FROM CHAOS TO ORDER: EXAMPLE OF TURKEY NATIONAL DISASTER RESPONSE PLAN-SİİRT MINE ACCIDENT[1]

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Abstract: In today's conditions, the possible accidents, which may be experienced depending on the developing technology, also increase the diversity of disaster. This also strengthens the probability of facing to technological disasters as well as natural disasters. In addition, as the secondary disaster following natural disasters, technology based accidents may occur. Reducing life losses, which may be experienced in the technological disasters, a part of life, to minimum, and being able to intervene quickly and effectively require a certain planning, synergy, and orderly working. In rescue operations, in which the importance of human life depends on minutes and even seconds, that the staff, who is specialist in search and rescue operations, works according to a certain plan and far from chaos has a great importance. In the article prepared, the sample of miming accident was dealt with, which was experienced in a private mine in the province Siirt on the date of 17.11.2016, and in which 5 people were rescued as wounded and16 people lost their lives. In addition, the processes from the first state in search and rescue operation to synergic and systemic work were reported in detail and introduced how chaos environment was not allowed for thanks to that service groups in Turkish Disaster Response Plan work in cooperation. With a synergic study model, the interactions under the different levels and different dynamics were examined. This study is an exemplary case story and deals with the works carried out for the workers, wounded people, relations of those losing their lives, and casualties, who has very high probability to clutch onto the life in 27 days - search and rescue operation carried out in planned and coordinated way. In the study, it has been reported that the processes of disaster coordination systematically proceeded; that a good planning corrected the working conditions, which are complex and difficult to be

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managed, like disasters and eliminated the chaos that may be experienced; increased the synergy in working environment; and that thanks to this, carrying out successful search and rescue activities and area coordination, that an effective disaster management was realized.

Key words: Natural Disaster, Landslide, Siirt, Response plan, Chaos, Turkey Disaster Response Plan (TAMP)
Jel Codes: Q5,Q54

KAOSTAN DÜZENE: TÜRKİYE AFET MÜDAHALE PLANI-SİİRT MADEN KAZASI ÖRNEĞİ

Öz: Günümüz koşullarında gelişen teknolojiye bağlı olarak yaşanabilecek olası kazalar afet çeşitliliğini de arttırmaktadır. Bu da doğal afetlerin yanında teknolojik afetlerle de karşılaşma ihtimalini kuvvetlendirmektedir. Ayrıca doğal afetlerden sonra ikincil afet olarak teknoloji kaynaklı kazalar meydana gelebilmektedir. Hayatın bir parçası olan doğal ve teknolojik afetlerde yaşanabilecek can kayıplarını en aza indirmek, hızlı ve etkin müdahale edebilmek belli bir planlama, sinerji ve düzenli çalışmayı gerektirir. İnsan hayatının öneminin dakikalara hatta saniyelere bağlı olduğu kurtarma operasyonlarında arama kurtarma ihtisaslı personellerin belli bir plana göre ve kaostan uzak çalışmaları büyük önem arz etmektedir. TAMP ile hedeflenen sadece arama kurtarma değil geniş bir çerçeve ile afetlere bir bakış açısı kazandırılması, afetin afetzedeler, afetzede yakınları ve afet ortamında çalışan personeller açısından en az zararla atlatılması ve teknolojinin tüm imkanlarını kullanılarak optimum fayda sağlanmasıdır. Hazırlanan makale çalışmasında 17.11.2016 tarihinde Siirt İlinde bulunan özel bir maden ocağında yaşanan ve 5 kişinin yaralı olarak kurtarıldığı,16 kişinin hayatını kaybettiği maden kazası örneği ele alınmış olup, arama kurtarma operasyonundaki ilk kaos durumundan sinerjik ve sistemli çalışmaya giden süreçler detaylı bir şekilde anlatılmış, Türkiye Afet Müdahale Planında bulunan hizmet gruplarının iş birliği içerisinde nasıl çalışarak kaos ortamına müsaade edilmediği anlatılmıştır. Bu çalışma örnek bir vaka hikâyesi olup planlı ve koordineli olarak yapılmış 27 günlük arama kurtarma operasyonunun çalışanlar, yaralananlar, hayatını kaybedenlerin yakınları ve her an hayata tutunma ihtimali olan kazazedeler için yapılan çalışmaları ele almaktadır. Sinerjik bir çalışma modeli farklı düzeyler ve farklı dinamikler altındaki etkileşimler incelenmiştir. Çalışma sonucunda afet koordinasyon süreçleri sistematik bir şekilde yol aldığı, iyi bir planlamanın afetler gibi karmaşık, yönetilmesi zor çalışma koşullarını düzelttiği, yaşanabilecek kaosu ortadan kaldırdığı, çalışma ortamındaki sinerjiyi arttırdığı ve bu sayede de başarılı arama kurtarma faaliyetleri ve alan koordinasyonu yapılarak etkin bir afet yönetimi yapıldığı anlatılmaktadır.

