sustainability

MDPI

Article

Reinterpreting Spatial Planning Cultures to Define Local Adaptation Cultures: A Methodology from the Central Veneto Region Case

Giovanni Litt *, Mattia Bertin, Vittore Negretto and Francesco Musco

EPiC Earth and Polis Research Centre, FEEM—Fondazione Eni Enrico Mattei & Department of Architecture and Arts, Iuav University of Venice, 30135 Venice, Italy; mattia.bertin@iuav.it (M.B.); vittore.negretto@iuav.it (V.N.); francesco.musco@iuav.it (F.M.)
* Correspondence: giovanni.litt@iuav.it

Abstract: This paper focuses on recognising the underlying component of climate risk adaptation and management that is present at the local planning level. Starting from a comparative analysis of four Italian cities in the Central Veneto Area, the aim is to understand how plans and regulations have already directed their efforts toward adaptation and climate risk reduction over the years, without explicitly labelling these measures as such. This process is carried out by co-ordinating the technicians of local administrations in the recognition and classification of already active measures that can be brought within the framework of combating the effects of climate change. The analysis of the identified measures shows that there is already considerable attention to flooding-related and heat-related issues in the local planning corpus. Understanding this dimension of local planning allows access to a set of adaptation intervention models that are already integrated into the planning system and support incorporating adaptation practices in a more co-ordinated way at various planning levels.

Keywords: climate change; local plans adaptation; climate-proof planning; risk management; mainstreaming; Veneto region; unwitting adaptation

Citation: Litt, G.; Bertin, M.; Negretto, V.; Musco, F. Reinterpreting Spatial Planning Cultures to Define Local Adaptation Cultures: A Methodology from the Central Veneto Region Case. *Sustainability* **2022**, *14*, 7344. https://doi.org/10.3390/su14127344

Academic Editors: Antonino Marvuglia, Maider Llaguno-Munitxa and Federico Amato

Received: 1 April 2022
Accepted: 3 June 2022
Published: 15 June 2022

1. Introduction

This article aims to demonstrate how an adaptation culture exists within each territorial system, sometimes carried out unconsciously [1], thanks to an existing and consolidated approach to managing risks arising from climate change based on territorial traditions.

Based on the case study of Central Veneto, we aim to understand how policies, regulations, and territorial transformations have already directed their efforts toward this horizon. It will be seen how this process occurs even where these commitments are defined with different and varied adjectives but have substantial effects related to practices of adaptation and mitigation of Climate Change (CC). The study of the spatial planning tools of the provincial capitals of the area identified as Central Veneto—consisting of the provinces of Venice, Treviso, Padua, and Vicenza—will lead to the reinterpretation of the tools of the government of the territory with the perspective of adaptation. This path will serve to analytically verify the knowledge and customs of these issues in the respective provinces to define a posthumous thematic rereading to define the starting points in the construction of practices and norms of adaptation. Through the reinterpretation and analysis of the plans of a specific, homogeneous territorial area such as the Central Veneto, we will try to understand how local practices have developed adaptation measures according to specificities and territorial needs.

1.1. Pilot Area: Central Veneto Area

Central Veneto Area (Figure 1)—consisting of the provinces of Venice, Padua, Treviso, and Vicenza—has 3,521,348 inhabitants [2], 72% of the 4,879,133 residents of the Veneto Region. It is the productive heart of Italy both agriculturally and industrially, it is the mobility node of the European Mediterranean Corridor 5, and it is home to many Unesco World Heritage Sites [3,4]. The area is located in the Po-Venetian plain, and, as in all flood plains, the main hydrogeological risks are caused by water overflowing from the riverbeds. The central area of the Veneto Region has faced numerous climate-related catastrophic events in recent years, particularly floods [5], and currently 16% of the inhabitants of Veneto live in municipalities at high hydraulic risk [5]. Not less relevant is the impact that climate change produces and will produce on temperatures: the trend of maximum temperatures shows a general increase in values both in annual averages (+1.8 °C/50 years) and in seasonal averages [6]. Minimum temperatures in most of Veneto show a positive and statistically significant trend, both in the annual average values (+1.1 °C/50 years) and the seasonal ones, always with slightly more marked signals in summer and winter. The trend in the last twenty years of annual mean temperatures shows a marked increase (+1.3 °C/25 years) [7].

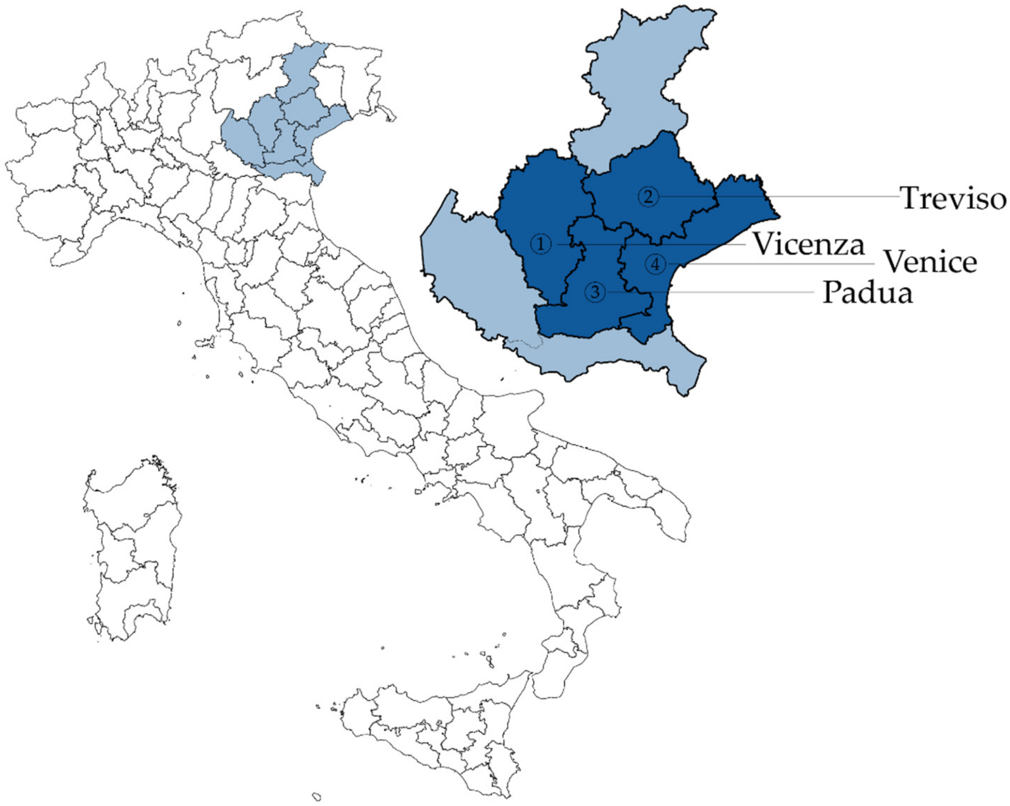

Figure 1. The localisation of the Central Veneto Area in Italy.

Extreme phenomena have historically accompanied the development of the Central Veneto territory. Urban forms, territories, and spatial relations stratified in time show how the territory has been built and adapted to climatic and environmental externalities over the centuries. The territorial structure is based on drainage and water management, particularly in the tradition of the Serenissima Republic, which has always wisely managed floods, high waters, risks of silting up the lagoon, and other water-related issues, and which today faces challenges that require new adaptation policies.

Today's climate change—visible at all scales and during all seasons of the year [8]—extensively affects the whole regional territory with different phenomena that are more or less destructive. The most recent studies on flooding phenomena and heatwaves show how the territory is extremely sensitive to these issues [9]. These studies and concrete evidence show us that today, the territory is no longer able to cope with environmental pressures. The high rate of impermeabilisation of this territory—as well as of Italy in general—[10,11] today affects, even more, the problems expressed by the rise in global and local temperatures, worsening the manifestations and causes that generate externalities related to excess water and heat accumulation. Regarding water, due to the strong urban expansion of the last decades, 1714 km^2 of the total Veneto regional territory is now at serious risk of flooding phenomena. While considering the externalities related to excess heat instead, the widespread urbanisation is strongly exposed to heat islands; particularly sensitive in this sense are the inhabitants of the consolidated urban settlements of the Veneto region that today amount to 1565 km^2. The Central Veneto area is home to 10% of the total flood phenomena and 20% of the potential heat islands that occur [12,13].

The area of central Veneto is also the one with the highest population density in the region and is strongly impermeable. Therefore, the population is facing new risks even in areas that once we could consider "safe", forcing political decision makers, technicians, and citizens to look more carefully at their territories, and evaluate strong transformative processes and radical political choices. High housing densities, diffusion of settlements, forms, urban materials, and architectural artifacts—which are unable to dissipate heat—constitute a serious risk for the large population settled in the territories covered by this paper.

On the other hand, the Central Veneto region, despite being one of the areas of Italy with the largest heritage and vast economic interests, is also lacking a higher territorial level of decision making that homogeneously governs the territorial processes. This hinders a coherent development among the most important cities of Central Veneto on a central theme such as adaptation to climate change.

1.2. From Unconscious Adaptation to Mainstreaming Evidence-Informed Spatial Thinking about Climate Change

Building-integrated practices at the local level for climate change adaptation planning is one of the significant constraints to the development of effective climate change adaptation policies [14,15]. The compartmentalisation of government at every level—from ministries, directorates, bodies, and orders, and similarly cascading down to the departments, sectors, and delegations of officials—corresponds to a derivation of institutional arrangements and organisation of work derived from modern Enlightenment thinking. This structure is 'weak' in the face of the complexity of contemporary society. The limitation of this approach to complexity emerges when it is necessary to update or completely change the paradigms of interpretation, administration, and governance. In particular, as demonstrated in references [16,17], it is highly complex to develop a coherent idea of the city capable of distributing the question of adaptation in a uniform and synergistic manner [18]. Already starting from the organisation of the response to extreme climate events, we are faced with "two communities of practices and research that do not correspond" [19]: that of emergency disaster reduction and that of the response to climate change. These are two worlds that adopt different administrative cultures in models of risk recognition and estimation, as well as in the categorisation of events. Inconsistent paths are often followed in this operation in academic communities and in public administrations or dedicated institutions [20]. In 2010, the article by Jörn Birkmann and Korinna von Teichmann "Integrating disaster risk reduction and climate change adaptation: Key challenges-scales, knowledge, and norms" pointed out the incommunicability of these two communities of thought, which, individually, fail to focus on the problem in its globality, and therefore to propose effective application processes even in the mere prediction of the evolution of emergency scenarios [21]. Later, in 2015, the volume "Hazard Mitigation: Integrating Best Practices into Planning" of the American Planning Association confirmed this incommunicability, ascribing it to the differences between planners and emergency managers [22], partially mutable to interpret the gap in question [23]. The knowledge related to climate change adaptation is mainly focused on a local scale, focusing on vulnerabilities and risks in specific areas, with specific populations, according to planning approaches and techniques oriented to secure the present according to selective coping strategies [24].

The development of a territorial way of thinking attentive to the evidence of climate change, to its inertia and irreversibility, also under the birth of Sustainable Energy and Climate Action Plans (SECAP) at the European level increasingly promoted by the community in the granting of funds to local authorities, is leading not only these two communities to confront each other, but also to expand the comparison and in some ways the complexity of the discussion to other areas of local planning such as, for example, land consumption, mobility, energy, health, and safety. Attention to climate is present in the theories and practices of modern and contemporary urban planning, especially in an organic, regional, and type-morphological key; it intersects with statutory planning by updating constraints, standards, compensation, and equalisation procedures; it is strengthened by the interaction with landscape ecology that helps to formulate design hypotheses of ecosystemic frameworks. However, this attention becomes salient and tends to condition plans, programs, and settlement policies when planning/governance theories and practices are proposed, starting from an expected and measurable climate performance [25].

