

**TRAINER'S  
GUIDE**



TECHNICAL COMPETENCY UNIT



**ADM.TEC  
010.1**

Coordinate Logistics Operation



**ASCEND**

ASEAN Standards and Certification  
for Experts in Disaster Management

## ASEAN Standards and Certification for Experts in Disaster Management

# COORDINATE LOGISTICS OPERATION

ADM.TEC.010.1

### Trainer's Guide



ONE ASEAN  
ONE RESPONSE



#### Project Sponsors:



The Association of Southeast Asian Nations (ASEAN) was established on 8 August 1967. The Member States are Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam. The ASEAN Secretariat is based in Jakarta, Indonesia.

The “ASEAN Standards and Certification for Experts in Disaster Management (ASCEND)” is under Priority Programme 5: Global Leadership of the ASEAN Agreement on Disaster Management and Emergency Response (AADMER) Work Programme 2021-2025 that envisions ASEAN as a global leader in disaster management.

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The ASCEND Programme and  
Toolbox Development:

# Overview



**ASCEND**



## 1.1

# The ASCEND Programme

Southeast Asian governments, through the ASEAN Committee on Disaster Management (ACDM), continue to invest in strengthening disaster management systems for a more secure and resilient region. However, the compounding of risks and increasing uncertainty of disasters in our new climate reality threaten to set back the socioeconomic development gains of ASEAN societies. Widespread and recurring disaster damages and losses can overwhelm national capacities and worsen regional transboundary effects.

The Declaration on One ASEAN One Response (OAOR) at the 2016 ASEAN Summit in Vientiane, Lao PDR, reaffirms ASEAN's vision to move towards faster and more integrated collective responses to disasters inside and outside the region. However, ASEAN's past experiences of responding to large-scale disasters showed that realising the OAOR can be challenging. Various responders from different countries, institutions, organisations, and companies seek to contribute to the overall response. Their goodwill is appreciated, and several provide much-needed assistance. But ASEAN and affected Member States sometimes found it challenging to determine what knowledge and skills responders have and how they can effectively contribute to national and regional efforts.

Learnings from past experiences and shared commitment to realising the OAOR vision increased the need to develop regionally recognised Competency Standards and a certification process for disaster management professionals. The increased support led to initiatives that eventually created the ASEAN Standards and Certification for Experts in Disaster Management (ASCEND) Programme. ASCEND is now part of Priority 5: Global Leadership of the ASEAN Agreement on Disaster Management and Emergency Response (AADMER) Work Programme 2021-2025, a programme that envisions ASEAN as a global leader in disaster management.

## 1.2

# The objectives of ASCEND

- To enhance the capacity of the ASEAN countries in the implementation of ASCEND.
- To establish regionally recognised Competency Standards and assessment processes covering five professions in disaster management.



- To improve the capacity of the AHA Centre to serve as the ASCEND Secretariat.
- To promote understanding of the ASCEND Framework among the ASEAN Member States (AMS) and other ASEAN sectors in preparation for the inclusion of ASCEND into the ASEAN Mutual Recognition Arrangement (MRA).

## 1.3

# Advantages and benefits of an ASCEND certification

### For ASEAN

The ASCEND certification can assist Member States in ensuring that competent disaster management professionals handle emergency assistance and disaster relief across the region. It also supports mutual recognition of disaster management competencies to facilitate acceptance of external aid and faster response.

### For AHA Centre

ASEAN, a rapidly developing and hazard-prone region, will need more competent disaster management professionals. The ASCEND certification can narrow current knowledge and skills gaps. It can also enable stronger cooperation and interoperability between disaster managers in their home countries and across regions.

### For disaster management professionals

Disaster management professionals can use their ASCEND certification to promote themselves professionally and serve as evidence of their experience and qualifications. It can also make it easier for organisations to determine the ability of certificate holders to perform critical work functions of specific occupations in the disaster management sector.

These ASCEND toolbox documents support the ASEAN Member States in identifying, building the capacity of, and mobilising competent disaster managers across Southeast Asia that are highly capable of contributing to reducing disaster risks and disaster losses in the region through timely and effective response.



**1.4**

## The ASCEND Toolbox

A set of technical requirements must exist before it is possible to implement the ASCEND programme in participating ASEAN Member States. The first requirement is the ASCEND Competency Standards that contains forty-three (43) regionally recognised core and technical competencies in selected disaster management professions. The Competency Standards outline the work elements and performance criteria that guide for certification of disaster management professionals across the region.

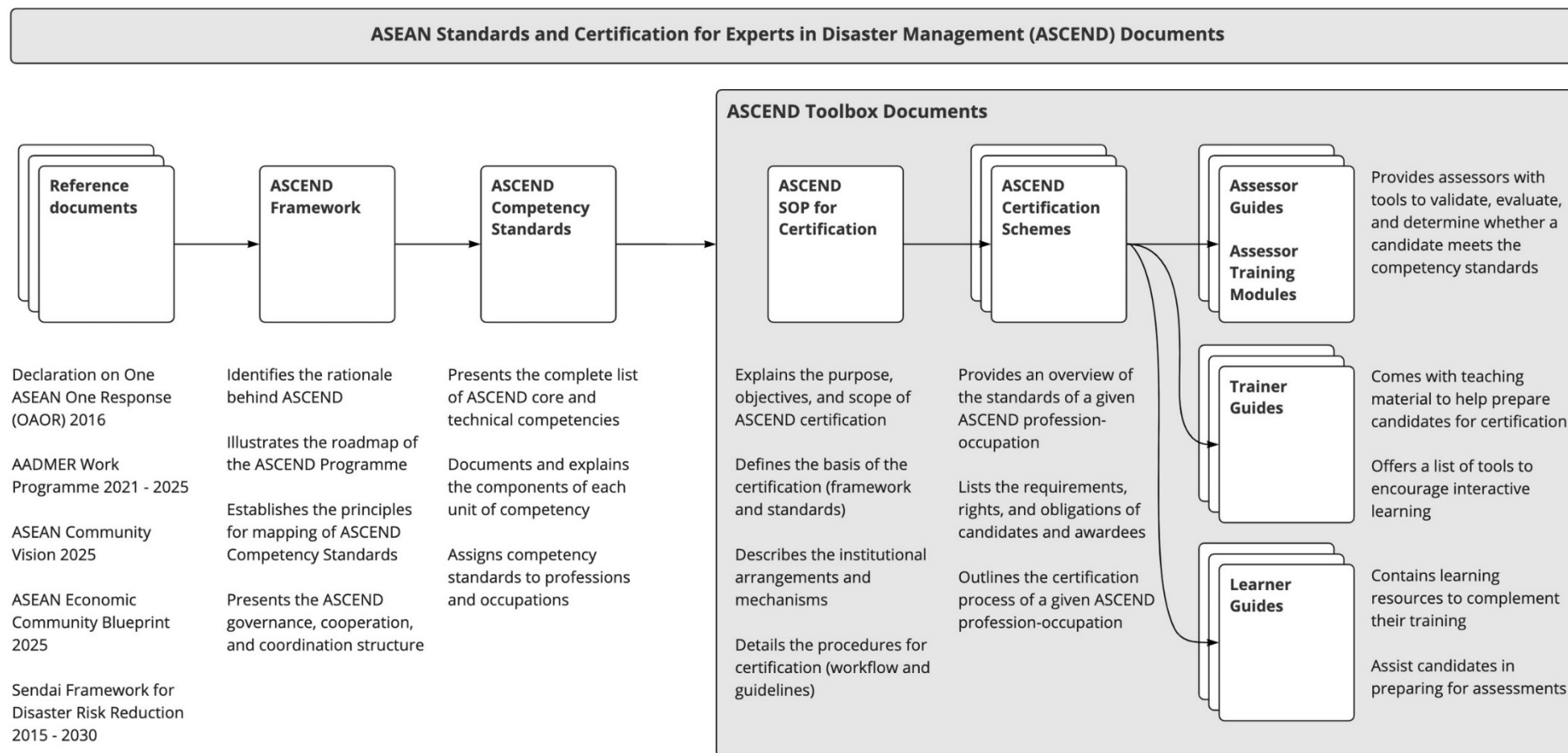
Another requirement is the development of an ASCEND Toolbox for five professions. These professions are Rapid Assessment, Humanitarian Logistics, Information Management, Water, Sanitation and Hygiene (WASH), and Shelter Management. The ASCEND Toolbox consists of an SOP, Certification Schemes, Assessor Guides, Trainer Guides, and Learner Guides. The ASCEND Competency Standards, approved by the ASEAN Committee on Disaster Management, is the primary basis of the Toolbox documents.

