

## Article

# Contribution of Civil Protection to the Urban Economy: Evidence from a Small-Sized Greek City

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**Abstract:** Civil protection has attracted considerable attention due to its role in disaster management and preparedness, being essential in alerting the public about potential disasters and crisis recovery measures. However, there is limited research on civil protection and its vital role in urban economy recovery. Therefore, we sought to comprehensively investigate the impact of civil protection on economic growth and the development of the urban economy, focusing on a small-sized Greek city, Kozani, as a case study. We utilized data from 160 residents of Kozani. The study findings confirmed that the key focus areas of civil protection, namely, the national early warning system, crisis preparedness measures and economy rescue operations, significantly affect economic growth and development. Furthermore, the key strategies essential for improved civil protection, such as government support, positively affect economic growth.

**Keywords:** civil protection; economic recovery; economic growth and development; crisis management



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## 1. Introduction

Individuals and society are constantly exposed to new dangers [1]. Current events, such as the coronavirus pandemic, natural hazards and extreme weather phenomena, as well as long-term trends, necessitate a constant review of the most recent safety and security issues. As the climate crisis has turned into a global threat with severe and multidimensional effects, such as social, economic and environmental consequences, the developing a national strategy of preparedness and the management of hazards and extreme issues have become high-priority issues.

Cook and Dorussen [2] indicate that civil protection must be linked with evolving threats and current social, technological and political conditions to safeguard the people from emergency circumstances. Civil protection relates to important organizational aspects such as engineering, economic independence and financial, social, educational and scientific measures. These measures are usually considered by state government, local authorities and society to ensure the safety of people, environment and property and facilitate appropriate action in the event of a disaster or threat of disaster [3]. In sum, preparing for emergency events and addressing their inevitable consequences imply adopting appropriate solutions to prevent crises at the local, regional and national levels, minimizing the possibility of ravages, or even after they have occurred, taking advantage of any possible opportunities [4]. The efficiency of an emergency management strategy can be enhanced by the contribution of accumulated knowledge and the benefits of modern technology [5].

Imperiale and Vanclay [6] indicate that civil protection specialists usually discuss the best practices and efforts for disaster risk management public awareness at the worldwide, regional, national and cross-border levels. Citizens' risk communication is a useful instrument for raising their knowledge of disaster prevention, preparation and response actions in the event of catastrophes or public health emergencies such as pandemics. Given the importance of the general public in risk prevention and emergency preparation, as

well as the reality that citizens are often the first responders to catastrophes, mobilizing volunteers during disasters or pandemics is a critical element and added value in disaster risk management.

According to Hermoso and Luca [7], civil protection refers to various efforts made to safeguard people of a state or nation from various natural catastrophes. The concepts of emergency operations, such as prevention, mitigation, preparedness, reaction or emergency evacuation and recovery, are used in civil protection. As the danger of war and aerial bombardment increased, programs like these were proposed as early as the 1920s and implemented in certain nations throughout the 1930s [8]. After the danger of nuclear weapons was recognized, civil protection grew ubiquitous. Since the conclusion of the Cold War, civil defense has switched its emphasis from military assault to general crises and disasters. Crisis management, emergency management, emergency preparation, contingency planning, civil contingency, civil assistance and civil protection are some of the key areas addressed by civil protection [3].

### 1.1. Problem Statement

Civil protection is the first line of defense for a country's people in the early aftermath of a catastrophe, as well as a show of humanitarian solidarity with other nations impacted. In-kind aid, the deployment of specially equipped teams or evaluation and coordination by specialists sent to the scene may all be part of the national emergency response. To guarantee business continuity in a country, most nations engage in disaster response and preparation in close cooperation with various international civil protection agencies and national emergency response coordination centers [9]. The majority of partnerships include information sharing, consular aid cooperation and collaborative expert capacity development, among other things. In emergency circumstances in Greece, disaster response is handled by the government's civil protection agencies [10]. The emergency response agencies coordinate the deployment of knowledge and the supply of resources, which helps mitigate crises in the long term. Despite the various studies on the different mechanisms utilized in disaster or emergency management and economic recovery, limited or no research has been conducted on civil protection and its influence on economic growth. Therefore, in this study, we assess the impact of civil protection on economic growth and development.

### 1.2. Purpose of the Study

The principal purpose of this study is to investigate the impact of civil protection on urban economic growth using Kozani, a small-sized Greek city, as a case study. Specifically, the study is based on different specific objectives that include (i) the exploration of civil protection's role in economic recovery, (ii) the establishment of the key focus areas of civil protection and (iii) the analysis of the strategies essential for improved civil protection. Consequently, the research questions that arise can be summarized as follows:

- (1) What is the role of civil protection in economic recovery?
- (2) What are the key focus areas of civil protection?
- (3) What are the different strategies essential for improved civil protection?