The CC now requires a change in current approaches to land management, both in terms of reducing the production of climate-changing emissions and in making urban systems more resilient to the progressive variability of the climate and to the risks that climate change produces. Responses capable of offsetting the growing criticality must tend to increase resilience with actions to protect citizens, improve environmental conditions in general, and activate behaviors (individual and community) that contribute to the goal.

Awareness of the impact of climate change on every sector of government is leading to the need to develop in-sector groups and service conferences to understand the potential effects of this process and, consequently, to think about drafting SECAPs capable of responding coherently [26,27].

What emerges from these first experiments in adaptation planning in a comprehensive sense is the difficulty of finding a common starting point for reading and managing the territory, which is aware of the local limits and potentials concerning the process addressed [28,29]. Considering planning processes (rather than plans) more specifically, issues may emerge that do not necessarily belong to one or both abovementioned communities but may bring them together.

In the planning processes, there are actions and measures designed for one direction that also have important repercussions for different issues, a sort of unconscious planning, which sometimes derives from a certain sensitivity, when it is not unforeseen, and which can be recognised in a later stage with interpretative/evaluative instruments. In other words, actions that have an adaptation effect are already in place by the authority, sometimes without being fully aware of it. For this reason, it is useful for the authority to catalog the different practices and actions—material or immaterial—already active on the territory and contained in the plans and projects approved or in the process of being approved by the authorities acting on the comunicipal territory.

In the context of climate change, the concept of mainstreaming refers to "the inclusion of the climate aspect in development programs, policies, or management strategies, already established or under implementation" [30,31], as well as the development of specific adaptation and mitigation initiatives activated separately. Adaptation and mitigation mainstreaming, therefore, plays a key role in supporting Land Governance processes by supporting the urgent need to integrate this issue into the dynamics of land development and governance in the Central Veneto region as well.

This paper aims to understand how adaptation and risk management themes are already included in various instruments based on consolidated attitudes of the territorial government. The analysis is based on a state-of-the-art reconnaissance in the Central Veneto territory—of the plans already implemented or in implementation—in the four provincial capitals: Vicenza, Treviso, Padua, and Venice.

This process has led us to reread the local planning documents in search of measures that can adapt even if developed for other purposes. The objective was to recognise how adaptation can find a place in the traditions and sensibilities of local planning [32] by tracing a valuable route to reorient the existing application toward adaptation, speaking a language understandable to technicians, people, and politicians of the area to be secured.

2. Materials and Methods

The analysis was carried out for the Central Veneto provincial capitals in the municipalities of Padua, Vicenza, and Treviso, thanks to the LIFE Veneto Adapt project [33], and in the municipality of Venice within the drafting of the Climate Adaptation Plan of the Municipality of Venice, thanks to the support provided by CORILA—Consorzio per il coordinamento delle Ricerche inerenti al Sistema Lagunare di Venezia [34].

The reading of the plans and the research on their effectiveness for adaptation was structured as a hermeneutic interpretative process [35,36] starting from a rereading of the existing instruments with the support of a rigid analysis form [37].

The work methodology was developed in three phases of work common to all the municipalities involved:

- Capacity building and preparation of municipal technicians: through specific meetings, training courses, and close and constant contact, the necessary knowledge on the subject of climate change has been ensured for municipal technicians and political personnel. The preparation, adoption, and implementation of climate transition processes is a profound innovation whose success depends largely on the ability of governments and local communities to take on board the objectives and indications that they develop and promote. Therefore, the purpose of the proposed capacity-building activities is the consolidation, expansion, and dissemination of technical expertise [38].
- Self-completion of the questionnaire by the municipalities and collective validation: the analysis asked the participants to fill out an online questionnaire in which they described the adaptation measures included in the plans, recognised according to some categories. Some categories asked participants to select an item from a list, others to produce a short text. The questionnaire, prepared on Google Forms and available for compilation in .xls format, was sent to municipal managers for compilation, supported remotely by scientific partners.
- Analysis and assessment with the classification of the answers: the scientific partners proceeded to analyse the results and to settle possible problems and inconsistencies.

The questionnaire (Table 1) helped municipalities to recognise, in their own plans, those measures that have an adaptation value and to classify them. The standard sheet of the questionnaire had the following content:

Table 1. Questionnaire content: categories and possible response options.

Category	Response Options
Plan Name	Title
Value of the Plan	Voluntary/Mandatory
Area	Neighbourhood/Municipal/Wide Area/Provincial/Regional Scale
Hazard Type	Flooding/Urban Heat Island/Waterway and High Water/Wind
Project	Name
Measure	Title
Type of Measure	Coping/Incremental/Transformative
Expected Effect	Impact reduction/Dispersion of the phenomenon/Citizens self-protection/Speed of intervention and information/Monitoring and mapping
Time of realisation	Planned/Underway/Completed
Scale of intervention	Project/District/Municipal/Intermunicipal
Type of intervention	Physical/Organizational/Economic
Return Times (RT)	Ordinary/RT 5–10 years/RT 30–50 years/RT 100–300 years

Despite the difference in the plans analysed—urban plans, sustainable mobility plans, water management plans, etc.—having a standard sheet for each action worked as a translator for a dialogue between the different instruments and for a homogeneous analysis. This allows the analysis of the state of adaptation planning in the different municipalities.

The analysis of each measure investigated is as follows:

- The intervention strategies [39] of the measure type:
  - By "coping", we mean intervention strategies in response to an emergency, aimed at managing the event and later recovering/rebuilding the previous state.
  - By "incremental", we describe adaptive measures to contain a phenomenon, developed to maintain or recover an existing level of safety. They are usually quick to implement. They are effective for short or medium return times, less so for extraordinary events or severe climate change effects.
  - By "transformative", we mean systemic land transformation interventions. Considering that there are no natural disasters, but only effects on the built environment of natural events, and that vulnerability depends on the choice of places, transformative interventions change the land morphology to adapt the landscape to future events. These interventions are much more expensive in the immediate future, but they allow to lower the economic and social costs of intervention and recovery, strongly reducing the potential victims.
- The expected effects:
  - Impact reduction: Dedicated impact-reduction measures allow the reinforcement of fragile elements of the territory. Impact-reduction measures are, for example, the downsizing of drainage channels or the creation of shading.
  - Dispersion of the phenomenon. The dispersion of the phenomenon exclusively or promiscuously describes a spatial intervention capable of letting an event occur without a severe effect on the continuity of urban life.
  - Self-protection of citizens: The measures of self-protection of the citizenship are designed to deliver guidance to the inhabitants, or users, of areas at risk and incentives to protect themselves and their material goods.
  - Rapid intervention and information: This class of measures allows for the development of rapid intervention models capable of reducing human and economic or social losses during an event.
  - Monitoring and mapping: Monitoring and mapping measures gather all the processes of forecasting the evolution and effects of potentially dangerous events.
- Types of intervention:
  - Physical: We define physical as those adaptation measures that act directly on the urban structure at any scale. They can act, for example, on individual buildings, riverbanks, trees, road surfaces, etc.
  - Organisational: Those measures that, not interacting with the built environment, propose modes of governance or intervention that can promote adaptation. Examples could be the recognition of those responsible for the emergency plan's function, the establishment of a permanent working table on environmental issues, or an agreement to exchange data with a weather-monitoring agency.
  - Economic: Economic measures are those adaptation proposals based on taxation or local detaxation of behaviours more-or-less useful to reduce the impact of climate change.
- Return Times: The return time (RT) of a climate event describes the average time in which it tends to recur. It is directly related to the phenomenon's intensity to the extent that the greater the severity of the event, the less likely it is to occur frequently in a regular regime. This is modified by climate change in a worsening direction, but we have no firm data on the relationship between climate change and worsening effects.

- ○ Ordinary: A measure useful for managing not-particularly intense events, occurring every year or every few years.
- ○ RT 5–10 years: A measure able to cope with not-ordinary events but still frequent.
- ○ RT 30–50 years: Measures designed for extraordinary events, suitable for preparing a territory for the effects of climate change even in the medium term.
- ○ RT 100–300 years: Measures able to cope with extreme events, capable of securing the territory even for the most severe scenarios of worsening effects imposed by climate change.

3. Results

The research led to the recognition of 210 adaptation measures (collected in the Table A1 in the Appendix A) already in place in the planning systems of the four provincial capitals analysed. Venice is the municipality in which the civil servants have recognised the most adaptation measures, totalling 92 identified measures, followed by the Padua municipality with 74. Vicenza and Treviso have a considerably lower number of recognised adaptation measures, at 26 and 18, respectively.

The results analysed for the four cities are presented in the following paragraphs. Each paragraph is devoted to one of the main characteristics of the measures identified and the commentary on the results is presented in a comparative manner across the municipalities surveyed.

3.1. Hazard

The analysis of the identified measure indicates that in the Central Veneto Area, adaptation measures mainly focus on the management and regimentation of the hydraulic risk and run-off-related hazards. This hazard is linked to most recognised adaptation measures (143 measures), corresponding to 68% of the total measures. Measures related to the Urban Heat Island (UHI) adaptation and mitigation hazard are dedicated to the remainder of the measures examined (67), corresponding to 32% of the total (Figure 2).

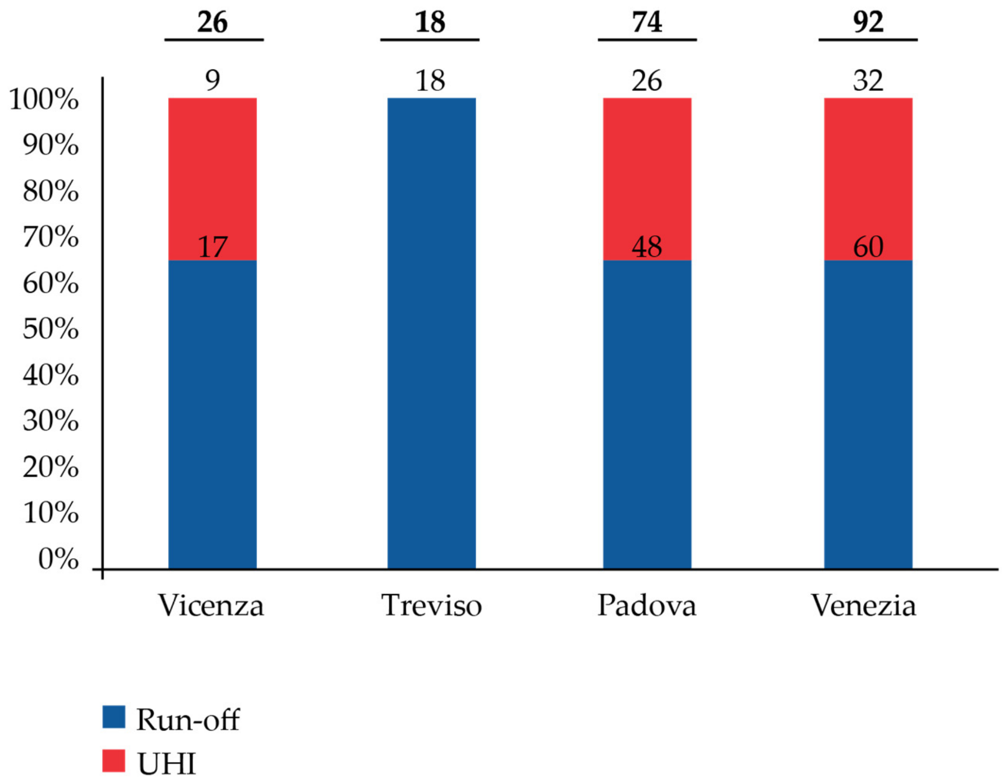

Figure 2. Responses from the four cities for the category "Hazards".

Individually analysing the measures recognised in each municipality, it shows that, proportionally to the total number for each municipality, the proportion between measures dedicated to the two hazards is almost constant for Vicenza, Padua, and Venice. In fact, in these municipalities, the measures dedicated to run-off are about 65%, and the remaining 35% is dedicated to UHI. The only exception is Treviso, where no UHI measures were identified.