The SOP defines the basis of ASCEND, describes the institutional arrangements and mechanisms, and details the certification procedures. Certification Schemes presents an overview of the standards of each profession-occupation and certification requirements, the rights and obligations of candidates and certificate holders, and general guidelines on the certification process. Assessor Guides provides assessors with tools to validate, evaluate, and determine whether a candidate meets the Competency Standards. Trainer Guides come with PowerPoint slides and presenter notes to help trainers prepare candidates for certification. It also offers a list of tools that trainers may use to encourage interactive learning. Learner Guides assist candidates preparing for ASCEND certification in their chosen disaster management profession and occupation. It contains learning resources and complementary readings that can help prepare them to undergo the required assessment.

The ASCEND Toolbox documents can assist the ASEAN Member States to identify, build the capacity of, and mobilise competent disaster managers across Southeast Asia to help reduce disaster risks and disaster losses in the region through timely and effective response.



*Figure 1: Overview of ASCEND Toolbox Documents*





# Competency-based Training (CBT): Introduction for Trainers



**ASCEND**

**Important:** Training is not a mandatory activity of the ASCEND certification process. Applicants or prospective candidates are expected to prepare themselves before the assessment by self-studying the Learner Guides provided to them when accepted for ASCEND certification.

In case Authorised/Licensed National Certification Institutions decide to conduct training on material related to ASCEND, their trainers can use the contents of this guide to develop their courses or programmes. Candidates seeking certification may also use the “PowerPoint slides and presenter notes” section of this guide for self-study.

## Competency-based learning and assessment

**Competency** is the characteristic and ability to use or apply knowledge and skills-sets to perform critical job functions in a defined work setting.

**Table 1:** Competency areas and descriptions

Competency area	Description
<b>Experience</b>	Refers to the qualifications of the candidate that make them eligible to pursue certification. It includes the candidate's formal education, work experience, professional training, and job-relevant life experiences.
<b>Knowledge</b>	Refers to what the candidate needs to know to make informed decisions on how to perform the work effectively.
<b>Skills</b>	Refers to the ability of the candidate to apply knowledge to complete occupational tasks and produce work outcomes or results at the standard required.
<b>Attitudes</b>	Refers to associated beliefs, feelings, motivations, and values that influence a candidate to make decisions and act according to occupational standards and the professional work setting.



**Competency-based methods** help ensure that the ASCEND certification process is relevant, valid, acceptable, flexible, and traceable – in alignment with the ASEAN Guiding Principles.

The relevance principle confirms that the ASCEND certification reflects the current professional needs in the disaster management sector. The validity principle relates to the consistency and equitability of the assessment process. The acceptability principle is about aligning the ASCEND certification to other disaster management professional standards and good practices. The flexibility principle refers to the responsiveness of the ASCEND certification to changes or differences in disaster management work settings and job requirements. The traceability principle ensures that evidence is sufficient to grant the ASCEND certification.

**Competency-based training (CBT)** is a teaching strategy that aims to develop the candidate's knowledge, skills, and attitudes to become qualified and competent to perform in a particular occupation. CBT builds on the candidate's experience and uses different modes of instruction to assist them in meeting the standards and performance criteria defined in a unit of competency.

## What do trainers do?

A trainer is someone who structures and facilitates the training of candidates to develop or increase their ability to communicate or demonstrate that they are competent in a specific unit of competency.

The role of trainers is to:

- interpret the scope and adapt the ASCEND competency standards to fit the context of where the training is taking place,
- adjust the training method and delivery of material to cater to learner diversity and needs, and
- assist candidates in preparing for competency-based assessments with the learning resources available.



## Using the trainer's guide

The material in this trainer guide is designed to assist trainers in conducting learner-centric activities that recognise prior experience, maximise engagement, teach for understanding, and build on learner strengths. The guide provides suggestions on how to prepare training sessions that enhance candidate participation and minimise disruptions during the session. It also offers a list of equipment and tools that trainers may use to encourage interactive learning and supplement traditional methods like lectures, case discussions, demonstrations, group exercises, simulation games, role-playing, and independent research. Finally, it includes a copy of PowerPoint presentation slides and presenter notes to guide trainers on what key messages to highlight during sessions.

**Remarks:** *Trainers also need to consider the diverse backgrounds (e.g., cultural, linguistic, social) and needs of candidates when planning and delivering the training. Trainers may have to adapt their training style to suit student preferences, use alternative activities for different levels of ability, and provide opportunities for various forms of participation.*







# ASCEND Competency Standards



## ASCEND

## 3.1

## Competency standards

Competency standards are a set of industry-accepted benchmarks that defines the experience, knowledge, skills, and attitudes professionals need to perform well in an occupation. It also reflects the requirements of work settings and considers the developments in the disaster management profession.

## 3.2

## ASCEND Competency Standards

The ASCEND Competency Standards identifies the key features of work in selected disaster management professions, and performance standards professionals need to meet to be deemed competent. It also provides the list of the forty-three (43) core and technical competencies that serve as the basis for defining the regionally recognised disaster management qualifications across the ASEAN Member States. The five (5) professions covered by the ASCEND Competency Standards include Rapid Assessment, Humanitarian Logistics, Information Management, WASH, and Shelter Management. Under these professions are five (5) categories of occupations: Manager, Coordinator, Officer, Promoter, and Engineer. Overall, there are fifteen (15) profession-occupation combinations (e.g., humanitarian logistics manager, information management coordinator, WASH promoter).

Each ASCEND Competency Standard has its dedicated Toolbox documents: an SOP, Certification Scheme, Assessor Guide, Trainer Guide, and Learner Guide. One SOP applies to all profession-occupation combinations covered by the ASCEND certification. The Certification Schemes, one for each of the profession-occupation combinations. Both these documents align with the AQRF Level Descriptors, Section 4: Guiding Principles and Protocols for Quality Assurance of the AGP (pp. 36-40), and ASEAN Disaster Management Occupations Map. The Certification Schemes also outline the ASCEND competencies under selected professions and occupations, eligibility criteria, basic requirements and rights of candidates, and obligations of certification holders. Assessor Guides describe the components of particular competency standards and offer tools to determine the candidate's qualifications. Trainer and Learner Guides expound on a given competency standard's elements and performance criteria for learning and assessment preparation purposes.

The ASCEND Competency Standards and its derivative Toolbox documents will be reviewed and updated every five (5) years to ensure it reflects changes



in the disaster management profession and remains relevant. The Toolbox documents may also serve as a reference for ASEAN Member States' seeking to develop and implement national-level competency-based certification processes based on their respective capacities and needs. Table 2 describes its main components.

