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Pathology of Disaster Management Polices Implementation in the Rescue and Relief Operations of the IRCS

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Original Article

Abstract

INTRODUCTION: Iran, a country characterized by diverse geographical and climatic conditions, is constantly exposed to various natural and manmade disasters. Also, Iranian Red Crescent Society (IRCS), as one of the most critical relief organizations, plays a pivotal role in rescue and relief operations. Accordingly, this study attempted to identify the challenges associated with the implementation of disaster management policies in the rescue and relief operations of the IRCS.

METHODS: In this mixed method research, qualitative data were collected through field research, with 12 experts and managers from IRCS, selected through non-random purposive sampling using semi-structured interviews following the theoretical saturation and was analyzed with MAXQDA-2022 software; in the quantitative phase, a total of 365 managers and experts were selected across the country using a multi-stage cluster sampling. Then, a 36-item researcher-made questionnaire was developed using a five-point Likert scale and descriptive and inferential statistical methods were employed using SmartPLS software.

FINDINGS: The findings indicate that the implementation of disaster management policies in the rescue and relief operations of the IRCS faces numerous challenges. The qualitative analysis identified 8 global themes, 19 organizing themes, and 36 basic themes. In the quantitative phase, the following dimensions were found to have significant positive effects on the implementation of disaster management policies: resources and equipment (0.561), policy (0.868), empowerment and skills (0.921), decision-making (0.859), organizational structure (0.912), information and communication (0.637), public participation (0.610) and economic, political, and social conditions (0.573). Among these, human resource empowerment (0.921) and organizational structure (β=0.912) exerted the greatest influence on the efficiency of relief operations.

CONCLUSION: According to the results, lack of adequate resources and organizational structure, shortage of up-to-date equipment, deficiencies in workforce skills, and poor inter-organizational coordination are key challenges in implementing disaster management policies in rescue and relief operations. Furthermore, enhancing human resource management, improving training and empowerment programs for relief teams, devising transparent and actionable policies, and increasing public and NGO participation can significantly enhance the effectiveness of relief operations. The proper implementation of policies in rescue and relief operations can substantially improve the efficiency of the IRCS in the face of disasters and in addition to reducing human casualties and resource wastage, can also direct society towards sustainable development.

Keywords: Disaster management; Rescue and relief operations; Policy implementation; Iranian Red Crescent Society (IRCS)

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Introduction

Natural and man-made disasters, due to their devastating impacts on human capital, financial resources, and critical infrastructure, can be recognized as major obstacles to sustainable development worldwide. Hence, disaster management seeks a systematic disaster combating approach aimed at mitigating disasters and facilitating recovery efforts. As effective disaster management can reduce the impact of catastrophes and disasters and accelerate the restoration of normal conditions, it is an essential priority for both governments and people. Rescue and relief operations encompass a range of actions designed to extricate individuals from hazardous

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situations and ensure their safety. The primary objective of rescue and relief operations is to protect lives and minimize injuries resulting from disasters. However, as one of the most critical response activities during both natural and man-made disasters, rescue and relief operations face numerous challenges and vulnerabilities that can directly impact their efficiency and success. The IRCS, established in 1922, is a humanitarian NGO that operates as part of the International Red Cross and Red Crescent Movement, and its primary mission is to provide relief and humanitarian assistance in response to natural and man-made disasters.(1)

According to reports, the economic losses resulting from natural and man-made disasters in Iran are estimated at approximately $5 billion annually. Despite accounting for only 1% of the global population, Iran bears 6% of the total losses caused by natural disasters. (2)

In this regard, Torkian et al. (2022) identified 33 factors, categorized in the form of 10 key factors that influence crisis management policy implementation, with structural, organizational, and environmental factors playing a significant role. (7)

Similarly, Hasanzadeh and Alizadeh (2019) highlighted that the proper location of emergency warehouses is a key challenge in disaster relief, as it directly affects the speed and efficiency of rescue and relief operations. (3)

Gholami and Abbaszadegan (2019) concluded that social vulnerabilities resulting from economic and social instability also impact relief operations. They argue that social insecurity and poverty can reduce public cooperation in relief operations. (4)

Similarly, Khademi et al. (2021) identified insufficient infrastructure as a major challenge in rescue operations. They highlighted that the lack of proper roads and facilities for access to affected areas can cause significant delays in rescue operations, they also emphasize that addressing this problem requires public infrastructure development and improved transportation systems (5).