3.2. Type of Measure

From the analysis, it is clear that the main intervention strategy favours incremental interventions, i.e., those aimed at stemming the phenomenon to maintain or recover a level of safety of the existing structure, because they are quick to implement and effective for short or medium return times. This is followed by an effort to implement coping interventions in response to an emergency to manage the event and then recover/rebuild the previous state. The last measures by number, also because they are more expensive and complex to implement, are the transformative measures that include those systemic interventions of land transformation (Figure 3).

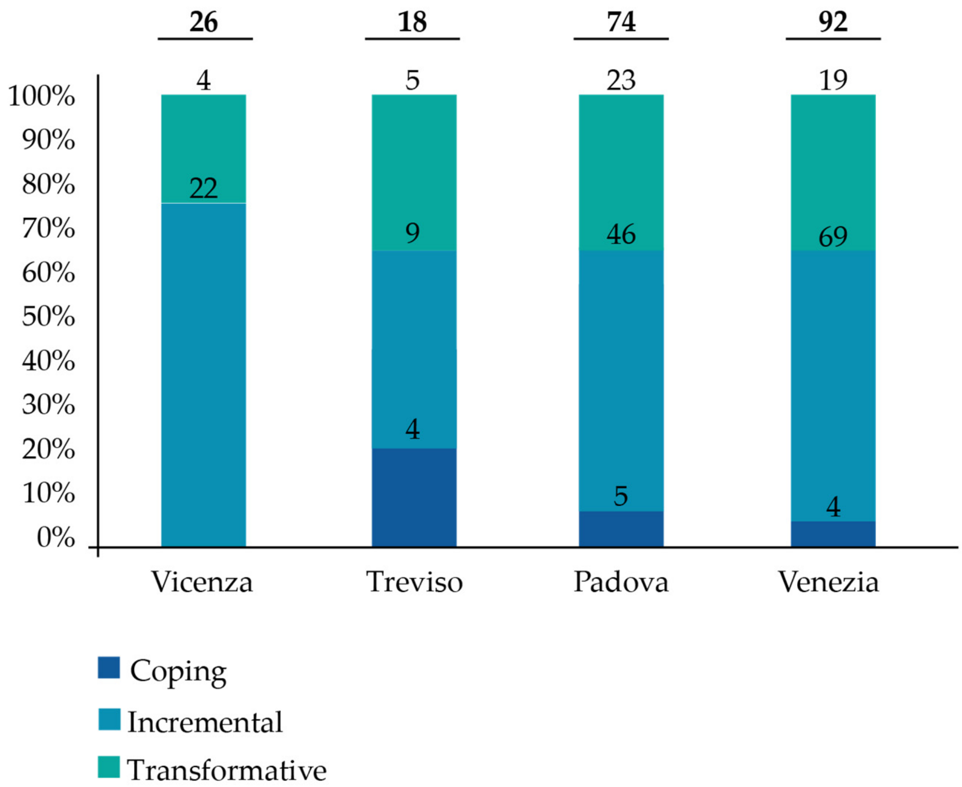

Figure 3. Responses from the four cities for the category "Type of measures".

In the four cities, we can recognise a certain homogeneity, especially among the measures involving a change in the territory, noting less attention to rapid response measures, which is expected given the nature of the tools investigated. The measures are mainly of the incremental type (84% in Vicenza, 50% in Treviso, 62% in Padua, and 75% in Venice). Transformative measures are 24% (15% in Vicenza, 27% in Treviso, 31% in Padua, and 20% in Venice). Coping measures are only 6% (22% in Treviso, 7% in Padua, and 4% in Venice).

3.3. Expected Effect

Measures are developed mainly for the dispersion of the phenomenon to let an event have a severe effect on the continuity of urban life. These measures are followed by interventions for the self-protection of citizens to give to the inhabitants, or users, of areas at risk. The other measures—Impact reduction; Rapidity of intervention and information;

Monitoring and mapping—have essentially similar percentages (Figure 4). As shown in Figure 4, the measures—which can also be in more than one category—act for Impact reduction for 50% in Vicenza, Treviso, and Padua, and 53% in Venice. As far as the Dispersion of the phenomena is concerned, the measures are 47% in Vicenza, 25% in Treviso, 40% in Padua, and 27% in Venice. Measures of itizens' self-protection are 25% in Treviso and 7.5% in Padua. Measures for Speed of intervention are 13% in Venice. Finally, the measures Monitoring and mapping are 2% in Vicenza, 1% in Padua, and 6% in Venice.

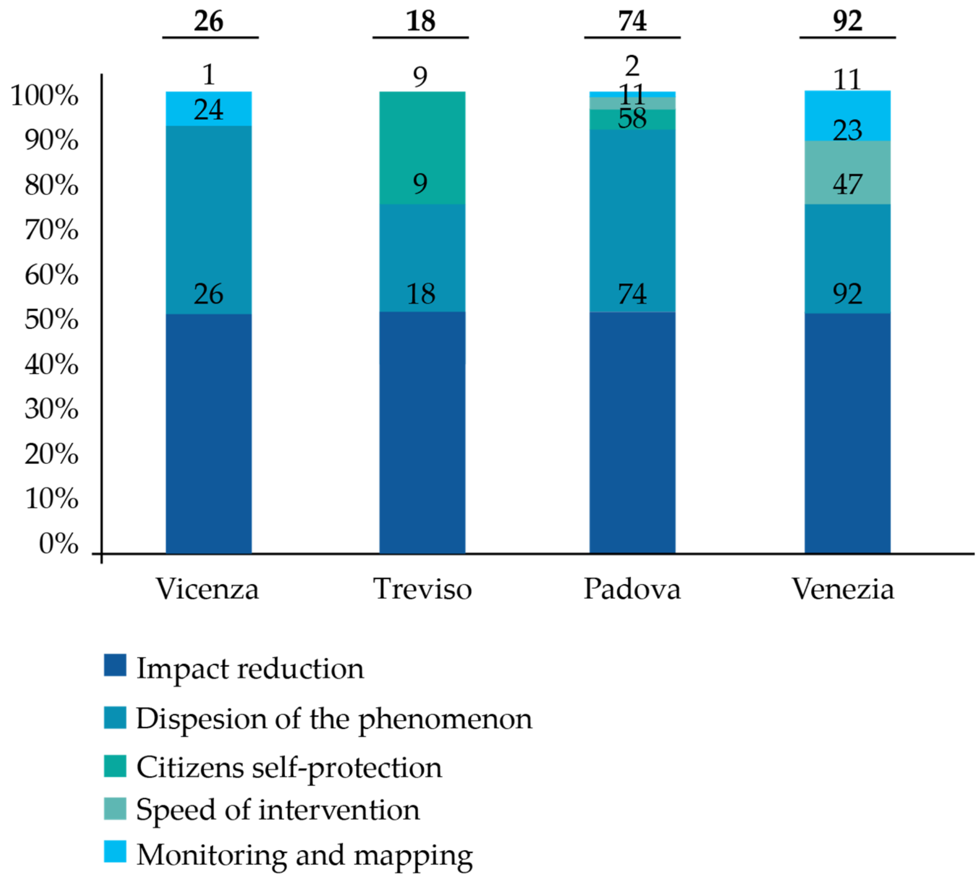

Figure 4. Responses from the four cities for the category "Expected Effects".

3.4. Type of Intervention

The types of intervention (Figure 5) are largely concentrated in physical measures that act directly on the urban structure. Subsequently, efforts are concentrated on organisational measures that propose modes of government or intervention capable of favoring adaptation. Finally, very rarely—and not at all in the provinces of Vicenza and Treviso—are economic measures based on taxation or local detaxation of behaviors more or less useful to reduce the impact of climate change. Physical measures are 20% in Vicenza, 88% in Treviso, 75% in Padua, and 61% in Venice. rganisational measures are 80% in Vicenza, 11% in Treviso, 15% in Padua, and 31% in Venice. Finally, the Economic measures are 9% in Padua and 7% in Venice.

3.5. Return Time

Return times (Figure 6) are the least consistent key across provinces. There is certainly a preponderance for events with an ordinary return time, but a certain importance is also given to events with a return time of 5–10 years. Events with a return time of 30–50 years and 100–300 years are, instead, almost totally absent and in any case, not sufficient.

The measures are almost mainly "Ordinary": 80% in Vicenza, 50% in Treviso, 4% in Padua, and 61% in Venice. "RT 5–10 years" measures follow with 15% in Vicenza, 45% in

Treviso, 12% in Padua, and 28% in Venice. "RT 30–50 years" measures are 4% in Vicenza, 6% in Treviso, 69% in Padua, and 8% in Venice. Finally, the measures with "RT 100–300 years" are 15% in Padua and 2% in Venice. These data show a strong ability to manage ordinary phenomena and a low aptitude to govern processes with longer-term RT.

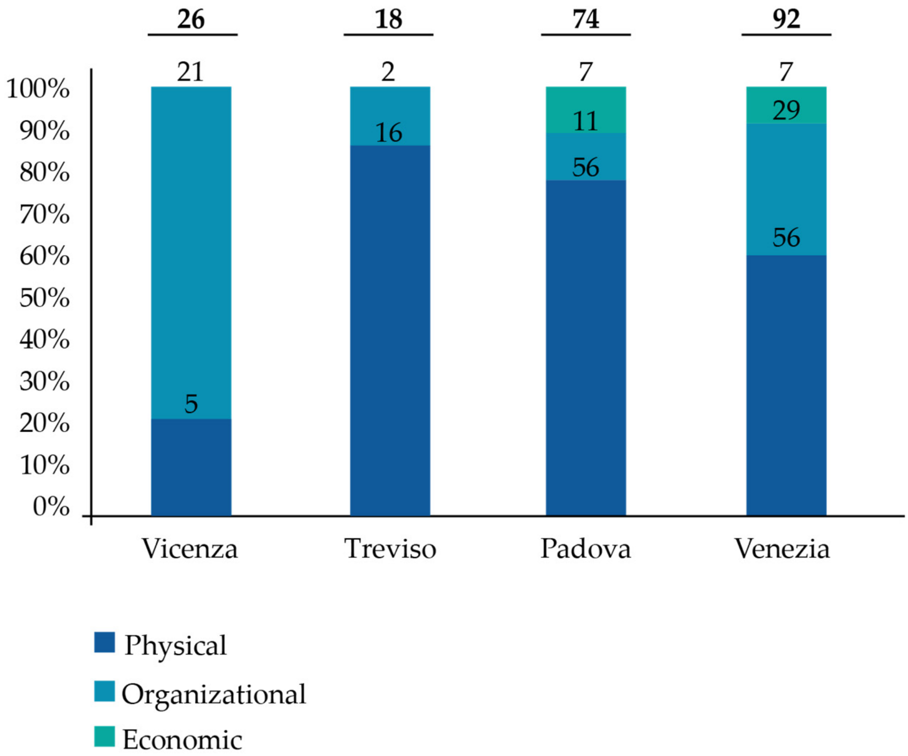

Figure 5. Responses from the four cities for the category "Type of intervention".