**Table 2:** *Components of the ASCEND Competency Standards*

Component	Description
<b>Unit title</b>	Describes the critical work function to be performed in an occupation.
<b>Unit number</b>	<p>A coding system to organise the units of competency. It also indicates the types of competency standards.</p> <ul style="list-style-type: none"> <li>• ADM.COR.000.0 are core competencies. These are general professional knowledge and skills related to international humanitarian principles and disaster management standards, including ASEAN mechanisms and procedures.</li> <li>• ADM.TEC.000.0 are technical competencies. These are specific knowledge and skills needed to perform effectively in work areas under their chosen disaster management profession and occupation.</li> </ul>
<b>Unit description</b>	Provides information about the critical work function covered by the unit.
<b>Elements</b>	Presents the occupational tasks required to perform the critical work function in the unit.
<b>Performance criteria</b>	Lists the expected outcomes or results from the occupational tasks to perform and the standard required.
<b>Unit variables</b>	Advises on how to interpret the scope and context of this unit of competence.
<b>Assessment guide</b>	Outlines the evidence to gather and evaluate to determine whether the candidate is competent in the unit.
<b>Linkages to other units</b>	Explains the connection of the competency standard to other units of competency.



<b>Critical aspects of assessment</b>	Lists the types of evidence or demonstrated abilities assessors need to observe to determine the candidate's competency.
<b>Context of assessment</b>	Notes the settings or situations in which candidates need to demonstrate their ability during ASCEND assessments.
<b>Resource implications</b>	Identifies the resources needed to conduct the assessment.
<b>Assessment methods</b>	Describes the different assessment methods to assess the competency of candidates in the specific unit.
<b>Key competencies</b>	Presents the specific knowledge, skills, and attitudes related to the unit of competency that assessors need to evaluate to confirm whether the candidate for certification is qualified and competent.



### 3.3

## Unit of Competency

**Unit title** : **Coordinate Logistics Operation**  
**Unit number** : **ADM.TEC.010.1**

**Unit description** : This unit deals with skills and knowledge required by a logistics coordinator to understand overall logistics operations, focus on the knowledge about implementation of transport, storage and distribution plan to support the operations.

ELEMENT AND PERFORMANCE CRITERIA	UNIT VARIABLE AND ASSESSMENT GUIDE
<p><b>Element 1.</b>  <b>Implement transport plan</b></p> <p>1.1 Identify transportation mode</p> <p>1.2 Identify fleet availability</p> <p>1.3 Identify supply route</p>	<p><b>Unit Variables</b></p> <p>The unit variables provide advice to interpret the scope and context of this unit of competence. It relates to the unit as a whole and facilitates holistic assessment.</p> <p>The objective of this unit is to ensure the participants have a broader knowledge of logistics operation, consideration of choosing a storage location, transportation mode, distribution location and are expected to be fully aware of the challenges to face in logistics.</p>
<p><b>Element 2.</b>  <b>Implement storage plan</b></p> <p>2.1 Identify storage locations</p> <p>2.2 Identify storage requirement</p> <p>2.3 Apply warehouse management standard</p>	<p>This unit also expects the participant to know warehouse management standards, including identifying the location and space requirements to support emergency operation.</p> <p>The participant should identify the transport mode (Land, Rail, Water and Air transport) and select a suitable fleet to support the preposition of relief items, including a distribution plan during the emergency operation.</p>
	<p><b>Assessment Guide</b></p> <p>The following skills and knowledge must be assessed as part of this unit:</p> <ul style="list-style-type: none"> <li>• Ability to identify transport mode</li> <li>• Ability to identify logistics infrastructure (port, airport, storage, etc.)</li> </ul>



- Ability to identify distribution route
- Ability to identify challenges in logistics operation
- Ability to apply the function of fleet management
- Ability to apply storage management systems and procedures
- Ability to coordinate the distribution plan with partners

### Linkages to other Units

This is a technical unit for a logistics coordinator and must be delivered together with humanitarian logistics modules.

### Critical Aspects of Assessment

Evidence of the following is essential:

- Demonstrated ability to identify transport mode
- Demonstrated ability to identify logistics infrastructure (port, airport, storage, etc.)
- Demonstrated ability to identify distribution route
- Demonstrated ability to identify challenges in logistics operation
- Demonstrated ability to apply the function of fleet management
- Demonstrated ability to apply storage management systems and procedures
- Demonstrated ability to coordinate the distribution plan with partners

### Context of Assessment

This unit may be assessed on/off the job

- Assessment should include practical demonstration of working effectively with colleagues and assesses either in the workplace or through a simulation activity, supported by various methods to assess underpinning knowledge.
- Assessment must relate to the individual's work area or area of responsibility.

### Resource Implications



Training and assessment to include access to an actual or simulated workplace; and access to workplace standards, procedures, policies, guidelines, tools and equipment

### Assessment Methods

The following methods may be used to assess competency for this unit:

- Case studies
- Observing of practical performance by participant
- Oral and written questions
- Portfolio evidence
- Problem-solving
- Roleplays
- Third-party reports completed by a supervisor
- Project and assignment work

### Key Competencies in this Unit

**Level 0** = irrelevant, not to be assessed

**Level 1** = competence to undertake tasks effectively

**Level 2** = competence to manage tasks

**Level 3** = competence to use concepts for evaluating

Key Competencies	Level	Examples
Collecting, organising, and analysing information	<b>2</b>	Relief items data
Communicating ideas and information	<b>2</b>	Coordinate with logistics service providers
Planning and organising activities	<b>2</b>	Develop transport plan
Working with others and in teams	<b>2</b>	Coordinate with manager and officer
Using mathematical ideas and techniques	<b>3</b>	Calculating the transport cost



Solving problems **2** How to deal with local services provider

---

Using technology **2** Familiar with computer software, smartphone, etc.







Preparing for Training Sessions:

# Equipment, Material, and Tools



ONE ASEAN  
ONE RESPONSE

## ASCEND

## 4.1

## Onsite training

Please refer to the checklist and table below when conducting onsite training.

Checklist	Training resource requirements
Tick box (✓) when completed	Equipment and material
<input type="checkbox"/>	Secure a computer (desktop or laptop) installed with the latest Windows Operating Systems and Microsoft Office Apps (Word, PowerPoint, Excel).
<input type="checkbox"/>	Gain access to a stable internet connection and printer, if needed.
<input type="checkbox"/>	Reserve a conducive training facility with a dedicated workspace (large desk and chair with back support), projector, and black/whiteboards.
<input type="checkbox"/>	Obtain a copy of the Trainee Guide, including PowerPoint (PPT) presentation and presenter notes. Test if the PPT presentation is working before sessions.
<input type="checkbox"/>	Request a list of confirmed attendees (candidates) and their contact details.
<input type="checkbox"/>	Send training invitations to all confirmed attendees through email. It includes a brief overview of the training, date, schedule, training venue, information about the trainer, email support, and a copy of the Trainee Manual (PDF version).
<input type="checkbox"/>	Print out copies of the Trainee Manual, if needed.



## 4.2

## Online training

Please refer to the checklist and table below when conducting online training (remote).