Zokaie et al. (2016) pointed to human resource management as one of the key vulnerabilities in rescue and relief operations, stressing that lack of adequate training for relief workers and the absence of coordination among various organizations can lead to inefficiencies in service delivery. (6)

Qasemi Siani et al. (2020) identified delays in understanding the dimensions of a crisis, lack of accurate information for decision-making, response efforts and initiating restoration activities as critical challenges in disaster management. They emphasized that addressing these issues is key to successful crisis response. (8)

Similarly, Babaei Rayeni et al. (2020) argued that a scientifically grounded and locally respected management system ensures a reduction in disaster-induced losses. Their results highlighted that causal conditions, contextual conditions, intervening conditions, strategies, and community-based crisis management will have effective and positive outcomes. (9)

Azzahra et al. (2022) noted that the strengths possessed by humanitarian and disaster organizations are the result of a clear legal basis and Standard Operating Procedures. However, they identified limited budgets, inadequate facilities and infrastructure, lack of opportunities, and insufficient coordination between agencies engaged in related fields as major weaknesses affecting disaster response efficiency, while the existing threats are in the form of environmental conditions, natural conditions, and participation from the surrounding community, which is still not supported. (10)

Kanyasan et al. (2018) identified three key themes in their study: a) Policy Content and Dissemination; b) Factors Affecting Policy Implementation c) Effective Coordination and Ownership among National Disaster Management Committees (DMCs) to enhance Disaster Risk Reduction (DRR) activities with strong government backing. They also highlighted barriers such as unclear provisions in the national legislation, unclear mandates especially on leading the program, poor monitoring system, insufficient human resources, and lack of public-private partnerships. (11)

Hu et al. (2021) emphasized the importance of organizational structure, military and social participation with local forces in reforming local emergency management. They highlighted that both aspects function under a "command-and-control" system to enhance disaster preparedness and play a crucial role in disaster response. A comprehensive coordination approach evolved into one of the local emergency support functions, and was no longer centralized solely within the command center. Additionally, collaboration

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between governmental and non-governmental organizations was strengthened. They concluded that news, public relations, and early warning systems play a critical role in saving lives during disasters. (12)

Methods

The present study employs a mixed-method approach. The qualitative phase was conducted to identify key factors and categories through thematic analysis. However, to ensure reliability and generalizability of these findings to a broader population, the quantitative phase was also employed. In the quantitative phase, the target population included experts, key informants, crisis managers directly engaged in rescue and relief operations, university professors, and operational commanders of the IRCS.

Participants were selected using purposive sampling, and this process continued until theoretical saturation was reached, and finally 12 participants were selected for interviews. In the quantitative phase, the target population consisted of active IRCS personnel and aid workers. To ensure generalizability, Sample Power software was used to determine the required sample size, estimating a total of 365 participants. A multi-stage cluster random sampling method was employed in this phase. In this process, first the country was divided into four geographic regions (North, South, East, and West) and from each region, one province was randomly selected as the sample.

In the next step, among volunteers and staff, individuals with the most direct engagement in rescue and relief operations were randomly selected. The distribution of the 365 participants across regions was as follows: North: 100 participants South: 97 participants, East: 63 participants, West: 105 participants. The researcher randomly selected several layers from. among the larger layers. In the next step, the researcher randomly selects some subgroups from among the chosen layer subgroups.

In the qualitative phase, data collection was conducted using semi-structured interviews, and in the quantitative phase, data were collected through a 36-item questionnaire designed based on the findings of qualitative phase. These questions were structured on a five-point Likert scale. In this study, four criteria outlined by Guba and Lincoln (1985) were used to ensure the reliability of the qualitative phase.

