Post-Earthquake Challenges in School Management: A Case Study after the February 6 Earthquakes

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Abstract

In this study, it is aimed to define the challenges of the school administrators after February 6 earthquakes occured in Türkiye according to Gulic and Urwic's management processes theory. Qualitative research method and phenomenology design was used in the study. The study group of the research included 33 school administrators working in Elazığ, one of the provinces declared as a disaster zone after the earthquakes. A semi-structured interview form created by the researchers was used as a data collection tool. Themes and categories were determined by using content analysis technique in data analysis. In the study, it is found that at the planning stage, the participants had problems in planning psychological support and guidance services for students, preparing repair plans for damaged buildings, and designing activities to increase teacher motivation. At the organizing stage, school administrators faced a decline in organizational communication, and difficulties in ensuring an effective division of labor. In the staffing dimension, the need for additional personnel and the decrease in personnel efficiency due to increased out-of-province migration after the earthquake emerged. At the directing stage, school administrators encountered difficulties in maintaining teachers' professional motivation and engagement in professional development. At the coordinating stage, the lack of effective collaboration was a major issue. In the reporting phase, administrators faced challenges in documenting post-disaster educational disruptions and an inability to achieve strategic goals due to academic setbacks. At the budgeting stage, school administrators struggled with increased expenditures for infrastructure repairs and resource allocation for post-disaster recovery efforts.

Keywords: Management processes, post- earthquake, school administrators, challanges, February 6 earthquakes

1. INTRODUCTION

Organisations are social structures consisting of individuals who come together for a specific purpose (Turan, 2022). The ability of organisations to fulfil their objectives and sustain their existence is possible with the effectiveness of management processes (Aydın, 2018). In general terms, management is the planning, organisation, coordination and systematic control of organisational resources (Bursalıoğlu, 2019). Within the scope of management activities, firstly, the resources of organisations are determined rationally and planning is made to use these resources in line with organisational goals (Ada & Baysal, 2010). The internal structure of the organisation is organised, areas of responsibility are determined, job descriptions are made, tasks are distributed and communication channels are established (Eraslan, 2022). Individuals in the organisation are directed to act to fulfil the objectives through leadership, communication and motivation activities (Köleoğlu, 2023). These activities carried out by the members of the organisation are regularly monitored, failures in achieving the goals are

identified, strategies are created to eliminate these failures or measures are taken to prevent new failures.

Henri Fayol first developed management process theory by defining five key functions: Planning, Organizing, Commanding, Coordinating, and Controlling (POCCC) in Administration Industrielle et Générale (1916). His framework laid the foundation for modern management by emphasizing structured managerial activities and hierarchical efficiency (Fayol, 1949). Building on Fayol's study, Gulick and Urwick (1937) further developed management theory with their POSDCORB model—planning, organizing, staffing, directing, coordinating, reporting, and budgeting—aimed at refining and expanding Fayol's principles to enhance organizational and administrative efficiency. The most important activity performed by administrators at the planning stage is decision-making (Bursalıoğlu, 2019). In the decision-making process, administrators try to determine the most appropriate strategies that can be applied by considering the current situations (Memişoğlu, 2013). Administrators should find the solution that will lead the organisation to show maximum performance with minimum cost by reviewing all alternatives to achieve the goal in the planning process (Chatoupis, 2007). In the planning process, the job descriptions required to achieve the objectives are made, the qualifications required for the fulfilment of the tasks are determined, and decisions regarding the use of resources are made (Fayol, 2008). Another step of management processes is organising. In the organisation process, administrators establish a system for the use of organisational resources, create business processes and determine the organisation chart (Parlak, 2011). In the staffing dimension, which is among the management processes, administrators employ human resources in a way to achieve organisational goals (Parlak, 2011). Determining the personal rights of human resources, implementing the remuneration policy, and assigning tasks are also part of the staffing process. In the coordination process, administrators use their leadership skills to encourage human resources to fulfil the tasks expected of them in their job descriptions, to act in line with organisational goals and to ensure their professional development. Reporting, which is another stage of management processes, is a type of managerial activity that ensures the storage of data related to the organisation in a systematic order, the creation of corporate memory, and the easy accessibility of information about the organisation. In the budgeting process, administrators determine the financial resources of the institution, use them within the organisational objectives, and ensure the balance between income and expenditure.

Educational institutions are the organisations where management processes are used most effectively (Cheng & Cheung, 2003). Management processes are used effectively by administrators to improve the quality of educational institutions (Sahney et al., 2008). Thanks to the application of management processes, the activities carried out in educational institutions gain a concrete, achievable and realistic dimension (Stukalina, 2008). Management processes are elements that ensure social integration among the individuals who make up the organisation (Calabrese, 2006). At the same time, management processes enable the formation of a collective structure formed within the cultural norms and values of educational institutions (Agranoff, 2007). Management processes reinforce the learning culture in educational institutions and contribute to the formation of a community of experts within education (Kerievsky, 2005).

Management processes have made the processes of managing educational institutions universal (Meier, 2010). The realisation of the professional activities of school administrators within the framework of global standards and the placement of a normative management approach in schools are possible through management processes (Chalekian, 2013). Management processes bring significant advantages in many different paradigms such as institutional effectiveness, student success, staff satisfaction and general institutional performance (Chalekian, 2013).

Institutions in which management processes are effectively implemented can respond to sudden situations instantly, cope with crises and maintain their organisational life. Schools, whose raw material is people, are among the types of organisations that are most likely to face crises (Gitter & Barham 2006; Başçi, 2018). Crises encountered in schools are generally caused by humans or environmental problems (Bundy et al., 2017). Natural disasters are the most common environmental crises. The origin of natural disasters is based on natural processes related to the functioning of nature. On the other hand, disasters related to natural processes disrupt social functioning and cause various consequences that cause human and/or material losses (Chaudhary and Piracha, 2021). Moreover, natural disasters have significant impacts on the functioning and management of organisations depending on the magnitude of the disaster. Since natural disasters are generally unexpected, unpredictable in time and effects, they hinder the functioning of routine management activities and produce crises. Depending on the magnitude of the disaster, special measures need to be taken and effective crisis management needs to be implemented in order to maintain functions such as planning, communication, coordination, evaluation, orientation and staffing, starting from decision-making processes.

