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Investigating the Role of Crisis Management in Improving the Resilience of Government Organizations to Climate Change: Management Models and Questioning in Vulnerable Areas

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ABSTRACT

The article examines the role of crisis management and management models in improving the resilience of government organizations against the crises caused by climate change. The main purpose of this study is to analyze the different stages of resilience of organizations, including risk identification, preparedness and planning, rapid response to crises, and reconstruction. It is after the crisis. The research method was qualitative and based on the content analysis of the collected data through structured interviews with managers and experts of government organizations in vulnerable areas. The data were analyzed using thematic analysis to identify the main patterns in resilience processes. should be identified and analyzed. This research also identified the weaknesses and strengths of the existing management models and concluded that organizations that have proper planning and preparation to deal with climate crises are able to respond more quickly and effectively in crisis situations. The findings showed that accurate identification of climate risks and threats as the first step in the resilience process has a great impact on increasing the response capacity of organizations. Also, training and empowerment of human resources is one of the important factors in increasing the resilience of organizations. The active participation of local communities and cooperation between different institutions were also factors that helped to improve the resilience of organizations. Finally, rapid reconstruction of infrastructures and the use of past experiences in improving future processes make organizations more resilient to future crises. The conclusion of this study shows that organizational resilience in the face of climate crises requires a comprehensive and integrated approach that includes careful planning, continuous training, cooperation with various institutions, and the use of new technologies. In general, organizations with To deal with climate crises, strengthen their resilience and use past experiences to improve future processes.

Introduction

Climate change is one of the major challenges facing the world in the 21st century. These changes are increasingly affecting the natural and social structures of societies and are serious threats to the sustainability of the environment, the economy, and human health. They have resilience to these crises (IPCC, 2021). Resilience as the ability of a system to withstand crises and recover afterwards is a key

concept in crisis management and sustainable planning.

In government organizations, resilience refers not only to the ability of these organizations to cope with crises, but also to their ability to rebuild and return quickly to normalcy [1]. This paper examines the role of crisis management in promoting the resilience of governmental organizations against climate change and effective policies in this field.

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Regions vulnerable to climate change, especially in developing countries, are the most affected by climate change crises.

These regions often face constraints in financial and technical resources that may limit their ability to manage crises. Therefore, it is essential that government agencies in these regions increase their resilience by using effective management models (Adger, 2003). One of the effective models in crisis management is preventive models that can be used to prevent the occurrence of crises and reduce damages. These models include planning for crisis situations and implementing policies to prevent the occurrence of crises. In this regard, government organizations should use their existing capacities to identify climate risks and threats [2].

In addition to preventive models, government agencies should also pay attention to reactive models. These models are specifically designed to deal with crises and reduce their damages. In crisis situations, the need for speed and coordination in different actions is felt. This paper examines the importance of reactive models in strengthening the resilience of government agencies to climate change [3].

In addition to preventive and reactive models, restorative models also play an important role in strengthening the resilience of government organizations. These models refer to the processes that are carried out after crises to rebuild and return to normal. These processes include infrastructure repairs, damage assessments, and implementation of reconstruction programs that help organizations get through crises in the best way. The resilience of government organizations is directly dependent on their policies. Policies should be designed in a way that enables organizations to respond quickly and effectively to crises. In this regard, many studies have been conducted on the impact of management policies on increasing resilience to climate crises.

At the global level, climate policy is increasingly emphasizing the need to empower government agencies in crisis management. International organizations such as the United Nations and the World Bank have emphasized the importance of resilience and empowerment of government institutions to deal with climate crises. These approaches help organizations respond to climate change and the crises it causes.

Vulnerable areas that are most affected by climate change require specific policies based on local realities. For example, in areas affected by floods and severe storms, crisis management policies should be designed in a way that allows organizations to deal with these crises. This paper will examine how management models and policies specific to these crises can be developed. Regions can help increase resilience [4].

Research has shown that the resilience of government agencies to climate crises is directly

related to community participation. Active participation of local communities in decision-making and crisis management processes can help government agencies design and implement better programs. This article also explores how local community engagement can help strengthen organizations' resilience to climate change. One of the key factors in increasing the resilience of organizations is the training and empowerment of human resources. Skilled and trained human resources can play an effective role in crisis management and facilitate rapid response processes. In this paper, the methods of training and empowering employees of government organizations in order to strengthen resilience will be examined.