Anahtar Kelimeler: Doğal afetler, Heyelan, Siirt, Müdahale planı, Kaos, Türkiye Afet Müdahale Planı (TAMP)
Jel Kodu: Q5,Q54

1. INTRODUCTION

In cases of crisis, resulted from natural disasters, the issues of health and security of the people are in the position of the first interest. This is followed by the protection of environment and movable/immovable properties. On the other hand, in the cases of crisis, resulted from natural disasters, individual behaviors emerge. In cases of not performing the requirements of management, they enter rescue and protection with the individual effort. Thus, the cases resulted from natural disasters are the cases of crisis, which require "an effective teamwork" beyond the individual efforts. In the team, that each individual has an awareness of his/her own responsibilities is an indispensable element in the management of crises (Yavaş, 2001, p. 125)

Strategic management, which means making a choose in the competitive and uncertain environments, in case of "limited instability" taking place in the definition of chaos i.e. in a case expressing instability, on the one hand, and limitedness of instability, on the other hand, is related to creating predictability. Since strategy, which is related to making a difference and establishing future, is a concept outside of organization, after being acted, ignoring the changes in the environment lived, it will lead to unsuccessfulness of organization (Öge, 2005, p. 298)

Order should be in compliance with advancement. As long as any compliance is not provided with advancement, order cannot be established. Order should be strengthened after establishing. Any advancement cannot be provided with an order that is not strengthened. History is an applied example of that two concepts are identical. A certain order should be existing in the advancement of sciences. The relationship between advancement and order is similar to the relationship between advancement and law. What it should be understood from the order is legality. If every order is understood in the context of legality, are a son able order emerges. This state is the law of advancement. Advancement occurs according to a law, not accidently. Thus in case of providing an approach, whose principles are common, even the biggest disorder can be removed before it occurs. When disorder is removed, social institutes will emerge with this state of order deterministically, and social advancement will be completed (Özkan, 2010, p. 202).

In this study, first of all, definitions of chaos are made and mentioned about the complexity and systemic troubles, which can be experienced in these environments. Then, the chaotic states, uncertainties experienced in the disastrous environment, and troubles these states engendered were reported. In the last section of the part "Literature", it was emphasized what Turkey Disaster Response Program is and how a disaster management is provided. In the part "Application" of the study, the sample of mining accident was dealt with, which is experienced in a private mine in the province Siirt on the date of 17.11.2016, and from which 5 people were rescued as wounded, and in which 16 people lost their lives, and the processes from the first state in search and rescue operation to synergic and systemic work were reported in detail and introduced how chaos environment was not allowed for thanks to that service groups in Turkey Disaster Response Plan (TAMP) work in cooperation. This study is an exemplary case story and deals with the works carried out for the workers, wounded people, relations of those losing their lives, and casualties, who has very high

probability to clutch onto the life in 27 days- search and rescue operation carried out in planned and coordinated way. All of these studies were realized in the scope and coordination of TAMP. It is considered that this study will form an example in the natural and technological disasters, which may be experienced, in terms of working system (INTERNET A).

2. LITERATURE REVIEW

2.1 Chaos

Social systems, nowadays, rising to very high complexity, have passed to a quick interaction and change. Since this means that the different variables depending on each other, structures, and subsystems almost reach indefinite diversity, it makes very difficult to predict the future. This case itself is uncertainty. Uncertainty is that it becomes difficult to see the cause – effect relationships between the events. This difficulty creates the case of chaos. The theory of chaos, differently from classical scientific paradigm, is interested in the ambiguous, detailed, complex, dynamic, nonlinear, and unpredictable facet of nature. In other words, chaos is the science of uncertainty. The facet of nature, which is out of order, shows discontinuity and disorder is mentioned by the theory of chaos. In 1970s, the scientists (mathematicians, and physicists, biologists, and chemists) studying on chaos dealt with the subject "disorder" and concluded that there was a great order in chaos.