For this purpose, the research hypothesis can be formulated as below:

**Hypothesis 1 (H1).** *There is a significant relationship between strategies for improved civil protection and economic growth and development.*

**Hypothesis 2 (H2).** *Key focus areas of civil protection positively affect economic growth and development.*

Finally, given that many countries have already focused on developing their own national civil protection system, the assessment of the impact of this strategy on the economy and development (local or national) provides important information to decision makers. Therefore, the significance of study's findings is attributed to the contribution to

the research on the role of civil protection in economic emergencies, crises and disasters. In sum, the study findings offer new knowledge of civil protection and its impact on urban economic recovery.

### 1.3. Study Area

The Municipality of Kozani spans 366,018 square kilometers in the West Macedonia region of northern Greece and has 71,388 inhabitants (data from 2011 census) [11]. Historically, the city of Kozani has mainly faced natural hazards and risks due to phenomena such as earthquakes and extreme weather conditions such as extremely low temperatures and heavy snowfalls in the winter. Notably, an earthquake measuring 6.6 on the Richter scale on 13 May 1995 was recorded in Kozani. Although there was no human life loss, about 7693 houses recorded significant material damages and more than 10,000 people were left homeless in the region of Kozani [12]. Furthermore, the city of Kozani is vulnerable to industrial hazards and technological accidents due to industrial installations and lignite mining stations, as the city is known as the energy center of Greece due to its dominant position in electricity generation and lignite mining facilities since the end of 20th century. Therefore, the development of the state mechanism and local authorities' ability to manage potential dangers and crises in the wider region is of considerable importance for the residents of the city and their security.

### 1.4. Literature Review

Undoubtedly, the appearance of the new SARS-CoV-2 coronavirus strain at the end of 2019 and the rapid spread of the COVID-19 respiratory disease, with about 5,300,000 million deaths worldwide so far [13], has emerged as the major public health challenge of recent decades. On the other hand, the appearance of extreme climate phenomena with catastrophic consequences around the world is irrefutable evidence of climate change. The climate crisis is not an abstract concept of a future threat. It is evident and it is affecting the entire planet, prompting a request for urgent global mobilization in order to ensure the well-being of both present and future generations [5,14]. Considering finite space and energy [15], the ignorance of the ecological boundaries [16] of the planet in combination with the reckless use of fossil fuels (coal, oil and gas) foster the risk of causing irreversible environmental pollution and deepening climate change, exposing humanity to uncharted conditions with undefined and uncontrollable consequences for public health and society [17–20].

The increased human-induced climate change has contributed to the appearance of a greater number of harmful and deadly hurricanes [21], and has dramatically affected the occurrence probability and the intensity of extreme regional warm periods compared to the beginning of the 21st century [22]. Extreme weather conditions are recorded all over the world [23], such as increased frequency, intensity and amount of heavy precipitation; flash floods; prolonged heat waves and periods of intense drought; uncontrollable catastrophic mega fires; melting ice; rising sea levels; continuous erosion of lowland coastal areas; intense tropical cyclones; unusual snowfall; and cold waves in desert areas [24]. Specifically, in the past five decades, there has been a fivefold increase in the number of floods and heat waves, which has resulted in the death of more than 2 million people and millions of animals, as well as economic damage of over USD 3.64 trillion worldwide [25].

All living organisms are characterized by the ability to adapt in order to survive difficulties, uncertainties and shocks. Likewise, the international community, states and citizens must adapt to risks, hazards and shocks, as an evolutionary process that is an important resource in managing the effects of any extreme circumstance. Given the unpredictability and the uncertain severity of the risk of life or property loss that suddenly appears, shocking the whole system [26], the role of the state is considered necessary in preparedness, ensuring the planning of strategies and their implementation at a national, regional and local level to protect vulnerable populations and society as a whole [27].

In essence, climate change mitigation and adaptation efforts should not be seen as a sudden and temporary surge of concern [19]. Contrarily, there is a constant call to develop risk management strategies through incremental reorientation and adjustments leading to a fundamental transformation of both individual behavior, concerning values and the understanding and prioritization of needs, and the global society, concerning the way that institutions, economies and technology operate and interact with the natural environment and ecosystems, in order to achieve sustainability, human well-being and the protection and conservation of life on the planet [19,28,29]. This is a holistic system-wide transformation including technological, economic, social and political factors [30].

In response to an increasingly tricky hazard landscape created by social, technical, environmental and climatic changes, civil protection agencies at the local, regional and global levels are struggling with effective and efficient resource management [31]. Authorities are compelled to find innovative methods to make the most of limited financial resources in times of economic stagnation and austerity [32]. Human resources must be used wisely, particularly in countries experiencing population decline and societal value shifts. In many nations and industries, qualified workers are in limited supply. All social actors and sectors will have to design and execute resource-efficient solutions, which will have consequences for civil protection [33].