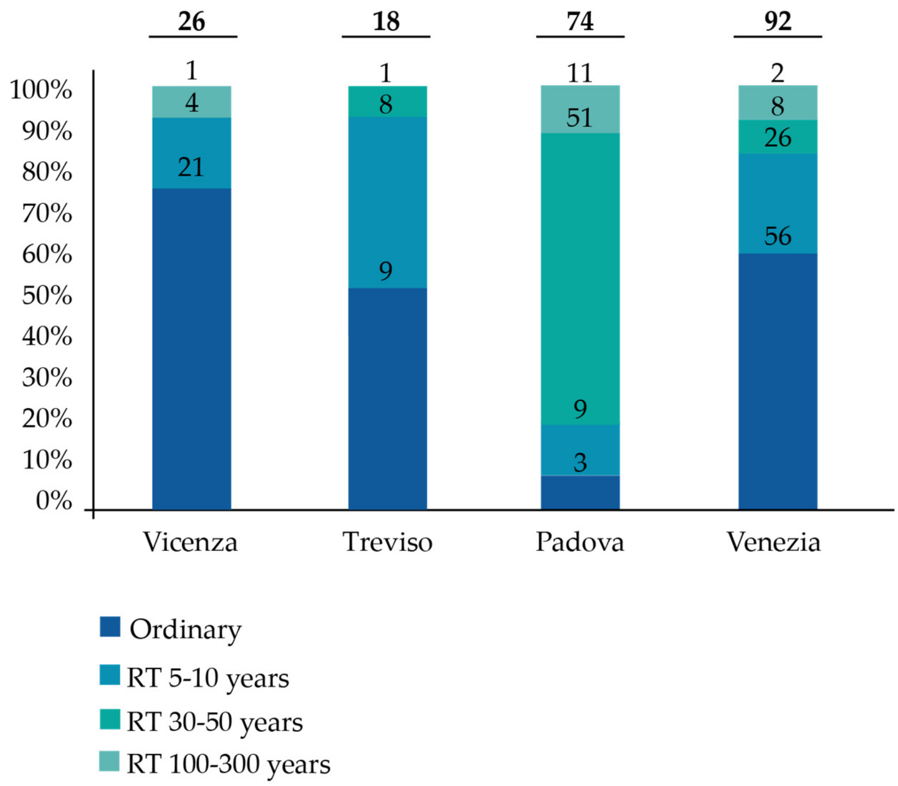

Figure 6. Responses from the four cities for the category "Return time".

4. Discussion

The first interesting element to be drawn from the research is the recognition of those gaps characterised by few measures, which indicates spaces and methods on which to work primarily with an attitude of increasing awareness and knowledge. The process has allowed the construction of a vast set of measures specific to the regional territory, which can be implemented consistently with the entire existing regulatory architecture and find space in the culture of local planning. Finally, the measures can be revised in an augmentative sense, increasing their effectiveness. Recognition of shortcomings must also serve to orient the subsequent proposal of actions. Verifying, in fact, the specific shortcomings in terms of themes, types of action, dangers faced, expected effects, and temporal effectiveness can serve, depending on the needs and requirements, to reorient the planning processes of individual municipalities within a framework shared at a broad territorial level.

The absence of economic measures corresponds to the scarcity of self-protection measures and confirms the previous difficulty of promoting private transformations in an adaptive sense [40]. The opportunity to involve the local population and the stakeholders who will be most affected by climate change is now deeply attested in the literature [41,42], and the reduced presence of measures able to involve the community must sound as a relevant alarm bell on the adaptive state of the Veneto territory as far as private goods and activities are concerned. From the point of view of return times, it is useful to understand the effectiveness of the measures detected so we can recognise a great preponderance of measures aimed to respond to events expected with a probability of 30–50 years, with two equivalent wings in the neighbouring classes. These are mostly ineffective measures concerning long climate change timescales [43–45], but are potentially effective, especially in the medium term, if in synergy. Finally, from the point of view of the themes described, the most interesting aspect has been the recognition of a profound intersectoral nature of the measures, an element that has led the administrations to question themselves on how to take advantage of these effects to promote adaptive development in a complex sense, anticipating the effects on the various themes in the planning [46].

For vocational and territorial needs, the measures are generally more oriented to contrast the impacts related to water. Indeed, as shown in Figure 1, 68% of the identified measures (143 out of 210) work on run-off. This is due not only to the fact that the Central Veneto region has suffered numerous extreme weather events due to flooding, but also to the planning tradition of water management and drainage that has been active in this area for centuries.

The number, scope, and consistency of measures also derive, indeed, from the concrete evidence of some climatic impacts that in Central Veneto are more evident than others: the number of regulations that seek to regulate hydraulic risk and mitigate its effects provides evidence of this, given the historical sensitivity of Central Veneto to these events. The poorer responsiveness to heatwaves and sea storms, for example, is a symptom of the fact that these events, until recent years, have been less evident and disruptive and have not, therefore, given sufficient time to the local planning system to update.

Following this process:

- The municipality of Venice began drafting a Climate Adaptation Plan;
- The municipality of Padua has adopted a Sustainable Energy and Climate Action Plan (SECAP);
- The municipality of Treviso has adopted a Sustainable Energy and Climate Action Plan (SECAP);
- The municipality of Vicenza has adopted a Sustainable Energy and Climate Action Plan (SECAP).

The application case experimented on in the Central Veneto region can be a guide to the design of the process of territorial adaptation in areas with great heritage and vast economic interests but without a higher territorial level of decision making.

The construction of territorial adaptation, as we have seen, has to do strictly with the understanding of the evolution of the territory in question. To understand this fundamental element of local planning means to have access to a great endowment of local history and technique already in the grasp of inhabitants and administrators and to a set of models of intervention to promote adaptation from which to weave the most congruous profile for the territory addressed.

5. Conclusions

The analysis of existing models of intervention can become an essential step in the adaptation process to climate change able to contribute to regional adaptation. The development of a common methodology tested in such a vast territory ensures territorial continuity to guide public policies in a co-ordinated manner and indicates a route that other municipalities can follow. This is even more relevant when noting that adaptation requires co-ordinated actions in different administrative units and at all levels. For example, floodings in Central Veneto are directly linked to what happens in the mountainous part of the region, which often discharges water suddenly and impetuously downstream. In this respect, it would be essential to strengthen the vertical dialogue between decision makers along the river course to organise co-ordinated policies between the mountain areas and the lowland areas that suffer the impacts of events occurring in other territories.

With the aim of enhancing the co-ordination and the development of joint adaptation, the LIFE Veneto Adapt led the drafting of shared guidelines [47] for a homogeneous territory for the implementation of climate change adaptation plans.

From the point of view of repeatability, the methodology is sufficiently simple and general to be replicated in the same way in any territory: the same model of training, participatory research, and analysis of results can clarify the state-of-the-art of local planning concerning climate change regardless of the local culture of planning and the regulatory framework. However, the same cannot be said for the transferability of the research results: what emerges has its effectiveness in close relation to the morphology of the investigated territory and to the planning culture and institutional and normative architecture of the Central Veneto region. If the individual measures can indicate what tools can be adopted to promote adaptation, they cannot be taken and transferred in their normative definition, and with the level of effectiveness renowned as such, they must be translated and adapted in favour of the context of the application.

We have seen that the analysed measures mainly refer to the tradition of water management (Figure 2), typical of the land management culture of the Central Veneto region. On the other hand, the new climate threats are not yet adequately considered. Therefore, it is necessary to increase the knowledge and awareness of decision makers in order to equip territories for the new issues that are emerging, which are not yet evident to everyone.

Author Contributions: Conceptualisation, G.L.; methodology, G.L., M.B., V.N. and F.M.; formal analysis, G.L., M.B., and V.N.; investigation, G.L., M.B., V.N. and F.M.; resources, G.L., M.B., V.N. and F.M.; data curation, G.L., M.B., V.N. and F.M.; writing—original draft preparation, G.L. and M.B.; writing—review and editing, G.L., M.B., V.N. and F.M.; visualisation, G.L., M.B., V.N. and F.M.; supervision, M.B. and F.M.; project administration, M.B.; funding acquisition, F.M. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

The Appendix A, in Table A1, contains all the measures analysed according to the methodology shown in Table 1.

Table A1. All the measures analysed according to the methodology shown in Table 1.

City	Value	Area	Hazard	Measure	Type of Measure	Expected Effect	Time of Realisation	Stairs	Type	ReturnTimes
Vicenza	Mand.	Municipal	Flood.	Creation of conditions for the use of nonpolluting means of transport for sustainable mobility	Trans.	Impact red.	Planned	Municipal	Phys.	Ord.
	Mand.	Municipal	Flood.	Urban greenery	Trans.	Impact red.	Planned	Municipal	Phys.	Ord.
	Mand.	Municipal	Flood.	planting of species suitable for bank consolidation (art. 12 NTA)	Increm.	Impact red.	Underway	Municipal	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	Areas subject to Flood. or periodic waterlogging (art. 15 NTA)	Increm.	Impact red.	Completed	Municipal	Org.	Ord.
	Mand.	Municipal	Flood.	Rural territory (art. 32 NTA)	Increm.	Impact red.	Completed	Municipal	Org.	RT 100–300 years
	Mand.	Municipal	Flood.	Hydraulic compatibility (art. 66 NTA)	Increm.	Impact red.	Completed	Municipal	Org.	Ord.
	Mand.	Municipal	UHI	Urban greenery	Trans.	Impact red.	Planned	Municipal	Phys.	Ord.
	Mand.	Municipal	UHI	Valuable tree species (art. 11 NTA)	Increm.	Impact red.	Planned	Municipal	Phys.	Ord.
	Mand.	Municipal	UHI	Maximum quantitative limit of SAU transformable (art. 19 NTA)	Increm.	Impact red.	Completed	Municipal	Org.	Ord.
	Mand.	Municipal	Flood.	Invariants of a geological nature (art. 11 NTA)	Increm.	Impact red.	Completed	Municipal	Org.	Ord.
	Mand.	Municipal	Flood.	Compatibility and hydraulic protection (art. 16 NTA)	Increm.	Impact red.	Completed	Municipal	Org.	Ord.
	Mand.	Municipal	UHI	Redevelopment and reconversion actions (art. 25 NTA)	Increm.	Impact red.	Completed	Municipal	Org.	Ord.
	Mand.	Municipal	UHI	Areas suitable for the improvement of urban and territorial quality (art. 25)	Increm.	Impact red.	Completed	Municipal	Org.	Ord.
	Mand.	Municipal	UHI	Preferential development lines and Phys. limits to new building (art. 30 NTA)	Increm.	Impact red.	Underway	Municipal	Org.	Ord.
	Mand.	Municipal	UHI	Areas relevant to the ecological and territorial network (art. 34 NTA)	Trans.	Impact red.	Planned	Municipal	Org.	Ord.
	Mand.	Municipal	UHI	SEA monitoring (art. 65 NTA)	Increm.	Mon. and mapp.	Completed	Municipal	Org.	Ord.
	Mand.	Municipal	Flood.	Hydrogeological balance (art. 11 and 13 NTA) creation of a buffer zone in resurgence areas	Increm.	Disper. of the phen.	Completed	Municipal	Org.	RT 5–10 years
	Mand.	Municipal	Flood.	Areas subject to Flood. or periodic waterlogging (art. 15 NTA)	Increm.	Impact red.	Completed	Municipal	Org.	Ord.
	Mand.	Municipal	UHI	Wooded or reforested areas (art. 13 NTA)	Increm.	Impact red.	Planned	Municipal	Org.	Ord.
	Mand.	Municipal	Flood.	Invariants of geological, landscape, and environmental nature (art. 11 NTA)	Increm.	Impact red.	Underway	Municipal	Org.	Ord.
	Mand.	Municipal	Flood.	Redevelopment and reconversion actions (art. 25 NTA)	Increm.	Impact red.	Completed	Municipal	Org.	Ord.
	Mand.	Municipal	Flood.	Areas subject to Flood. or periodic waterlogging (art. 15 NTA)	Increm.	Impact red.	Completed	Municipal	Org.	RT 5–10 years

Table A1. *Cont*.