In many developing countries, financial and technical resource constraints may prevent the implementation of effective policies in crisis management. However, evidence shows that by using available resources in optimal ways, government agencies can increase their resilience to climate crises. The present paper examines strategies to improve resilience in these situations. According to global reports, crises caused by climate change, such as floods, droughts, and hurricanes, directly affect vulnerable communities. These communities usually have more limited resources to deal with crises. In this regard, government agencies should design specific programs for these areas that increase their resilience.

Enhancing the resilience of government organizations requires cooperation and coordination between different institutions. These collaborations can include cooperation with non-governmental organizations, international organizations, and local institutions. Cooperation between these institutions can lead to better responses in times of crisis. The present paper examines this aspect of resilience. One of the main challenges in increasing the resilience of public organizations is the identification of various risks and threats. For this purpose, organizations should use various tools such as climate forecasting models, risk analyses, and different scenarios to simulate crises. This research will examine these tools and their impact on the resilience of organizations [4].

In many developed countries, climate policies are designed to help improve the resilience of organizations to climate crises. These policies emphasize the use of new technologies and climate information to predict and manage crises. This paper examines how these technologies can be used in government organizations. Climate change resilience is not limited to a single task of government agencies, but must be addressed at all levels of decision-making and implementation. National policies must be tailored to local conditions and the specific needs of each region to effectively strengthen resilience [5].

There are different management models for dealing with crises, each of which can be effective in specific situations. These models must be continuously evaluated and updated so that organizations can deal with new crises effectively. This paper evaluates different crisis management models and their impact on the resilience of government organizations.

In general, the resilience of organizations depends on their ability to plan, predict, respond and rebuild after crises. These abilities require appropriate policies and efficient management models to act effectively against climate change. The present paper analyzes these dimensions of resilience [5].

Finally, the purpose of this paper is to investigate the models and policies that government organizations can use to improve their resilience to climate change and the crises caused by it. This research examines the challenges and opportunities in this field and provides suggestions for improving crisis management in government organizations.

Research Methodology

This research aims to investigate the role of crisis management in increasing the resilience of government organizations against climate change. This research uses a qualitative method and

examines how to improve the resilience of organizations against the crises caused by climate change through the analysis of existing management models and policies. This research focuses on the most vulnerable areas where the most threats are from climate change.

The main purpose of this study is to investigate the effect of crisis management on the resilience of government organizations against climate change and to analyze management and policy-making models in vulnerable areas. This research will be done qualitatively and the following methods will be used to collect and analyze the data:

The research will be a case study and a qualitative content analysis. Semi-structured interviews with managers of government organizations and crisis management experts will be used to collect data.

The statistical population of this study includes managers and experts of governmental organizations related to climate crises who have experience in crisis management in vulnerable areas. Purposeful sampling will be used. The selection of samples is in a way that can provide accurate and comprehensive information about the views of experts and officials related to climate crises and the resilience of organizations (Table 1 & 2).

Table 1. Characteristics of the statistical population (managers and experts of governmental organizations)

Row	Organization Name	Number of Samples	Type of Organization	Managerial level	Type of Liability
1	Crisis Management Organization	10	State	Senior Managers, Experts	Crisis Management
2	Ministry of Interior	8	State	Experts & Consultants	Policy and Planning
3	Environment Organization	12	State	Experts, Specialists	Climate Change Assessment and Monitoring
4	Governorates of vulnerable areas	6	State	Executive Managers, Crisis Officials	Crisis Management in Vulnerable Areas

Table 2. Characteristics of Samples (Managers and Experts Related to Climate Crises)

Row	sex	Age	Level of Education	Work Experience (Years)	Specialization/Field of Study
1	Man	45	Phd	20	Crisis Management, Policy Making
2	wife	38	Master's Degree	15	Environment, Planning
3	Man	50	Phd	25	Climate Change, Consulting
4	wife	40	M.S	18	Crisis Management, Transportation

Data Collection Tools

- ✓ **Semi-structured interviews:** Interviews will be conducted with managers and experts of government organizations to analyze their views in the fields of crisis management and organizational resilience.
- ✓ **Study of Documents and Reports:** Review of domestic and international documents and reports of government

organizations in order to analyze existing management policies and models [6].