As a result of the challenges mentioned above, so-called sharing economy methods are expected to become more significant in various industries. While these methods vary in many ways, they all follow the same fundamental principle: greater cooperation and pooling may save essential resources. For example, the sharing economy is gaining traction in housing and transportation [34]. The expansion of network technologies that allow decentralized creation, production, supply and usage of products and services, as well as a shift in societal norms that devalue private ownership, have all contributed to this. This tendency, however, is not limited to personal consumption. It is also essential for government players, according to defense politics and players such as NATO and the EU [3].

Furthermore, Chinkin [8] indicates that a sharing economy is a concept that strives for the creation, acquisition and administration of key products and services by a group of people. This is partially due to technology systems becoming more sophisticated and resource-intensive, forcing many smaller countries to depend on international partnerships for research and innovation in certain areas [9]. Nuclear fusion reactors and space labs, for example, are almost entirely created and operated via worldwide networks. Civil protection is anticipated to shift to shared creation, procurement, management and usage of products and services, posing new possibilities and difficulties [35].

In the context of civil protection and catastrophe management, the future success of sharing economy methods is dependent mainly on governmental willingness and trust [7]. The development of collaborative systems relies heavily on the cooperating parties' ability to form constructive and well-intentioned connections. Moreover, Chinkin [8] indicates that if the political environment shifts from trust and collaboration to suspicion and rivalry, sharing valued products and services becomes almost impossible. Because political climates change quicker than collaborative ventures can thrive, efforts to pool resources in politicized settings are fraught with risks [34]. The further growth of the EU integration process, for example, will undoubtedly have a significant effect on the circumstances of joint operations throughout Europe. Recent events, such as the emergence of populist parties in several European nations, may raise concerns about the future of European integration [3].

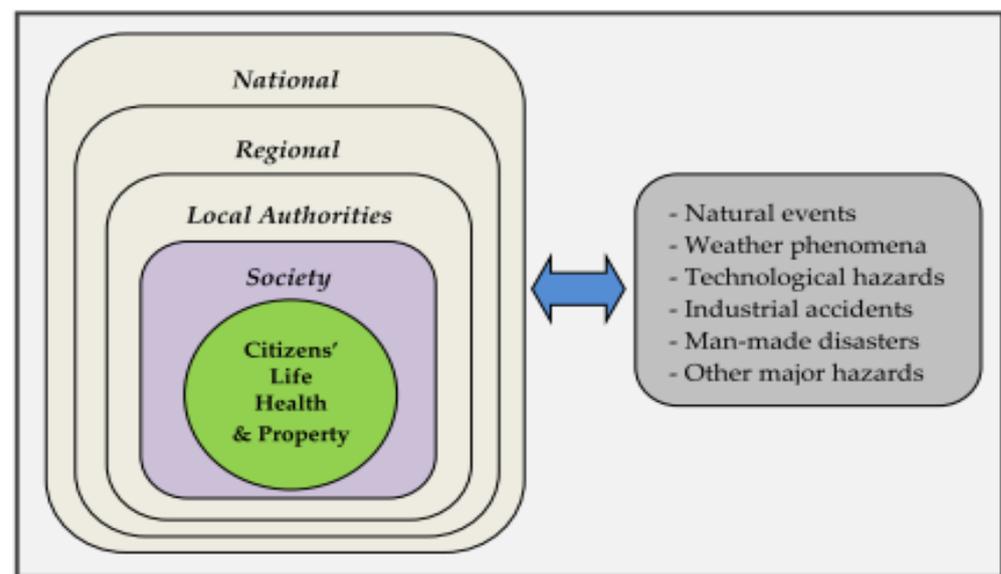
Budget constraints may enhance the demand for pooling and sharing strategies [36]. In contrast, the field of civil protection may witness increased public attention in the coming years, particularly in light of increasing knowledge of the effects of climate change and the coronavirus pandemic. More financial resources may be made available for this policy area, decreasing the requirement for pooling and sharing [37].

Finally, other significant developments will also cast doubt on the sharing economy's sustainability. Climate change, for example, is limiting the capacity of the Western U.S. and Australia to battle wildfires. In both nations, which traditionally shared firefighting

resources, 2019 and 2020 have seen unprecedented wildfires [38]. Because they are in different hemispheres, North American resources may be deployed in Australia during the summer in the southern hemisphere, and vice versa. On the other hand, climate change has increased the duration of the North American fire season and accelerated the start of the Australian fire season, reducing the capacity to exchange resources. This shows how the many trends discussed in this study interact, creating uncertainty [2].