Checklist Tick box (✓) when completed	Training resource requirements Equipment and material
<input type="checkbox"/>	Secure a computer (desktop or laptop) installed with the latest Windows Operating Systems and Microsoft Office Apps (Word, PowerPoint, Excel).
<input type="checkbox"/>	Gain access to a stable internet connection.
<input type="checkbox"/>	Purchase a licensed video conferencing account, if needed (e.g., Zoom Meetings, Webex).
<input type="checkbox"/>	Reserve a dedicated workspace (large desk and chair with back support).
<input type="checkbox"/>	Obtain a copy of the Trainee Guide, including PowerPoint (PPT) presentation and presenter notes. Test if the PPT presentation is working before sessions.
<input type="checkbox"/>	Request a list of confirmed attendees (candidates) and their contact details.
<input type="checkbox"/>	Send training invitations to all confirmed attendees through email. It includes a brief overview of the training, date, schedule, Zoom log-in details, information about the trainer, email support, and a copy of the Trainee Manual (PDF version).

The list below recommends apps and tools that trainers may find helpful when planning and delivering the training. Trainers need to register and create their accounts before using the apps and tools.

Apps and tools	Description
<b>Zoom</b>	Zoom is a software program that provides a multi-user platform for video and audio conferencing. It has built-in collaboration and presenter tools



useful in planning and delivering online training sessions like calendar integration, group chat, screen sharing, breakout rooms, and whiteboard functions.

<https://zoom.us/>

### For collaboration, group exercises, lectures, and demonstrations.

#### Lucidspark

Lucidspark is a virtual whiteboard where training attendees can come together to create, develop, and present their ideas. It can be used for brainstorming, group presentations, and organising notes.

<https://lucidspark.com/>

#### Ziteboard

Ziteboard is a collaboration software ideal for discussing topics visually and online real-time tutoring. It works seamlessly on different devices (laptops, tablets, and mobile devices) and web browsers (Apple Safari and Google Chrome).

<https://ziteboard.com/>

### For activities that test student understanding (quizzes) and decision-making (simulation games)

#### Kahoot

Kahoot is a game-based learning platform that allows users to generate multiple-choice quizzes for distance education. Users can create a learning game on any topic in any language, and they can host a live game and share it with users.

<https://kahoot.com/>

#### Quiz It! Live

Quiz It! Live is an app similar to Kahoot that allows users to create and host live quizzes for groups. It also comes with automated timing, scoring, and marking.

<https://www.quizit.net/>

### For gathering feedback, ideas, or responses

#### Google Forms

Google Forms is a survey administration software for collecting and organising different kinds of information. Responses are automatically gathered and neatly presented in charts, sheets, and more.

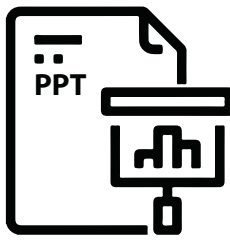
<https://www.google.com/forms/about/>

#### Survey Monkey

Survey Monkey is the world's most popular free online survey tool. Similar to Google Forms, users can create, send, and edit questionnaires.

<https://www.surveymonkey.com/>





# PowerPoint Slides and Presenter Notes



**ASCEND**

## 5.1

# Instructions for using PowerPoint presenter

The PowerPoint **Presenter View** allows you to view your presentation together with the presenter notes on your computer's monitor, while attendees view the note-free presentation on another monitor. It allows you to move the slides, control the pace of the presentation, see the elapsed time of your presentation, and use a tool to draw on point or highlight parts of the presentation.

Connect your computer (desktop or laptop) to a projector. Double click on the PowerPoint presentation to open the file. In PowerPoint, click on the **Slide Show** tab and select the **Use Presenter View** checkbox. Choose which monitor to display Presenter View **ON**. Finally, select **From Beginning** or press f5.

For more information, visit the Microsoft PowerPoint help & learning website:  
<https://support.microsoft.com/en-us/powerpoint>

A video tutorial is available here:  
<https://support.microsoft.com/en-us/office/use-presenter-view-in-powerpoint-fe7638e4-76fb-4349-8d81-5eb6679f49d7>



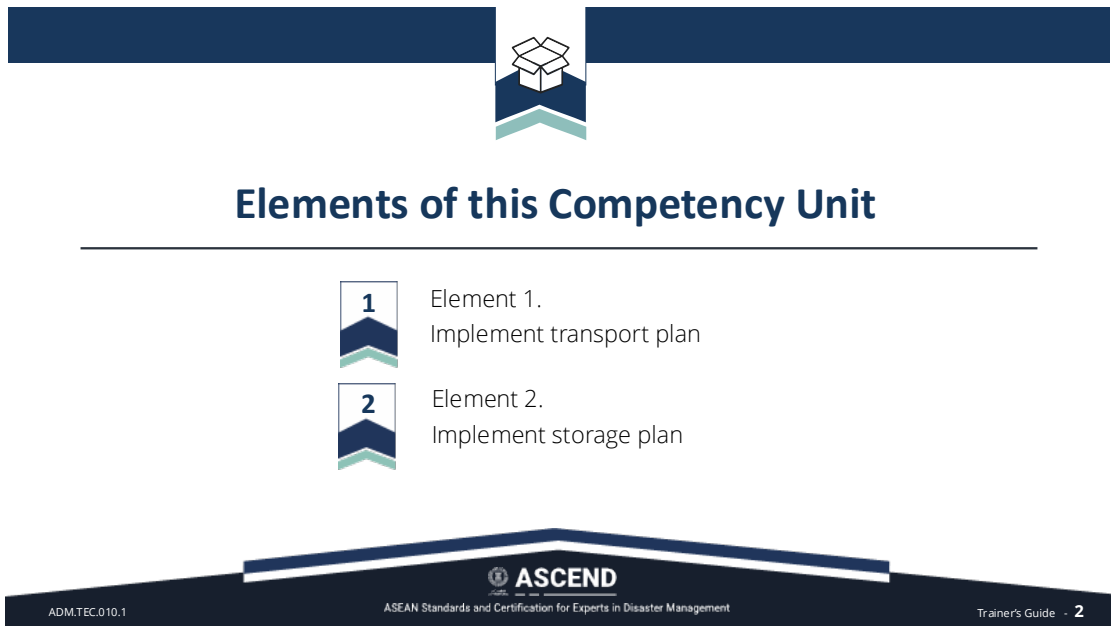
**5.2**

## PowerPoint slides and presenter notes

*Image 1: Slide 1***Slide No.****1****Trainer Notes**

Trainer welcomes participants to class.



*Image 2: Slide 2*

The slide features a dark blue header with a white box icon in the center. Below the header, the title "Elements of this Competency Unit" is displayed in a bold, dark blue font. Underneath the title, two numbered elements are listed, each preceded by a blue and white chevron icon. Element 1 is "Implement transport plan" and Element 2 is "Implement storage plan". At the bottom of the slide, there is a dark blue footer bar containing the ASCEND logo, the text "ASEAN Standards and Certification for Experts in Disaster Management", and the page number "2".

## Elements of this Competency Unit

- 1 Element 1.  
Implement transport plan
- 2 Element 2.  
Implement storage plan

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**Slide No.** 2


**Trainer  
Notes**

Read the “Competency Unit” in the Trainer Guide and introduce the elements of the competency unit to learners.

- Each Element comprises a number of Performance Criteria which will be identified throughout the class and explained in detail
- Participants can obtain more detail from their Learner's Guide
- At times the course presents advice and information about various protocols. Still, where their workplace requirements differ from what is presented, workplace practices, standards, policies, and procedures must be observed.





*Image 3: Slide 3*

## Element 1


# Implement transport plan

---

### Performance Criteria

- 1.1 Identify transportation mode
- 1.2 Identify fleet availability
- 1.3 Identify supply route

---



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**Slide No.**      **3**

**Trainer  
Notes**

Briefly talk about the sub-elements of Element 1 and why Humanitarian Logistics professionals must know these.



Image 4: Slide 4



## Identify transportation mode

1.1

---

### Introduction

Humanitarian agencies seek to maximise the impact of emergency response by meeting urgent needs and preventing further damage.