According to Denizhan (2005), the theory of chaos is a theory dealing with nonlinear dynamics, which is likely to be seen in very high dimensional systems; shows foreseeable behaviors in the short time; never repeats itself, although it circles in a limited region of the space "position"; which is unpredictable in the long term; and in which the small changes may lead to the large and qualitative effects.

Today, social systems and cities, on the one hand, reached very high levels of complexity, on the other hand, entered very high interaction and change process. While this state means that the variables, structures, subsystems depending on each other almost each other indefinite diversity, it also makes impossible the prediction of the future, i.e. it does not determine the future and "environment of uncertainty" develops. "Environment of uncertainty "means that we do not see the cause-effect relationships between the events, and creates the states of chaos. When we turn our look to the area of basic sciences trying to take lessons from the complex order of nature at this point, we encounter with the theory of chaos as a scientific theory developed in the last quarter of 20^{th} century. Theory of Chaos is interested in "the ambiguous, detailed, complex, dynamic, nonlinear, and unpredictable" facet of nature in contrast to classical scientific theories. In other words, it comes tour face as "the science of uncertainty". The face of nature, which is out of rule and shows disorder has become a riddle for science. In 1970s, some scientists (mathematicians, and physicists, biologists, and chemists) in US and EU have begun to deal with the subject "disorder" and identified that "there was a surprising order in chaos". This order arising from the state of chaos with self-organization process directly oriented their searchers from the various areas to the nature (Çamlıbel, 2003, p. 55)

The things necessary in the chaos environment are: access to the news and information should be provided and innovative studies should be increased; diversity should be provided, bringing the employees in the different teams together and sound values

should be formed. All of these should be realized incompliance without subjecting to supervision not in the form of law (Tüz, 2004, pp. 177-181)

2.2. Disaster Management In The Environment Of Chaos

Societies, systems, organizations, and business managements can experience some complexities due to effect of environment, technological changes, and developments in the resources of communication and information. Being able to determine the effects of these complexities experienced requires well knowing the formation causes of beginning point i.e. complexity. Each complexity and each chaos experienced affect the societies, systems, organizations, and business managements. However, when this complexity and chaos are interpreted with the contingency approach and with determining the managerial principles that are the most appropriate for the situation, collapse can be eliminated. The state of chaos should be well recognized, correctly identified its causes, and this different situation should be managed in the direction of contingency principles more differently from the existing management (Çavuş et al., 2016, p. 220)

It is difficult to predict the conditions during disaster response and, in accordance with the coming demands and needs, there is a need for a dynamic way of working. Thus, just as delays may be in receiving the necessary information and performing the necessary actions, in this environment, in which uncertainty is high, some differences will also form in the content of the real and perceived information (Son et al., 2008). As a result of this, in an environment, in which there is a high level uncertainty in disaster mamagement performance, the expectation to be able to produce the dynamic solutions appropraite for the conditions emerges.

As a dimension of the effective mamagement of disasters, providing the necessary inter institute coordination can largely prevent the loss of life and property resulted from disaster (Cozzolino, 2012). In this process, providing the necessary cooperation and coordination between nongovernmental organizations being in active together with public organizations and the various social sectors is extremely important (Akyel, 2007, p. 159; Pinkowski, 2008; Eryiğit et al., 2012).That humanistic aid organizations have information about communication, coordination, cooperation, duty area, capacity, and constraints of each other cam only be provided by cooperation and coordination (Heaslip et al., 2012). Not being able to provide this cooperation and coordimation can cause the losses and destructions imposible to compenate. As an indispensable part of coordination and cooperation, not being able to determine and coordinate communication methods between all organizations taking charge in the area of disaster management and intervention are the biggest weaknesses in disaster management. For being able to establish an effective system, considering the different methods of wolrking, the rules to make common businesses should be determined (Palttala et al., 2012).