### 1.5. Civil Protection in Greece

The concept of civil protection in Greece was established in 1995 and is associated with the General Secretariat for Civil Protection (GSCP), which is responsible for organizing and supervising the national plan for disaster management, operating under the Ministry for Climate Crisis and Civil Protection [39,40]. Specifically, as it is depicted in Figure 1, Greece's civil protection organizational framework is characterized as a coordinated resource system among three different levels of authority: national, regional and local [41,42].

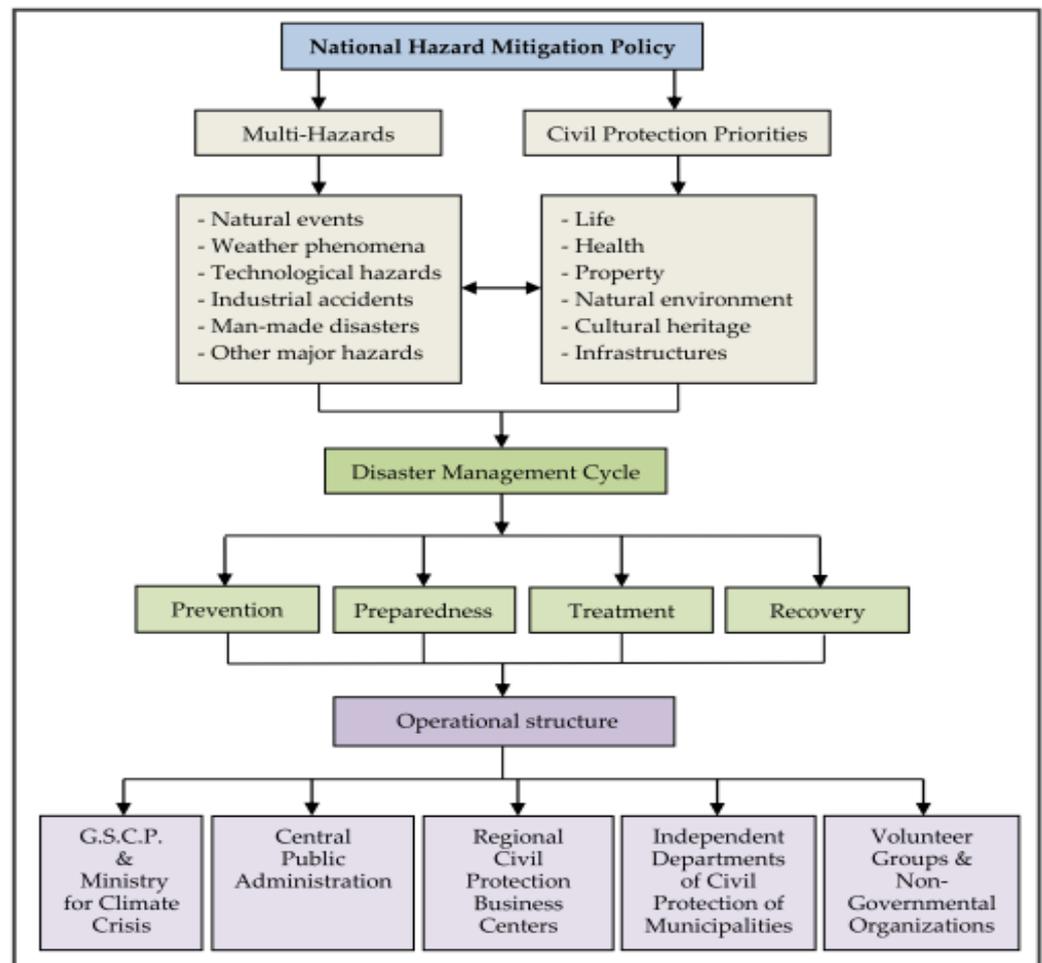


**Figure 1.** Civil protection framework in Greece.

The main mission of civil protection is the protection of society, shielding citizens' lives, health and property; the natural environment; cultural heritage; and infrastructures, as well as the country's resources. At the national level, the main role of coordination belongs to GSCP, focused on the triptych of "preparedness, prevention and disaster response". Under the GSCP guidelines, each level of authority contributes to risk management according to the level of responsibilities and capabilities as well as level of the phenomenon. There are multiple categories of hazards that civil protection in Greece is called to face, such as natural events (earthquakes, floods landslides, mudslides and volcanic eruptions), extreme weather phenomena (heavy precipitation, uncontrollable flash floods, unusual snowfall and cold waves, etc.), technological (industrial accidents) and man-made disasters (catastrophic forest fires and uncontrollable mega-fires) and other major hazards (chemical, biological, radiological and nuclear accidents).