To determine the validity of the data, the data were continuously reviewed and analyzed concurrently with the collection process. Efforts were made to include participants and beneficiaries with diverse perspectives and interests in the process of data collection and interviews, in order to ensure a broad range of experiences and viewpoints. Additionally, in-depth and open interviews were reviewed by at least two researchers, and supplementary resources were utilized to enhance the credibility of the research. Sampling continued until theoretical saturation was reached, and the most appropriate semantic unit was selected. An expert panel and academic professors were used to support the generation of the codified concepts or themes and review of the results by the participants. The derived concepts were discussed with the interviewees, and their perceptions was verified to avoid potential biases. Finally, the final construct was presented to the interviewees for feedback. The calculated reliability of 0.79 in table 2 indicates an acceptable level of stability.

Table 1. Statistical samples of the qualitative and quantitative sections

Population of the qualitative phase						Population of the quantitative phase					
Total Expert count	Education	Count	Executive background	Age	Gender	Total Expert count	Education	Count	Executive background	Age	Gender
											Male / Female
12	PhD	8	10-15	30-40	Male	365	High school diploma & below	54	3-7	25-35	14 / 40
	PhD Student	1	10-25	40-50			Associate degree & Bachelor's degree	215	7-18	30-45	25 / 190
	Master's degree	3	25-27	50-60			Master's degree	69	8-15	32-48	15 / 54
							PhD	27	10-17	45-52	7 / 20

Table 2. Evaluation of stability in the qualitative phase

Row	Interview number	Total code count	Inter-coder agreement	Inter-coder disagreement	Reliability
1	4	12	5	2	83%
2	9	16	6	3	75%
3	12	15	6	4	80%
Total		43	17	9	79%

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Table 3: Thematic analysis of challenges in implementing disaster management policies in rescue and relief operations of IRCS

Dimensions (global theme)	Factor (organizing theme)	Index (basic theme)
Resources and Equipment	Limitations in Funding and Rescue Equipment	Limitations in Funding and Rescue Equipment
	Aligning Resources with Needs in Crisis Situations	Deficiency in Rescue Equipment and Modern Technologies
Policies	Unified and Coordinated Crisis Management	Integrated and Targeted Disaster Management Cooperation and Coordination Between Executive Organizations and International Bodies
	Transparent and Tangible Policies	Clear Assignment of Roles Related to Population Management in Disasters Up-to-date policies Tangible policies Lack of transparent policies Gaps in Disaster Management Laws and Regulations Insufficient Awareness of Regulations Among Managers
Empowerment and skill	Education and Empowerment	Human Resource Empowerment Lack of Disaster Response Training Capacity Building and Training of Disaster Management Specialists
	Merit-based Selection and Expertise of Executives	Fostering Expertise and Collaboration among IRCS executives
Decision making	Proper Decision-Making and Timely Response to Disasters	Proper and Timely Crisis Response Description of jobs and List of Duties During Disasters
	Knowledge and Expertise of Decision-Makers	Contingency Decision Making
Organizational Structure	Organizational Development and Advancement	Enhancing the Capacity of the RCS in Disaster Management Preventing Non-Specialized Interventions State Focus on the Development and Empowerment of the RCS
	Fostering a Culture of Policy-Making within the Organization	Adoption and Implementation of Up-to-Date Policies by Managers Improvement and Expansion of Organizational Policy-making Tools Timely and Expertise-Driven Policy Formulation
Information and communication	Information Management and Coordination of Humanitarian Aid	Effective Management of Humanitarian Aid
	Collection of Accurate Data on Crisis Types and Conditions	Collection of Data on Crisis Types and Conditions
Public Participation	Enhancing public participation	Utilizing Public Capacities
	Effective organization of NGOs	NGOs Identifying Public Capacities
Economic, Political, Social, and cultural conditions	Occupational Burnout and Enhancing Welfare Conditions	Enhancing the Welfare of Volunteer Workforce Striking a balance between Volunteer and Military Personnel (staff) Enhancing Healthcare Services
	Enhancing Security and Reducing Security Risks	Addressing Security Challenges in High-Risk Areas Enhancing Security and Minimizing Losses
	Pressure from Authorities and Crisis-Stricken Populations	Pressure from Authorities and the Public in Crisis Situations
	Politicization in the Selection of Managers	Political Discrimination in Appointing Managers Shortcomings in Effective and Sustainable Leadership within the RCS

To determine the content validity, the questionnaires, along with the general and specific objectives, were presented to 10 experts.