2.3 Disaster Management in the scope of Tamp

That an institute has and realizes this process is in the quality of the main pillar of its being able to exist in the conditions, which rapidly differentiate at the present days. Deficiency of strategy is dangerous at the vital level for all institutes, organizations, and businesses. What organizations want to achieve, having competitive advantage, is to be able to successfully continue this in the long term. Revealing what the main supports of competitive advantage are generates the main area of problem of strategic

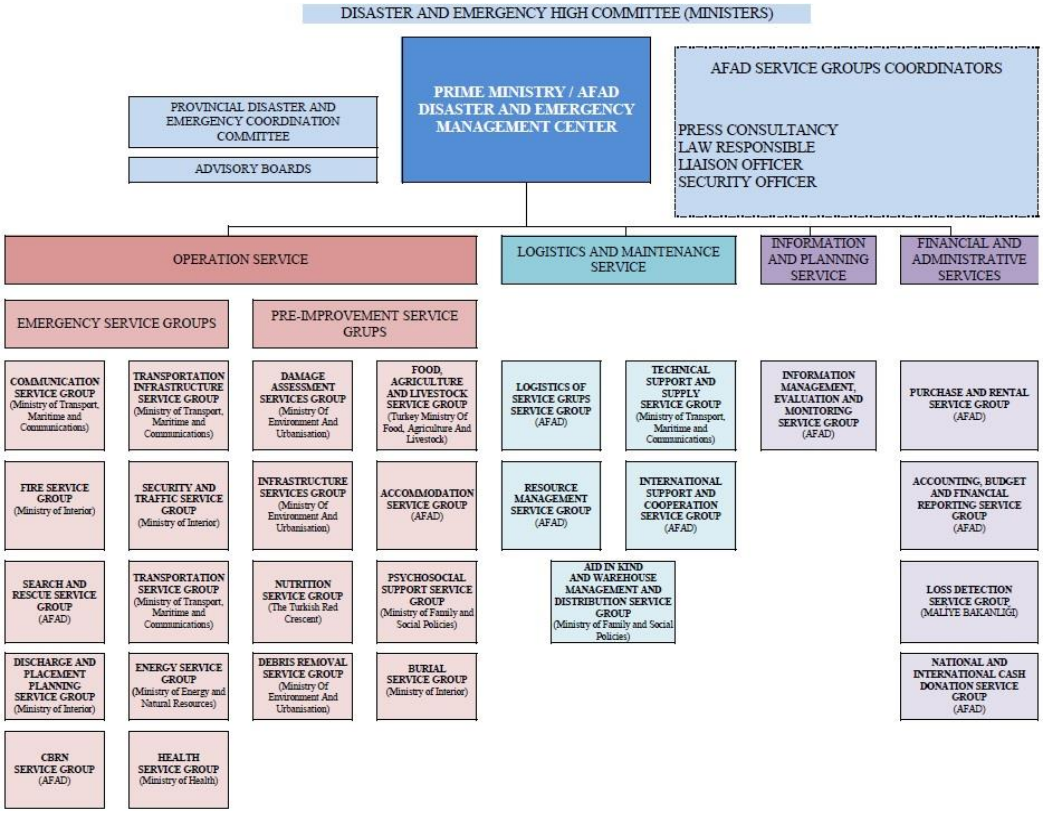
management researchers. That an organization provides competitive advantage and can sustain it will be possible with that organization applies a strategy that will make it itself more different from its rivals (Hurst, 2000, p. 50)

According to Çamlıbel (2003), developed synergetic society model and, in order to see the way how this model runs, as an example for the process of uncertainty, chaos, and self-organization, attempted to study and evaluate the chaos, which emerged with the Kocaeli and Düzce Earthquakes on the dates of August 17 and November 12, 1998, and aid process following it.

The aim of Turkish Disaster Response Plan, prepared by Disaster and Emergency Management Presidency of Prime Ministry, is to carry out search and rescue activities, which can be performed after natural disasters that may be experienced, in whole of certain order and rules and, getting rid of the chaos environment that may occur, to enable to coordinate the rescue and reviving processes. TAMP includes the public institutes, private sector, nongovernmental organizations, and real people, who will take charge in effectively intervening the disasters and emergency cases, which may be experienced in Turkey, in every kind and scale and, with its integrated planning approach and modular structure, it is used as a system to reduce the operation risks during disaster (TAMP, 2017).