In the context of the above mission, the national plan of risk management in Greece is completely reflected in the National Hazard Mitigation Policy (Nat-CHAMM). Particularly, in the implementation of the specific national policy, civil protection focuses both on providing a high security level to citizens as well as contributing to the enhancement of the country's sustainable development and the economic growth of the region where the hazard occurred [40]. The National Hazard Mitigation Policy in Greece is summarized in Figure 2. As it is depicted, ahead of unpredictable multi-hazards, such as natural events, technological and man-made disasters and extreme weather conditions, civil protection

priorities focus on citizens' lives, health and property; the natural environment; and the country's cultural heritage, infrastructures and national resources. For this purpose, the *Disaster Management Cycle* includes four phases: prevention, preparedness, response and recovery. Specifically, the term *prevention* includes all actions and measures required in order to avoid the potential effects of hazards, ensuring efficient *preparedness* prior to hazard occurrence. During or immediately after the risk has happened, the *response phase* includes all the actions necessary to ensure citizens' lives, health and property, providing the necessary resources to cover their basic living needs. The last phase of *recovery* includes short-term relief actions taken in the first hours after the event of the disaster, providing the necessary supplies and improving the living conditions of the area residents [40]. Finally, the operational structure consists of the GSCP and the Ministry for Climate Crisis, central public administrations (ministries, Hellenic Armed Forces, Hellenic Fire Service, ELAS Hellenic Police, Coast Guard-Hellenic Coast Guard and National Emergency Center), thirteen regional civil protection business centers, independent departments of civil protection of municipalities as well as volunteer groups and non-governmental organizations.



**Figure 2.** National hazard mitigation policy in Greece.

According to Sotiropoulos [9], civil protection policies must also be a clear manifestation of international solidarity, via assistance given to other nations in disaster prevention, preparation and response, in a global environment presenting problems that pay no regard to boundaries. This international component of our civil protection reflects the Greek identity. In terms of civil protection, Greece collaborates with other nations on a bilateral and multilateral basis, which significantly impacts economic growth and development [37].

The national civil protection plan considers both cross-cutting variables that influence all types of hazards and how they are managed and aspects unique to each one [43]. It also establishes action plans in response to new problems, including the full emergency management cycle: prevention, preparation, reaction and recovery. Furthermore, the strategy specifies both the establishment of a committee to monitor and evaluate it and the terms and conditions under which it would be reviewed [9,10]. The Greek Civil Protection Strategy is a ground-breaking initiative in public security policy, including a human security-based approach. Individuals are seen as important reference points in the strategy's action, expanding the range of threats and dangers to human security and allowing us to handle new scenarios and grow closer to real social resilience [10].

### *1.6. Research Gap*

The literature confirms that the current modern world is largely influenced by civil protection. The literature does not focus much on explaining the relationship between civil protection and economic growth and development, which forms the key basis of this study. In more formal terms, the existing studies link civil protection to the safeguarding of people, the environment and property in the case of man-made, technological or natural threats or disasters. According to the research examined, early warning is a critical component of any functional civil protection system [6,37,44], but what is the relationship between early warning and civil protection, and what role does civil protection play in a country's economic development? Therefore, in this study, we address the existing gaps in the areas of civil protection and economic growth and development.

## **2. Materials and Methods**

### *2.1. Methodology*

We utilized a cross-sectional survey research design to analyze different study variables. We also employed a quantitative research approach for data collection, analysis and hypothesis testing [45]. The cross-sectional research design depends on an in-depth investigation of a group or event to explore the causes of different underlying principles associated with the research problem or topic of study. The significant advantage of using the cross-sectional research design is that it enables the researcher to focus on specific and compelling cases, thereby obtaining a clear understanding of the role of civil protection in the economic growth and development of a country, particularly Greece. The study area is Greece and Kozani city was selected as a center focus to represent other cities in Greece. Kozani is a city in Northern Greece and the capital of the Kozani regional unit.

### *2.2. Research Design and Data Collection*

According to Patel [46], population refers to the entire set of individuals with noticeable shared features for sample generalization. The target population of the study is residents of the city of Kozani in Greece. This population was utilized to select the most appropriate sample of the study for understanding the impact of civil protection on economic growth and development. Specifically, the survey was completed during the summer of 2021. Based on the random sampling method, in order to collect data, a total of 170 questionnaires were prepared for the interviewers. The selected sample of 170 participants for the study included only residents from the city of Kozani who are local experts. However, from the 170 total questionnaires, only 160 managed to successfully respond to face-to-face or online methods of completion, representing a response rate of 94.1%.