Data Analysis Method

The data are analyzed using qualitative content analysis. This method allows the researcher to extract the main patterns and themes from the collected data. There are various management models to increase the resilience of organizations against climate crises. These models include:

- ✓ **Preventive models:** policies that help reduce the risk of climate crises.
- ✓ **Responsive models:** Processes used to respond to climate crises.
- ✓ **Restorative Models:** Strategies for Rebuilding and Rehabilitating Organizations after Climate Crises.

In this section, analysis tables are used to display data obtained from interviews and documents used. These tables can include quantitative or qualitative data related to strategies and policies (Table 3).

Table 3. Analysis of Management Models Used in Government Organizations

Management Model	Strategies	Vulnerable areas	Results based on resilience
Preventive	Education, Planning	Coastal areas, mountainous areas	Harm Reduction
Reactive	Rapid response to the crisis	Urban, Rural Areas	Improved reaction time
Restorative	Infrastructure restructuring	Earthquake-stricken, flood-affected areas	Rapid restoration of the situation

Thematic analysis is used to analyze the data collected from interviews and documents. This method helps to extract and identify key themes in different areas of management and policy-making. The stages of thematic analysis are:

- ✓ **Basic Coding:** Data is coded primarily to extract core concepts from it.
- ✓ **Identify key themes:** Key themes such as "prevention", "education", "accountability", and "restoration" are identified [8].
- ✓ **Analysis and Interpretation:** Data is analyzed to identify management and policy patterns.

Limitations

- ✓ Access to certain documents and reports may be limited.
- ✓ The diversity of management models in different organizations may affect the results of the research.

Using these methods, this research analyzes the role of crisis management in improving the resilience of organizations against climate change and provides practical suggestions for improving management policies and strategies in this field.

Foundations and Background of the Research

Research Foundations This paper examines the basic concepts related to crisis management and the resilience of government organizations against climate change. First, the definition of crisis and crisis management is discussed, which generally refers to a set of actions and processes that are designed to prevent the occurrence of crises, respond to them, and reconstruct the post-crisis situation. These processes include threat identification, planRiz are for dealing with crises, managing resources in times of crisis, and rebuilding after a crisis. In this context, resilience is defined as the ability of a system to withstand crises and quickly return to a sustainable situation, which in the case of government agencies includes their ability to

cope with climate crises and recover quickly after they occur.

This research focuses on various management and policy models that help strengthen the resilience of public organizations. Management models are a set of approaches and strategies designed to improve the performance and preparedness of organizations against crises. These models include preventive, reactive, and restorative measures that emphasize risk identification, rapid response to crises, and post-crisis reconstruction, respectively. Policymaking in this area includes the development of laws and regulations, the allocation of resources, and the implementation of programs that enable organizations to become more resilient to climate change and the crises caused by it.

Crisis Management

Crisis management refers to a set of actions and processes that are designed and implemented to prevent the occurrence of crises, respond to them, and reconstruct the situation after the occurrence of a crisis. In situations where potentially threatening hazards have occurred, this management helps organizations to prevent further damages by accurately identifying and responding appropriately, and finally to reconstruct and improve the situation. In the context of climate change, crisis management is especially important, as the crises caused by climate change are constantly intensifying. These crises include floods, storms, droughts, and other natural phenomena that have serious impacts on various infrastructures and communities. In order to deal with these crises, organizations must design effective and comprehensive solutions (Haddow, Bullock, & Coppola,2017). A key part of crisis management is the identification and assessment of risks caused by climate change. For optimal prevention and preparedness, various climate threats must be carefully analyzed and examined. Risk assessment enables organizations to prioritize actions based on available information.

Another principle of crisis management is prevention. This step is effective if organizations take measures to mitigate their effects before serious crises occur. In this context, designing and implementing preventive policies such as strengthening infrastructure, improving warning systems, and educating the community can help reduce the severity of crises [8].

Crisis response is another critical component of crisis management. In times of crisis, organizations must be prepared to act quickly. Responding quickly and coordinated to crises can greatly prevent the spread of damage. This requires careful planning, staff training, and the design of rapid response systems.

