



Exercise & Drill

Dr. Mohammad Heidari

PhD in Disaster and Emergency Health

The Preparedness System

It is important to recognize preparedness as a system, requiring the continuous integration of plans, training programs, exercises, and evaluations.

- It is a system that functions like a machine.



- Turning the *planning gear* (writing or revising a plan) sets in motion the training gear

(making sure all staff understands the plan).

- After training, the exercise and evaluation gear kicks in, helping to identify weaknesses in the plan as well as areas where additional training is needed.

- If you have a **comprehensive emergency plan** for your facility, you've put the preparedness machine into motion.
- The next step is to set the **training gear** into motion by training your staff on the plan.
- **After training**, follow up with exercises to give staff a chance to practice the procedures about which they've been trained and **evaluate** each exercise to determine **needed plan changes** or **additional training**.



Plan

Train

Exercise

Evaluate

Following are several key concepts essential to developing an emergency preparedness training and exercise program for your facility.

7

- Make “**disaster preparedness**” a part of new employee orientation and ensure that all employees receive the training.
- Provide **refresher training** on disaster preparedness for all staff on a routine basis, recognizing that some will require **more frequent training** because of their specific **roles** and **responsibilities**.

□ **Exercise all portions** of your facility's emergency management plan, in accordance with the training and exercise schedule described in the plan.

□ **Use a variety of training and exercise approaches**, including discussion-based tabletop exercises and operations-based drills.

This guide provides additional information about how and when to use various methods.

- **Conduct exercises that include representatives** from the fire department, local law enforcement, the local health department, the emergency management office, the Red Cross and your utility provider.

- **Evaluate all training and exercise activities** and use the information to make improvements to your emergency management plan and training and exercise schedule.
- **Develop relationships** with your local emergency management office and health department and **participate** in training and exercise opportunities they might **sponsor**.

Step by Step Process for Planning an Exercise

11

Step 1. Synchronize your exercise with your emergency plan and training programs.

- Determine the **emergency management plan** or **capability** or **training competency** that you want to exercise and evaluate.

Step 2. Determine which topic to use in developing exercise objectives.

- **topic** can be anything from a simple, single-task activity or process involving a few people to a complex, multitasked activity involving multiple departments and organizations.

Step 3. Determine the type of exercise which would be the most appropriate to evaluate the selected topic objectives.

- **Build exercises to correspond** with the topic's objectives, plans and/or training programs that are to be evaluated.

IMPORTANT

Do **not** immediately **jump** into a full scale exercise or even a tabletop exercise unless your **plan is mature** and your **participants** have the **appropriate** level of training.