Concerning the sampling technique, Peersman [47] indicates that sampling is a process of obtaining an appropriate number of people required to conduct a particular analysis in a manner that represents a relatively more significant population or group of people. A purposive sampling technique was used to select the representative sample for the study. Therefore, in order to collect data, a survey questionnaire from selected local experts, who are residents of Kozani city in Greece, was used. Data were only collected after obtaining informed consent from the participants, conforming to their willingness to participate in the

study. The data gathered assist with establishing relationships between the study variables to answer the research questions. The questionnaire contained investigative questions about civil protection and its role in economic growth and development.

Finally, different ethical requirements must be considered if any research study is to be successful. We ensured there was informed consent whereby respondents were informed about the details of the study, and consequently, we assessed their willingness to participate. We also observed a high level of confidentiality and privacy when handling the data collected from respondents by practicing anonymity during the process of data collection.

### 2.3. Data Analysis

Data collected from study participants using a questionnaire were sorted and imported to SPSS for analysis. Data were analyzed at two different levels of univariate and bivariate analysis. The univariate analysis involved analyzing single variables, and interpretation was performed based on the obtained frequencies and percentages. The bivariate analysis involved using the chi-square to establish the relationship between different study variables. The chi-square was used to test hypotheses using Formula (1).

$$x^2 = \frac{\sum(\text{Observed} - \text{Expected})^2}{\text{Expected}} \quad (1)$$

The chi-square analysis results were interpreted based on the obtained chi-square values and *p*-values, which formed the basis for rejecting or accepting the null hypothesis at a 0.05 critical value.

## 3. Results

This chapter covers the presentation and interpretation of the results obtained after analysis using SPSS.

### 3.1. Univariate Analysis

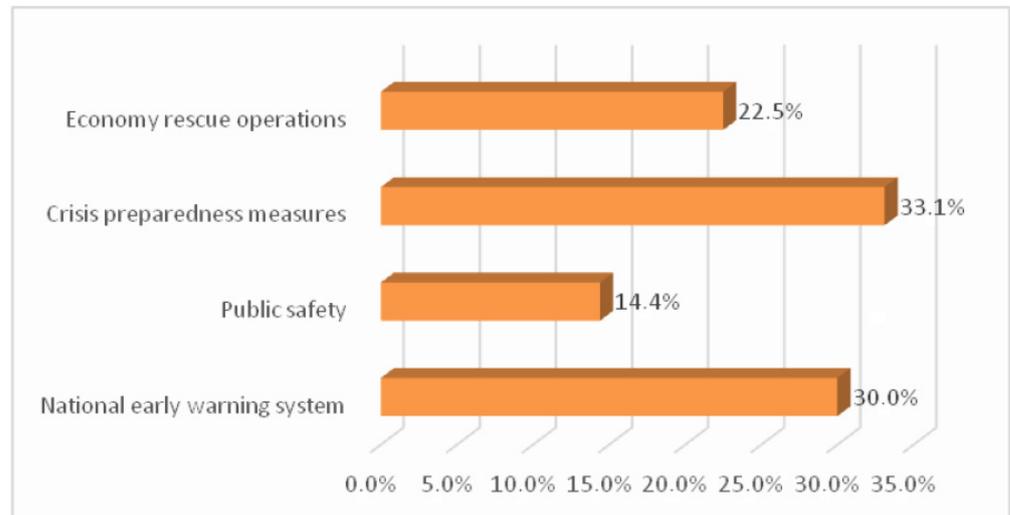
The majority of the participants (70.6%) were male, and females only represented 29.4%. Concerning the age bracket of respondents, the majority (49.4%) were 26–35 years old, and 8% were older than 45. The majority of the study participants (38.1%) had a bachelor's degree and only 8.7% had a Ph.D. The majority of the participants (42.5%) were employed in the private sector, 25.6% in the public sector, 24.4% were self-employed and only 7.5% were unemployed (Table 1).

**Table 1.** Demographic data of participants.

Characteristic	Frequency	Percentage (%)
Gender		
Male	113	70.6
Female	47	29.4
Age bracket (Years)		
Below 25	12	7.5
26–35	79	49.4
36–45	39	24.4
Above 45 years	30	18.7
Education level		
Certificate	24	15.0
Diploma	26	16.3
Bachelors	61	38.1
Masters	35	21.9
PhD	14	8.7
Employment status		
Self-employed	39	24.4
Private sector employment	68	42.5
Public sector employment	41	25.6
Unemployed	12	7.5
Total	160	100