City	Value	Area	Hazard	Measure	Type of Measure	Expected Effect	Time of Realisation	Stairs	Type	ReturnTimes
Treviso	Mand.	Municipal	Flood.	Geological, hydrogeological, and hydraulic balance—wooded areas intended for reforestation (art. 13 NTA)	Increm.	Impact red.	Underway	Municipal	Org.	Ord.
	Mand.	Municipal	Flood.	Areas subject to Flood. or periodic waterlogging (art. 15 NTA)	Increm.	Impact red.	Completed	Municipal	Org.	RT 5–10 years
	Mand.	Municipal	Flood.	Geological compatibility of land for building purposes (art. 14 NTA)	Increm.	Impact red.	Completed	Municipal	Org.	Ord.
	Mand.	Municipal	Flood.	Areas subject to Flood. or periodic waterlogging (art. 15 NTA)	Increm.	Impact red.	Completed	Municipal	Org.	Ord.
	Mand.	Municipal	Flood.	Resurgences	Cop.	Impact red.	Underway	Municipal	Phys.	Ord.
	Mand.	Municipal	Flood.	Geological compatibility—Unsuitable soils	Increm.	Citizens self-prot.	Planned	Municipal	Phys.	Ord.
	Mand.	Municipal	Flood.	Main hydrography	Cop.	Impact red.	Underway	Municipal	Phys.	Ord.
	Mand.	Municipal	Flood.	Overflowing or waterlogged areas	Cop.	Citizens self-prot.	Planned	Municipal	Phys.	Ord.
	Mand.	Municipal	Flood.	Historical Centres	Cop.	Citizens self-prot.	Planned	Municipal	Phys.	Ord.
	Mand.	Municipal	Flood.	Resurgence areas	Increm.	Impact red.	Underway	Municipal	Phys.	Ord.
	Mand.	Municipal	Flood.	Geological compatibility—Suitable soils. For the purposes of safeguarding the environmental heritage, the safety of the territory, and the relative infrastructural works, the P.A.T. distinguishes soils within the territory of Treviso according to the following classes of geological compatibility: - compatibility class I: suitable soils; compatibility class II: conditionally suitable soils; - compatibility class III: unsuitable soils	Trans.	Citizens self-prot.	Completed	Municipal	Phys.	Ord.
	Mand.	Municipal	Flood.	Protection zones (L.R. n° 11/04—art. 41)	Increm.	Citizens self-prot.	Underway	Intermunicipal	Phys.	RT 5–10 years

Table A1. *Cont.*

City	Value	Area	Hazard	Measure	Type of Measure	Expected Effect	Time of Realisation	Stairs	Type	ReturnTimes
	Mand.	Municipal	Flood.	Geological compatibility—Soils suitable under certain conditions. In order to safeguard the environmental heritage, the safety of the territory, and the related infrastructural works, the P.A.T. distinguishes the soils within the territory of Treviso according to the following classes of geological compatibility: - compatibility class I: suitable soils; - compatibility class II: conditionally suitable soils; - compatibility class III: unsuitable soils	Increm.	Citizens self-prot.	Planned	Municipal	Phys.	Ord.
	Mand.	Municipal	Flood.	Utilised Agricultural Area (UAA)	Trans.	Impact red.	Completed	Municipal	Org.	RT 30–50 years
	Mand.	Municipal	Flood.	River landscape routes	Increm.	Citizens self-prot.	Planned	Municipal	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	Strategic Actions	Trans.	Impact red.	Underway	Municipal	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	Sile Natural Park area	Increm.	Citizens self-prot.	Underway	Municipal	Phys.	Ord.
	Mand.	Municipal	Flood.	Consolidated urban areas	Trans.	Impact red.	Completed	Municipal	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	Area for the establishment of the Storga Park	Increm.	Impact red.	Underway	Municipal	Org.	RT 5–10 years
	Mand.	Municipal	Flood.	Areas of diffuse construction	Trans.	Impact red.	Completed	Municipal	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	Core areas	Increm.	Citizens self-prot.	Underway	Municipal	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	Buffer zones and core completion areas	Increm.	Impact red.	Underway	Municipal	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	Areas suitable for conditions easily subject to water stagnation and/or overflowing and/or hydraulic risk: geognostic investigations, suitable morphological remodelling, hydraulic protection systems, waterproofing works	Increm.	Impact red.	Completed	Municipal	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	Suitable areas with very low permeability: facilitation of water drainage, prohibition of soil spraying	Increm.	Impact red.	Completed	Municipal	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	Suitable areas subject to conditions characterised by water stagnation and/or overflowing and/or hydraulic risk and by soil with very low permeability: suitable morphological remodelling, hydraulic protection systems, waterproofing works, facilitation of water draining, prohibition of soil spraying, geognostic investigations	Increm.	Impact red.	Completed	Municipal	Phys.	RT 5–10 years

Table A1. *Cont.*

City	Value	Area	Hazard	Measure	Type of Measure	Expected Effect	Time of Realisation	Stairs	Type	ReturnTimes
	Mand.	Municipal	Flood.	Ineligible areas: no new buildings, possibility to build public infrastructures, maintenance, and renovation of existing buildings for geological and hydraulic impact red.	Increm.	Impact red.	Completed	Municipal	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	General rules and prescriptions for maintenance and protection in areas subject to hydrogeological instability (areas subject to Flood. or water stagnation)—principle of hydraulic stabilisation	Increm.	Disper. of the phen.	Completed	Municipality	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	General rules and prescriptions for maintenance and protection in areas subject to hydrogeological instability (areas subject to overflowing or stagnant water)—discharge control structure	Increm.	Disper. of the phen.	Completed	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	UHI	General rules and prescriptions for maintenance and safeguard in areas subject to hydrogeological instability (areas subject to Flood. or water stagnation)—permeability index and draining parking spaces	Increm.	Impact red.	Planned	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	General rules and prescriptions for maintenance and safeguarding in areas subject to hydrogeological instability (areas subject to Flood. or waterlogging)—precautions to avoid spillage onto the ground	Increm.	Impact red.	Completed	Municipal	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	General rules and prescriptions for maintenance and safeguard in areas subject to hydrogeological instability (areas subject to Flood. or water stagnation)—maintenance of ditches, road drainage ways	Cop.	Impact red.	Completed	Municipal	Phys.	Ord.
	Mand.	Municipal	Flood.	General rules and prescriptions for maintenance and protection in areas subject to hydrogeological instability (areas subject to Flood. or water stagnation)—compensatory measures for hydraulic mitigation in intervention plans, urban implementation plans, and recovery plans	Increm.	Mon. and mapp.	Planned	Municipal	Org.	RT 30–50 years

Table A1. *Cont.*

City	Value	Area	Hazard	Measure	Type of Measure	Expected Effect	Time of Realisation	Stairs	Type	ReturnTimes
	Mand.	Municipal	Flood.	General rules and prescriptions for maintenance and protection in areas subject to hydrogeological instability (areas subject to Flood. or water stagnation) -construction indications in areas of moderate hazard	Increm.	Impact red.	Completed	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	General rules and prescriptions for maintenance and safeguard in areas subject to hydrogeological instability (areas subject to Flood. or water stagnation)—coherence between instruments for solving hydraulic criticalities	Increm.	Impact red.	Planned	Municipal	Org.	RT 30–50 years
	Mand.	Municipal	Flood.	General rules and prescriptions for maintenance and safeguarding in areas subject to hydrogeological instability (areas subject to Flood. or water stagnation)—definition of the volume of reservoir in the I.P.	Increm.	Disper. of the phen.	Planned	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	General rules and prescriptions for maintenance and safeguarding in areas subject to hydrogeological instability (areas subject to Flood. or water stagnation)—oil skimmer systems, first rain treatment	Increm.	Impact red.	Completed	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	General rules and prescriptions for maintenance and protection in areas subject to hydrogeological instability (areas subject to overflowing or stagnant water)—drafting of water plan	Trans.	Citizens self-prot.	Planned	Municipal	Org.	RT 100–300 years
	Mand.	Municipal	Flood.	Hydraulic mitigation—guidelines contained in the hydraulic compatibility assessment—basic hydraulic stabilisation	Increm.	Impact red.	Completed	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	Hydraulic mitigation—guidelines contained in the hydraulic compatibility assessment—deductive hydraulic stabilisation	Increm.	Impact red.	Completed	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	Hydraulic mitigation—guidelines contained in the hydraulic compatibility assessment—correct design of sewerage works	Increm.	Disper. of the phen.	Completed	Municipal	Phys.	RT 30–50 years

Table A1. *Cont.*

City	Value	Area	Hazard	Measure	Type of Measure	Expected Effect	Time of Realisation	Stairs	Type	ReturnTimes
	Mand.	Municipal	Flood.	Hydraulic mitigation—addresses contained in the hydraulic compatibility assessment—public and/or private parking spaces	Increm.	Disper. of the phen.	Completed	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	Hydraulic mitigation—guidelines contained in the hydraulic compatibility assessment—safeguarding floodways	Trans.	Disper. of the phen.	Completed	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	Hydraulic mitigation—guidelines contained in the hydraulic compatibility assessment—local management of rainfall Flood.	Increm.	Impact red.	Completed	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	Hydraulic mitigation—guidelines contained in the hydraulic compatibility assessment—disconnection of green areas from drainage networks	Increm.	Disper. of the phen.	Completed	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	Hydraulic mitigation—guidelines contained in the hydraulic compatibility assessment—to safeguard naturally occurring reservoir volumes on the territory	Trans.	Disper. of the phen.	Completed	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	Hydraulic mitigation—guidelines contained in the hydraulic compatibility assessment—compliance with existing or planned hydraulic mitigation works	Increm.	Impact red.	Completed	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	Hydraulic mitigation—guidelines contained in the hydraulic compatibility assessment—correct distribution of green areas in the u.p.a.	Increm.	Disper. of the phen.	Completed	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	Hydraulic mitigation—guidelines contained in the hydraulic compatibility assessmentUnderground volumes and morphology of accesses to underground volumes.	Increm.	Impact red.	Completed	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	Hydraulic mitigation—guidelines contained in the hydraulic compatibility assessment—admissibility of interventions on floodways	Increm.	Impact red.	Completed	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	Hydraulic mitigation—guidelines contained in the hydraulic compatibility assessment—comply with and enforce existing sector legislation	Increm.	Impact red.	Completed	Municipal	Phys.	RT 30–50 years

Table A1. *Cont.*

City	Value	Area	Hazard	Measure	Type of Measure	Expected Effect	Time of Realisation	Stairs	Type	ReturnTimes
	Mand.	Municipal	Flood.	Hydraulic mitigation—guidelines contained in the hydraulic compatibility assessment—consider rainfall Flood. as an asset to be safeguarded	Trans.	Impact red.	Planned	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	UHI	Hydraulic mitigation—guidelines contained in the hydraulic compatibility assessment—garden covers	Trans.	Disper. of the phen.	Planned	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	Hydraulic mitigation—guidelines contained in the hydraulic compatibility assessment—need for an opinion on hydraulic mitigation works even for interventions not subject to the u.p.a. but with significant "characteristics"	Increm.	Impact red.	Planned	Municipal	Org.	RT 30–50 years
	Mand.	Municipal	Flood.	Hydraulic mitigation—addresses contained in the hydraulic compatibility assessment—complete definition of rain-Flood. paths	Increm.	Impact red.	Planned	Municipal	Org.	RT 30–50 years
	Mand.	Municipal	Flood.	Hydraulic mitigation—guidelines contained in the hydraulic compatibility assessment—qualitative treatment of rainwater Flood.	Increm.	Impact red.	Completed	Municipal	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	Hydraulic mitigation—guidelines contained in hydraulic compatibility assessment—improper use of floodways	Cop.	Impact red.	Completed	Municipal	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	Hydraulic mitigation—guidelines contained in the hydraulic compatibility assessment—minimum limit of peak flow rate	Increm.	Impact red.	Completed	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	Hydraulic mitigation—guidelines contained in the hydraulic compatibility assessment—hydraulic detention	Increm.	Impact red.	Completed	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	Hydraulic mitigation—guidelines contained in the hydraulic compatibility assessment—additional reservoir volumes	Increm.	Impact red.	Completed	Ta Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	Environmental risk areas: supramunicipal project for hydraulic protection and identification of "strategic buildings and emergency areas for civil protection"	Cop.	Citizens self-prot.	Planned	Intermunicipal	Org.	RT 30–50 years