Response or lead time reduction is an important consideration.


➤

Determining the quickest way, the right type of transportation to distribute aid, and managing vehicle routing is critical to any emergency response.

➤

The primary challenge in vehicle routing is to find out the shortest time path between origin and destination.

Unlike the usual vehicle routing problems, the emergency vehicle routing problem minimises the sum of arrival times instead of minimising the cost.



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Trainer's Guide - 4

**Slide No.**      **4**

### Trainer Notes

- Network design includes defining the routes and allocating the available resources (primarily vehicles and tasks such as structure stabilisation and roadway repair). The network's performance is evaluated by network vulnerability analysis and network reliability analysis.
- Vulnerability analysis examines the connectivity between all origin-destination pairs following a disaster. Network reliability analysis evaluates the stability of a transportation network under different circumstances.





## Identify transportation mode

1.1

### Major transport considerations

- Major points, border crossings and transport routes (road, rail, river), including trans-shipment points (airports, landing strips, helipads) serving the emergency zone.
- Mountain ranges, flood-prone areas, damaged or vulnerable bridges, ferry crossings, or routes susceptible to landslides or security problems.
- Expected seasonal effects on transport, storage and handling operations.
- The security situation in the area of operations and along the relevant road, rail and river corridors. Current and potential security measures to protect stocks, transport, and warehouses.
- Political or military effects on transport, storage and handling, operations and capacity.



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ASEAN Standards and Certification for Experts in Disaster Management

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## Slide No. 5

### Trainer Notes

- For bullet point 1: Review the compensations to consider whether the trans-shipment points have sufficient capacity.
- For bullet point 2: Consider when you intend to move through a route (i.e. the height of the river, road conditions).
- For bullet point 3: Does the vehicle fleet capacity for seasonal conditions? Does the warehouse have the capacity to withstand heavy winds, rain, and snow?
- For bullet point 4: If the military is conducting operations in a particular area, you may not want to go into that area simultaneously.

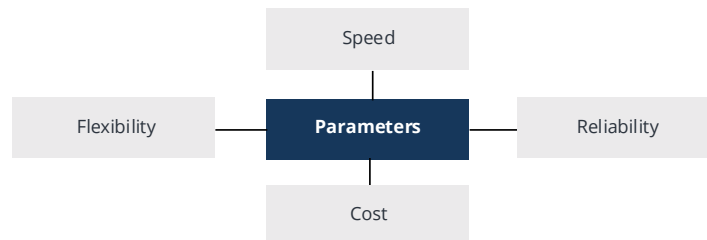




## Identify transportation mode

1.1

Parameters to consider when selecting the mode of transport



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ASEAN Standards and Certification for Experts in Disaster Management

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**Slide No. 6**

### Trainer Notes

#### Parameters in selecting the mode of transport:

##### a. Speed

The mode of transportation determines the speed at which goods can be moved. However, the modal infrastructure's nature can impact the relative speed of that mode. Environmental factors, such as congestion on roads and the impact of adverse weather conditions, can impact the ability of transportation to move at the optimal modal speed.

##### b. Reliability

The reliability of the mode of transport lies in its ability to fulfil service requirements. The reliability of a transport service to deliver the correct goods, in the right condition at the required time, every time, is critical. Unreliable service in terms of planned aid delivery can have a critical impact on the ability of a program team to meet its humanitarian objectives.

##### c. Cost

The cost of a mode of transport is often expressed in terms of unit costs for transporting the goods or materials, rather than an absolute figure. It could be expressed as a cost per sack, per ton, per pallet or similar. The distance the goods have to travel must also be considered. Therefore, the modal cost can also be expressed as a value per ton kilometre. For instance, transport could be quoted as a cost per 24-ton load from point A to B.

Understanding costs at this level of detail allows for more precise comparison of different modes. If the goods are in the form of a full load and there is a choice of available modes for the consignment size, the absolute cost for transportation could be compared.

##### d. Flexibility



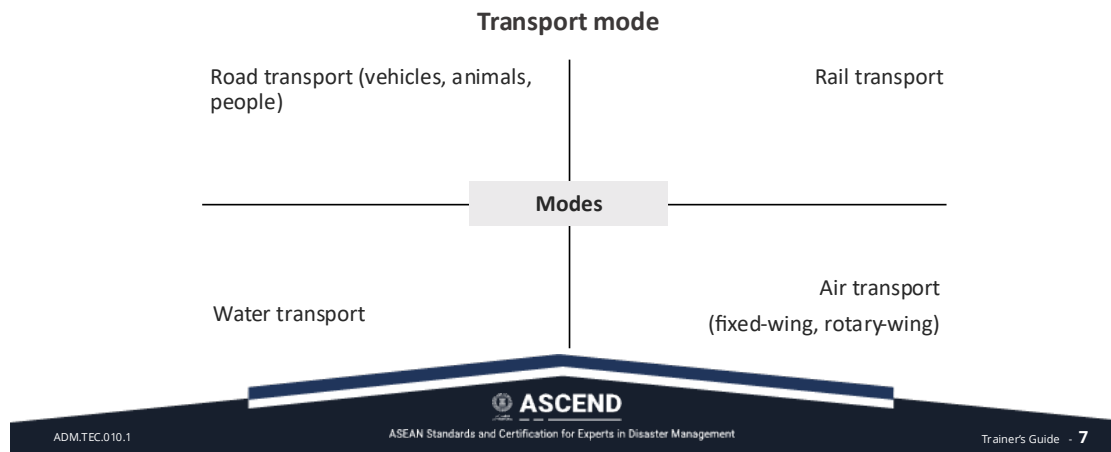
Flexibility relates to the scope for variation in a mode of transport. The infrastructure within which a mode has to operate will affect the flexibility of that mode. Comparatively speaking, road transport is a very flexible mode due to the road infrastructure in most countries. Rail, for example, is less flexible, being constrained by the available fixed infrastructure.





## Identify transportation mode

1.1



Slide No. 7

### Trainer Notes

#### Road transport considerations:

- Primary, secondary, village roads and tracks
- Security concerns and measures for particular routes or locations. Would the routes become impassable due to floods, snow, landmines or insecurity?
- The types and sizes of cargo trucks that can pass on each road type/route (noting seasonal variations)
- Bridges: types and capacities weight limits
- Fuel
- Potentially dangerous overhangs: Steep hills, tunnels
- River crossings or ferries with expected delays, tolls, etc.,
- Present and foreseeable bottlenecks and possibilities to overcome them to increase the efficiency of the operation

#### Rail transport considerations:

- Condition of rail tracks
- Present level of cargo movement: any anticipated changes
- Major transit points: location, wagon capacity, sidings, storage capacity
- Reliability and security of cargo movements
- Type and number of usable cargo rail-wagons
- Type and number of usable locomotives
- Rate of through-put from points of origin to storage facilities
- Procedures at transit points
- Security concerns and measures for specific routes or locations
- Type and access to fuel
- Present and foreseeable bottlenecks

#### Water transport consideration:

##### Port



- Permissible vessel specifications for bulk and bagged cereal
- Cargo handling equipment – numbers and capacity of cranes and forklifts
- Discharge rates to warehouses, trucks, rail wagons, barges
- Location, number of quays
- Present level of functioning
- Superintendence, shipping and forwarding agencies present and their fee rates
- Current and foreseeable bottlenecks, possibilities to overcome them and increase efficiency
- Customs procedures, handling costs, taxes
- Security concerns