Natural disasters are among the factors that negatively affect the management processes of schools and constitute a barrier to achieving organisational goals (Frankenberg et al. 2008; Durmaz, 2019; Aydın et al., 2021). There are many studies investigating the effects of natural disasters on educational services (Rush, 2017; Drabo & Mbaye, 2014; Mir et al., 2023). Natural disasters negatively affect school life by causing disruption of educational services provided in schools, damage to institutional buildings, and psychological trauma (Makwana, 2019; Solmaz, 2023). As a result of disasters, the stress perceived by school administrators increases (Yamauchi et al. 2009; Atalay & Çakırel, 2022); as a result of this situation, a decrease in the professional performance of administrators is observed (Duan et al., 2018; Taşlıyan et al., 2022), and they have problems in maintaining organisational culture (Alexakis, 2020; Topçuoğlu & Genç, 2021; Düzgün, 2022). It is a common situation throughout the world that educational institutions face serious problems after natural disasters and school administrators face many difficulties in this process. After the 7.6 Mw earthquake in Pakistan in 2005, it was determined that the biggest problem in the education sector was the difficulties experienced by school administrators in crisis management (Shaheen, 2008). The effects of the 9.1 Mw earthquake in Indonesia in 2004 on education have grown exponentially over the years; a decrease in the ability of administrators to maintain organisational integrity has been observed (Adam & Tsavou, 2022).

In case of natural disasters, it is the responsibility of school administrators to ensure that the educational services provided at school are not disrupted, students and teachers are not distanced from the education system, and management processes are carried out functionally to

achieve organisational goals (Kirişci & Yirci, 2021). For this reason, determining the problems experienced by school administrators when faced with natural disasters is of great importance in terms of guiding administrators in future disaster scenarios (Karaağaç, 2022). When the literature is examined, there are studies examining the reflection of the crises produced by earthquakes on management activities in schools. These studies mainly focus on earthquake resilience of school systems (Shiwaku et al., 2016; Hassan et al., 2020) and risk and crisis management in schools (Haulle, 2012; Mutch, 2015). School managers face significant challenges during natural disasters, particularly earthquakes, as they must ensure immediate crisis response and student safety, often with limited resources and preparedness (Gümüş et al., 2020). Disruptions in communication and coordination with emergency services, parents, and staff can hinder effective evacuation and post-disaster recovery efforts (UNESCO, 2017). Additionally, psychosocial impacts on students and staff require school leaders to implement trauma-informed approaches and long-term resilience strategies to support the educational community (Pacheco et al., 2021). The results of these studies have made important contributions in terms of developing recommendations on how to implement effective risk and crisis management in schools in case of disasters and how to establish an earthquake-resistant school system in terms of school management. On the other hand, the number of studies evaluating natural disasters in general and earthquakes in particular from the perspective of school administrators and within the framework of management processes is quite limited.). In this study, the authors use the Gulic and Urwick's management processes framework to determine the managerial experiences of school administrators regarding earthquakes.

As a result of two major earthquakes with a magnitude of 7.7 Mw and 7.6 Mw in Kahramanmaraş on 6 February 2023, 11 cities were devastatingly damaged and more than 50 thousand citizens died in Turkey. Because of the earthquakes, many families suffered loss of life and property (Abay & Abay Çelik, 2023), forced internal migration was carried out, and psychological traumas were faced (Aydın & Özüdoğru, 2023). After the earthquakes, the education sector was damaged to a great extent, face-to-face education was temporarily terminated and the distance education process was initiated. 1,842 institutions were completely destroyed, 637 institutions were moderately damaged and 17,951 institutions were slightly damaged due to the earthquakes (Ateşgöz, 2023). Education was suspended for 3 to 7 weeks in 11 provinces declared as disaster zones. Afterwards, educators and students had to continue their education and training activities with the feelings of fear and sadness caused by the earthquake. After the earthquakes, school administrators had great problems in leading teachers and students to re-adapt to the education process (Ateşgöz, 2023). After the earthquakes, there was a decline in the professional skills of school administrators (Marangoz & İzci, 2023).

The aim of this research is to identify the challanges experienced by school administrators after the earthquakes in Turkey on 6 February 2023 in the context of management processes and to develop solutions for these problems. Within the scope of the research, answers to the following questions are sought:

After the earthquakes;

1. What are the problems experienced by school administrators at the planning stage, which is among the management processes?

2. What are the problems experienced by school administrators at the organising stage, which is among the management processes?

3. What are the problems experienced by school administrators at the directing stage of management processes?

4. What are the problems experienced by school administrators at the staffing stage, which is among the management processes?

5. What are the problems experienced by school administrators in the coordination phase of management processes?

6. What are the problems experienced by school administrators at the reporting stage among the management processes?

7. What are the problems experienced by school administrators at the budgeting stage among the management processes?

2. METHOD

A qualitative research approach was adopted in this study. As noted by Marrow and Smith (2000), qualitative research seeks to explore and interpret the meanings individuals assign to their experiences and contexts. Its primary aim is to understand how individuals perceive their realities and to uncover the key elements involved in their sense-making processes (Merriam, 2013). In alignment with the characteristics of qualitative inquiry, this study investigated and interpreted the challenges faced by school administrators in Elazığ—one of the 11 provinces officially designated as a disaster area following the earthquakes of 6 February 2023—through the lens of administrative processes. Prior to data collection, ethical approval was obtained from the Ethics Committee of Social Sciences at Fırat University during its meeting held on 30 May 2024 (Session No: 2024/11). Given the involvement of human subjects, the research followed ethical guidelines by utilizing an informed consent form approved by the committee. All participants provided written consent, affirming their voluntary participation in the study.

2.1. Research Design

The study aims to explore, in depth, the challenges encountered by school administrators following the 6 February earthquakes, within the context of management processes. To achieve this, a phenomenological research design was employed. Phenomenology allows for a deep examination of individuals' subjective realities and personal interpretations of the events or situations under investigation (Titchen & Hobson, 2005). Rooted in philosophical and psychological traditions (Creswell, 2017), this approach seeks to understand how individuals experience and perceive specific phenomena (Moustakas, 1994) by uncovering the ways in which these experiences are constructed (Van der Mescht, 2004). It enables researchers to

interpret participants' emotional, cognitive, and meaning-making processes while highlighting personal differences and individual perspectives (Merriam & Tisdell, 2015; Johnson, 2000). In the context of this study, phenomenology provided a suitable framework to delve into the administrators' post-earthquake experiences and to uncover how these challenges were reflected across various dimensions of school management processes.