Full-Scale Exercises

Functional Exercises

Drills

Games

Tabletops

Workshops

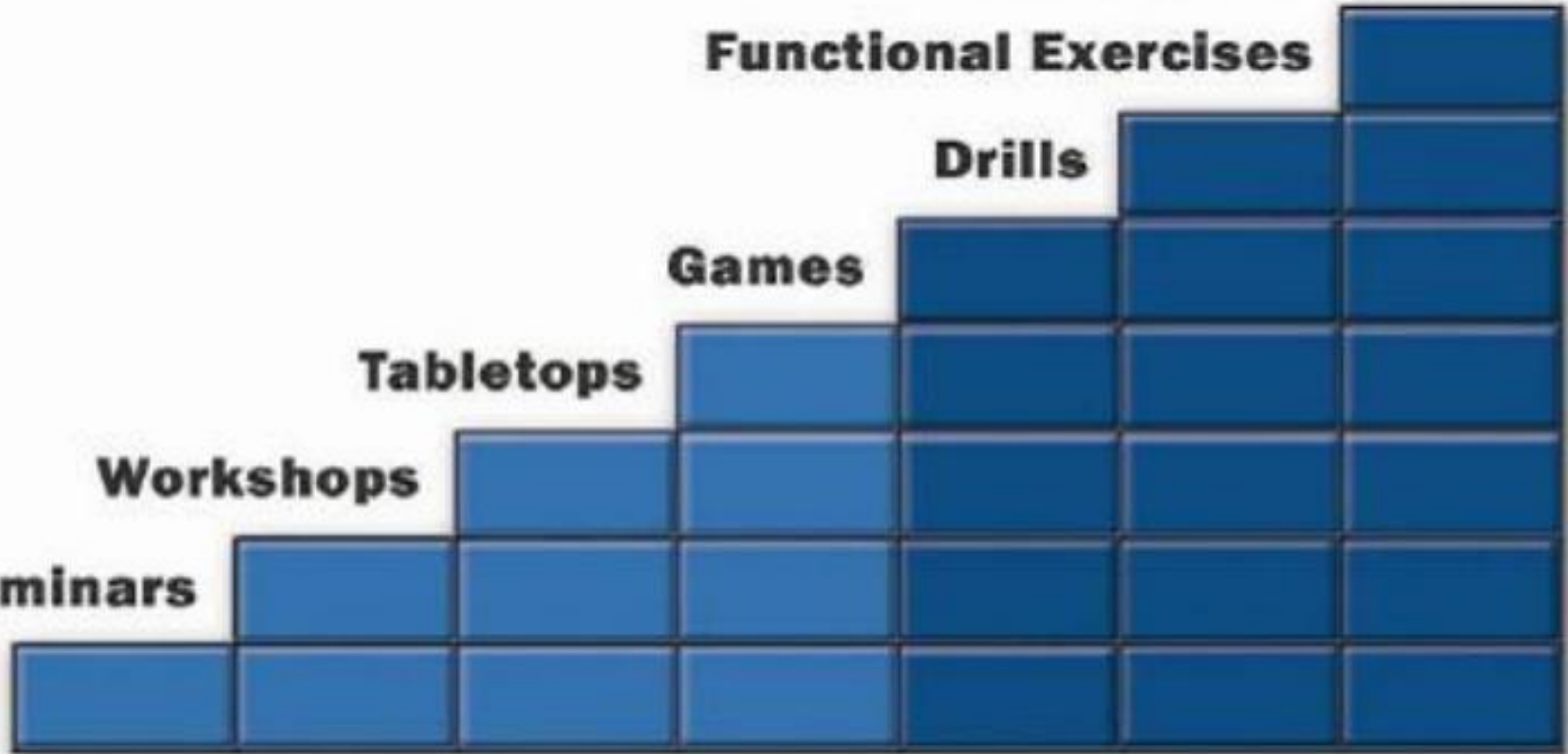
Seminars

Capability

Planning/Training

Discussion-Based

Operations-Based



Discussion-based exercises

16

- ❖ **Familiarize** participants with current plans, policies, agreements, and procedures.
- ❖ They may also be used as a forum to **develop** or **revise** plans, policies, agreements, and procedures.
- ❖ Discussion-based exercises include: **seminars, workshops, tabletops, and games.**
- ❖ Discussion-based exercises typically require **facilitators** in lieu of controllers and may also require **evaluators.**

Seminar

A seminar is an **informal** discussion that **orients participants** to **new** or **updated** plans, policies, or procedures (e.g., a seminar to review new family notification procedures).

- ❖ It is also a good method for **informing** and **training** staff on changes that have been made to the facility's emergency management plan.

Workshop

18

A workshop resembles a seminar, but it **builds** specific products, such as a draft plan or policy.

- ❖ A workshop to create a new and improved policy for responding to a missing resident event.

Tabletop Exercise (TTX)

19

بازیگران از سازمان ها و آژانس های مختلف به صورت چهره به چهره دور هم جمع می شوند (میز گرد **Round Table**) و در مورد قداماتی که انتظار می رود به دنبال سناریو انجام شود بحث می کنند. مانور دور میزی معمولاً **غیررسمی** بوده و بحث ها و گفتمان ها توسط فرد تسهیل گری هدایت می گردد.

Game

20

A game is a of operations that involves two or more teams in a competitive **simulation** environment, using rules, data, and procedures and scenarios designed to depict an actual situation and test whether training is sufficient (e.g. create a list of tips for how to best notify residents of an emergency event and how to keep them informed of what's going on).