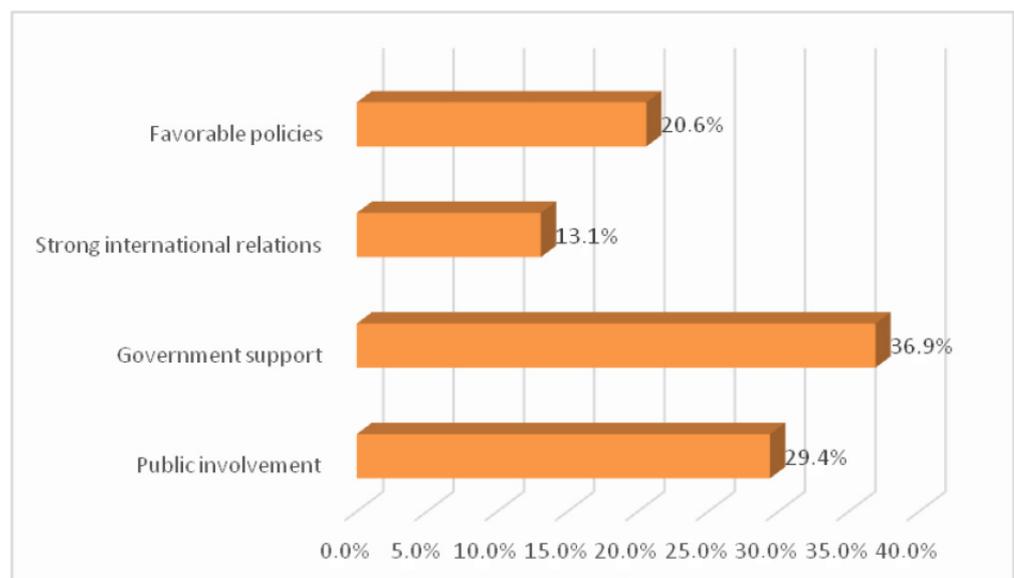
### 3.2. Descriptive Statistics

With this study, we sought to establish the key focus areas of civil protection, and the results are presented in Figure 3. The majority of the study participants (30%) identified crisis preparedness measures as the key focus area of civil protection, followed by a national early warning system (30%) and economy rescue operations (22.5%), and 14.4% of the participants identified public safety as a key focus area of civil protection.



**Figure 3.** Key focus areas of civil protection.

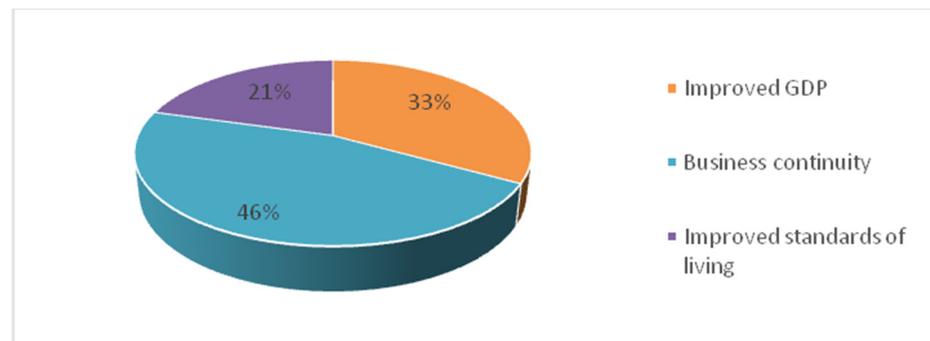
The study further focused on establishing the opinions of respondents concerning the strategies for improved civil protection, and the results are presented in Figure 4. The majority of the participants (36.9%) identified government support as the key strategy to improve civil protection, followed by public involvement (29.4%) and favorable policies (20.6%), and only 13.1% indicated that maintaining strong international relations is a suitable strategy to improve civil protection.



**Figure 4.** Strategies for improved civil protection.

We also sought to identify the key aspects of economic growth and development, and the results are presented in Figure 5. The majority of the participants (46.3%) indicated that

business continuity is the key aspect of economic growth and development, followed by improved GDP (33.1%) and then improved standards of living (20.6%).



**Figure 5.** Key aspects of economic growth and development.

### 3.3. Chi-Square Analysis

Chi-square analysis helped to establish the relationship between the different dependent variables and the dependent variable of the study (economic growth and development), as presented in the different tables below.

Since the computed  $\chi^2_c = 6.2534$  is greater than the tabulated  $\chi^2 = 3.841$  and  $p = 0.0013 < 0.05$ , we reject the null hypothesis and conclude that there is a significant relationship between strategies for improved civil protection and economic growth and development, as it is depicted in Table 2.

**Table 2.** Cross-tabulation strategies for improved civil protection and economic growth and development.

Economic Growth and Development	Strategies for Improved Civil Protection				Total
	Public Involvement	Government Support	Strong International Relations	Favorable Policies	
Improved GDP	18	35	9	12	74
Business continuity	26	14	5	8	53
Improved standards of living	3	10	7	13	33
Total	47	59	21	33	160
$\chi^2 = 6.2534$	df = 3	$p = 0.013$			$\alpha = 0.05$

Since the computed  $\chi^2_c = 4.163$  is greater than the tabulated  $\chi^2 = 3.742$  and  $p = 0.031 < 0.05$ , we reject the null hypothesis and conclude that key focus areas of civil protection positively affect economic growth and development (Table 3).