2.2. Study Group

In the formation of the study group, maximum variation sampling was employed. This sampling strategy aims to capture a wide range of perspectives by selecting participants who differ on key characteristics relevant to the research topic, thereby increasing the diversity of experiences and enhancing the richness of the data (Patton, 2014). Rather than seeking theoretical saturation, maximum variation sampling focuses on identifying common patterns across diverse cases. In this study, variation was ensured by considering factors such as the administrators' school types, years of experience, and positions within the educational system. The study group consisted of 33 school administrators working in Elazığ, one of the provinces designated as part of the disaster zone following the earthquakes of 6 February 2023.

The demographic data of the 33 participants in the study group are given in Table 1.

Table 1. Demographic data of the study group

Demographic Data		Frequency (f)	Percentage (%)
Gender	Female	6	15.15
	Male	27	81.85
School Type	Pre-school	2	6.06
	Primary school	14	42.42
	Secondary school	13	39.40
	High school	4	12.12
Seniority Year	1- 5 years	16	48.48
	6-10 years	12	36.36
	11 years and above	5	15.16

When the distribution of the participants in terms of gender variable is analysed, it is seen that the majority of the participants are male administrators (f=27). The main reason for this situation is that the number of male school administrators is higher than female administrators in Elazığ province where the research was conducted. When the demographic distribution in terms of school type variable is analysed, it is seen that school administrators working in primary school (f=14) and secondary school (f=13) are in the majority in the study group. When the seniority years of the participants in the administration profession are analysed, it is seen that the number of administrators with 1-5 years (f=16) and 6-10 years (f=12) seniority years is high.

2.3. Data Collection Tool

A semi-structured interview form, developed by the researchers and consisting of seven items, was used in the study. The questions were formulated based on the research framework

and aimed to explore the identified issues in depth. In designing the interview form, Gulick and Urwick's management processes framework (POSDCORB) was used as a basis, ensuring that relevant processes were systematically incorporated. Each management process was translated into a corresponding interview question, considering both the strengths and limitations of the framework. Additionally, expert opinions were systematically gathered during the development of the questions to ensure their clarity, relevance, and appropriateness for the research objectives. Furthermore, a preliminary pilot study was conducted to test the effectiveness of the interview form, allowing for necessary revisions and enhancements based on participant feedback, thus strengthening its validity and reliability.

2.4. Data Collection and Data Analysis

The study was carried out following the approval of the Ethics Committee for Social and Human Sciences at Fırat University, dated 01 June 2024 and numbered 24599. Data were collected through online interviews with the administrators. The interviews lasted minimum 30 minutes and maximum 1 hour. The interviews were recorded and after being converted into text, they were subjected to content analysis. Within the scope of content analysis, themes and categories were determined according to the participant responses. In order to protect the confidentiality of the personal data of the participants in the study group, pseudonyms were given as P-1, P-2. In order to ensure the validity of the research, interaction-based interviews were conducted with the participants and in-depth information was obtained. For external validity, the inclusiveness of the participant group in terms of different demographic variables was ensured. In order to ensure the reliability of the analysis, the most striking participant views on all themes and categories were referred to, and the data were independently analyzed by two researchers. Miles and Huberman's (1994) inter-coder reliability formula was used to calculate the consensus percentage:

$$\text{Reliability} = (\text{Number of agreements}) / (\text{Total agreements} + \text{disagreements}) \times 100$$

For this study, coding consistency across all 17 themes was examined. The number of agreements between the two researchers was 15, and the total of agreements and disagreements was 2, resulting in an inter-coder reliability score of 87%. To further enhance credibility, the agreement percentage was also calculated for each theme separately, ensuring a more detailed assessment of coding consistency.

3. FINDINGS

3.1. Problems Experienced by the Administrators in the Planning Phase after the 6 February Earthquakes

The first question asked to the school administrators within the scope of the research aims to examine the problems related to planning, which is the first stage of PODSCORB. The problems encountered by school administrators in the planning process after the earthquakes are given in Table 2.

Table 2. Problems encountered in the planning phase

Theme	Category	f
Planning of Student Affairs	Increased planning of psychological support and guidance services for students	11
	Planning was made to solve the problem of absenteeism	6
	Make-up trainings planned to increase academic success	3
Planning of Educational Process	Earthquake drill planning was carried out	5
	Orientation activities planned for teachers	5
	Targets set out in the plans could not be achieved due to sudden changes in functioning	4
	Our plans were constantly changed as a result of wrong decisions made by the top management	3
	New post-earthquake targets added to strategic plan	3
	We could not make the right decisions because we did not receive crisis management training	3
Planning of Educational Environments	Increased planning for the improvement of the school building	6
	New planning was made because the school building was demolished	6
	Class scheduling was reorganized as new student registrations were received from different cities	5

As seen in Table 2, the problems experienced by the administrators in the planning phase after the earthquakes of 6 February were analysed under the themes of 'student affairs', 'educational process' and 'educational environments'. The main problem experienced in planning for students was the need for new planning due to the inadequacy of the guidance services and psychological support provided for students (f= 11).

> *"Students' low school motivation and fear of earthquake caused disruption in planning. It took time for students and teachers to get into the school climate. Attendance numbers decreased. Therefore, psychological support and guidance services were increased" (P-10)*

After the 6 February earthquakes, student absenteeism was observed. After the earthquake, schools in the cities in the disaster zone suspended education for minimum 1 month and maximum 3 months. As a result, students were distanced from the education process and started to show absenteeism behaviour even when the schools opened. Administrators also made new plans to solve this problem (f=6).

> *"Every effort was made for students to adapt to the school climate. Especially students' attendance at school took the first place in setting goals." (P-9)*

In the theme of planning the education and training process, there are two categories that received the most citations. The first one is the need for planning drill trainings (f=5) and the other one is the planning of orientation activities for teachers (f=5). The participants made plans for the re-organisation of earthquake drills in schools. The main reason for this is the thought that the process was not taken seriously enough because a major disaster was not encountered in the previous drills.

"We had problems about what we should do to minimize the anxiety level and panic of the students from any possible natural disaster risk in the school, as well as what we should do to prevent accidents that may occur when going out to the safe area after the earthquake is over. In order to solve this, we tried to produce solutions by doing an earthquake drill and discussing videos and photos about it." (P-6)

The main reason for the orientation activities carried out for teachers is the intensive internal migration from the cities in the disaster zone to Elazığ, the city where the research was conducted. Intensive orientation activities were planned in order for the teachers who left their previous duty stations urgently and compulsorily to get used to their new duty stations.