In the face of climate crises, one of the main challenges is the lack of coordination between different institutions. In order for crisis management to be effective, there is a need for cooperation and synergy between governments, NGOs, the local community, and international organizations. These collaborations can significantly increase the speed of response and the effectiveness of crisis management.

Post-crisis reconstruction is also an integral part of crisis management. This phase refers to the return of the situation to a normal and stable state, in which the reconstruction of infrastructure, public services, and assistance to those affected must be addressed. One of the important challenges in this phase is the effective and transparent allocation of resources [9]. Another important aspect of crisis management is the promotion of resilience of organizations. Resilience refers to the ability of an organization to adapt to crises and return to normal after a crisis. Organizations with high resilience are able to adapt quickly to crisis situations and become more resilient to future crises.

In many developing countries, limited financial and technical resources are one of the main barriers to managing climate crises. In these countries, organizations need to make optimal use of available resources and take advantage of international cooperation and aid resources. This helps them to respond faster and more effectively (Schipper, Considering the long-term effects of climate change, crisis management should be in a way that not only responds to immediate crises but also considers long-term plans to deal with future crises. This type of planning makes it easier for organizations to respond to and manage crises in the future.

Training and empowering employees is one of the basic principles in crisis management. Employees should be familiar with the different processes of crisis management and be prepared to respond quickly and effectively in a crisis situation. These trainings should be conducted on a regular basis and in the form of various exercises so that employees can function efficiently.

Along with education, new technologies can also play an important role in crisis management. The use of geographic information systems (GIS), crisis prediction modeling software, and communication technologies can increase the speed of responses and provide crisis managers with more accurate information that helps them make decisions (Smith, Post-crisis assessment is another essential step in crisis management. This assessment helps organizations identify their strengths and weaknesses and thus design better plans to deal with future crises. This assessment should be comprehensive and rigorous and include an analysis of all aspects of the crisis, including social, economic, and environmental impacts [8].

In the face of climate crises, it is also necessary to raise public awareness and educate local communities. Local communities that are less aware of crises cannot deal with them effectively. For this reason, organizations should pay attention to educating local communities and educating people about potential crises [9].

One of the important pillars of crisis management against climate change is the design of forecasting models. These models allow organizations to simulate potential crises and plan necessary actions in advance. Forecasting models can help organizations manage resources and improve preparedness [10].

Finally, planning and policy-making for crisis management against climate change should be done at the macro level and within the framework of national and international policies. These policies should be designed according to the specific conditions of each region and local characteristics in order to provide effective responses to crises.

In many vulnerable areas, climate crises can have devastating effects on natural resources. For this reason, crisis management should also focus specifically on the conservation and restoration of natural resources. This will help protect ecosystems and reduce environmental damage.

One of the fundamental dimensions of crisis management is the empowerment of local communities to cope with crises. This empowerment can include preventive training, financial assistance, and technical support for local communities that help them become more resilient in the face of crises.

Organizations should also use interaction-based and participatory approaches in managing climate crises. These approaches can include partnerships with NGOs, international institutions, and the private sector, which can help increase the efficiency and speed of responses [11].

Ultimately, crisis management in the face of climate change requires a comprehensive and systematic approach that includes prevention, response, and restoration phases. This approach should be designed based on accurate information, timely

assessments, and international collaborations to minimize the effects of climate crises (Table 4 and figure 1).

Table 4. Different Stages of Crisis Management

Step	Explain
Prevention	Identifying climate risks and threats, designing preventive policies.
Meet	Rapid and effective response in the face of crisis, resource management, and coordination with various institutions.
Rebuild	Infrastructure reconstruction, damage assessment, and assistance to those affected.