Table A1. *Cont.*

City	Value	Area	Hazard	Measure	Type of Measure	Expected Effect	Time of Realisation	Stairs	Type	ReturnTimes
	Mand.	Municipal	Flood.	Major-accident hazard zones: sealing and prohibition of ground leakage	Increm.	Impact red.	Completed	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	Major-accident hazard zones: low-impact crops, ban on ground dispersion	Increm.	Impact red.	Completed	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	Areas between the main embankments and the floodway of rivers and river islands: transformations exclusively aimed at improving hydraulic safety are allowed	Trans.	Impact red.	Completed	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	Protection of water resources, crop conversion, treatment of livestock manure	Increm.	Impact red.	Planned	Municipal	Org.	RT 30–50 years
	Mand.	Municipal	UHI	Variations in the margins of the urbanised fabric of the "consolidated city": compliance with the objectives of limiting soil consumption, verification of environmental balance, compliance with the conditions of sustainability of the VAS (Strategic Environmental Assessment), and hydraulic safety of the hydraulic compatibility assessment	Increm.	Impact red.	Planned	Municipal	Org.	RT 5–10 years
	Mand.	Municipal	UHI	Transfer of areas of the "planned city" as part of the implementation of integrated and environmental equalisation zones: establishment of parks and nature reserves of municipal interest	Increm.	Impact red.	Planned	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	UHI	Site conversion or redevelopment through building credit	Trans.	Impact red.	Planned	Municipal	Cheap	RT 30–50 years
	Mand.	Municipal	UHI	Fundamental requirements for settlement development in the "City to be transformed": contiguity with the urbanised fabric, respect for environmental values, and protection of viable farms not in conflict with important strategic public interests	Increm.	Impact red.	Planned	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	UHI	Agricultural area: sustainable strategic objectives in the management of building interventions	Trans.	Impact red.	Planned	Municipal	Cheap	RT 30–50 years
	Mand.	Municipal	UHI	Agricultural zone: other indications	Trans.	Impact red.	Planned	Municipal	Eco.	RT 30–50 years
	Mand.	Municipal	UHI	Areas of diffuse construction: morphological and perceptual reorganisation	Increm.	Impact red.	Planned	Municipal	Phys.	RT 30–50 years

Table A1. *Cont.*

City	Value	Area	Hazard	Measure	Type of Measure	Expected Effect	Time of Realisation	Stairs	Type	ReturnTimes
	Mand.	Municipal	Flood.	Specific objectives of the qualification of the productive commercial management system	Increm.	Impact red.	Planned	Municipal	Phys.	RT 5–10 years
	Mand.	Municipal	UHI	CO2 compensation	Increm.	Impact red.	Planned	Municipal	Cheap	RT 30–50 years
	Mand.	Municipal	UHI	Quantification of ‘environmental carrying capacity’ at the ‘One-Stop Shop’	Trans.	Impact red.	Planned	Municipal	Org.	RT 30–50 years
	Mand.	Municipal	Flood.	Environmental aspects of the “public convenience” of interventions to be subject to public–private agreements in the context of urban equalisation	Increm.	Disper. of the phen.	Planned	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	UHI	Building credit: environmental aspects	Trans.	Impact red.	Planned	Municipal	Cheap	RT 100–300 years
	Mand.	Municipal	Flood.	Building credit: water aspects	Trans.	Impact red.	Planned	Municipal	Cheap	RT 30–50 years
	Mand.	Municipal	UHI	Historical–environmental routes of municipal and supramunicipal interest	Increm.	Impact red.	Planned	Intermunicipal	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	Establishment of river agricultural parks	Trans.	Impact red.	Planned	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	UHI	Establishment of river agricultural parks	Trans.	Impact red.	Planned	Municipal	Phys.	RT 100–300 years
	Mand.	Municipal	UHI	Metropolitan and Municipal Ecological Network: subsidies for maintenance and/or creation of hedges, buffer strips, woods	Trans.	Impact red.	Planned	Municipal	Cheap	RT 100–300 years
	Mand.	Municipal	UHI	Metropolitan and Municipal Ecological Network: actions to be pursued to maintain nature or provision of compensatory measures	Trans.	Impact red.	Planned	Municipal	Phys.	RT 100–300 years
	Mand.	Municipal	UHI	Interventions in the core area “Grave and wetlands of the Middle Brenta”	Trans.	Impact red.	Planned	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	UHI	Areas of naturalistic connection: interventions on the tree and shrub heritage, water quality control	Trans.	Impact red.	Planned	Municipal	Phys.	RT 100–300 years
	Mand.	Municipal	Flood.	Interventions in key ecological corridors	Trans.	Impact red.	Planned	Municipal	Phys.	RT 100–300 years
	Mand.	Municipal	UHI	Interventions in secondary ecological corridors	Increm.	Impact red.	Planned	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	UHI	Interventions in “High Nature Islands” as local support nodes for wildlife transfers	Increm.	Impact red.	Planned	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	UHI	Infrastructure barriers and related mitigation works: general indications	Increm.	Impact red.	Planned	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	UHI	Infrastructure barriers and related mitigation works: specific indications for infrastructure barriers (areas)	Increm.	Impact red.	Planned	Municipal	Phys.	RT 30–50 years

Table A1. *Cont.*

City	Value	Area	Hazard	Measure	Type of Measure	Expected Effect	Time of Realisation	Stairs	Type	ReturnTimes
	Mand.	Municipal	UHI	Infrastructure barriers and related mitigation works: specific indications for infrastructure barriers (points)	Increm.	Impact red.	Planned	Municipal	Phys.	RT 30–50 years
	Mand.	Municipal	UHI	Construction of roofs and terraces green walls	Trans.	Impact red.	Planned	Municipal	Phys.	RT 100–300 years
	Mand.	Municipal	Flood.	Stormwater recovery	Trans.	Impact red.	Planned	Municipal	Phys.	RT 100–300 years
	Mand.	Municipal	Flood.	Mitigation measures defined in the SEA on Flood.	Trans.	Impact red.	Planned	Municipal	Phys.	RT 100–300 years
	Mand.	Municipal	UHI	Mitigation measures defined in SEA on green theme with effect on islands of UHI	Trans.	Impact red.	Planned	Municipal	Phys.	RT 100–300 years
	Mand.	Municipal	UHI	Criteria for verifying and monitoring the Plan's sustainability forecasts in relation to the Strategic Environmental Assessment on the green/island theme of UHI	Cop.	Mon. and mapp.	Planned	Municipal	Org.	Ord.
	Mand.	Municipal	Flood.	Criteria for verifying and monitoring the Plan's sustainability forecasts in relation to the Strategic Environmental Assessment on the green/island theme of UHI	Cop.	Mon. and mapp.	Planned	Municipal	Org.	Ord.
	Mand.	Municipal	Flood.	Creation of areas for controlled Flood. and park landscaping	Increm.	Disper. of the phen.	Planned	Project	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	Construction of the new rainwater basin in the former Lusore riverbed (int. B.3)	Increm.	Disper. of the phen.	Planned	Project	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	Guarantee the airport site from possible Flood., bringing the whole area to a level of hydraulic safety suitable for the intended uses	Trans.	Impact red.	Planned	Project	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	Reducing the consumption of drinking water and energy through initiatives aimed at reusing raw water, rainwater, or purified water, including water from outside the airport, for compatible purposes, in order to obtain economic and environmental benefits	Increm.	Impact red.	Planned	Project	Phys.	Ord.
	Mand.	Municipal	UHI	Redevelopment of natural components	Increm.	Impact red.	Underway	Project	Phys.	Ord.
	Mand.	Municipal	UHI	Promoting maintenance of open areas	Increm.	Citizens self-prot.	Underway	Municipal	Cheap	Ord.
	Mand.	Municipal	UHI	Reorganisation of urban green areas	Trans.	Citizens self-prot.	Underway	Municipal	Phys.	Ord.
	Mand.	Municipal	UHI	Improving urban quality	Increm.	Impact red.	Underway	Municipal	Org.	Ord.
	Mand.	Municipal	UHI	Redevelopment and/or conversion areas	Increm.	Impact red.	Underway	Municipal	Phys.	Ord.

Table A1. *Cont.*

City	Value	Area	Hazard	Measure	Type of Measure	Expected Effect	Time of Realisation	Stairs	Type	ReturnTimes
	Mand.	Municipal	UHI	Urban equalisation for areas worthy of environmental protection	Increm.	Disper. of the phen.	Underway	Municipal	Cheap	Ord.
	Mand.	Municipal	UHI	Spot upgrading	Increm.	Disper. of the phen.	Underway	Municipal	Eco.	Ord.
	Mand.	Municipal	UHI	Energy efficiency	Increm.	Impact red.	Underway	Municipal	Phys.	Ord.
	Mand.	Municipal	Flood.	Protection of the agricultural heritage	Increm.	Impact red.	Underway	Municipal	Cheap	Ord.
	Mand.	Municipal	UHI	Prevention of risks related to UHI waves	Increm.	Impact red.	Completed	Municipal	Org.	Ord.
	Mand.	Municipal	Flood.	Risk prevention and mitigation	Increm.	Impact red.	Completed	Municipal	Org.	RT 5–10 years
	Mand.	Municipal	Flood.	Prevention of risks related to intense weather events	Increm.	Impact red.	Completed	Municipal	Org.	RT 5–10 years
	Mand.	Municipal	UHI	Lifting systems and new water pumps	Increm.	Impact red.	Planned	Municipal	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	Construction of reservoirs/lamination basins, controlled Flood. areas	Increm.	Impact red.	Planned	Municipal	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	Construction of new pipeline	Increm.	Impact red.	Planned	Municipal	Phys.	Ord.
	Mand.	Municipal	Flood.	Construction of a new inlet/ditch	Trans.	Impact red.	Planned	Municipal	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	Renaturalisation, green belts and urban parks	Trans.	Impact red.	Planned	Municipal	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	Land management guidelines (reduction of run-off volume by dispersion, infiltration basins, detention basins, permeable pavement)	Trans.	Mon. and mapp.	Planned	Project	Phys.	Ord.
	Mand.	Municipal	Flood.	Decreasing environmental fragility	Increm.	Impact red.	Underway	Municipal	Phys.	Ord.
	Mand.	Municipal	Flood.	Restoration of wetlands	Increm.	Disper. of the phen.	Underway	Municipal	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	Hydraulic improvement	Trans.	Disper. of the phen.	Underway	Project	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	Response to rainfall events in new works	Trans.	Disper. of the phen.	Underway	Project	Phys.	RT 30–50 years
	Mand.	Municipal	Flood.	Water drainage	Increm.	Disper. of the phen.	Underway	Project	Phys.	RT 5–10 years
	Mand.	Area/ neighbourhood	Flood.	dune and backdune reconnection areas	Trans.	Impact red.	Planned	Neighbourhood	Org.	RT 100–300 years
	Mand.	Regional	Flood.	The PAI is the sectoral reference document. It plans and defines mitigation and adaptation strategies, analysing the risk, vulnerability, and danger of the territory and designing response measures	Increm.	Impact red.	Underway	Intermunicipal	Org.	Ord.

Table A1. *Cont.*

City	Value	Area	Hazard	Measure	Type of Measure	Expected Effect	Time of Realisation	Stairs	Type	ReturnTimes
	Mand.	Provincial	Flood.	Adaptation strategies: assessment and analysis of all incident scenarios on the territory based on potential risks and subdivision of the provincial territory into homogeneous territorial areas; response to events: management of emergency situations, rescue	Increm.	Citizens self-prot.	Underway	Municipal	Org.	RT 100–300 years
	Mand.	Regional	Flood.	The plan is part of the strategic planning that the European Directive 2000/60 requires to be drawn up and updated every six years involving the different institutional, third sector, or individual stakeholders in order to protect and enhance the water resource in all its aspects	Increm.	Mon. and mapp.	Underway	Intermunicipal	Org.	Ord.
	Mand.	Provincial	Flood.	Hydraulic risk reduction	Trans.	Mon. and mapp.	Underway	Intermunicipal	Org.	Ord.
	Mand.	Provincial	UHI	The PAT/PATI also through agreements for the co-ordination of planning with the province and the municipalities concerned, define the forecasts: integrating, also through equalisation and compensation procedures, parts of the territory already equipped for tourism with others intended for: the integration of tourist services, including innovative ones (theme parks, basins for pleasure boating, arrangement of inland canals) with measures to adapt to climate change (reallocation of reclaimed and underused areas, formation of coastal and lagoon buffer zones)	Trans.	Impact red.	Underway	Intermunicipal	Org.	Ord.
	Mand.	Provincial	UHI	The norm recalls the need to consider climate phenomena as a factor that affects the provincial territory, determining adaptation needs in coherence with international and superordinate guidelines. It indicates the need to apply the precautionary principle in the evaluation of alternatives and mitigation and compensation criteria for impacts	Trans.	Impact red.	Underway	Municipal	Org.	Ord.