"Some of the teachers had anxiety. When they first arrived, they were always in a state of alert. They were constantly watching the walls and their ears were tuned to sound. For this reason, orientation activities were carried out for teachers. Over time, as the general routine settled in, there was a general relaxation in our teachers." (P-7)

Participants also stated that they could not comply with the plans they made at the beginning of the academic year due to the sudden change in the current functioning (f=4), they stated that they could not establish synchronisation with senior management teams (f=3), they stated that they could not act correctly in the planning phase because they did not receive enough training in crisis management (f=3).

"Due to the damage to the physical structure, we tried to produce result-oriented solutions rather than process-oriented solutions. Unfortunately, the feedback of the Provincial Directorate of National Education at the point of decision-making caused us to face problems in terms of making good use of time and planning. Trying to prepare a damaged building for education, dealing with renovations and then the decision to demolish the building 20 days before the opening of the school caused us problems in terms of education. As the new academic year opened, there were problems in terms of evacuating the school, which was given a demolition decision, on the one hand, and organizing education in a different school on the other hand, and ensuring the adaptation of the changing teaching staff due to the earthquake. The fact that the decisions taken were changed quickly due to the process caused damage to the qualifications of the administrators and the lack of a clear stance against the staff." (P-25)

As stated by the participant with the pseudonym P-25, the planning process is the most critical and decisive management activity in the event of a sudden disaster. It is not always possible for the prepared plans and decisions to be consistent and realistic. In this process, it is important that the planning process is carried out by the top management and sub-management teams based on consultation and a common decision-making mechanism is established.

The main problems related to the planning of education and training environments are the need for planning for the improvement of the school building (f=6) and the search for a new building since the school building was demolished and the planning of this process (f=6).

> *"Since our school was demolished, we started to operate in a different school. In the same building, there was another school in the morning and another school in the afternoon. Planning this process, adjusting the class hours, was quite challenging." (P-13)*

As can be understood from the participant's statement above, the education service provided in the school buildings that were destroyed after the earthquakes of 6 February has started to be provided in other school buildings. In a single building, a different school serves in the morning and a different school in the afternoon. In this process, administrators stated that they encountered many problems related to planning. In particular, the main problem faced by the administrators in the planning phase is that both schools can use the same building without disrupting the education and training services.

Another problem encountered in the planning of educational environments is related to classroom planning (f=5). Elazığ province, where the research was conducted, experienced intensive migration from other cities in the disaster zone after the earthquakes of 6 February and this situation affected the number of students in the classrooms. In addition, after the earthquake, there was migration to villages with single-storey houses instead of cities with high-rise flats. Thus, crowded classes started to form in village schools. Administrators stated that they focused on classroom planning due to the sudden overcrowding of the classrooms.

> *"The adaptation problems of the earthquake victims who came to our school (village school) from the city center, their accommodation problems, and the problems caused by staying with their relatives for a long time caused problems in the general functioning of our school. The fear experienced by these students had a negative impact on other students. It was difficult to maintain motivation in lessons. Occasional problems between the earthquake survivor students and our permanent students caused difficulties in maintaining discipline as the school administration. The fact that the first three weeks of the second semester was a holiday meant that everything previously planned had to be reconsidered. New decisions were taken for overcrowded classes...." (P-29)*

3.2. Problems Experienced by Administrators in the Organizing Phase After the 6 February Earthquakes

The second question asked to the administrators in the study group within the scope of the research was to examine in detail the problems encountered in the organizing phase of the

management after the 6 February earthquakes. The themes and categories reached after the participant responses are given in Table 3.

Table 3. Problems experienced during the organizing phase

Theme	Category	f
Communication	Organizational communication decreased	9
	Communication conflicts	5
	We couldn't communicate because the phone lines were down	5
	Anger and intolerance increased	3
Division of Labor	No division of labor	8
	Disruptions and delays in the division of labor process	3

When Table 3 is examined, as a result of the participant responses, the administrative problems encountered in the organizing process after the 6 February earthquakes are grouped under the themes of communication (f=22) and division of labor (f=11).

The main problem experienced in the communication process is the decrease in organizational communication (f=9). The fact that schools suspended education and training services and teachers had to cope with the material and moral losses they faced as a result of the earthquake reduced organizational communication. It is also seen that communication conflicts were experienced in this process (f=5).

> *"After the earthquake, the material and moral losses that everyone experienced in their families and surroundings caused psychological fatigue. As a result of this, we had communication conflicts, intolerance towards everyone and everything, and friends who thought that no one understood them as individuals.... The earthquake caused a decrease in social communication within the organization. Due to the fact that teachers in this situation were kept in the background in the planning to be made and other teachers were constantly on duty, anger uncontrollability in mutual communication and expressions of injustice caused conflicts to occur." (P-25)*

One of the problems encountered in the theme of "division of labor" in the organizing process is that the division of labor cannot be done properly (f=8) and there are disruptions in the division of labor process (f=3). These issues arise particularly in crisis situations, where rapid decision-making and coordination are required but may not always be effectively executed. A participant's statement highlights this challenge, illustrating how unexpected circumstances can affect task distribution but also how teamwork can mitigate disruptions:

> *"After the disaster of the century on February 6, the division of labor and necessary consultations were made with our colleagues. But due to the effects of the earthquake, even if there were some problems with the division of labor, the other colleague immediately compensated for the problem." (P-8)*

3.3. Problems Experienced by Administrators in Staffing After the 6 February Earthquakes

Within the scope of the research, the study group was asked about the problems they encountered during the staffing phase after the 6 February earthquakes. The majority of the participants stated that they did not have any problems at the staffing stage (f=10). The themes and categories for the problem areas of the administrators who stated that they had problems at the staffing stage are given in Table 4.

Table 4. Problems experienced at the staffing stage

Theme	Category	f
Personnel Need	Having teachers who want to transfer	8
	Need for an experienced staff in the field of disaster management	4
Personnel Efficiency	Decrease in teacher productivity	7
	The obligation to update teachers' syllabi	4

As seen in Table 4, the problems experienced by the participants in the staffing process were categorized under the themes of personnel need (f=12) and personnel efficiency (f=11).

The biggest problem encountered in the theme of personnel need is the teachers' transfer to different cities after the 6 February earthquakes.