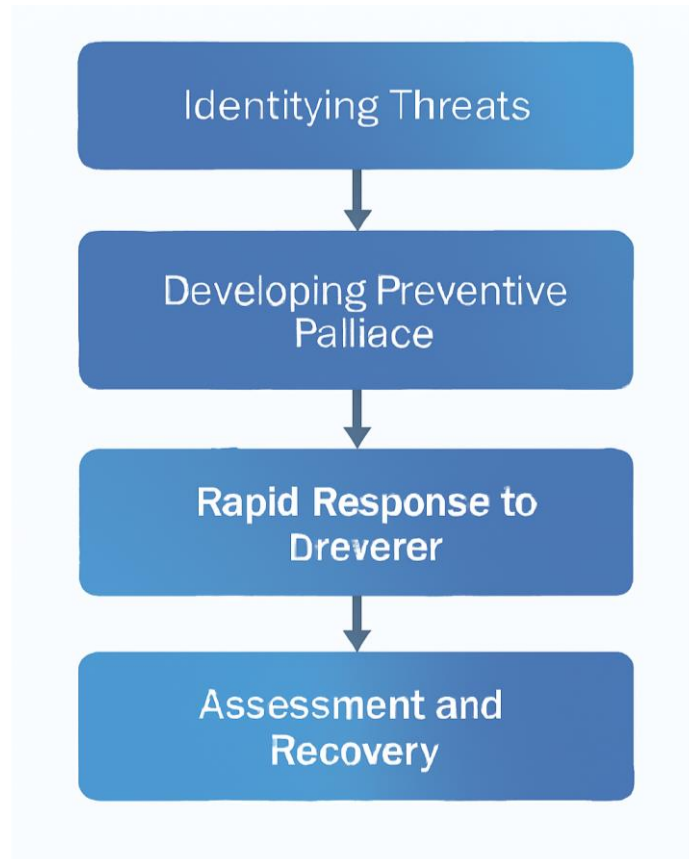


Figure 1. Crisis Management Process in the Face of Climate Change

Organizational Resilience

Organizational resilience refers to an organization's ability to adapt and recover after crises and challenges. In the context of climate change, organizational resilience refers to the power of organizations to withstand natural disasters caused by climate change, such as floods, hurricanes, and droughts. This resilience includes processes of prevention, rapid response, and regeneration. One of the key components of organizational resilience is the capacity of organizations to identify and assess climate risks. This process helps organizations identify their weaknesses and use them to increase resilience. Risk assessment, especially in the face of climate change, allows organizations to allocate their resources in the best way (Martin-Breen & Anderies, To enhance

resilience, organizations need to take steps to strengthen their physical and technological infrastructure. These include upgrading information systems, strengthening energy and water buildings and networks, and improving communication systems. These measures help organizations to act more easily in crisis situations [9]. Organizational resilience also depends a lot on the culture and internal processes of the organization. Organizations that have a flexible and creative culture can better deal with unexpected crises and changes. This type of culture helps organizations strengthen their resilience by embracing new changes and developments. In dealing with climate change, organizational resilience requires collaboration and partnership between different parts of the organization. This cooperation can

include information sharing, coordination of actions, and joint training. With these collaborations, organizations will be able to deal with crises in a coordinated and effective manner (Comfort et al., 2014). Training and empowering human resources in organizations plays a very important role in increasing resilience. Employees must be continuously trained to be able to respond quickly and effectively in times of crisis. Employees must also be continuously informed about climate threats and how to deal with them.

One of the characteristics of organizational resilience is the ability to rebuild after a crisis. After the occurrence of climate crises, organizations must be able to quickly return to their sustainable state. This reconstruction includes repairing infrastructure, providing financing for reconstruction, and supporting affected employees and communities. Organizational resilience is related to improving decision-making in crisis situations. Organizations that make decisions effectively are able to take quick and effective actions. In this regard, the use of decision-making models and analytical tools helps organizations to make better decisions in the face of crises.

Flexibility in management processes is one of the pillars of resilience of organizations. Organizations must be able to change their processes quickly and adapt to new conditions. This flexibility allows them to act effectively in the face of climate crises (Hughes, 2014). In the process of promoting resilience, investment in research and development (R&D) is crucial. Organizations should continuously conduct research on climate threats and ways to deal with them. This research can help organizations simulate crises, predict climate change, and improve coping strategies (Stern, 2007).

Organizational resilience to climate change also depends on transparency and accountability. Organizations must be transparent in the face of crises and provide accurate and timely information to stakeholders and local communities. This transparency is especially important in the response and reconstruction phases. One of the important dimensions of resilience is effective communication within the organization and with external stakeholders. Organizations should be able to collaborate effectively with other institutions and communities. These connections can be effective in improving organizational responses and increasing efficiency in crisis management.