Table A1. *Cont.*

City	Value	Area	Hazard	Measure	Type of Measure	Expected Effect	Time of Realisation	Stairs	Type	ReturnTimes
	Mand.	Provincial	UHI	The PAT/PATI forecasts can also be defined through co-ordination agreements in order to co-ordinate and integrate the local scale forecasts with the provincial ones, to favour the restructuring of the accessibility system of the coastal resorts, to integrate, also through equalisation and compensation procedures, parts of the territory already equipped for tourism with others destined to make the territory safe or to enhance and strengthen the environmental and cultural heritage, integrating tourist services, including innovative ones (theme parks, basins for recreational boating, arrangement of inland canals) with measures to adapt to climate change (such as, for example, refilling reclaimed and underused areas, creating buffer strips along the coastline and in lagoons), and, lastly, limiting as far as possible the number of settlements for new tourist accommodation	Trans.	Impact red.	Underway	Municipal	Org.	Ord.
	Mand.	Provincial	Flood.	It invests in environmental aspects involved in climate change adaptation processes, such as: climate-changing emissions; hydraulic planning; land consumption for urban or infrastructural uses; and rural land uses and production	Trans.	Impact red.	Underway	Intermunicipal	Org.	Ord.
	Mand.	Provincial	Flood.	The province encourages and promotes the participation of the municipalities in the strategic programmes and promotes: the adoption of locational solutions for accommodation facilities and installations that are safer in hydraulic terms and have a lower environmental impact, in line with the strategy of adaptation to climate change, in backwardness with respect to the coastline	Trans.	Impact red.	Underway	Intermunicipal	Org.	Ord.

Table A1. *Cont.*

City	Value	Area	Hazard	Measure	Type of Measure	Expected Effect	Time of Realisation	Stairs	Type	ReturnTimes
	Mand.	Provincial	Flood.	As a general rule, landscaping should use native or naturalised plants, as the latter not only integrate better with the landscape but also adapt better to rainfall patterns	Increm.	Impact red.	Underway	Project	Phys.	Ord.
	Mand.	Provincial	Flood.	The PAT/PATI will have to define specific indicators to verify the planned reduction of coastal erosion and fragility of the areas following the implementation of the plan measures, including the permanence of the convenience to socially support the overall maintenance costs of hydraulic drainage and, with reference to the indications of the PTCP, will have to identify the areas considered suitable to be reconnected or used as expansion tanks of the Flood. courses	Trans.	Mon. and mapp.	Underway	Municipal	Org.	Ord.
	Mand.	Municipal	UHI	Promoting environmental friendliness	Increm.	Citizens self-prot.	Underway	Municipal	Eco.	Ord.
	Mand.	Municipal	Flood.	Phys. protection and integrity of the territory	Trans.	Disper. of the phen.	Underway	Municipal	Phys.	Ord.
	Mand.	Municipal	Flood.	Bissuola junction: construction of a 15,000 m^3 volume first rainwater basin to serve the Carpenedo sewage basin and a 10 m^3/s water-scooping system to discharge second rainwater into the Marzenego river	Increm.	Disper. of the phen.	Planned	Project	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	Extraordinary mainteaning and securing of the Acque Basse collector sewer	Cop.	Impact red.	Planned	Project	Phys.	Ord.
	Mand.	Municipal	Flood.	Construction of a rainwater basin to serve the Via Torino reservoir with a capacity of 10,000 m^3 with an adjoining 7.5 m^3/s water drainage system	Increm.	Disper. of the phen.	Planned	Project	Phys.	RT 5–10 years
	Mand.	Provincial	UHI	Preservation and enhancement of the ecological network	Increm.	Impact red.	Underway	Intermunicipal	Phys.	Ord.
	Mand.	Provincial	UHI	Reclamation	Increm.	Disper. of the phen.	Underway	Intermunicipal	Phys.	RT 30–50 years
	Mand.	Regional	Flood.	It identifies tools for the protection and conservation of water resources. As a risk reduction strategy, it is concerned with contributing to the mitigation of the effects of floods and droughts	Increm.	Impact red.	Underway	Intermunicipal	Org.	RT 30–50 years

Table A1. *Cont.*

City	Value	Area	Hazard	Measure	Type of Measure	Expected Effect	Time of Realisation	Stairs	Type	ReturnTimes
	Mand.	Regional	UHI	Regional ecological network	Increm.	Impact red.	Underway	Intermunicipal	Phys.	Ord.
	Mand.	Regional	UHI	Ecological corridors	Increm.	Impact red.	Underway	Intermunicipal	Phys.	Ord.
	Mand.	Regional	UHI	Containing and combating the effects of climate change	Increm.	Impact red.	Underway	Intermunicipal	Phys.	RT 30–50 years
	Mand.	Regional	Flood.	Hydraulic risk	Increm.	Impact red.	Underway	Intermunicipal	Phys.	Ord.
	Mand.	Regional	Flood.	City Network	Increm.	Impact red.	Planned	Intermunicipal	Org.	Ord.
	Mand.	Regional	Flood.	Reorganisation of the settlement system and design criteria	Increm.	Impact red.	Planned	Intermunicipal	Org.	Ord.
	Mand.	Regional	Flood.	Reorganisation of the settlement system and design criteria	Increm.	Impact red.	Planned	Intermunicipal	Org.	Ord.
	Mand.	Regional	Flood.	Risk from sea storms and coastal protection	Trans.	Disper. of the phen.	Underway	Intermunicipal	Phys.	Ord.
	Mand.	Municipal	UHI	Containment of energy consumption and environmental protection of new interventions	Increm.	Citizens self-prot.	Underway	Municipal	Phys.	RT 5–10 years
	Mand.	Municipal	UHI	Building Regeneration	Increm.	Impact red.	Underway	Municipal	Phys.	Ord.
	Mand.	Municipal	UHI	Renewable sources in new buildings	Increm.	Impact red.	Underway	Municipal	Phys.	Ord.
	Mand.	Municipal	UHI	Energy efficiency	Increm.	Impact red.	Underway	Municipal	Cheap	Ord.
	Mand.	Municipal	Flood.	Soil and subsoil moisture	Increm.	Citizens self-prot.	Underway	Municipal	Phys.	Ord.
	Mand.	Municipal	Flood.	Rainwater conveyance in roofs	Increm.	Disper. of the phen.	Underway	Municipal	Phys.	RT 5–10 years
	Mand.	Municipal	Flood.	Internal water networks	Increm.	Disper. of the phen.	Underway	Municipal	Phys.	RT 5–10 years
	Vol.	Provincial	Flood.	The projects must be aimed at recovering the quality of urban life through the rediscovery of Flood.: this is a change that touches on urban, environmental, and economic aspects.The rediscovery of the relationship between man—Flood., land—and sea must take place through the recovery of the relationship between the city and the sea, between the city and the rivers, redesigning a new urban idea, having the merit and the ability to transform compromised and disused areas into sources of life and resources of various kinds (tourist, commercial, productive, services...). The reappropriation of these spaces will also take place by mending the relationship between the urban structure and the "sea/river" front	Trans.	Impact red.	Underway	Project	Phys.	Ord.

Table A1. *Cont.*

City	Value	Area	Hazard	Measure	Type of Measure	Expected Effect	Time of Realisation	Stairs	Type	ReturnTimes
	Vol.	Municipal	UHI	Energy efficiency interventions in public buildings for public use in the Municipality of Venice	Increm.	Impact red.	Planned	Municipal	Phys.	Ord.
	Vol.	Municipal	UHI	Energy efficiency and renewables at IUAV sites	Increm.	Impact red.	Completed	Municipal	Phys.	Ord.
	Vol.	Municipal	UHI	Widespread energy efficiency upgrading of the municipal residential building stock	Increm.	Impact red.	Planned	Municipal	Phys.	Ord.
	Vol.	Municipal	UHI	Energy efficiency measures in sports facilities in the Municipality of Venice	Increm.	Impact red.	Planned	Municipal	Phys.	Ord.
	Vol.	Municipal	UHI	Reducing energy demand	Increm.	Citizens self-prot.	Underway	Municipal	Phys.	Ord.
	Vol.	Municipal	UHI	Energy saving in commercial and tertiary buildings	Increm.	Citizens self-prot.	Underway	Municipal	Phys.	Ord.
	Vol.	Municipal	Flood.	Environmental education in schools	Cop.	Citizens self-prot.	Completed	Municipal	Org.	Ord.
	Vol.	Municipal	Flood.	Protection and restoration of special areas	Cop.	Disper. of the phen.	Underway	Intermunicipal	Phys.	Ord.
	Vol.	Municipal	Flood.	Urban and periurban agriculture for the preservation of agricultural areas	Increm.	Impact red.	Underway	Municipal	Phys.	Ord.
	Vol.	Municipal	Flood.	Recovery and enhancement of environments	Increm.	Impact red.	Underway	Municipal	Phys.	Ord.
	Vol.	Municipal	Flood.	Urban agriculture	Increm.	Impact red.	Underway	Municipal	Phys.	Ord.
	Vol.	Large area	Flood.	Work to reduce the hydraulic risk west of the centre of Mestre by extending the drainage network and creating a new basin with alternating mechanical flow.	Increm.	Disper. of the phen.	Planned	Project	Phys.	Ord.
	Vol.	Large area	Flood.	Construction of accumulation basins and phyto-purification systems with surface and subsurface flow within the Bosco di Mestre areas in the municipality of Venice	Increm.	Disper. of the phen.	Planned	Project	Phys.	RT 5–10 years
	Vol.	Large area	Flood.	Construction of reservoirs and phyto-purification on the River Dese downstream of the A57 "Tangenziale di Mestre" motorway	Increm.	Disper. of the phen.	Planned	Project	Phys.	RT 5–10 years
	Vol.	Municipal	Flood.	Emergency communication	Increm.	Speed of interv. and info.	Planned	Intermunicipal	Org.	Ord.

Table A1. *Cont*.