After collecting feedback, valuable and applicable ideas were incorporated into the questionnaires with the help of academic professors. Finally, Cronbach's alpha was computed for all indices. Since most of the Cronbach's coefficients obtained are greater than 0.70, the reliability of the instrument is at an acceptable level. In this light, it can be claimed that the research instrument has sufficient reliability. In the end, Maxquda, SPSS and PLS software were used for data analysis purposes in the present study.

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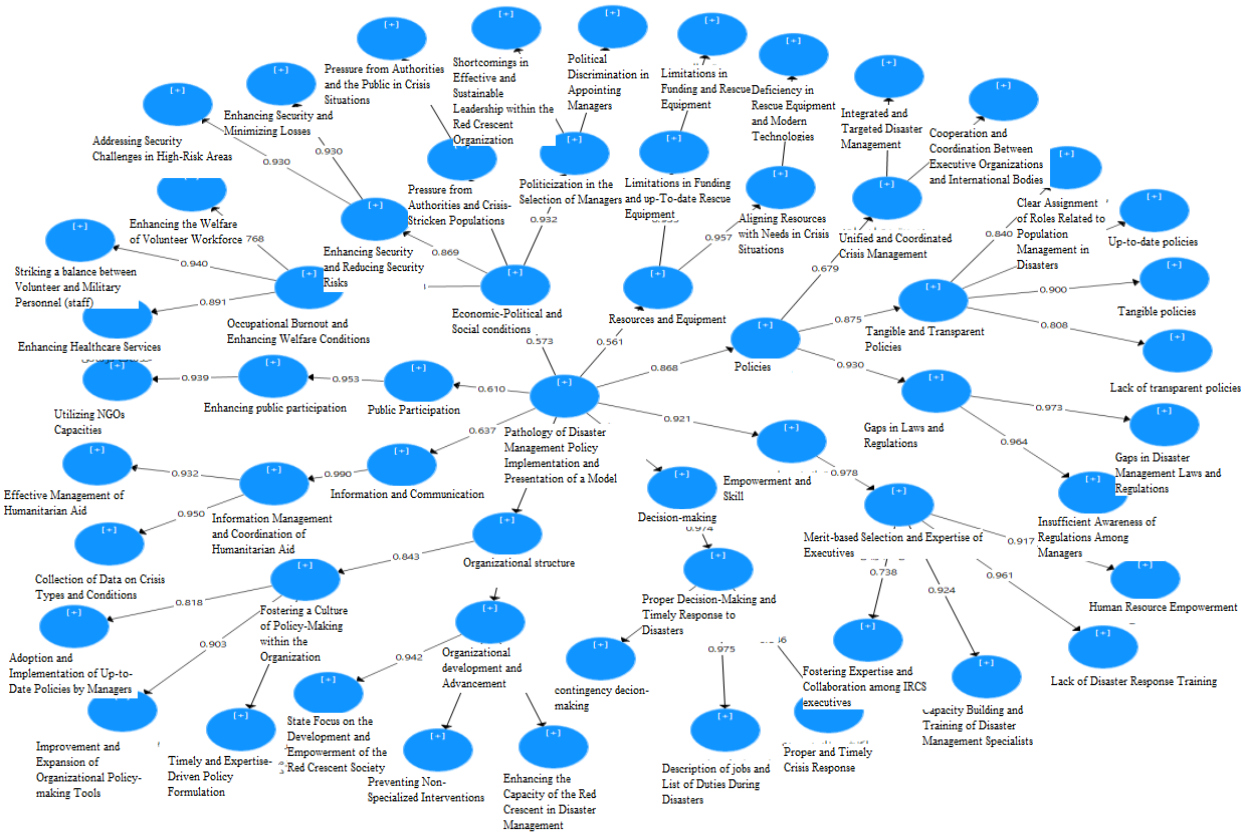