**Table 3.** Cross-tabulation of key focus areas of civil protection and economic growth and development.

Economic Growth and Development	Key Focus Areas of Civil Protection				Total
	National Early Warning System	Public Safety	Crisis Preparedness Measures	Economy Rescue Operations	
Improved GDP	23	6	16	29	74
Business continuity	14	13	25	1	53
Improved standards of living	11	4	12	6	33
Total	48	23	53	36	160
$\chi^2 = 4.163$	df = 3	$p = 0.031$			$\alpha = 0.05$

The impact of civil protection on economic growth and development is also explained by the efforts of the General Secretariat for Civil Protection that have propelled the level of crisis and disaster awareness in Kozani and in Greece as a whole in the past few decades.

The General Secretariat for Civil Protection in Greece is concerned with researching, planning, organizing and coordinating the country's strategy on disaster prevention, information and response to natural and technological catastrophes and crises. Kozani city residents have embraced the art of public safety, crisis preparedness and economy rescue through the efforts of the General Secretariat for Civil Protection [48]. This has had a significant impact on the GDP growth of Greece. This is because the General Secretariat for Civil Protection ensures that people are well informed about possible disasters through civil protection practices, which encourages business continuity even after the occurrence of a disaster [49].

#### 4. Discussion

The study confirms the role of civil protection in the economic growth and development of a country. Countries such as Greece invest substantial efforts into addressing disasters or crises that occur in a country. The support and technicalities invested in disaster management usually translate into improved GDP, improved investments, business continuity and improved living standards for citizens.

Civil protection is a large-scale social problem that must be addressed collaboratively by players from all relevant sectors, holistically and systematically. The coronavirus epidemic proved this essential concept [2]. The technical, social and environmental developments examined in this study will put Greek civil protection to the test in the coming years by posing new difficulties and aggravating existing dangers in our hyper-connected society. They also, however, provide new opportunities and hitherto unimagined possibilities in the area of civil protection [1].

Trust must be built before an incident happens, and it must be maintained regularly in risk communication. Efforts should be increased to establish a constant conversation with the public on important civil protection topics to generate accurate information. This endeavor will be aided by using communication channels that various demographic groups are acquainted with in their daily lives [50]. Two-way communication is more efficient than one-way communication because it allows for more interaction, which may help keep essential civil protection topics on the public agenda for longer. On the one hand, citizen-centered discussion on civil protection problems should be understood, engaged and solution-oriented. On the other hand, it should contain proper crisis communication accessible to all segments of the community [32].

Civil protection has made a promising step forward in improving the economic condition of many nations by launching a multilingual and expandable application in most industrialized countries. It may be beneficial to notify the public of the significance of civil protection, particularly during catastrophes, to encourage further collaboration with the people and to keep civil protection relevant in the information arena [8]. Other types of crisis management, on the other hand, should not be overlooked and might be used more aggressively by civil protection agencies to involve as much of the public as possible to build robust national alert systems [37]. Civil protection agencies in Greece work properly because the country believes that civil protection is a state matter in which all institutions, including both public administrations whose purview it falls under and civil society as a whole, collaborate and cooperate to address any risks that may arise and, as a result, help to boost economic growth and development.

#### 5. Conclusions

The study confirms the role played by civil protection strategies in enhancing economic growth and development. Civil protection policies must also be a clear manifestation of international solidarity, via assistance given to other nations in disaster prevention, preparation and response, in a global environment presenting problems that pay no regard to boundaries. Greece's civil protection actors should examine catastrophe patterns in detail to be future-proof, ensuring that the required adaptability is created to handle the probable but unknown consequences. The government should use the possibilities that come with

civil protection in a proactive and determined manner. In utilizing civil protection strategies, the government may make significant contributions to maintaining and strengthening the resilience of Greek society in the face of obstacles to economic growth and development.

## 6. Recommendations

The following recommendations are suggested in line with the study findings.

Civil protection requires significant attention from the government since it contributes to economic recovery, public awareness and improving people's living standards.

Public awareness is one key strategy for improving civil protection. Therefore, it is important for the government to focus on creating public awareness of the different aspects of civil protection and how they can best be utilized to improve the economy or address emergencies.

## 7. Areas for Future Research

Our study focused on civil protection and its role in urban economic growth and development. Limited attention was directed to how the government influences civil protection. Therefore, future research can focus on the role of the government in civil protection activities and its impact on disaster management.

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