increasing size of container ships, the second because of the decline of the industrial area of Marghera.

A recent law has forbidden the passage of large ships in the basin of San Marco and the Canale della Giudecca, but only provided that an alternative is found. Hence, a heated debate is developing on suitable alternatives. So far a final practical decision has not been made. The main difficulty seems to be due to the lack of both long- and short-term proposals to give the port of Venice a competitive future within a wider strategic vision of the whole economic future of the historic city and the former industrial area of Maghera.

One long-term proposal made by the Port Authority also aims to revive the commercial activity in an overall economic framework characterized by greater competitiveness. This would involve building an off-shore port in the Adriatic Sea, 20 km outside the Venice lagoon, where large container ships and oil tankers could dock. Oil would then be brought to the mainland through an underwater pipeline, while containers would reach the Marghera commercial port by barge.

Difficulties for the practical implementation of this project are the political opposition from competing ports in the Northern Adriatic (mainly Trieste) and an inability to find the required financial resources not likely to be provided by the Italian government after the major commitment in the construction of MOSE and in such a critical situation for the national budget and debt.

Social fragmentation

Since the end of the Second World War, as a municipality encompassing the lagoon, historic center and a mainland area, Venice has experienced a twofold population trend with a decline in the number of inhabitants in the historic center and a rise in the mainland urban population.

This was originally due to the poor quality of a lot of housing in the historic center and by the attraction of developing a mainland industrial zone on the lagoon coastal belt. Mainly young people and couples abandoned the historic center of Venice.

While Mestre and Marghera became an urban industrial area with all the typical attendant social problems, including social marginalization and decay in peripheral areas, Venice witnessed increasing crowding out of residential facilities because of tourism, which pushed up the cost of buying or renting houses for local residents, particularly young couples.

Residents in Venice are increasingly elderly local inhabitants and wealthy foreigners. The growing number of elderly local inhabitants with low incomes

contributes to aggravating the social problems (with a greater requirement for assistance and healthcare) in historic Venice and on the islands in the lagoon. New opportunities for active young residents can only come from a different model of economic development.

Lastly, mention must be made of the shortcomings of the laws approved over the years (the so-called Special Laws), or the failure to apply them, as well as the enormous squandering of public money due to the notorious episodes of widespread corruption. This went hand-in-hand with the failure of the local ruling class to take the lead in managing the most serious problems without succumbing unwittingly or willing to the interests of lobbies. Moreover, local civil society has not made a united stance in demanding the future preservation of Venice and has never had to foot the bill for wrong decisions and corruption, which have been paid for out of public funding lavished on the city through the Special Laws.

An alternative model for sustainable development?

One exciting prospect for the economic future of Venice comes from the intangible economy of post-industrial society. In principle, the growth of the already well-underway intangible economy offers Venice a lot of opportunities. The physical separation between the mainland and the lagoon is no longer so significant thanks to the communication networks in the intangible economy. Moreover, Venice offers the "reference materials" of its cultural, artistic and environmental goods as a location advantage for intangible production and highly qualified human capital.

Specialization in tourism, however, is a serious obstacle to this fascinating prospect. Tourism does not require particularly highly qualified human capital; moreover, it constitutes, in itself, a powerful disincentive to raising the quality of services to the standards required by activities of high value-added intangible production.

It is unlikely that the development of the intangible economy in Venice can provide a realistic alternative to the development of tourism. The solution seems rather to lie in upgrading tourism, favoring wherever possible integration with an intangible productive economy.

From this realistic perspective, there is an ongoing challenge concerning how to regulate the spontaneous market drives impeding the diversification of the economic activities required for the resilience underlying the sustainability of the urban fabric. But there has not yet been a satisfactory response in terms of making the most of the opportunities, also of a technological nature, offered by post-industrial development based on intangible production, scientific research, culture, and art. Here it is not so much a question of abstract designs but more appropriate, feasible policies. In this

sense we very much look forward to the suggestions and contributions that will be made at the conference.

Governance

Appropriate public policies are thus required to create the necessary context for this kind of realistic approach in terms of infrastructure and institutions, including favoring the establishment of advanced research and training centers, and offering a combination of different services (transport, accommodation, finances, telecommunications, and personal services).

This raises another challenge: governance. The Italian government has already spent considerable sums of money (around €10 billion in 30 years) on Venice and its lagoon through the Special Laws. This was the result of a complex and cumbersome institutional decision-making process in which different levels of administration were involved (State, Region, Municipality) and often not inspired by objective criteria of efficiency in allocating resources.

Perhaps the ideas launched by the late Nobel laureate in economics Elinor Ostrom can profitably be used by focusing on Venice and its lagoon as a local common pool resource with a global value.

In these kinds of cases Ostrom suggests that a “polycentric approach” is needed, involving the integration of local government and communities, the national government, and the international community.

What would adopting this approach mean in the case of Venice, considered as part of a larger metropolitan area? Can this new institutional perspective allow for the existence of differentiated internal municipalities, better framed according to specific local challenges? On the other hand, what would the implications be if the governance process took into account not only the local but also the international perspective, and not only in terms of constraints but also in terms of potential human and financial resource mobilization?

Faced with the lack of a supreme authority that could make unpopular decisions, some people have suggested entrusting Venice to the international community. Provocation or feasible route?

In his day Bruno Visentini called for a “High Authority" for Venice as the only kind of executive body that could make farsighted decisions, ignoring vested interests and avoiding the paralysis of mutual vetoes. Is this idea worth proposing? What features, functions and powers should this authority have also in relation to the other public bodies? Or, instead of proposing a concentration of powers, in order to

govern ongoing processes, should new mechanisms be explored in order to build up consensus among the various stakeholders around a long term strategy? How can the conditions be created to set in motion a process of raising awareness about the future of Venice that will involve the various social categories, including the commercial and business world? How can we create "a pact for a Venice" that would bring together rival groups of stakeholders?

In suggesting new models of governance, it would be useful to begin from the past, and the period when the Venetian Republic tackled equally complex problems of the city and its lagoon. This does not mean indulging in nostalgia for times gone by, but looking for lessons. Even in the age of the Serenissima there were corporations, but there was above all an efficient state. And there were controlling bodies that acted for the ultimate good of the city and the lagoon.

Whilst bearing in mind the unique nature of Venice and the specific complexity of the issues concerning it (bound up with its cultural heritage but also its natural features), it may be useful to look for comparisons with other places in the world where attempts have been made to limit mass tourism in monumental cities or fragile sites with landscape values. Examples of good practices could be adduced, such as Barcelona, Bruges, or Zhouzhuang. It may also be fruitful to discuss some cases of innovative policies implemented to safeguard coastal environments from the threat of flooding (such as the Delta Plan in Holland) and to analyze the legislative and institutional tools adopted.