Fig 1. Research model in path coefficient mode

Table 4. Path estimates of the research variables

Independent variable	Path	Dependent variable	T-value	Path Coefficient	P-value
The Challenges of Implementing Disaster Management Policies	<---	Resources and Equipment	28.667	0.561	0.001
	<---	Policies	35.933	0.868	0.001
	<---	Empowerment and skill	48.870	0.921	0.001
	<---	Decision-making	38.039	0.859	0.001
	<---	Organizational structure	47.001	0.912	0.001
	<---	Information and communication	26.853	0.637	0.001
	<---	Public participation	19.897	0.610	0.001
	<---	Economic, Political, Social, and Cultural Conditions	18.097	0.573	0.001

Table 5. Coefficient of determination

Latent index	R Square
Resources and Equipment	0.314
Policies	0.754
Empowerment and skill	0.848
Decision-making	0.738
Organizational structure	0.832
Information and communication	0.405
Public participation	0.372
Economic, Political, Social, and Cultural Conditions	0.328

Table 6. Reliability and validity of the model

Variable	Cronbach's Alpha	Composite reliability	Convergent validity
Resources and Equipment	0.921	0.934	0.586
Policies	0.939	0.948	0.674
Empowerment and skill	0.975	0.976	0.604
Decision-making	0.946	0.953	0.650
Organizational structure	0.949	0.956	0.594
Information and communication	0.960	0.965	0.714
Public participation	0.864	0.908	0.711
Economic, Political, Social, and Cultural Conditions	0.950	0.954	0.682

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Findings

In the present study, thematic analysis was employed to analyze the data and extract key themes related to the challenges in rescue and relief operations. In this method, patterns and themes within the data are systematically identified and analyzed and the findings are presented in the following tables.

The results suggest that the challenges in implementing disaster management policies in the rescue operations of the IRCS consist of 166 Initial codes, 36 indicators (basic themes), 19 components (organizing themes), and 8 dimensions (global themes).

The estimated values in the table 4 indicate that the path coefficient for the implementation challenges has a positive impact on resources and equipment (0.561), policies (0.868), empowerment and skills (0.921), decision-making (0.859), organizational structure (0.912), information and communications (0.637), public participation (0.610) and economic-political-social conditions (0.573) with all values being statistically significant ($p \geq 0.05$).

Coefficient of Determination

The coefficient of determination indicates the explanatory power of the model. In regression equations, this coefficient is denoted by R^2 and represents the odds of correlation between two sets of data in the future. The coefficient of determination (R Square) in Table 4 represents the proportion of variance explained by the latent variables. In this table, the R^2 value for the disaster management policies variable is calculated, and based on the proper valuation criteria (0.75, 0.50, 0.25), recommended by Hair et al. (2017), indicate substantial, moderate, and weak values for R^2 respectively. all the variables in this table confirm the good fit of the structural model.

In the present study, three types of measures namely, validity, content validity, and convergent validity (AVE) were used to confirm the validity of the instrument. Based on the above-mentioned points and the software output results in Table 5, the instrument enjoys acceptable validity (AVE) and reliability.

Model Goodness of Fit

Finally, the model goodness of fit indices were examined. The SRMR and NFI indices are presented in Table 6. An SRMR value below 0.08 indicates a highly satisfactory model fit. The NFI value ranges between 0 and 1, with values closer to 1 indicating a better-fitting model. In this table, the SRMR is calculated as 0.074 and the NFI as 0.724, confirming the acceptable fit of the research model.

The present study was an attempt to scrutinize the challenges in implementing disaster management policies in the rescue and relief operations of the IRCS and to propose practical solutions for improving this process. Considering the critical role of effective disaster management in saving lives and mitigating losses, the findings of the present study can serve as a significant step toward strengthening the country's crisis management capacities and bolstering societal resilience in the face of disasters. Due to the limited number of studies in this area, comparing the results of this research with the relevant literature is constrained by these limitations.