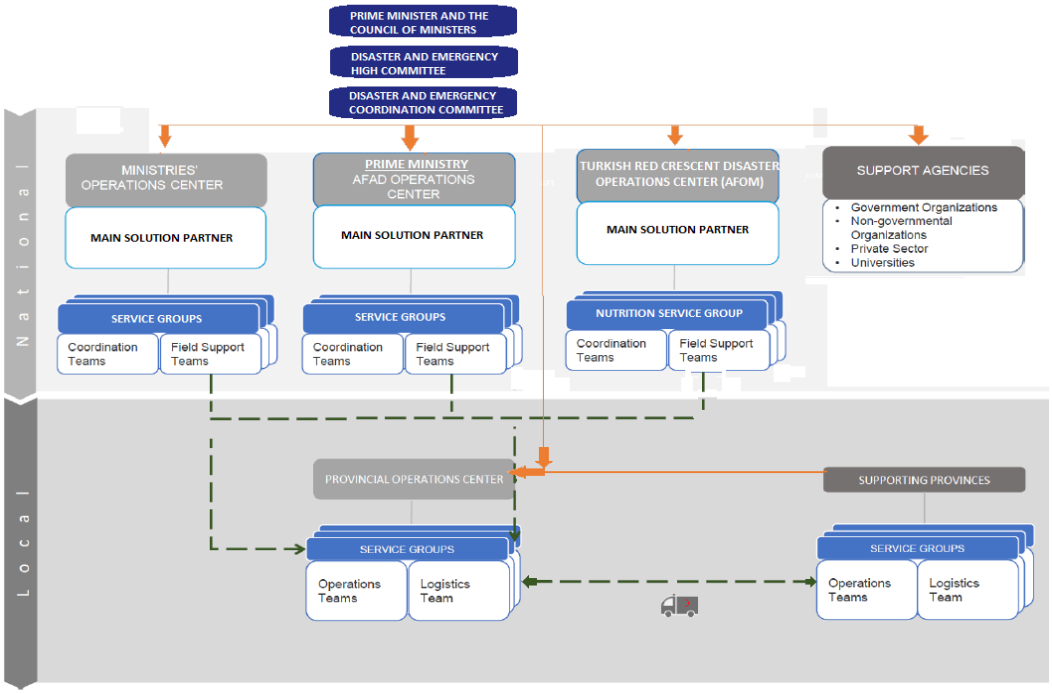
With Turkish Disaster Response Plan (TAMP), during any disaster, who will do what and in a how organization intervention will be carried were in advance determined. There are 28 service groups, formed according to the quality of service carried out during response and TAMP defines the roles and duties and responsibilities of service groups and coordination units, which will take charge in intervening disasters and emergency cases such as earthquake, flood, landslide, avalanche, fire, industrial accidents, and collective population movements, in accordance with their specialization areas, and determines the basic principles of response planning during and after disaster. Disaster Management and Decision Support System (AYDES), information substructure of TAMP, is a web based information system, through which it can carry out demand and resource management for all institutes and organizations taking charge in intervention and, which enables quicker coordination with the common decision and support mechanisms. thanks to communication network it forms. With Turkish Disaster Response Plan, which forms the quick, effective, and comprehensive intervention organization for every kind of disaster and emergency case, more lives will be saved in the shorter time and larger area; and, with the effective use of resources, intervention efforts will be quickly realized; economic and social losses will be reduced to minimum; and life activities that interrupt will turn into normal in the shortest time (INTERNET B).

Figure 1: Organization Scheme of National Disaster Response



Source. TAMP, 2017 p. 11

Figure 2: National and Local Disaster Response System



Source. TAMP Konya, 2017, p. 10

Coordination and governance structure between national and local level, prepared by considering the effect level of the disaster and emergency case that may occur, and the principles of the way how it functions are shown in Figure 2.

What is targeted with is not only search and rescue but also is also bringing a viewpoint in disasters; eluding disaster with minimum losses in terms of disaster victims, relations of disaster victims, and staff working in disaster environment; and providing optimum benefit by utilizing all possibilities of technology.

3. APPLICATION

In the evaluations made for the landslide disaster experienced in Turkey, it is seen that all of 81provinces are affected from landslide in certain degrees. Especially East Black Sea Region (Trabzon and Rize), Middle and West Black Sea Region (Karabük, Bartın, Zonguldak and Kastamonu) settlement units with landslide become denser along active faults and fault zones. The provinces, in which landslide cases are observed the most are Trabzon, Rize, Kastamonu, Erzurum, and Artvin. The provinces, in which landslide cases are observed the least, are Kırklareli, Mardin and Şanlıurfa. In the period of 1950-2008, 13,494 landslide occurred and, when regarded in terms of the numbers of victims suffered from landslide, Trabzon takes place in the first order with 4,106 disaster victims. (INTERNET C)

In the scope of study, the efforts of rescue and coordination after the landslide experienced in mine in the province are reported. That rescue activities are carried out in the scope of Turkish Disaster Response Plan (TAMP) prevented chaos that may be experienced and enabled the efforts to become systematic and synergic.