**River corridors**

- Draught, speed of current, permissible vessel specifications and carrying capacity (with seasonal variations), tides
- Customs and other considerations where a river marks an international frontier
- Local norms/practices for contracting river transport
- Available boats, barges, tugs, canoes
- River width, length, hazards (rapids)

**Air transport considerations:**

- Runway length, width, surface, load classification and orientation
- Location and height of any obstructions along the runway or in approach/departure zones
- Present and potential weather constraints (e.g., fog, strong winds)
- Aircraft types that can operate
- Available navigation aids and support
- Availability of night lighting and the reliability of power supplies
- Operating hours: the level of sustainable activity, times when relief aircraft can be best be accommodated
- Air operations that are present and occur regularly
- Customs procedures





## Identify transportation mode

1.1

### Range and payload capabilities of helicopters and aircrafts used in humanitarian logistics

TYPE OF HELICOPTER	MAX RANGE	PAYLOAD KG	
	Nautical Miles (NM)	Max Range	For < 100 NM
Bell 206L-4	320	200	645
Ecureil 350 B2	350	N/A	900
Bell 212	200	N/A	2,000
Sikorsky S-76C	180	650	1,500
Super Puma L1	432	2,543	4,470
Super Puma L2	450	3,044	4,902
Super Frelon SA 321	450	3,800	5,200
Super Puma 332 C1	360	N/A	4,500
MI-8	270 / 518	N/A	3,000
MI-17	307	N/A	3,000 – 4,000
MI-26	432 / 1,036	N/A	20,000

TYPE OF AIRCRAFT	MAX RANGE	MAX PAYLOAD	MAXIMUM CAPACITY
	(KM)	(Tons)	(M³)
Hercules C130	3,700	20.4	130
Antonov AN12	2,100	18.0	90
Antonov AN124	6,500	120.0	850
Ilyushin IL76	3,800	45.0	180
Boeing 707	4,700	42.0	210
De Havilland Buffalo	3,400	6.2	N/A
Twin Otter	1,700	2.3	N/A



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### Trainer Notes

Range and payload capabilities of helicopters and aircraft used in humanitarian logistics.







## Identify transportation mode

1.1

Information on animal load capacity and daily work rate when used as a mode of transport

ANIMAL	LOAD CAPACITY	DAILY WORK RATE
Elephant	500 kg	5-8 hours
Donkey	50 kg (mountain work)	8 hours
Mule	50 kg (mountain work)	8 hours
Llama	50-80 kg	8-10 hours
Horse	60 kg	6 hours
Bull	150-250 kg	8-10 hours
Camel	150-250 kg	50 km
Yak	70 kg	


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### Trainer Notes

#### Other modes of transport

- In some emergency operations and situations, the only possible means of transport is by an animal, for example, the final transportation to very remote villages.
- Managing a caravan of animals is not easy, and the best way to deal with this is to rent them from an owner. Therefore, the owner will be in charge of all logistical aspects of the "convoy".
- It is essential to ensure that sufficient food/feed and water are available en route.
- The goods being moved must be packaged in relation to the weight that a particular animal can carry. These may vary locally because of climatic or other local conditions. The table shows the animals used most frequently in such situations and their load capacity and work rate.





## Identify fleet availability

1.2

### Introduction

Generating relief good distribution and transportation plans is challenging, and several issues must be addressed.

Some variables—such as supply, demand, number of vehicles, and capacities—vary in time due to changes in available information.



Commonly, the first relief goods transported to affected locations are from inventories of pre-packaged goods as part of disaster preparedness.



The availability of emergency resources, including vehicles and supplies, is always limited.

As more information is shared, more relief goods may be donated and sent to affected countries, increasing the available supplies.



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### Trainer Notes


Some essential transportation resources such as airports, seaports, railways, and roads may be destroyed during the initial period. Any restoration attempts change the availability status of such essential nodes.



Image 11: Slide 11

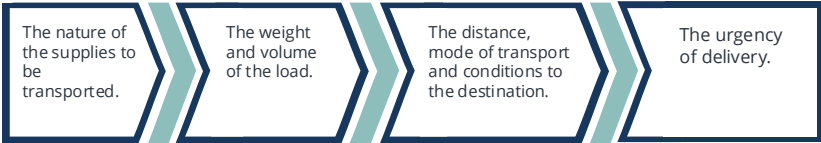


## Identify fleet availability



**1.2**

### Determining the type of transport needed




The nature of the supplies to be transported.

The weight and volume of the load.

The distance, mode of transport and conditions to the destination.

The urgency of delivery.

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**Slide No.** 11

**Trainer Notes**

There are four things to consider when determining the type and quantity of transportation for humanitarian logistics.





## Identify fleet availability

1.2

### Estimating the number of vehicles needed

The table below shows a simple procedure for estimating the number of vehicles needed, whether they be trucks, boats, or planes, to transport a load with a known weight and deadline for delivery.

#### Calculation procedure:

- How many tons must be moved? By when?
- How long will the vehicles take to take a load from the delivery point to the reception point and return? (Do not overestimate the speed and include loading and unloading.)
- What load capacity does the vehicle have?

$$\text{No. of possible trips per vehicle} = \frac{\text{Period}}{\text{Duration of round trip}}$$

$$\text{No. of loads} = \frac{\text{Total No. of tons}}{\text{Vehicle capacity}}$$

$$\text{No. of vehicles} = \frac{\text{No. of loads}}{\text{No. of possible trips / vehicles}}$$

Add 25% extra time for contingencies.



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### Trainer Notes

#### Other modes of transport

- In some emergency operations and situations, the only possible means of transport is by an animal, for example, the final transportation to very remote villages.
- Managing a caravan of animals is not easy, and the best way to deal with this is to rent them from an owner. Therefore, the owner will be in charge of all logistical aspects of the "convoy".
- The big difference between a truck and an animal is that it is eating and drinking even if the animal does not move. Ensuring that sufficient food and water are available en route is important.
- The goods being moved must be packaged in relation to the weight that a particular animal can carry. These may vary locally because of climatic or other local conditions. The table shows the animals used most frequently in such situations and their load capacity and work rate.



Image 13: Slide 13




## Identify fleet availability

1.2

**Stowage factor (SF)**

- In cases where complex goods are required, their volume and weight need to be considered. It is better to start taking into account the STOWAGE FACTOR (SF).
- Stowage Factor (SF) is the volume occupied by one unit of mass (weight) when stowed in cargo space.

Volume (cbm) / Weight (mt)



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**Slide No.      13****Trainer**      Trainer identifies the stowage factors  
**Notes**



## Identify fleet availability

1.2

### Stowage factor (SF)

- SFs are approximate values, and the actual space taken up by a parcel of cargo will depend on the following: care taken in stowing it, the shape of the compartment, the type of dunnage used, the form of packing, the need for greater or lesser segregation from other cargo in the same compartment and even the season in which the cargo is loaded.
- SFs are useful at the planning stages before cargo is loaded. It can help determine how best to load the cargo on board the vessel or in a container to maximise the space used with maximum safety.

On limiting factors:

- If the stowage factor of the consignment is lower than the average stowage factor of the vehicles, the **weight** will be the limiting factor.
- If the stowage factor of the consignment is higher than the average stowage factor of the vehicles, the **volume** will be the limiting factor.

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### Trainer Notes

- Broken stowage is lost cargo space due to the contour of the hull of a vessel and/or the shape of the cargo. Dunnage, ladders, and stanchions are an example of broken stowage.

Broken stowage is shown as a percentage figure, which estimates the space that will be lost.