Thematic analysis of the challenges in implementing disaster management policies in IRCS rescue and relief operations, yielded eight global themes. The first global theme pertains to resources and equipment. The results of this phase indicate that funding constraints and the lack of up-to-date rescue and relief equipment are determinant factors in the success of rescue and relief operations. in natural disasters, especially in remote and difficult-to-reach areas, timely and sufficient procurement of resources and equipment can play a crucial role. in many cases, the shortage of resources or the wear and tear of rescue equipment can hinder rescue and relief operations and reduce the quality of services provided to the victims. in this light, attention to the type and quality of equipment, access to resources, and effective distribution of resources in affected areas is of vital importance. thus, for improving the implementation of disaster management policies in rescue and relief operations, consideration of resources and equipment, and their effective management is indispensable. addressing this need necessitates an increase in financial allocations, the ongoing modernization of rescue equipment, and the optimization of resource management processes. additionally, the use of performance indicators can help the organization continuously assess its performance and take steps towards its improvement. ultimately, with the allocation of sufficient financial resources, the modernization of equipment, and adopting the latest global

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practices, the IRCS will be able to respond more effectively and efficiently to various disaster.

in disaster management, the second global theme (policies) plays a crucial role in the effective performance of workforce and success of rescue and relief operations. transparent, tangible, and up-to-date policies can assist organizations in making sound decisions and responding swiftly in the face of crises. especially in the case of sophisticated and multifaceted crises, policies must be designed in such a way that they can be easily perceived and executed, so that the rescue and relief processes can be effectively managed. this requires an integrated and targeted approach, where all entities and organizations operate in coordination within a unified framework. non-transparent policies and gaps in laws and regulations, can create operational confusion, cause role overlaps, and hinder timely decision-making. thus, managers' insufficient awareness of laws and regulations constitutes a critical challenge that must be addressed. policies should be formulated with precision and clarity and be implemented in a coordinated manner across all organizations and institutions. additionally, integrated management, international collaboration, and transparency in roles are among decisive factors for enhancing crisis management efficiency and optimizing the performance of relief organizations. ultimately, by formulating up-to-date and well-coordinated policies, fostering effective international cooperation, and continuously updating laws and regulations, the IRCS will be able to respond swiftly to crises, provide effective assistance to victims, and maximize the efficiency of rescue and relief operations.

The third global theme, "empowerment and skills," highlights the pivotal role of human resource empowerment and skill enhancement in the success of rescue and relief operations. to ensure optimal execution of rescue and relief operations, it is essential to have a well-trained, specialized, and competent workforce. this can only be achieved through continuous training programs and empowerment initiatives in disaster management and crisis preparedness. merit-based selection of qualified professionals at every stage of rescue and relief operations enhance efficiency, expedite crisis response, improve decision-making and operational performance, prevent errors and delays, and enable the more effective allocation of resources. ultimately, through disaster-related training, the enhancement of operational skills, and education of specialized managers, the IRCS will be able to conduct rescue and relief operations more swiftly, efficiently, and effectively, ensuring optimal service delivery to disaster victims. the fourth global theme, "decision-making," is recognized as a fundamental pillar for the success of rescue and relief operations. making timely and sound decisions in crisis situations plays a crucial role in reducing casualties and damages. particularly in sophisticated crises, swift and effective decision-making by managers and executives can shape the course of operations, enhance response speed, and facilitate the efficient implementation of rescue and relief programs. sound decision-making not only requires experience and expertise but must also be based on accurate and up-to-date information to achieve the best possible outcomes in rescue and relief missions. making sound decisions in the shortest possible time prevents potential delays and ensures effective responses. for successful rescue and relief operations, timely and sound decision-making should be a top priority to avoid detrimental delays. moreover, clearly defined job descriptions and task lists for individuals enable them to know exactly what responsibilities they hold and what actions they must take in crisis situations. ultimately, by designing contingency decision-making frameworks tailored to the specific conditions of crisis, the IRCS will be able to assist disaster victims more effectively and efficiently and carry out rescue and relief operations with greater speed and precision.