Operations-Based Exercises

21

validate plans, policies, agreements and procedures, clarify roles and responsibilities, and identify resource gaps in an operational environment. Types of Operations-based Exercises include **drills, functional exercises,** and **full-scale exercises.**

Operations-based exercises typically require **safety officers, controllers, evaluators,** and may also require **actors,** and **simulators.** Operations-based exercises require much greater logistical support, cost, and planning time than discussion-based exercises.

Drill

مانور یک فعالیت تمرینی برنامه ریزی شده است که افراد مشارکت کننده در آن در یک **وضعیت شبیه سازی شده** قرار گرفته و از آنها انتظار می رود که با توانایی و ظرفیتی که در شرایط واقعی خواهند داشت، نسبت به این شرایط شبیه سازی شده اقدام نموده و عکس العمل نشان دهند. معمولاً هدف از برگزاری مانور، ارزیابی و سپس ارتقاء یک یا چند توانایی مشخص است.

- ❖ یک رویداد طراحی شده جهت بررسی، حفظ و توسعه مهارت شرکت کنندگان در یک عملیات خاص می باشد.
- ❖ مانورها اکثراً محدود به دامنه خاصی می باشند.
- ❖ مانورها اغلب جزئی از تمرین می باشد.
- ❖ بازیگران به اتفاقاتی و موقعیت های اورژانسی که از قبل در سناریو طراحی شده پاسخ می دهند.

Functional Exercise (FE)

24

A functional exercise examines and/or validates the **coordination, command, and control** between various **multi-agency coordination centers** (e.g., emergency operation center, etc.).

- ❖ A functional exercise does **not involve** first responders or emergency officials responding to an incident in real time at an actual location with actor-simulated victims. For example, a facility might develop and conduct a functional exercise to test its capacity to evacuate a portion (or all) of its residents.

Full-Scale Exercises (FSE)

25

A full-scale exercise is typically a multi-agency, multi jurisdictional, multi-discipline exercise involving **functional** (e.g., emergency operation center, etc.) and **first responders** or **emergency officials** (e.g., a medical response team decontaminating actor-simulated victims) in **real time, real place** scenarios.

Types of Exercises

Discussion-Based Exercises

- **Seminars:** Informal discussion to orient participants to plans, policies, or procedures. Similar to a briefing.
- **Workshops:** Discussion used to build specific products; more structured than a seminar. Two way communication.
- **Tabletop Exercises:** Discussion of simulated scenarios to assess policies, plans, and procedures.
- **Games:** Competitive simulation involving two or more teams.

Operations-Based Exercises

- **Drills:** Coordinated activity to test a single function in a single agency, such as a fire drill at a school.
- **Functional:** Activity to test command and control among coordination centers. No field assets ("Boots on Ground").
- **Full-Scale:** Multi-agency, multi-function evaluation of command and control centers and field assets.

Drill and Exercise Types

TYPE	PURPOSE	PLAYER ACTION	DURATION
Discussion-based exercises			
Seminar	Provides an overview of new or current plans, resources, strategies, concepts or ideas	Nominal	2 – 5 hours
Workshop	Achieves a specific goal or develops a product (e.g., plans, policies, exercise objectives)	Nominal	3 – 8 hours
Tabletop	Assists staff with developing the ability to understand and assess plans, policies, procedures and concepts	Nominal	4 – 8 hours
Game	Explores decision-making and examines the consequences of those decisions	Nominal	2 – 5 hours
Operations-based exercises			
Drill	Tests a single operation or function	Actual play	2 – 4 hours
Functional	Tests capabilities, functions, plans and personnel of Incident Command, Unified Command, intelligence centers or other command/operations centers	Command staff actions are actual; other resources are simulated	4 – 8 hours (can run for multiple days)
Full-scale	Implements and analyzes plans, policies, procedures and agreements through functioning operations	Actual play	1 or more full days

Discussion-Based Exercises		
Operations-Based Exercises		
X	X	Players: Discuss the agency's role and respond to the scenario presented. Perform their regular role during operations-based exercises.
X		Facilitators: Introduce or present modules, lead discussions, and coordinate issues among groups.
	X	Controllers: Plan and manage the exercise. Assure conduct is appropriate. Role is joined with facilitator in discussion exercises. Role is distinct in operation-based exercises.
X	X	Evaluators: Observe and record player discussions and actions. Analyze data, and help draft the After Action Report (AAR).
X	X	Observers/VIPs: Observe, but do not take active part in, exercise.
X		Recorders: Record data as directed by facilitators. Do not interact with players.
	X	Actors: Volunteers who simulate specific roles during exercise play, making scenario more realistic.