Organizational resilience should be designed according to the specific characteristics of each

region and the type of crisis. In particular, in vulnerable areas, resilience should be designed to be consistent with the geographical and social characteristics of that region. This helps organizations to deal effectively with region-specific challenges.

In the resilience process, resource management also plays a vital role. Organizations must effectively manage their financial, human, and technical resources so that they can respond effectively in crisis situations. Optimal resource allocation in crisis situations can quickly manage crises and reduce their negative impacts (Adger, 2006).

Continuous evaluation and monitoring of the performance of organizations in the resilience process is of great importance. Organizations should continuously evaluate their performance in the face of crises and identify their strengths and weaknesses. These evaluations help organizations to improve their processes and be better prepared for future crises [10].

Along with performance evaluation, learning from past crises is also essential. Organizations should review their past experiences and use them to improve resilience. This learning helps organizations deal with each crisis more effectively and quickly (Ayers & Forsyth, 2009). Organizational resilience to climate change requires monitoring and warning systems. These systems allow organizations to be informed of the occurrence of crises in a timely manner and take preventive measures effectively. These systems can also accurately simulate the effects of crises in real time (Jonkman, 2009).

Organizational resilience also depends on risk management capabilities. Organizations must identify the various risks associated with climate change and develop the necessary plans to mitigate these risks. This risk management helps organizations deal with crises effectively (Cutter et al., 2004). Finally, government and international policies also affect the resilience of organizations. Policies that are directly or indirectly related to climate change and crisis management can have a significant impact on the ability of organizations to manage crises. These policies should be designed to help increase the resilience of organizations. Organizational resilience to climate change is a dynamic and continuous process that requires careful analyses, long-term strategies, and international collaborations. This process must be constantly reviewed so that organizations can remain resilient to future crises (Table 5 and figure 2).

Table 5. Dimensions of Organizational Resilience

The Resilience Dimension	Explain
Risk Identification and Assessment	Identifying climate threats and assessing their effects on the organization.
Preparation and planning	Designing preventive plans and strengthening infrastructure.
Quick Response and Coordination	Responding quickly to the crisis and coordinating with other institutions.
Rebuilding and Learning from the Crisis	Return to stable post-crisis situations and learn from past experiences.



Figure 2. Organizational resilience process

Research Background

Berkes et al. (2007) analyzed socio-environmental resilience and related concepts in their research. They showed that organizational resilience depends not only on an organization's capacity to respond to immediate crises, but also on its ability to rebuild and adapt to new situations. In this study, the emphasis is on learning from past crises and using these experiences to promote resilience in the future.

Cutter (2008) investigated the relationship between vulnerability and resilience to natural disasters. He states that the resilience of organizations is strongly influenced by social, economic, and environmental structures. Also, government organizations in the areas most vulnerable should strengthen their response and reconstruction capacities. This research showed that organizational resilience

requires broader cooperation between different institutions.

Paton & Johnston (2001) in a study that focused on training and preparedness in the face of crises concluded that one of the main components of organizational resilience is the empowerment of human resources and the training of employees to deal with crises. Organizations (Table 6).

In his research, Smith (2013) emphasizes the role of new technologies in crisis management and increasing the resilience of organizations against climate change. He showed that the use of geographic information systems (GIS) and forecasting models can help organizations in simulating crises and making more effective decisions against them. This research concluded that technologies are key tools in management crisis and increase the resilience of organizations [11].

Table 6. Research Background and Results

Research Background	Research Results
Berkes et al. (2007)	Organizational resilience depends on the ability to rebuild and adapt to new circumstances.
Cutter (2008)	Resilience is strongly influenced by social, economic, and environmental structures.
Paton & Johnston (2001)	Training and empowerment of human resources plays an important role in promoting the resilience of organizations.

Smith (2013)	The use of new technologies such as GIS and forecasting models can increase the resilience of organizations.
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Research Findings

The findings of this study show that accurate identification and assessment of risks serves as the first step in the resilience process of organizations. This assessment helps organizations to identify climate threats and use them in order to design coping strategies. This process is especially important in the early stages of crises.

The conclusions go on to show that organizational resilience is highly dependent on the previous preparedness of organizations. Organizations that have careful planning and preparedness for possible crises react to crises faster and more effectively compared to other organizations. This finding emphasizes the importance of continuous training and crisis simulation exercises.