> *"After the earthquake, many of our teachers asked for transfers and went to cities where there is no fault line. Suddenly we had fewer teachers. The ministry had granted transfer rights to teachers in the disaster zone due to the earthquake. They also benefited from this right." (P-29)*

As the participant with the pseudonym P- 29 stated, after the 6 February earthquakes, the Ministry of National Education granted the right of transfer to teachers working in the disaster zone. As the aftershocks continued, teachers asked for transfers to cities without fault lines out of fear and anxiety. This situation has led to a need for personnel in schools located in the disaster zone.

Another dimension of the personnel need is the employment or assignment of experts experienced in disaster management (f=4).

> *"Some of the teachers were organized to minimize the risk by participating in search and rescue teams in natural disasters, some of them in emergency response teams, but the lack of training required for this job, which is a very important point, has started. Teachers definitely need training and seminars to prevent this. So we requested that a teacher specialized in disaster management be assigned to our school." (P-6)*

As can be understood from the participant's statement above, there was a need for teachers or support service personnel specialized in disaster management after the 6 February earthquakes. Administrators stated that they applied to provincial directorates of national

education for the assignment process to meet this need. Teachers specialized in the field of occupational health and safety, or teachers with a postgraduate degree in disaster management were preferred for assignments in this process.

> *"The school was in need of disaster-trained security personnel, which could not be provided by us due to insufficient financial means, and we applied to higher authorities. Specialized personnel were requested in the field of occupational health." (P-29)*

The main problems encountered in the staff productivity category are the decrease in teacher productivity (f=7) and the need to restructure teacher lesson plans (f=4).

> *"Because of the loss of their relatives and the fear of the earthquake, we were unable to get productivity from teachers. Teachers also wanted to spend more time with their families. We had teachers who had to change homes. Therefore, we had to completely revise the lesson programs." (P-15)*

3.4. Problems Experienced by Administrators in the Orientation Phase After the 6 February Earthquakes

The participants in the study group were asked about the problems they encountered during the staff orientation phase after the 6 February earthquakes. When the participant responses were analyzed, the problems encountered during the orientation phase were categorized under 3 themes: psychological (f=28), professional development (f=6) and knowledge-based (f=13) problems. The problems encountered by the participants at the orientation stage are given in Table 5.

Table 5. Problems encountered at the orientation stage

Theme	Category	f
Psychological Problems	Loss of staff motivation	14
	Lack of mental readiness of the staff	8
	Reluctance	6
Professional Development Problems	Professional development is left behind	6
Knowledge-Based Problems	Lack of training in disaster management	5
	Disinformation	2

The main source of psychological problems encountered during the orientation phase is loss of motivation (f=14). Many participants stated that after the 6 February earthquakes, the staff experienced loss of motivation due to the fear and anxiety they experienced. While talking about the problem of loss of motivation, the participants also mentioned how they overcame this problem. Administrators generally tried to manage the process by carrying out activities such as indoctrination and adaptation activities.

> *"The biggest problem was lack of motivation. Thanks to the disaster training I received before, we provided the necessary support by meeting one-on-one with the personnel with low motivation." (P-20)*

The statement of the participant with the pseudonym P-20 reveals the importance of training in disaster management for administrators. Receiving disaster management and similar trainings (crisis management, stress management, etc.) is of great importance for administrators to cope with the post-disaster process and to carry out positive orientation activities for the staff.

In the theme of psychological problems, the participants mentioned that the personnel were not mentally ready to provide education and training services (f=8).

> *"The main problem is that teachers are not mentally ready for the education and training process. The accompanying fear that they were experiencing caused them not to focus on their work. Their reluctance to participate in professional development activities has hindered the organizational culture and institutional development." (P-2)*

Among the problems experienced in the orientation process are problems related to professional development. In this theme, teachers' prioritizing professional development after the 6 February earthquakes (f=6).

> *"There was difficulty in motivating the staff. Professional development was put on the back burner." (P-9)*

In the category of knowledge-based problems, it is seen that the administrators did not receive training in the field of disaster management (f=5) and disinformation problems were encountered. Administrators stated that they could not realize the orientation process effectively because they were not trained in disaster management.

> *"After the earthquake, I gathered all the staff and told them to be calm. I told them that we could help the students in this way. I gave brief information about what we should do during and after the earthquake. But I saw the disadvantages of not receiving disaster training in myself." (P-18)*

As it is seen from the statement of the participant with the pseudonym P-18, administrators need training in the field of disaster management in order to effectively carry out the orientation process of the personnel after major disasters.

Disinformation caused by the dissemination of false information is included in the category of knowledge-based problems.

> *"There was a problem with getting to the bottom of the rumors among the people. In this regard, we talked about the need to be able to think even in the worst case and to adapt to life even in such major disaster situations. But in doing so, we were lacking except for providing motivation in cases of extreme stress and providing guidance on professional development." (P-13)*

As it is understood from the participant's statement above, administrators who perform guidance behavior towards the personnel after the disaster experience problems as a result of

dissemination of incomplete or false information. Disinformation, which is the biggest problem of today, has devastating effects on the fears and psychology of individuals after major disasters. For example, rumors that there would be a new earthquake and that the 6 February earthquakes were a harbinger of a bigger disaster prevented the process of vocational guidance of individuals or made the process difficult.

3.5. Problems Experienced by Administrators in the Coordination Phase after the 6 February earthquakes

In the study, the participants were asked about the difficulties they experienced during the coordination process, which constitutes one of the stages of PODSCORB. As a result of the content analysis, the problems encountered in the coordination phase were analyzed under the themes of work obligations (f=37) and communication (f=20). The problems experienced in the coordination process are presented in Table 6.

Table 6. Problems experienced during the coordination phase

Theme	Category	f
Work Obligations	Teachers could not fulfill their job obligations due to loss of motivation	11
	Work was not finished on time	10
	Coordination could not be ensured because teachers wanted to spend time with their families	8
	Annual leave utilization increased	8
Communication	There is a constantly changing flow of information	5
	Distance education process made communication coordination difficult	5
	Communication has become difficult	5
	Parent meetings could not be held	3
	Official correspondence hindered the process	2

Considering the views of the participants, the main problems encountered during the coordination phase with the theme of work obligations are the inability of the personnel to fulfill their work obligations due to loss of motivation (f=11) and the inability to finish the work on time (f=10).