Controller

Observers

Player

Actor

Scenario Development Steps

- Research
- Draft the Scenario Components
- Create Problem Statements and Messages
- Finalize the Scenario

Scenarios should address:

- Where does the initiating event take place?
- How dangerous and persistent is the emergency?
- What is the impact of the incident?
- What time of day does the event take place?
- What is the sequence of events?
- What other factors would influence emergency procedures?

Evaluation

- Observing and collecting supporting data.
- Gauging performance against expected outcomes.
- Determining what changes are needed

Basis Steps in Exercise Evaluation

33

- Choose the Evaluation team Chief
- Chief chooses the evaluation team
- Obtain objectives from the design team
- Develop points of review
- Train and coordinate
- Observe the exercise
- Evaluate, Record and Report

Evaluation Process

- 1) Plan and organize the evaluation
- 2) Observe the exercise and collect data
- 3) Analyze data
- 4) Develop the draft After Action Report (AAR)
- 5) Conduct an After Action Conference
- 6) Identify improvements to be implemented
- 7) Finalize the AAR and Improvement Plan (IP)
- 8) Track implementation

Improvement Planning

How We Can Identify Strengths And Gaps?

- Initial Debriefings
- Hot Wash
- Participant Feedback Form
- After-Action Meeting
- Corrective Actions
- After-Action Report
- Secretariat for CQI

DHMR-Exercise-Hot Wash Session-Tehran- 2015




Sources for AAR data

- Evaluator observation
- Exercise Evaluation Guides
- Hot wash, debrief, or participant feedback forms
- Plans and procedures of participant organizations

Improvement Planning Process

- The Improvement Planning Process is the means for converting recommendations from the After Action Report (AAR) into measurable steps that, when implemented, lead to improved response capabilities.

Improvement Planning Process

Recommendations(AAR)  Measurable steps

- Pre-Exercise
- Improvement planning should not occur only at the end of an exercise.
- It can also help shape the planning and design of the exercise.

Step 4. Determine exercise cost.

Seminars, workshops, and drills can usually be executed at **low cost**. They can be and should be developed in-house without relying on contractors.

- ❖ Tabletop exercises with multiple objectives and scenarios and functional exercises **contractor support** may require. But, you can **avoid major expense** by using existing tools to develop the exercise basis. The more work that can be done in-house, the less contractor support will be needed and less cost will be incurred.

Step 5. Set the Exercise Date.

Allow yourself enough time to:

- Identify and organize the planning team
- Reserve a meeting space for the planning team
- Schedule planning meetings
- Identify the type, scope, objectives, and purpose of the exercise
- Assign responsibility to planning team members
- Create supporting handouts as needed
- Take care of administrative tasks, such as creating attendee sign-in sheets, ordering refreshments, etc.
- Notify players (exercise participants)
- Invite observers or external partners

Step 6. Assemble the Exercise Planning Team.

43

- ❖ The **most important factor for a successful exercise** is organizing a skilled and experienced exercise planning team.
- ❖ The exercise planning team oversees, and is responsible for, exercise foundation, design, development, conduct, and evaluation.

Step 7. Identify the Exercise Staffing Roles.

44

Depending on the type of exercise being conducted, identify who is expected to serve in these roles on the day of the exercise:

Safety Officer:

During an operations-based drill or functional exercise, he or she looks out for the **safety of all exercise participants** and **must have no other duties**.

The Safety Officer briefs participants on any safety concerns before the start of the drill or functional exercise.

Facilitators:

During a discussion-based exercise, the facilitator is responsible for ensuring that participant discussions remain **focused** on the exercise **objectives** and making sure all issues and objectives are explored as thoroughly as possible within the available **time**.