Image 15: Slide 15



## Identify fleet availability

1.2

### Stowage factor (SF)

Example:

- We will load a box with the following characteristics:
- Weight: 0.4 MT, Dimensions: 1.5m x 1.6m x 0.75m = Volume of 1.8 cubic meters (CBM). So, stowage factor is  $1.8/0.4 = 4.5$ .
- On the other hand, a 25 MT truck with a capacity of 42 cubic meters will have a stowage factor of 1.68.
- So, in this case, the volume will be the limiting factor.



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**Slide No.**      **15**

**Trainer**      None.  
**Notes**





## Identify fleet availability

1.2

### Commercial vs. non-commercial transport

Non-commercial or free transport, sometimes offered by government agencies, military, other organisations, or volunteer groups, reduces the cost of the operation.



In general, however, the owners of these transport services do not assume responsibility for the safety of the goods.



It makes sense to use free transport because it reduces the operational cost.

Sometimes it is the only means available, but organisations should take special security measures to protect the load.



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#### Trainer Notes

- In conflict areas, humanitarian organisations may be unable to use military transportation resources without compromising their independence. The decision to accept services of armed forces is highly political. It will also depend on the donors funding the humanitarian organisation. Cooperation can lead to closer association of humanitarian organisations with political and military objectives of armed forces and increase insecurity for humanitarian workers.
- Some humanitarian organisations believe that armed forces should not be involved in providing humanitarian assistance. Others think that humanitarian organisations should accept military assistance if they are overwhelmed.
- Likewise, sharing transportation resources with other humanitarian organisations may have substantial political implications, especially if humanitarian organisations providing transportation services do not strictly respect their neutrality towards all conflict parties. Cooperation with one party to the conflict may make it impossible to safely operate within the area under the control of an opposing party and, therefore, erode impartiality in the conflict.
- Sharing transportation resources with other humanitarian organisations may also have substantial political implications, especially if humanitarian organisations providing the transportation services do not strictly respect and adhere to the neutrality principle.





Image 17: Slide 17



## Identify fleet availability

1.2

Each type of commercial shipping service has a different calculation method

Airfreight, road transport and courier services are charged per kilo.

**Airfreight and road transport:** The volume ratio is 1:6 or 1 metric ton 1000:6 = 166.66 kilos

**Courier services:** The volume ratio is 1:5 or 1 metric ton 1000:5 = 200 kilos.

**Sea freight:** The volume ratio is 1:1. 1 metric ton is equal to 1000 kilos.



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### Trainer Notes

Each type of commercial shipping service has a different calculation method, as listed below:

- Airfreight, road transport and courier services are charged per kilo. However, if goods in relation to their weight occupy much space, the charge will be over the volume weight. This is often the case for bicycles and furniture.
- **Airfreight and road transport:** The volume ratio is 1:6 or 1 metric ton 1000:6 = 166.66 kilos. This means that 167 kilos should not exceed the space of 1 cubic meter. If a consignment of bicycles and furniture weighs 167 kilos and takes space for 1.73 cubic meters. Consequently, charge is over:  $1.73\text{M}^3 \times 166.66 = 288$  volume kilos. WBS will establish which of the two are the highest (actual or volume weight).
- **Courier services:** The volume ratio is 1:5 or 1 metric ton 1000:5 = 200 kilos. This means that 200 kilos should not exceed the space of 1 cubic meter. If a consignment has an actual weight of 200 kilos and takes space for 1.73 cubic meters, the charge is over:  $1.73\text{M}^3 \times 200 = 346$  kilos volume weight. WBS will establish which of the two are the highest (actual or volume weight).
- **Sea freight:** The volume ratio is 1:1. 1 metric ton equals 1000 kilos. The actual weight is also needed, but sea freight is always calculated over the volume.





## Identify fleet availability

1.2

### Types of contracts: Advantages and disadvantages

TYPE OF CONTRACT	ADVANTAGES	DISADVANTAGE
By the ton or ton/km	<ul style="list-style-type: none"> <li>Client pays for the transport of the goods regardless of the time the trip takes, or whether the truck is full or not. The cost of the service is clearly agreed upon from the start.</li> </ul>	<ul style="list-style-type: none"> <li>The carrier might include other clients' loads in shipment, which may compromise the safety of supplies.</li> <li>The driver might use a less direct route to add kilometres to the bill.</li> </ul>
Per vehicle per journey	<ul style="list-style-type: none"> <li>Client has exclusive use of the vehicle(s).</li> </ul>	<ul style="list-style-type: none"> <li>The carrier might not be interested in filling each vehicle to its maximum capacity, thereby multiplying the number of trips.</li> <li>The size of the vehicle might not correspond to the size of the load.</li> </ul>
Per vehicle per day	<ul style="list-style-type: none"> <li>Exclusive use of the vehicle. Usually, the best option for short trips.</li> </ul>	<ul style="list-style-type: none"> <li>The carrier might choose to "take it easy" on each trip.</li> <li>If the truck needs repairs, the daily fee might still be applicable unless stipulated otherwise in the contract.</li> </ul>


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### Trainer Notes

- Different types of contracts have their own advantages and disadvantages. Therefore, it is essential to evaluate the particular requirements of the shipment and carefully review what is included in the fare (e.g., loading and offloading, the driver's fees).
- When planning to hire a firm's transport services, it is helpful to bear in mind the issues outlined in the table.



Image 19: Slide 19



## Identify fleet availability

1.2

### Ownership of transportation: In-house vs Outsourced

	ADVANTAGE	DISADVANTAGE
In-house transportation	<ul style="list-style-type: none"><li>• Independence from shortages of commercial transportation capacities.</li><li>• Able to mitigate costs from (unreasonable) price increases.</li><li>• Closer control over routing and scheduling.</li><li>• Better control over transported consignments.</li><li>• Higher acceptance by conflict parties.</li><li>• Often easier to communicate</li></ul>	<ul style="list-style-type: none"><li>• Large investment in purchasing assets.</li><li>• Inflexibility for increasing or reducing transportation capacities.</li><li>• Fixed costs independent of utilization.</li><li>• Inflexibility (assets may not be suitable for all operations).</li><li>• High costs and delays for moving transportation means to other operations.</li><li>• Requires skilled and experienced staff for maintaining and operating.</li><li>• Cost inefficiency because of lack of backloads.</li><li>• May not be a core competency.</li></ul>

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**Trainer Notes**

Like commercial organisations, humanitarian organisations can use private contracts or common carriage to distribute humanitarian assistance goods within the supply network.

Trainer explains in-house transportation





## Identify fleet availability

1.2

### Ownership of transportation: In-house vs Outsourced

#### Outsourcing transportation to commercial carriers

- Great flexibility in transportation capacities.
- Flexibility in choice of types of means of transportation.
- More experience.
- Possible unavailability of carriers.
- Entry into conflict areas may be refused by conflict parties.
- Requires knowledge of the

- Familiarity with national legislation and regulations.
- Familiarity with the geography of the country.
- Familiarity with road and weather conditions.
- Greater cost-efficiency (load consolidation).
- No need for investment in assets.
- No need to manage assets and staff.
- Reduces complexity of supply network management.
- Knowledge of exact transportation costs.
- Possibility offer of tracking and tracing services.
- Outsourcing of risks associated with damage and loss of transportation means.
- Support of domestic economy
- transportation market.
- Poor control over consignments and risk of theft.
- Carrier may refuse transportation to and in unsafe areas.
- Lack of commitment to a specific customer.
- Dependency on unreliable services.
- Transportation delays by load consolidation from different customers.
- May have limited choice of transportation means and unit loads.
- Lack of knowledge of handling specific humanitarian goods (medicines, VSAT, etc.).
- Complete interruption of humanitarian assistance in case the carrier suspends services.
- Dependence on overall requirements for transportation capacities.
- May have lower safety standards and higher risks.
- Risk of sharing transportation resources with other (unknown) customers.
- Lack of influence on the neutrality of the carrier.