The fifth global theme related to disaster management in "organizational structure" plays a pivotal role in the efficiency of rescue and relief operations. organizational development and enhancement through enhancement of managerial frameworks and human resources improves responsiveness and operational speed in crisis situations. reinforcing the role of the IRCS in disaster response and preventing non-specialized interventions by unrelated entities are crucial for optimizing organizational performance. government support and the establishment of specialized structures with the necessary operational capacity within the IRCS can significantly enhance efficiency and coordination in emergency operations. a suitable organizational structure not only fosters institutional growth but

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also improves the performance of the IRCS and other relief agencies during crises.

The sixth global theme related to disaster management is “information and communication” which is recognized as another key factor in the success of rescue and relief operations. findings indicate that in disaster management, access to accurate and up-to-date information regarding the crisis type and conditions enables relief organizations to distribute humanitarian aid more effectively and in a more targeted manner. efficient information management and coordination among relief organizations can prevent operational confusions and unnecessary activities thereby enhancing the speed of rescue and relief missions.

Additionally, the precise organization of humanitarian aid and the collection of accurate information can prevent resource and energy wastage and enhance efficiency in disaster response. These processes help mitigate erroneous decision-making and enable the optimal allocation of limited resources. Ultimately, such measures enhance crisis response capacity and minimize damages during emergencies.

The seventh global theme related to disaster management is “public participation”, which serves as a fundamental pillar in the success of rescue and relief operations and highlights the critical role of NGOs in supporting rescue and relief operations. With their extensive networks and human and technical resources, NGOs can significantly enhance the speed and effectiveness of crisis response by delivering timely and specialized assistance to affected areas. Enhancing public engagement through education, awareness campaigns, and the provision of appropriate channels for assistance can foster social cohesion and mitigate the adverse impacts of disasters.

The eighth global theme in disaster management is "Social, Economic and Political Conditions". Occupational burnout and inadequate welfare provisions for both the public as well as the volunteer and emergency response personnel can diminish motivation and capacity in crisis response efforts. Enhancing welfare conditions, ensuring fair payment and benefits for both emergency response volunteers and staff, and strengthening healthcare services for staff can improve efficiency of workforce and alleviate existing pressures. Additionally, ensuring security in disaster-affected areas for public and relief forces is a critical priority, as safety concerns can discourage operational forces and undermine their motivation. On a political level, pressure from authorities and affected people, as well as political discrimination in selection of managers, can disrupt organizational performance and erode public trust. Furthermore, lack of effective and stable leadership can pose substantial challenges to crisis management. therefore, focus on improving the welfare conditions of human resources, ensuring the security of operational personnel in rescue and relief operations, and addressing political and managerial challenges can help improve responsiveness and mitigate the negative impacts of rescue and relief operations. consequently, this section emphasizes that improving economic, social, and political conditions, as well as addressing managerial and security challenges, can significantly enhance the efficiency and effectiveness of rescue and relief operations. sound management in these areas will reduce the pressures caused by crises and improve the speed of responsiveness to humanitarian needs during disasters and rescue and relief operations.

Discussion and Conclusion (Quantitative Phase)

Based on the results obtained from the estimated values in Table 3, it is clearly evident that all pathogenesis pathways related to the implementation of disaster management policies have a significant positive impact on various dimensions. These results are highly consistent with previous findings in studies such as Torkian et al. (2022), which demonstrated the influence of structural, organizational, and environmental factors on crisis management. In this study as well, various factors, including resources and equipment, empowerment and skills, organizational structure, information and communication, public participation, and economic-social conditions, were found to have significant impacts on the implementation of disaster management policies. Among these dimensions, organizational structure (0.921) and empowerment and skills (0.912) have shown the most significant impact on crisis management performance. This impact is directly linked to the enhancement of human resource capacities, providing necessary training, and the improvement of management structures during crises.