Evaluators:

Are chosen based on their expertise in the functional areas they are to **evaluate**. Evaluators **have a passive role** in the exercise and should only record the actions/decisions of players; they should not interfere with exercise flow.

Evaluators often use **formal forms** to record observations and make notes, which contribute greatly to the exercise After-Action Report. For **large** and **complex** operations-based exercises, appoint an experienced Chief Evaluator to lead the **evaluation team**.

Actors:

Simulate specific roles, such as **disaster casualty victims**, adding realism to an exercise.

Players:

فردی که در زمان اجرای سناریو (مانور دور میزی، تمرین، مانور) نقش اختصاصی و از پیش تعیین شده دارد. بازیگران باید به موقعیت های واقعی پیش آمده در حادثه اورژانسی پاسخ دهند.

Controller

فردی که مسئولیتش حفظ و هدایت موثر حادثه می باشد. کنترل کنندگان با فراهم کردن اطلاعات برای بازیگران نقش فعالی در حادثه بر عهده دارند. کنترل کنندگان تنها کسانی هستند که مجاز به ارائه اطلاعات و هدایت بازیگران می باشند. این افراد معمولاً بر اساس تجربه شان یا تخصص خاصی که دارند انتخاب می گردند و از زمینه هایی که باید مورد ارزیابی قرار گیرد در طول تمرین آگاه و دانش کافی دارند.

این افراد باید از وسایل متمایز کننده فردی همچون کاور یا بازوبند استفاده کنند.

Observers:

May request to **view** all or selected portions of exercise play.

Observers may include **corporate** representatives, or other invitees.

- ❖ Observers must **not participate in exercise** play or in exercise evaluation and control functions. However, they may be solicited for **comments** about their observations.

Control Cell

50

اتاق کنترل، یک فرد یا گروهی از افراد که نقش شان به طور معمول **ارتباط با شرکت کنندگان** می باشد. اتاق کنترل معمولاً ارتباط شان با شرکت کنندگان از طریق تلفن، بی سیم و ... بوده و به ندرت چهره به چهره می باشد. بسته به وسعت مانور یا تمرین اتاق کنترل می تواند یک فرد یا مجموعه ای از سازمان ها باشد.

Shadow Force

51

نیروهای پشتیبانی که به طور واقعی در محل اجرای سناریو حضور دارند

مثل: آتش نشانی، پلیس و اورژانس

Step 8. Identify Exercise Partners.

Determine the **outside partners** and agencies that need to be involved in the exercise. **Depending** on the **objectives** and **scope** of the exercise, here is a list of external partners you may consider when building an exercise team:

- Law Enforcement Representatives
- Emergency Medical Services
- Fire and Rescue
- Hospital
- County Emergency Managers
- County Health Departments
- School Districts
- Volunteer and Faith-Based Organizations

Note

All agencies that have a part in your plan should have a part in exercise planning even if their particular part will not be included this time.

Designing a Drill, Step-By-Step

54

1) Plan the drill.

Each drill should be planned by a team consisting of the staff who, during an emergency.



2) Call the drill.

Shortly before the drill is to begin, station designated personnel throughout the floor to observe and record the actions of personnel when the drill begins or the alarm sounds.

3) State the drill scenario and purpose.

Give the designee a **cue card** that describes the situation and what the drill will accomplish.

4) Conduct the drill.

After the situation is announced, emergency procedures should begin **immediately**. Be certain to note the timing of specific portions of the drill as accurate assessment of time passage may help to evaluate problems.

5) Conclude the drill and document participants and activities.

Immediately following the drill, ensure that **all staff** has signed the documentation required for training **records**. Be sure to identify the names of **absent staff** and schedule a make-up drill date for their participation.

6) Evaluate the Drill and Identify Action Needed.

Immediately following the drill, the planning team leader or designated **evaluator conducts** a hot wash of the drill, providing an opportunity for participants to discuss the results of the drill and identify concerns and issues to be addressed in the **After-Action Report** (improvement plan section). The discussion centers around what went right, what did not go so well and a discussion of the root cause of an identified issue needing improvement.

Objective Evaluation checklist

60

ابزاری است که توسط ارزیاب ها مورد استفاده قرار می گیرد و مشخص می کند که به چه میزان به اهدافی که از قبل جهت برگزاری مانور تعیین کرده ایم دست یافته ایم.