> *"Due to the loss of motivation, the works were not carried out in the desired meticulousness and on time." (P-7)*

> *"Due to reasons such as panic and low motivation in some teachers after the earthquake, we encountered attention deficit, fear of not coming to school and minor problems in fulfilling their work obligations." (P-19)*

As can be understood from the statements of participants with the pseudonyms P-7 and P-19, psychological processes such as panic, fear and loss of motivation caused by the 6 February earthquakes reveal that teachers cannot fulfill their job responsibilities sufficiently. In addition, not completing the current work on time is also among the problems experienced by the participants.

Other noteworthy categories in the theme of work obligations are that teachers do not fulfill their work obligations because they want to spend time with their families (f=8) and take annual leave (f=8).

> *"...Due to the earthquake, it was understood that our colleagues, especially those who commute daily, wanted to be with their families more." (P-5)*

> *"Our school staff felt the need to be with their families more due to aftershocks." (P-8)*

As can be understood from the participant statements above, after the 6 February earthquakes, teachers' need and desire to be with their families increased. Therefore, problems related to coming to school and fulfilling their work at school started.

The main problem experienced in the communication theme at the coordination stage is the constant change in the flow of information (f=5).

> *"The main difficulty is that there is a constantly changing flow of information, which made the process difficult. Another problem is that questions such as "Will the demolished school be built, when will it be built, and until when will we continue education in a different school?" (P-24)*

As it can be understood from the statement of the participant with the pseudonym P-24, the information provided by the senior management teams to school administrators was not precise and clear. Administrators had difficulty in coordinating within this uncertainty.

Participants also stated that the distance education process made coordination difficult (f=5), parent meetings could not be held (f=3) and official correspondence was disrupted (f=2).

> *"The bureaucratic process, i.e. correspondence, long correspondence, meeting with the superiors of other institutions, and conducting our correspondence through the higher authority caused the works to take a long time and loss of coordination during the earthquake process." (P-27*)

3.6. Problems Experienced by Administrators in the Reporting Phase After the 6 February Earthquakes

Within the scope of the research, the difficulties experienced by school administrators in the reporting process after the 6 February earthquakes were determined. As a result of the analysis, 3 themes emerged as reaching the targets (f=45), completing the activities (f=24) and physical problems (f=1). The categories in the themes are as shown in Table 7.

Table 7. Problems experienced during the reporting phase

Theme	Category	f
Reaching the Targets	Strategic objectives were not achieved	29
	Success rate dropped	16
Completing the Activities	Curriculum incomplete	17
	Extracurricular studies could not be conducted	5
	Club activities could not be held	2
Physical Problems	Archive caved in after earthquake	1

As can be seen in Table 7, the most frequently mentioned category in the theme of achieving goals is the inability to achieve strategic goals (f=29). After the 6 February earthquakes, reasons such as school closures, decreased motivation, and increased student absenteeism prevented schools from achieving the goals in their strategic plans.

> *"There have been setbacks in achieving strategic goals. In particular, there was a decrease in student attendance. This caused difficulties in achieving the desired goals." (P-10)*

> *"There were fluctuations in the implementation of the determined strategies and targets. The climate of uncertainty surrounding the school climate, self-renewing decisions, following a different path, sudden changes in conditions, etc. Put us in difficulty during the post-earthquake reporting phase." (P-22)*

As can be understood from the participant statements above, administrators could not achieve their strategic goals after the 6 February earthquakes due to many different reasons. In addition, there was a decline in student achievement (f=16) and this was among the problems encountered during the reporting phase.

> *"There were problems in setting and realizing goals. There were difficulties in achieving the set goals. This led to a decrease in the success rate." (P-9)*

The biggest problem encountered in the theme of completion of activities at the reporting stage was the inability to complete the curriculum (f=17). In addition, participants also stated that club activities and extracurricular activities could not be realized.

> *"Club activities could not be completed, extracurricular exercise activities could not be done. Lectures could not be completed, all these caused the curriculum to be incomplete." (P-24)*

As seen in the participant's statement above, it is understood that the 6 February earthquakes had a very negative impact on the process of completing the course curricula and reflecting them in the year-end reports.

In the category of physical problems, one participant stated that their archives were buried under the cave-in and therefore they had problems in the reporting process.

> *"In the reporting section, the fact that the archive was caved in by the earthquake caused the data requested at the end of the year not to be*

transmitted in a healthy way. The decrease in the number of students due to the earthquake and the fact that the successful students who would help us reach our strategic goals moved out of the city caused the school success level to turn into a false perception. In short, if you do not have a healthy physical education environment, problems will always exist." (P-25)

3.7. Problems Experienced by Administrators in the Budgeting Phase After the 6 February Earthquakes

Within the scope of the research, the problems experienced by the participants in the budgeting stage, which is the last stage of PODSCORB, were discussed. All problems encountered at this stage were categorized under the themes of budgeting and spending. The problems encountered at the budgeting stage are given in Table 8.

Table 8. Problems encountered at the budgeting stage

Theme	Category	f
Budget	Budget has been insufficient	19
	We did not get enough support to increase the budget	12
	We allocated disaster management allocation in the budget plan	3
Expenditure	Cost of renovation increased due to damage to the building	24
	School's expenditure needs increased	15

As seen in Table 8, the biggest problem encountered in the budget theme is the insufficient budget (f=19).

"The problems we experienced in budgeting after the earthquakes are mostly related to the financial situation. The limited funds caused problems in preparing the school building for education." (P-20)

Following this, participants stated that they did not receive sufficient support to increase the budget (f=12).

"I think that not enough funds are collected." (P-19)

The most striking situation related to the budget is that the participants created a separate budget item for disaster management. Even if the participants explain this as a problem, it is thought that school administrators allocating a share for disaster management in the budget and preparing a financial management plan considering disasters will provide advantages to the institution in the long run.

"There should be a separate budget line for schools and this money should only be used for emergencies. Because after the budget is used, the rest of the money is withdrawn or a very small amount remains. Because of this situation, there should be some money prepared in advance for any natural disaster, such as the February 6 earthquake that happened to us in the past, and some money should be put in the accounts of the schools so that it will

remain permanently. We have created a budget share called disaster share in our school." (P-6)

"There is no damage to our school, but since we live in an earthquake zone and there are aftershocks, we have allocated a share from our budget for future planning just in case." (P-8)

The statements of the participants with the pseudonyms P-6 and P-8 are one of the most important examples of contingency in management. The creation of a new budget item at the school as a result of a major natural disaster constitutes an example of proactive action for the future.