These findings are consistent with previous findings from Zokaie et al. (2016) and can be attributed to the fact that during crises,

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well-trained human resources and a cohesive organizational structure are able to respond more swiftly and effectively. They also emphasize that without adequate training for rescue and relief workforce and coordination between different organizations, rescue and relief operations become inefficient. This is precisely the point made in the present study with emphasis on the impact of "organizational structure" and "empowerment and skills" on improvement of crisis response. "Policies" (0.868) was also found to have a significant impact on the effective implementation of policies, this indicates that proper coordination and formulation of policies can help improve rescue and relief operations

These findings are consistent with the research by Babaei Rayeni et al. (2019), which they have pointed to the importance of alignment of policies and guidelines at both local and national levels in crisis management. The impact of policies on coordination and the efficiency of rescue and relief operations is evident in the present study as well. In addition, the lower scores of "resources and equipment" (0.561) and "public participation" (0.610) indicate that, despite the positive impacts, there is still a need for further enhancement, particularly in the realm of public participation and resource optimization.

This fact has been notably highlighted in the research by Khademi et al. (2021) and Hasanzadeh and Alizadeh (2019). The reason is that, despite positive impacts, many rescue and relief systems still face significant challenges in procuring resources and engaging public participation. These challenges have also been addressed in previous studies. Additionally, "economic-political-social conditions" (0.573) and "information and communication" (0.637) were found to have a significant impact in this field, a fact that highlights the importance of information systems and resolving economic and social issues in crisis management.

These results are not in contrast with some of the challenges regarding insufficient infrastructure and economic hardships, as raised by Khademi et al. (2021) and Gholami and Abbaszadegan (2020) because they believed effective information systems and socio-economic conditions are key factors influencing the success of rescue and relief operations. Previous studies have also highlighted these issues as major challenges in the implementation of crisis management policies.

Discussion and Conclusion

The IRCS, as one of the primary institutions responsible for rescue and relief operations at both national and international levels, plays a key role in the successful implementation of disaster management policies in operations. The need for further scientific research in this area is consistently emphasized, considering its critical importance in saving lives, reducing human casualties, and mitigating financial losses. This issue becomes even more significant when intertwined with religious and cultural beliefs, as our religious teachings strongly emphasize contribution to relief operations. In this light, the present study aims to provide a clear picture of the existing challenges and obstacles faced by the IRCS in conducting successful rescue and relief operations during disasters.

Both qualitative and quantitative analyses have shown that the implementation of disaster management policies within the IRCS faces multiple challenges, some of which directly impact the efficiency and effectiveness of operations including shortage of funds and up-to-date equipment, uninformed decision-making, the absence of an effective organizational structure, poor information and communication management, poor human resource skills, and poor coordination between organizations are among major challenges in implementation of disaster management policies during rescue and relief operations. Additionally, improving human resource management, enhancing training programs, empowering rescue teams, formulating transparent and actionable policies, and fostering the involvement and participation of the public and NGOs can significantly enhance the effectiveness of rescue and relief operations.

In the quantitative phase, the analyses performed using various indicators demonstrate that different dimensions of disaster management—particularly human resource empowerment and organizational structure—have the most significant impact on the effectiveness of rescue and relief operations.

Moreover, coordination of policies coupled with effective information management can help enhance the speed and accuracy of crisis response. Statistical findings indicate that the proper implementation of policies and the enhancement of human resource capacities can significantly improve the efficiency of the IRCS in the face of disasters and rescue and relief operations. Lastly,

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focus on these dimensions and investing in enhancement of resources and skills, decision-making, and organizational structure are key to successful disaster management and effective rescue and relief operations. Aside from mitigation of human casualties and financial losses in the critical early moments of disasters, this approach offers a crucial advantage: the pivotal role of public engagement in Fulfilment of this objective. A cohesive plan that fosters public participation in crisis response not only enhances community resilience and awareness but also significantly improves the effectiveness of policy implementation through preparedness, and ultimately steers society toward sustainable development.

Ethical Considerations

All ethical principles have been considered in this article. Participants were informed about the purpose of the research and the steps of its implementation.

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Author's Contributions

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Conflict of Interests

The authors declare no conflict of interest.

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