Also, the research showed that organizations should evaluate their internal processes continuously. These evaluations should include examining the strengths and weaknesses of crisis management processes so that in the event of a crisis, the organization can quickly return to a stable state.

The research also concluded that the resilience of organizations is not limited to preparedness and rapid response, but also depends on the processes of rebuilding and learning from crises. Rapid rebuilding of infrastructure and providing services to those affected, plus learning from past experiences, allows organizations to respond better to crises in the future.

One of the most important findings is that cooperation and coordination between different institutions plays a vital role in crisis management. Organizations that benefit from cooperation with other institutions, such as governmental and non-governmental organizations, are able to provide more comprehensive and effective responses to crises. The results show that organizations should use optimal resources. In many vulnerable areas, the limitation of financial and technical resources prevents the effective implementation of crisis measures. Therefore, accurate allocation of resources and optimization of their use helps organizations in crisis management.

According to the findings, the resilience of organizations is related to having effective decision-making processes in crisis situations. Organizations that are able to make quick and effective decisions increase the ability to deal with crises. These decisions should be based on up-to-date information and accurate assessment of risks.

In the present study, it was found that the existence of a flexible organizational culture is one of the important pillars of resilience. Organizations that have an open and change-ready culture can adapt to crisis situations faster and better. This flexibility

allows them to use change as new opportunities for growth and improvement.

The research also showed that training and empowering human resources at all organizational levels can have a great impact on resilience. Employees who have the necessary skills to deal with crises are able to perform their duties in crisis situations. These trainings should be conducted continuously and in the form of workshops.

The results of this research point to the importance of using new technologies in crisis management. Organizations can increase their ability to predict and respond quickly to crises by using geographic information systems (GIS) and forecasting tools. These tools provide accurate and timely information for decision-making. Research found that infrastructure rebuilding after crises is one of the key factors in strengthening the resilience of organizations. Organizations must implement the reconstruction process quickly and effectively to prevent further damage and quickly return to normal.

In this study, it was emphasized that the active participation of local communities in the crisis management process can have a great impact on increasing the resilience of organizations. This participation helps organizations to identify the real needs of communities and provide solutions tailored to local conditions.

Another important result of this research is the emphasis on continuous evaluation of organizations' performance in the face of crises. Regular evaluations and monitoring of the resilience status of organizations help them identify their weaknesses and provide solutions to improve them. The findings show that crisis management should be implemented seamlessly at all levels of the organization. This integration in implementation makes it possible for all departments and individuals of the organization to act in concert during crises and prevent unnecessary disruptions.

According to the results of the research, the resilience of organizations against crises depends on the existence of an efficient crisis management system. This system should be continuously evaluated and updated so that organizations can perform in the best possible way in crisis situations. The results of this research show that in resilient organizations, there are warning systems and accurate prediction of the occurrence of crises. These systems allow organizations to be aware of the occurrence of possible crises and take preventive measures.

The research also concluded that effective communication within the organization and with other related institutions can play an effective role in strengthening the resilience of organizations. These

connections help to quickly inform information and coordinate actions. One of the important findings of the research is that organizations should carefully review their processes after each crisis and use the experiences gained from them to improve resilience in the future. These surveys can help organizations improve crisis management programs [12]. The results of this study also show that the resilience of organizations depends on various factors such as

financial, human, and technical resources. Organizations must effectively use their resources to be able to respond in times of crisis. Finally, the findings showed that the resilience of organizations also depends on their internal and external policies. Appropriate policies can help organizations manage crises and strengthen resilience (Table 7 to 9 and figure 3) [13].