In the expenditure theme, the participants stated that due to the damage to the school building, renovation costs increased (f=24) and school needs increased (f=15) apart from renovation costs.

"We made financial expenditures based on the needs of our school to use the funds sent to us at the beginning of the next academic year because our school was not damaged. The renovation costs of the building caused us to spend most of the budget." (P-26)

As stated by the participant with the pseudonym P-26, the renovation and repair costs of the damaged school buildings after the 6 February earthquakes caused administrators to have problems in the budgeting phase. In addition, schools supported students and provided stationery supplies during the period when stationery supplies were not available due to the damage to students' homes. However, in this process, schools faced budget problems due to increased expenditures.

"Especially the severe devastation in 11 provinces in our country affected us negatively as a school as it affected the whole of Turkey. After the earthquakes, we encountered various problems such as the increase in students' needs such as cleaning and stationery purchases, schools' meeting these needs, and lack of budget." (P-1)

As can be seen from the participant's statement above, schools did not only use their financial resources for the physical needs of the school building after the 6 February earthquakes, but also to meet the individual educational needs of earthquake victims.

4. RESULTS, DISCUSSION AND RECOMMENDATIONS

In this study, the problems faced by school administrators after the 6 February earthquakes were examined within the framework of management processes, problem areas were examined in detail, and the sources and effects of the problems were studied in depth. This research is important in terms of determining what kind of problems emerged at which stages of management processes after a major natural disaster and providing suggestions for creating a disaster-resilient management process model in the light of these problems. The research

contributes to the educational area terms of helping to develop management strategies for solving problems and contributing to schools to be more prepared for similar crisis situations.

In the planning phase, the participants had problems in planning the psychological support and guidance services provided for students and planning the solution process for the problem of absenteeism. It was revealed that the psychological support and guidance services provided in schools were not sufficient to benefit students after a major earthquake. Students become more psychologically sensitive after major disasters such as earthquakes. This situation also increases students' absenteeism behaviors. School administrators stated that the main problem they face in planning psychological support processes and guidance services for students is the lack of knowledge and experience. The plans that should be prepared by administrators for post-disaster planning require theoretical and practical knowledge (Masten et al., 2015). According to a study conducted by Raccanello et al. in 2017, in times of disasters and similar crises, students especially want to receive psychological support from their schools. Because schools are the only institutions that students trust and expect support (Balingit, 2017).

Another administrative problem encountered during the planning phase is earthquake drills. Earthquake drills are an annual routine in schools. However, the 6 February earthquakes showed that these drills were insufficient to prepare educators and students for a major earthquake. However, schools are institutions that create a sense of trust, especially for students and families before and after disasters, and schools play a major role in preparing societies for disasters (Masten et al., 2015). School administrators had to prepare a comprehensive plan to ensure that drills are realistic and effective and to raise awareness about what to do during and after disasters. In a study conducted by O'Connor and Takahashi in 2013, it was found that earthquake drills are the most important factor that increases the likelihood of survival in the event of a possible disaster and that the evacuation process should be included in these drills in detail. Although the majority of the participants in the study stated that they had problems during the planning phase of the earthquake drills, they also stated that they carried out large-scale and highly participatory earthquake drills.

Another problem area that school administrators face during the planning process is the planning of activities to increase teacher motivation. Teacher motivation generally decreases after earthquakes (Ferris & Petz, 2012). After the 6 February earthquakes, school administrators searched for a new planning to increase teachers' post-disaster motivation; however, they stated that they had problems at this stage. The main reason for their problems was that they considered the loss of motivation experienced by teachers after the earthquake as a crisis and they lacked knowledge about crisis management. However, school administrators are perceived as crisis administrators after disasters (Mutch, 2015). In the study conducted by Parmenter (2012), it was concluded that teachers experienced loss of motivation after the earthquake, but they overcame this process with the help of school administrators. Therefore, it is important for school administrators to include activities that will increase teachers' professional motivation after the disaster.

After the 6 February earthquakes, school buildings were destroyed or damaged and school administrators had to prepare new plans to improve the physical conditions. School

administrators made new plans for identifying the damage, carrying out emergency maintenance and repairs, and taking security measures. On February 6, the first earthquake occurred at 4:17 a.m. and the schools were closed at night when the second earthquake occurred, so the damage or destruction of schools did not cause any loss of life. However, 85 people died in schools in the 6.4 magnitude earthquake in Bingöl province of Turkey in 2003 (Özmen, 2006). For this reason, school administrators need to strengthen school buildings, make them ready for a possible earthquake, and plan maintenance, repair, and renovation works in a complete and detailed manner to ensure a safe environment (Mutch, 2015). In addition, in many studies, people whose houses are destroyed and damaged in earthquakes tend to shelter in schools (Peng, 2010; Ryan & Tsu, 2011; Zhong, 2013). Therefore, the whole society will benefit from earthquake-resistant school buildings.

The problems experienced by school administrators in the organizing phase were examined under the themes of communication and division of labor. The problems frequently encountered in the communication theme are the decrease in organizational communication and communication conflicts. After the earthquakes, face-to-face education in schools was suspended for a month in Elazığ province where the research was conducted. The psychological difficulties caused by the earthquake process and the closure of schools are the reasons for the decrease in communication within the organization. The psychological problems that individuals are exposed to after the earthquake can create negative emotions such as fear, anxiety and anger in individuals. This leads to communication conflicts. In a study conducted by Seyle et al. (2013), it was proved that the tendency of individuals to show aggressive and negative attitudes and behaviors after the earthquake was quite high. Another problem faced by admisinistrators during the organizing phase is the inability to divide the work properly and the disruption of the work. Administrators stated that the motivation of the staff towards work decreased after the earthquake and therefore responsibilities were not fulfilled on time.

The main problems encountered in the staffing dimension, which is among the management processes, are the themes of staffing needs and decreased staff productivity. After the earthquake, many teachers preferred to transfer to other cities due to the negative effects and security concerns. This situation led to a shortage of teachers, especially in the regions where earthquake victims were concentrated. Teachers' leaving their posts led to a decrease in stability in educational institutions. In the aftermath of the earthquake, school administrators observed that teachers' professional motivation decreased and this led to a significant decline in their professional efficiency. The trauma faced by teachers, safety concerns and uncertainties created by the earthquake negatively affected sustainable performance in educational settings. Girard (2018) also found that human resources are radically reduced in the region after natural disasters, and that the existing human resources do not fully fulfill their professional obligations. For this reason, policy makers and decision makers should take measures and establish incentive mechanisms to increase employment in disaster zones and prevent the loss of existing human resources (Ito, 2009).