معیارهایی جهت ارزیابی عملکرد بازیگران در رابطه با یک هدف خاص. هر معیار باید به طور استاندارد قابل اندازه گیری باشد زیرا باعث می شود کنترل کننده تعیین کند به هدف رسیده ایم یا نه. تعداد ناظران در یک رویداد باید حداقل باشد و باید توسط مسئول کنترل **Lead Controller** مورد تایید قرار گیرد. ناظران باید جهت تشخیص بوسیله لباس ها یا نشانه هایی (بازو بند) از کنترل کننده ها متمایز گردند.

7) After the Drill - Next Steps.

The planning team leader ensures that an After-Action **Report** is written for the drill, which includes an **improvement** plan and **recommendations** for future training and exercises.

❖ دو مزیت اصلی مانور شامل آموزش افراد و گروهها، به همراه بهبود و توسعه سیستم

می باشد.

❖ مزایای مذکور فقط بواسطه اجرای مانور حاصل نخواهد شد بلکه نتیجه ای خواهد

بود از جمع فرایندهای مختلف مانور شامل: برنامه ریزی مانور، کنترل و نظارت

مانور، ارزشیابی مانور و نهایتاً به کارگیری توصیه های به دست آمده از مانور



Drill is on. Note bodies (dummies) outside the a/c



Volunteers used, note dummies used for deceased.



Initial Arrival of Fire Trucks



Simulation of putting a fire out at the scene



Firemen ready to deploy on the scene



Firemen accessing the Aircraft



Firemen rescuing victims



Firemen & EMT rescuing victims



Multiple injured being assisted



EMTs assisting victims



Multiple injured being assisted



Emergency Responders set-up Zones



Treatment Officer assessing scene



Transport Officer working with EMTs



CareFlite participated in drill



Surviving crewmember being interviewed by FAA



Chief Assessing the drill



Staff working the exercise

Designing A Tabletop Exercise: Step-By-Step

81

Step 1: Assess your facility's needs.

Step 2: Prioritize the needs and determine the scope of the exercise.

Step 3: Write a goal (purpose statement) for the exercise.

Step 4: Write specific objectives for the goal.

Step 5: Select or create an emergency scenario.



Step 6: Identify exercise participants.

Step 7: Determine date/time/place.

Step 8: Invite players (participants) and any external partners if appropriate.

Step 9: Prepare materials.

Step 10: Conduct the exercise.

Step 11: Evaluate the exercise.



نکته

امروزه در کشور ما مانورهای متعددی برگزار می‌گردد که به عقیده برخی از کارشناسان و متولیان مربوطه، اینگونه مانورها انتظارات مورد نظر را به طور کامل برآورده نمی‌نمایند. بررسی‌ها نشان داده که **بیشترین نقاط ضعف** و موارد قابل اصلاح از دید متولیان برگزاری مانور شامل **اجرای مانور، کمبود امکانات و ضعف آموزش نیروی انسانی** می‌باشد. اما نتایج مقایسه نشانگر آن است که مهم‌ترین مشکلات مانورها که در صورت اصلاح می‌تواند منجر به افزایش کارایی گردد، به ترتیب در مراحل برنامه ریزی و طراحی مانور و سپس ارزشیابی و استخراج توصیه‌های کاربردی از مانور می‌باشد.

بیشترین تاکید متولیان و مشارکت کنندگان در مانورهای مورد بررسی بر مرحله **اجرای مانور** که صرفاً بخشی از فاز مدیریت پروژه می باشد، متمرکز گردیده است. لذا به نظر می رسد به منظور ارتقای کارایی مانورهای مدیریت بلایا، **می بایست مراحل مختلف مانور** از برنامه ریزی و طراحی تا اجرا و ارزشیابی در قالب یک چرخه نگریسته شده و علاوه بر مرحله اجرا (**Conduct**) مابقی مراحل نیز به عنوان ارکان اصلی مانور مورد توجه و دقت بیشتر قرار گیرند.

**“A drill with no problems is a
wasted learning experience”**

Thanks For Your Attention