3.1 Sample Case

On the date of 17.11.2016, as a result of landslide experienced in a private mine located in the province Siirt, 5 people were saved as wounded and 16 people lost their lives. The case experienced is a frequently occurring landslide disaster due to the suitability of the climatic and land conditions.

Figure 3: Landslide Area of Mine Field

During search and rescue operations, many institutes and organizations had been in mine field. These are the institutes and organizations belonging to the public and private sector, nongovernmental organizations, media, and families of disaster victims. As will be understood, employees of many institutes in the different sectors and interest are as took place in the field. There is an environment, in which disorder and chaos may occur. However, following Disaster and Emergency Management Presidency of Prime Ministry (AFAD) arrived to the scene of accident, TAMP began to work.

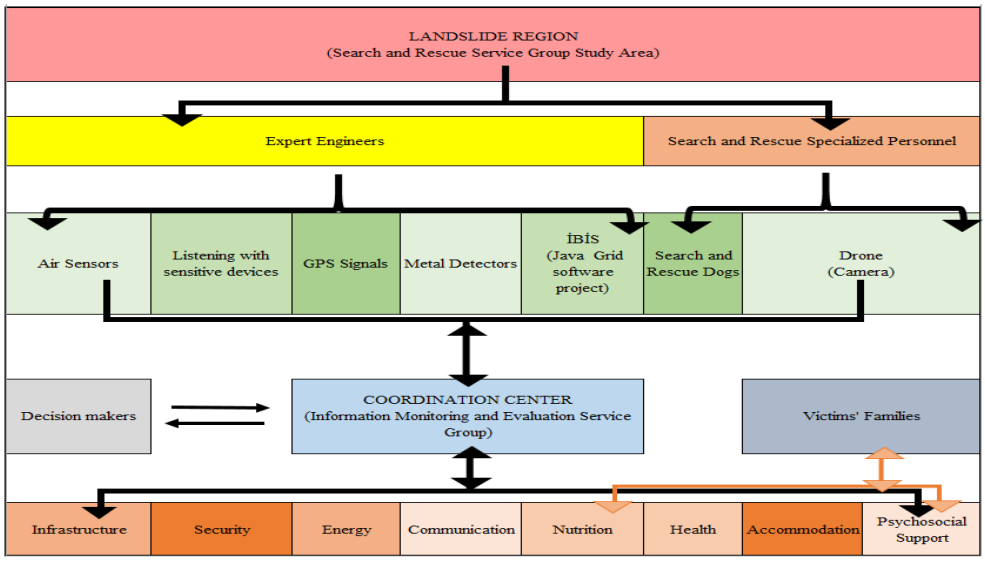
In mine accident, experienced in Siirt, service groups belonging to TAMP took in charge. In intervention organization, which has minimum hierarchy, maximum efficiency, and modular structure according to the sort of dimension of accident, four services consisting of operation service, information and planning service, logistic and maintenance service, and financial and administrative service were established as stated in Disaster Response Organization Scheme taking place in Figure 1.

In landslide experienced in Siirt, in the scope of working system stated in Figure 1 and Figure 2, twenty (20) different service groups worked in coordinated way. This system is shown in Figure 3.

Within disaster and emergency management centers of the institutes and organizations of ministry, which are the main solution partner of service groups, coordination teams are formed for managing the relevant service groups and a manager of service group is determined. In addition, in order to support disaster group, field support teams are prepared by service group. These teams are the ones of Coordination and Field Support. Coordination teams are the administrative teams, which will manage Disaster and Emergency Center of Ministry to enable the works planned by service group to be implemented during disaster and they are teams, which are formed the participation of main solution partner of service group, and support solution partners. Field support teams are the ones going to the disaster region at the first moment, supporting service group established in the region, and mostly formed by specialist staff. These teams

consist of staff in the central and provincial organization of ministries. This staff is assigned in disaster region in order to monitor, evaluate, manage, and organize. The assigned staff in field support teams are included in service group formed in the provincial disaster and emergency management center according to their statuses.