City	Value	Area	Hazard	Measure	Type of Measure	Expected Effect	Time of Realisation	Stairs	Type	ReturnTimes
	Vol.	Provincial	Flood.	Design of a warning system for the protection of cultural heritage from hydrogeological and hydraulic risks	Increm.	Speed of interv. and info.	Planned	Project	Org.	RT 5–10 years
	Vol.	Provincial	Flood.	Recognition of the list of buildings of interest in areas subject to Flood., river Flood. and high tides	Increm.	Speed of interv. and info.	Planned	Project	Org.	RT 5–10 years
	Vol.	Provincial	Flood.	Definition of internal emergency plans for each site	Increm.	Speed of interv. and info.	Planned	Project	Org.	RT 5–10 years
	Vol.	Provincial	Flood.	Preparation and/or implementation of "cataloguing/vulnerability sheets" also emulating those of the Municipality of Venice	Increm.	Speed of interv. and info.	Planned	Project	Org.	RT 5–10 years
	Vol.	Provincial	Flood.	Information linkage of operational structures	Increm.	Speed of interv. and info.	Planned	Project	Org.	RT 5–10 years
	Vol.	Provincial	Flood.	Training courses for Vol. groups and targeted exercises	Increm.	Speed of interv. and info.	Planned	Project	Org.	RT 5–10 years
	Vol.	Municipal	Flood.	Reducing hydraulic risk by increasing landscape quality	Trans.	Citizens self-prot.	Underway	Municipal	Phys.	RT 30–50 years
	Vol.	Municipal	Flood.	Stability of water bodies	Increm.	Disper. of the phen.	Underway	Municipal	Phys.	RT 30–50 years
	Vol.	Municipal	Flood.	Maintenance of water bodies	Cop.	Disper. of the phen.	Underway	Municipal	Phys.	RT 30–50 years
	Vol.	Municipal	Flood.	Safety of water bodies	Increm.	Disper. of the phen.	Underway	Municipal	Phys.	RT 30–50 years
	Vol.	Municipal	Flood.	Water stress defence	Increm.	Disper. of the phen.	Underway	Municipal	Phys.	RT 5–10 years

References

1. Bertin, M.; Negretto, V.; Patassini, D.; Musco, F. L'adattamento inconsapevole. Un punto di partenza per L'integrazione della pianificazione territoriale in relazione al rischio, la sicurezza dei territori fragili. In Proceedings of the Conferenza Nazionale SIU, Matera-Bari, Italy, 5–7 July 2019; p. 614.
2. Istat. Available online: http://www.dati.istat.it/ (accessed on 5 January 2022).
3. Cultura Veneto. Available online: https://www.culturaveneto.it/it/patrimonio-mondiale-in-veneto (accessed on 5 January 2022).
4. Messina, P. Città o area metropolitana?: Il caso del Veneto nel contesto europeo. *Econ. E Soc. Reg.* **2013**, *1*, 46–63.
5. ARPAV. *Rapporto sullo Stato dell'Ambiente del Veneto—Anno 2020*; ARPAV: Venice, Italy, 2020; ISBN 978-88-7504-170-0.
6. Euro-Mediterranean Center on Climate Change, Scenari Climatici per l'Italia. Available online: https://www.cmcc.it/it/scenari-climatici-per-litalia (accessed on 5 January 2022).
7. Monai, M.; Barbi, A.; Racca, R.; Rech, F.; Cagnati, A.; Savio, F.; Carta, M. *A Proposito di ... Cambiamenti Climatici*; ARPAV: Venice, Italy, 2017.
8. IPCC. Summary for policymakers. In *Climate Change 2021: The Physical Science Basis*; Cambridge University Press: Cambridge, UK, 2021.
9. Ferro, D.; Fregolent, L.; Magni, F.; Maragno, D.; Martinucci, D.; Musco, F. Strumenti e politiche di adattamento per UHI nell'area centrale veneta. In *Il Clima Cambia le Città*; European Union: Brussels, Belgium, 2013.
10. Munafò, M. (Ed.) *Consumo di Suolo, Dinamiche Territoriali e Servizi Ecosistemici*; Edizione 2021; SNPA: Rome, Italy, 2021.
11. Tempesta, T. Crescita Urbana nel Veneto e Degrado del Territorio. Available online: https://www.legambientepadova.it/wp-content/uploads/2020/06/urbanizzazione_veneto_Tempesta.pdf (accessed on 30 March 2022).
12. LIFE Veneto Adapt. *Central Veneto Climate Change Vulnerability—State of the Art Report*; Progetto LIFE16 VENETO ADAPT LIFE16 CCA/IT/000090; Veneto Adapt: Padua, Italy, 2018.
13. Veneto Adapt. Progetto LIFE16 VENETO ADAPT LIFE16 CCA/IT/000090, Action A.2 Adaptation: State of the Art Assessment. A.2.1 Comparative Analysis of the Existing Adaptation Measures A.2.2 Central Veneto Climate Change Vulnerability—State of the Art Report. Available online: https://www.venetoadapt.it/wp-content/uploads/2020/03/Del%20A2%20-%20VenetoADAPT%20Adaptation%20State%20of%20the%20art%20assessment.pdf (accessed on 5 March 2022).
14. Fussel, H. Adaptation planning for climate change: Concepts, assessment approaches, and key lessons. *Sustain. Sci.* **2007**, *2*, 265–275. [CrossRef]
15. Magni, F.; Litt, G.; Carraretto, G. Metropolitan Cities supporting local adaptation processes. The case of the Metropolitan City of Venice. *TeMA J. Land Use Mobil. Environ.* **2021**, *14*, 125–144. [CrossRef]
16. Allmendiger, P. Towards a Post-Positivist Typology of Planning Theory. *Plan. Theory* **2002**, *1*, 77–99. [CrossRef]
17. Grasso, M.; Tàbara, J.D. Towards a Moral Compass to Guide Sustainability Transformations in a High-End Climate Change World. *Sustainability* **2019**, *11*, 2971. [CrossRef]
18. Medd, W.; Marvin, S. From the Politics of Urgency to the Governance of Preparedness: A Research Agenda on Urban Vulnerability. *J. Contingencies Crisis Manag.* **2005**, *2*, 44–49. [CrossRef]
19. Forino, G.; von Meding, J.; Brewer, G.J. A Conceptual Governance Framework for Climate Change Adaptation and Disaster Risk Reduction Integration. *Int. J. Disaster Risk Sci.* **2015**, *6*, 372–384. [CrossRef]
20. O'Neill, B.C.; Kriegler, E.; Riahi, K.; Ebi, K.; Hallegatte, S.; Carter, T.R.; Mathur, R.; van Vuuren, D.A. New scenario framework for climate change research: The concept of shared socioeconomic pathways. *Clim. Chang.* **2014**, *122*, 387–400. [CrossRef]
21. Birkmann, J.; von Teichmann, K. Integrating disaster risk reduction and climate change adaptation: Key challenges—Scales, knowledge, and norms. *Sustain. Sci.* **2010**, *5*, 171–184. [CrossRef]
22. Schwab, J.C. (Ed.) *Hazard Mitigation: Integrating Best Practices into Planning*; APA Planning Advisory Service: Chicago, IL, USA, 2010.
23. Mercer, J. Disaster Risk reduction or climate change adaption: Are we reinventig the whell? *J. Int. Dev.* **2010**, *22*, 247–264. [CrossRef]
24. Gallopin, G.C. Linkages between vulnerability, resilience, and adaptive capacity. *Glob. Environ. Chang.* **2006**, *16*, 293–303. [CrossRef]
25. Musco, F. Policy design for sustainable integrated planning: From local agenda 21 to climate protection. In *Local Governments and Climate Change*; van Staden, M., Musco, F., Eds.; Springer: New York, NY, USA, 2011.
26. Ahrens, J.; Rudolph, P.M. The Importance of Governance in Risk Reduction and Disaster Management. *J. Contingencies* Crisis Manag. **2006**, *4*, 207–220. [CrossRef]
27. Lewis, D.; Mioch, J. Urban Vulnerability and Good Governance. *J. Contingencies Crisis Manag.* **2005**, *13*, 2. [CrossRef]
28. Taàbara, J.D.; Cots, F.; Pedde, S.; Hoölscher, K.; Kok, K.; Capela Lourenço, T.; Frantzeskaki, N.; Etherington, J. Exploring institutional transformations to address High-End Climate Change in Iberia. *Sustainability* **2018**, *10*, 16. [CrossRef]
29. Butina Watson, G. Designing resilient cities and neighborhoods. In *Urban Disaster Resilience. New Dimensions from International Practice in the Built Environment*; Kayden, J., Leis, J., Eds.; Routledge: New York, NY, USA, 2017.
30. Magni, F.; Musco, F.; Litt, G.; Carraretto, G. The Mainstreaming of NBS in the SECAP of San Donà di Piave: The LIFE Master Adapt Methodology. *Sustainability* **2020**, *12*, 10080. [CrossRef]
31. Bockel, L.; Smit, B. *How to Mainstream Climate Change Adaptation and Mitigation into Agriculture Policies?* FAO: Rome, Italy, 2009.
32. Hoölscher, K.; Frantzeskaki, N.; Loorbach, D. Steering transformations under climate change: Capacities for transformative climate governance and the case of Rotterdam, the Netherlands. *Reg. Environ. Chang.* **2019**, *19*, 791–805. [CrossRef]
33. LIFE Veneto Adapt. Available online: http://www.venetoadapt.it (accessed on 5 January 2022).
34. Comune di Venezia, Piano Clima Città di Venezia. Available online: www.comune.venezia.it/it/content/piano-clima-citt-venezia (accessed on 10 March 2022).

35. Menoni, S. Emergency planning. In *Encyclopedia of Natural Hazards*; Bobrowsky, P.T., Ed.; Springer: Berlin, Germany, 2013.
36. Lindell, M. Emergency management. In *Encyclopedia of Natural Hazards*; Bobrowsky, P.T., Ed.; Springer: Berlin, Germany, 2013.
37. Bertin, M.; Magnabosco, G.; Maragno, D.; Negretto, V.; Dall'Omo, C.F.; Musco, F.; Fabian, L.; Veneto Adapt. Un'esperienza di Convergenza Tra Adattamento al Cambiamento Climatico e Riduzione del Rischio. *Urban. Inf.* 2018. Available online: https://air.iuav.it/retrieve/handle/11578/305598/136218/VenetoAdapt%20-%20Un%27esperienza%20di%20convergenza%20tra%20adattamento%20al%20cambiamento%20climatico%20e%20riduzione%20del%20rischio.pdf (accessed on 5 January 2022).
38. Litt, G.; Ferraioli, E.; Magni, F.; Lucertini, G.; Musco, F. Inter-Municipal Methodology for Climate Transition Strategies: The First Case in Italy. *Sustainability* **2022**, *14*, 2529. [CrossRef]
39. Arras, F.; Baruzzi, V.F.; Carraretto, G.; Santos, T.F.; Giordano, F.; Lapi, M.; Litt, G.; Luise, D.; Magni, F.; Marras, S.; et al. *DELIVERABLE AZIONE C3—Linee Guida per il Mainstreaming nei Gruppi di Comuni"—LIFE15 CCA/IT/000061 MASTER ADAPT—"MainSTreaming Experiences at Regional and Local Level for Adaptation to Climate Change*; European Commission: Brussels, Belgium, 2020.
40. Harrison, P.A.; Jaöger, J.; Frantzeskaki, N.; Berry, P. Understanding high-end climate change: From impacts to co-creating integrated and transformative solutions. *Reg. Environ. Chang.* **2019**, *19*, 621–627. [CrossRef]
41. Gramberger, M.; Zellmer, K.; Kok, K.; Metzger, M. Stakeholder integrated research (STIR): A new approach tested in climate change adaptation research. *Clim. Chang.* **2014**, *128*, 201–214. [CrossRef]
42. Kasemir, B.; Schibli, D.; Stoll, S.; Jaeger, C.C. Involving the public in climate and energy decisions. *Environ. Sci. Policy Sustain. Dev.* **2000**, *42*, 32–42. [CrossRef]
43. IPCC. IPCC Special Report on Global Warming of 1.5 °C. Available online: http://www.ipcc.ch/report/sr15/ (accessed on 23 May 2019).
44. Harrison, P.A.; Dunford, R.W.; Holman, I.P.; Cojocaru, G.; Madsen, M.S.; Chen, P.Y.; Sandars, D. Differences between low-end and high-end climate change impacts in Europe across multiple sectors. *Reg. Environ. Chang.* **2018**, *19*, 695–709. [CrossRef]
45. Van Vuuren, D.P.; Carter, T.R. Climate and socio-economic scenarios for climate change research and assessment: Reconciling the new with the old. *Clim. Chang.* **2014**, *122*, 415–429. [CrossRef]
46. Holman, I.P.; Harrison, P.A.; Metzger, M.J. Cross-sectoral impacts of climate and socio-economic change in Scotland: Implications for adaptation policy. *Reg. Environ. Chang.* **2014**, *16*, 97–109. [CrossRef]
47. LIFE Veneto Adapt. The Veneto ADAPT Strategy Paper. Available online: http://www.venetoadapt.it/wp-content/uploads/2020/03/DEL%20A1%20-%20The%20Veneto%20ADAPT%20Strategy%20Paper.pdf (accessed on 5 January 2022).