Table 7. Stages of Risk Identification and Assessment

Step	Results
Identifying Threats	Accurate identification of potential crises
Risk Assessment	Analysis of the Effects of Crises on the Organization

Table 8. Preparation and Planning

Step	Results
Crisis Planning	Developing effective coping plans
Staff Training and Preparation	Increasing Employees' Empowerment in Crises

Table 9. Quick Response and Regeneration

Step	Results
Rapid response to the crisis	Reducing Critical Injuries and Threats
Rebuilding infrastructure and services	Rapid return to stable status

Conclusion

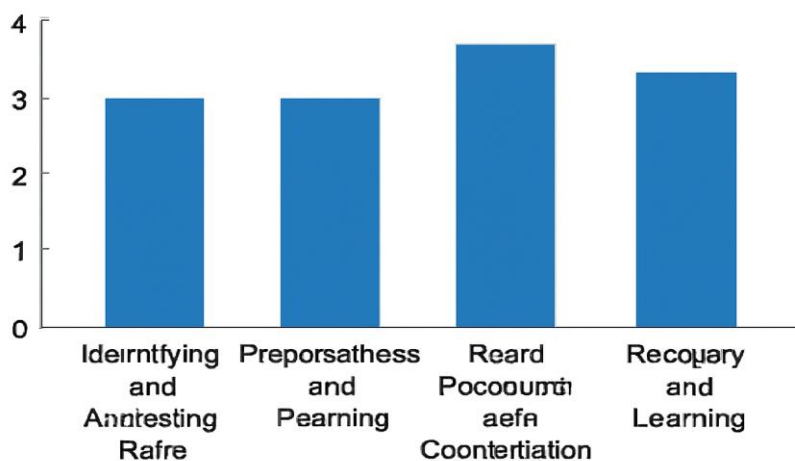


Figure 3. General results of the research

Conclusion

In this study, the importance of identifying and accurately assessing risks was emphasized as the first step in strengthening the resilience of organizations against the crises caused by climate change. This process helps organizations to identify potential threats and take the necessary preventive measures. Crises are planned and prepared, can react quickly in crisis situations and prevent further damages. In this study, the importance of training

and empowering human resources was also considered. Employees of organizations should be familiar with the necessary skills to deal with crises so that they can act effectively in crisis situations. Another key point in the present study was the emphasis on rapid recovery after crises. Rebuilding infrastructure and services quickly and effectively can help organizations return to their stable state more quickly and prevent the long-term effects of crises. Also, this research showed that the resilience

of organizations is highly dependent on cooperation and coordination between different institutions. Organizations that benefit from cooperation with other institutions are able to provide more comprehensive responses to crises. It makes all sectors act in concert in crises and prevent unnecessary disruptions. In this study, the importance of crisis prediction and warning systems was also discussed. The use of new technologies such as geographic information systems (GIS) can help organizations in simulating crises and predicting threats.

According to the findings, the existence of a flexible organizational culture is one of the main pillars of resilience. Organizations that have an open and change-ready culture can adapt better and faster to crisis situations. Also, the research showed that the resilience of organizations depends on the ability to manage financial, human and technical resources. In times of crisis, they should be able to respond. Another important finding of this research is the emphasis on continuous evaluation and monitoring of the performance of organizations. Periodic evaluations help organizations to identify their weaknesses and improve their processes.

The research also showed that the resilience of organizations depends on effective decision-making in crisis situations. Organizations that are able to make quick and effective decisions can manage crises more effectively. Based on the findings, the resilience of organizations should be continuously examined and the experiences gained from previous crises should be used to improve crisis management processes. The present study concluded that organizations must constantly adapt to new threats over time. This versatility allows them to become more resilient to future crises.

In this study, it was emphasized that the use of new technologies in crisis management can help organizations to receive more accurate information about the crisis situation and respond to them more effectively. Also, the research showed that the active participation of local communities in the crisis management process can have a great impact on improving the resilience of organizations. The case of the real situation and local needs in times of crisis will provide. The results of this research showed that one of the important aspects of organizational resilience is the existence of rapid and effective feedback systems. These systems help organizations to receive information immediately in times of crisis and take measures to improve the situation. Also, the research showed that the resilience of organizations depends on effective communication systems. As a result, organizations that use past experiences to design new solutions and improve their processes will have better resilience to crises. specific to each type of crisis. Each crisis has its own characteristics, so crisis management models must be designed according to the type of threats.

Ultimately, this research concluded that the resilience of organizations requires a comprehensive approach that includes continuous training, resource management, cooperation with various institutions, the use of new technologies, and continuous updates. These approaches help organizations to remain more resilient in the face of future crises.

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Authors' Contributions

All authors contributed to data analysis, drafting, and revising of the paper and agreed to be responsible for all the aspects of this work.

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