Figure 4: All coordination processes of Siirt mining accident.



The works carried out in the field: In mining field, works were carried out in two separate parts. These parts consist of the area, in which landslide occurs, and search and rescue works are carried out and the area, which is established in safe region, and coordination works are carried out.

The works carried out in landslide region:

The works carried out by Search –Rescue Service Group and Technical Team

1. Hearing landslide area by the precise instruments: After the accident, scanning was carried out by means of detectors, developed for underground live search, in the area.

2. Scanning area by means of search-rescue dogs of AFAD: In the first stage, the dogs raised to live searching were brought to the scene of accident and then the searches were continued out by means of cadaver dogs.

3. Scanning the places difficult to reach by means of drones: By means of remote control unmanned aerial vehicle called drone, making lived communication in the area, field was continuously observed. According to GPS data of the region, for mapping the region in 3 dimensions, the coordinates of the regions were identified by drone and images were taken.

4. Receiving phone coordinates of disaster victims from BTK: GPS coordinates of phone signals belonging to disaster victims were identified from Information Technologies and Communication Institute. The works were concentrated on those regions.

***5. Searches were carried out by means of detectors*:** In order to reach heavy equipment remaining under debris, high precise detectors were utilized.

6. By means of IBIS (land movements were measured: By means of IBIS open source Java Grid software project of the Computer Systems group) device, making measurements with intervals of 6 minutes, land dynamism was checked.

7. Aerial Sensors: Work flows were carried out according to the information of the rainfall and weather condition, which were continuously coming from meteorology station.

Figure 5: Works in landslide area

GSM SIGNAL

SEARCH WITH DETECTORS

PRECIOUS LISTENING

SEARCH WITH DRONE

RESCUE DOGS

Works carried out in coordination region

Case Coordination: The case was monitored on the basis of 7/24 by Service Group for Monitoring and Assessing of Information Management and information flow was provided.

Emergency Sheltering Need: For the staff taking in charge in case field and families of disaster victims to shelter, 2 containers for living; 5, for offices; 2, for shower, 4, WC need; tents, 5, for families; 3, for waiting; 1, for TAMP team; 1, for materials; 1, mobile dorm room with capacity of 24beds; and 1 dorm room with capacity of 12 beds were established by Sheltering Service Group

Nutrition Need: Distribution of 7/24 tea and food distribution was carried out in2 mobile vehicles and 1 nutrition tent by nutrition service group and, in addition, in company dining hall in campus, hot meal for three times were offered.

Energy Need: Constant, mobile, and portable lightening systems were established by Energy Service Group and, continuous team was kept ready against the electrical accidents that may occur in the region.

Communication Need: In order to solve communication problems, 2mobile base station were established by communication service group. The lines of fixed phone and fax were established and internet service was given to the scene of accident.

Security Need: Continuous protection staff was kept ready by security service group for the security events that may be experienced in the field.

Health Need: The ambulances and staff were continuously kept ready by health service group for reaching disaster victims, who will be takeout from debris regions, to the hospitals and emergency intervention tent was established in the scene of accident against health problems, which the families of disaster victims and staff working in the area can live.

Infrastructure Need: Infrastructure of severe system was established by infrastructure service group for the places such as bath and etc.

Psychosocial Support Need: Beginning from the first day, in order to support the families of disaster victims and relax them, psychologists, specialists of social working and child development were kept ready by psychosocial support service group in the field.

Resource Support need: The materials needed during the works carried out in the disaster field were supplied by resource management service group

All of these efforts were realized in the scope of Turkish Disaster Response Plan (TAMP) and in the working environment, which is synergic and in cooperation and order. This work will form a sample in the natural and technology based disasters that may be experienced.

SWOT analysis, which includes examining environmental factors; identifying opportunities that is important in terms of the future of coordination; predicting the activities to be able to form the element of threat and taking action; emerging of strengths of the works to be carried out and identifying in which conditions and environments these can need to be used; taking actions by identifying weaknesses; analyzing the difficult conditions, which weaknesses can reduce the works in the face of possible threats; and strategic and planning approaches similar to these, is shown in Table 1.