The problems encountered by school administrators at the guidance stage were categorized under three themes: psychological, professional development and knowledge-based problems. The main problem encountered in the theme of psychological problems is that school

administrators direct the staff to professional development activities, but the staff do not want to take part in these activities due to loss of motivation. The stress that teachers were exposed to after the earthquake caused a loss of motivation for professional development and school administrators faced psychological barriers in directing staff. The worries and fears experienced by the staff after the earthquake caused professional development to take a back seat. This situation left the guidance efforts of school administrators fruitless. Considering the opinions of the participants, it is seen that school administrators' lack of disaster management training caused the guidance activities not to be carried out effectively. In the study conducted by Akbaba-Altun (2005) after the 7.1 magnitude Gölcük earthquake in 1999 in Turkey, it was revealed that the problems experienced in schools after major earthquakes generally had psychological origins and that school administrators had problems in managing this process and directing the staff towards organizational goals. In Beaubout's (2010) study, it was emphasized that school administrators were prevented by the psychological barriers of the staff in the process of directing the staff to educational goals after the disaster. Disaster management trainings, which provide deep knowledge on coping with traumas during and after disasters and managing these processes effectively, is one of the basic training subjects that administrators should receive (Tarrant, 2011). School administrators who do not receive training in this field cause them to fail in increasing the motivation of the staff towards the profession and directing them to professional development activities.

Similar problems were reflected in the coordination phase. School administrators reported that teachers did not fulfill their work obligations and could not finish their work on time due to loss of motivation. There was also a lack of coordination between senior management teams and school administrators. School administrators stated that there was a constantly changing flow of information from the senior management teams, which led to a lack of clear coordination. In addition, the interruption of education and training services after the earthquake and the transition to distance education reduced the communication between school staff and made it difficult for school administrators to establish coordination. In the study conducted by Sheehy and Leander (2004), it was revealed that coordination problems were experienced after the earthquake and it was emphasized that the main solution at this point was to utilize digital tools such as online messaging applications and meeting applications.

The main problem experienced by administrators at the reporting stage is the failure to achieve strategic targets. The fact that 5-year strategic plans are not flexible enough to take into account sudden situations and that targets are prepared without foreseeing natural disaster scenarios cause deviations from strategic targets. School administrators revealed the difficulties they experienced in the reporting process by stating that academic achievement decreased and the curriculum could not be completed. Similar results were obtained in the study conducted by Augenti et al. After the earthquake, school administrators had problems in achieving educational goals and maintaining academic achievement (Augenti et al., 2004). Oyguc and Guley (2017) stated that the main reason for post-earthquake school administrators' failure to achieve strategic goals is the decreasing tendency towards learning.

The main problems experienced by school administrators during the budgeting phase are the damage to school buildings, the increase in maintenance and repair costs, and the

insufficiency of the existing budget. In Elazığ province, where the research was conducted, 170 school buildings were damaged after the 6 February earthquakes. As a result of the demolition of heavily damaged buildings, construction of new buildings started. Retrofitting works have started in moderately damaged buildings. The maintenance-repair process was carried out rapidly in buildings with less damage. Increasing costs in the process of making school buildings ready for education caused the budget to be insufficient. In the study conducted by Fletcher and Nicholas (2016) after the 7.1 magnitude New Zealand earthquake, it was emphasized that almost all of the school budgets were spent on building construction and repair works after the earthquake, and this situation confronted administrators with financial difficulties. However, after earthquakes, school administrators take on the identity of "safety administrators" and become the main person responsible for the safety of all individuals in the school (Fletcher & Nicholas, 2016). For this reason, financial support should be provided to schools in disaster zones by the necessary authorities after disasters and additional funding sources should be allocated to schools within the framework of disaster fund (Park & Wang, 2017).

After the 6 February earthquakes, school administrators encountered various challenges in all management processes. To overcome these difficulties, they need training in disaster and crisis management, enabling them to lead effectively in future disasters. Expert consultation is essential for providing psychological support to students and teachers, ensuring a professional approach, especially in large-scale disasters. Earthquake drills, guided by disaster coordination centers, fire departments, and law enforcement, enhance preparedness. Simulation and augmented reality applications can further improve training by offering realistic scenarios.

The structural resilience of school buildings is critical for safety and maintaining a sense of security. School administrators should systematically plan for building maintenance and reinforcement to ensure preparedness. After a disaster, maintaining effective communication among staff is crucial. Using corporate messaging networks, online meetings, and collective activities can prevent communication breakdowns. Since earthquakes can lead to emotional distress and conflicts, interactive trainings on conflict management and positive communication should be provided to strengthen teamwork.

To retain human resources, local authorities should offer material and moral incentives to prevent teacher migration from disaster-affected areas. Professional development programs can help teachers regain motivation, ensuring educational continuity. A key challenge in staff management is the lack of knowledge on handling post-disaster trauma. School administrators should be trained in disaster management, crisis leadership, and post-disaster psycho-social support to navigate such situations effectively. Coordination issues often arise due to gaps in communication with senior management. The Ministry of National Education, provincial directorates, and municipalities should establish clear communication networks with school administrators post-disaster. Consulting school leaders in decision-making and ensuring timely information flow will help prevent uncertainty and miscommunication.

Post-earthquake, academic disruptions lead to declining student performance and unmet strategic goals. Compensatory education programs should be organized, allowing volunteer teachers from other cities to support students. The Ministry can facilitate this through social volunteering campaigns and coordination efforts. Strategic plans should also incorporate disaster scenarios to ensure long-term preparedness. In terms of budgeting, school administrators face financial strain due to damaged infrastructure. Allocating emergency funds, seeking financial support from funding programs, and collaborating with private organizations can help schools recover efficiently.

This research contributes to both educational and disaster management by providing insights into school administrators' challenges post-disaster. It highlights the need for crisis response plans, enhanced communication, and coordination at different levels of management to maintain educational continuity. Additionally, integrating schools into broader disaster preparedness frameworks ensures resilience by addressing psychological support, staffing, and strategic goal-setting despite disaster-related disruptions.

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