Table 1: SWOT Analysis belonging to coordination processes

STRENGHTS	**WEAKNESS**
1- That Turkish Disaster Response Program is ready; 2-Being able to use technological developments GPS, IBIS, Detector, Drone etc.) 3-Using AYDES (Disaster Management and Decision Support System) 4-Experienced labor force 5-Availability of experienced search – rescue team and team with dog 6- That technical staff provides the order and control in the scene of accident	1- That staff having great experiences about landslide does not take place in the region; 2-That bringing the technological facilities to the scene of accident takes time 3-Due to the fact that the land of the region is very rough, that heavy equipment have difficulties in reaching the scene of accident 4-As a result of elongation of intervention time to the accident, that the relations of disaster victims does not maintain their composure and, thus, that a pressure forms on our staff that works.
OPPORTINITIES	**THREATS**
1-That company staff working in mine supports our works 2-That company authorities support for the food and sheltering needs of the families and staff in the area. 3-That coordination works are carried out on the pre-built campus of the	1- That educational level is high 2- That the mass of landslide is movable 3- Due to landslide, that the coming material is not stable 4- That geological feature of the field is bad 5- That there are stress cracks that can form a new landslide in the field.

company 4- After the accident, that there is no rain throughout 9 days and, the next day, that slight rainy weather prevails. 5-that early warning system (IBIS) is used 6- That the staff in the field is informed about work safety.	6- Due to the narrowness of working areas, being obliged to work with less number of tools.

As a result of SWOT analysis, the various gains can be acquired in coordination. These can be used in such a way that strengths and opportunities will be utilized. Recognizing weakness, strategies to turn them into strengths can be developed. The threats in the environments can be turn into opportunities, which can be integrated to strengths. Evaluating all of these, the coordination of accident experienced in Siirt was carried out and Turkish Disaster Response Plan could be implemented.

4. CONCLUSION

Information technologies are continuously and rapidly developing. Based on these technologies the speediest developments, diversifications, variations, and transformations in the history of humanity occur. Social systems increasingly become complex and, with the increase of global relationships and interactions, face to the various uncertainties. A little change occurring in anyplace and any subject cause the effects, problems, crises, and changes that are difficult to predict in unpredictable areas. In this environment, called "uncertainty environment", everything may change every moment and predicting the direction and quality of this change becomes difficult. Some social systems do not the necessary flexibility in the face of the needs and problems the new system require and important conflictions and crises are experienced and chaos emerges (Çamlıbel, 2003, p. 1)

Whatever its origin and cause is, in the process of being able to struggle with disasters, and effective intervention, planning and coordination play an important role. Therefore, setting out the act that disaster management is based on planning activity, for predicting the accidents that may be experienced, making the necessary preparations and taking actions, reducing risks, and finally, coping with the impacts of disasters successfully, it is necessary to establish a good disaster management system. In the plans made, it is necessary to make preparation about which institutes and people are responsible for disaster management; who and how the coordination will be carried out; how the quickest and correct search –rescue will be performed; which tools and methods of the institutes and organizations will be used and how; and how communication and coordination between the institutes and organizations taking place in this process and to reinforce these preparations with applications. All of these coordination processes were described in Turkish Disaster Response Plan and how to intervene in any accident was detailed. In addition, AYDES (Disaster Management Decision Support System) that forms the technological infrastructure of this plan eliminated the

plans waiting to get dusty in archives and a system that is applicable, innovative, and open for using of all instates and organizations relevant to disaster management emerged (INTERNET D).

In this study, disaster coordination processes experienced in landslide in the province Siirt, where TAMP was effectively applied, were systematically reported and it was revealed that a good planning corrected working conditions in the states difficult to manage like disasters; eliminated the chaos that may be experienced; increased synergy in working environment and, thanks to this, that an effective disaster management was carried out by realizing a successive search—rescue activity and area coordination.

The risks in the mining field are no different than in any other sector. One of the most physically demanding, workers-intensive and populous sectors, mining require a higher level of safety than other business. However, such safety measures and precautions tend to be expensive, though not unfeasible. This offer more reason for further legal involvement and arrangement on the part of the state: Among them are lack of legal arrangement assuring workers safety, lack of control and reflection for workers' security, solid and unrestrained privatization allowing unrestrained capital accumulation at the expenditure of working principles, and legislation that obstruct working class organization in manpower unions.

The study carried out aims to increase the awareness of Turkish Disaster Response Plan, carry out search-rescue activities by coordinating the elements of time, equipment, and human more effectively, and save life of more people. It is considered that this study will be a guide for the next studies.

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