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### Trainer Notes

Trainer explains outsourcing transportation to commercial carriers



Image 21: Slide 21



## Identify supply route

1.3

### Introduction


Humanitarian logistics planning involves identifying the optimal distribution routes so that aid and relief reach affected communities as quickly as possible to minimise suffering.

>

It is essential to consider the different modes of transport and supply routes when designing preparedness plans.

>

Efficient planning should achieve a robust yet flexible relief distribution mechanism well suited to operate in disaster-affected areas.

 **ASCEND**

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**Trainer Notes**      None.



Image 22: Slide 22



## Identify supply route

1.3

### Selecting the route

- The **safest route** must be chosen as a general principle even if it is not the fastest or shortest one.
- When deciding on the route, it is important to identify **key services** along the way, such as places where one may obtain fuel, food, mechanical repairs, or medical care.
- It is essential to identify **potentially insecure conditions**, such as roads in bad condition, landslide-prone areas, or sectors where armed elements are known to operate.
- **Any change or deviation** from the agreed-upon route and any other special situation that may arise during the trip must be communicated immediately to the nearest base, whether it is the point of departure, the delivery point, or a base in between



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### Trainer Notes

Selecting the route to be taken depends on the kind of transport available, the urgency of the delivery, and the delivery schedule (i.e., making partial deliveries at intermediate points). The following are factors to consider when selecting the route.

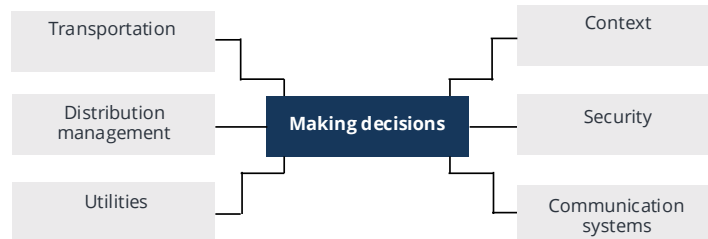




## Identify supply route

1.3

### Decision-making basis



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### Trainer Notes

- The route taken for distributing goods and travelling with the team will likely be different from one operation to another. It all depends on the needs, budget, security factors, availability of resources and supporting infrastructure.
- An assessment (e.g., LCA conducted in the preparedness phase or a rapid assessment immediately after a disaster occurs) can provide essential information.
- The points from the logistics assessment that form part of the analysis of determining distribution and travel routes are:
  - a. Context**
    - Country and area where humanitarian assistance is necessary.
    - Geography, topography, and climate.
    - Nature of the conflict and emergency.
    - Locations where immediate needs are expected to be the greatest.
    - Location of border crossings, seaports and airports.
  - b. Security**
    - Risk of criminality (theft, robbery, murder, etc.).
    - Risk of armed banditry (kidnapping, high jacking, etc.).
    - Risk of lawlessness (riots, looting, etc.).
    - Conflict-related risks (shooting, explosive devices, mines, artillery, aerial bombing, etc.).
    - Presence and availability of a police force.
    - The general discipline of the combatants.
    - Military operations in the area.
    - The attitude of parties in conflict towards humanitarian organisations and their programs.



- Vicinity of offices, warehouses, and workshops to military installations.
- Security of transportation infrastructure (roads, seaports, airports, railheads, etc.).
- Security risk of driving by night.
- Use of transportation infrastructure by the military (roads, airports, seaports, etc.).
- Danger of natural hazards (floods, tornados, earthquakes, landslides, avalanches, etc.).
- Dangers from industrial installations (dams, power plants, nuclear plants, etc.).

**c. Communications systems**

- Availability, capacity, reliability, and coverage of public mail services.
- Availability, capacity, reliability, and coverage of private mail services (courier services).
- Availability, reliability, and cost of mobile telephone networks.
- Availability, reliability, and cost of satellite telephony.
- Availability, reliability frequencies, and coverage of VHF and UHF networks.
- Availability, reliability frequencies, and coverage of HF networks.
- Availability and quality of maintenance and repair services for communications equipment.
- Regulatory licensing authorities for radio equipment.
- Available radio frequencies.
- Communication infrastructure of civilian authorities.

**d. Utilities**

- Availability, reliability, and cost of fuel (gasoline diesel).
- Distribution system for fuel.
- Source of fuel and dependency on importation

**e. Distribution management**

- Location of stores, distance from beneficiaries and system of distribution.
- Main routes and distribution network (suppliers, warehouses, and beneficiaries).
- Number of beneficiaries serviced.
- Delivery frequency.

**f. Transportation**

- For all modes of transportation, the infrastructure (roads, bridges, seaports, airports) and the means of transportation (vehicles, vessels, aircraft) need to be considered.
- Availability, services, and costs of freight forwarding agents.
- Possibility and infrastructure for intermodal transportation





*Image 24: Slide 24*

## Element 2

### Implement storage plan

#### Performance Criteria

- 2.1 Identify storage locations
- 2.2 Identify storage requirement
- 2.3 Apply warehouse management standard



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**Trainer  
Notes**

Briefly talk about the sub-elements of Element 2 and why it is essential for Humanitarian Logistics professionals to know these.



Image 25: Slide 25



## Identify storage locations

2.1

---

### Introduction

Relief goods are stored until they can be distributed or used. However, it is not simply finding a large warehouse to accommodate the shipments.


➤

An organised system must be in place to keep track of the type and quantity of supplies and their location in the warehouse, including reserve stockpiles for future needs.

The storage process aims to protect relief goods until they can be handed over to beneficiaries.

➤

Organizing a warehouse to function correctly means complying with current standards for protecting the quality and security of the products shipped.




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### Trainer Notes

- Some warehouses are specially designed to facilitate storage, having the necessary space and characteristics for the safe loading, offloading, and handling of the merchandise.
- However, in most emergencies, one has to settle for available spaces—often schools, community centres, gyms, and the like, that are not designed for storage.






## Identify storage locations

2.1

Types of warehouse

Based on purpose	Based on managing party
<ul style="list-style-type: none"> <li>• Central warehouse (country operations central storage).</li> <li>• Transit warehouse (short term storage between the origin of goods and their final destination).</li> <li>• Field site/office warehouse (field site storage).</li> <li>• Distribution point storage (storage of commodities for distribution and distribution remaining stock managed by program staff).</li> <li>• Bonded warehouses (for storage of duty/tax free goods, not formally imported, pre-positioned stocks for global or regional responses, transit stocks for another country, or stocks that require a long time to get duty free import permits).</li> </ul>	<ul style="list-style-type: none"> <li>• Organisation warehouse (managed by internal organisation staff)</li> <li>• 3rd party commercial warehouse (managed by a commercial company)</li> <li>• 3rd party non-commercial warehouse (managed by the Logistics cluster, UN agency, government entity, or another NGO).</li> </ul>

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#### Trainer Notes

- Some warehouses are specially designed to facilitate storage, having the necessary space and characteristics for the safe loading, offloading, and handling of the merchandise.
- However, in most emergencies, one has to settle for available spaces—often schools, community centres, gyms, and the like, that are not designed for storage.






## Identify storage locations

2.1

Criteria for an ideal warehouse

Secure area	Contamination free soil	Open ground	Clean	Solid structure, firm floor	Vented and dry
Protection against extreme weather	Protection against animals, insects	Accessible to trucks	Access for loading, unloading	Storage capacity	Sanitary facilities
		Electricity	Secure from thefts		

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### Trainer Notes

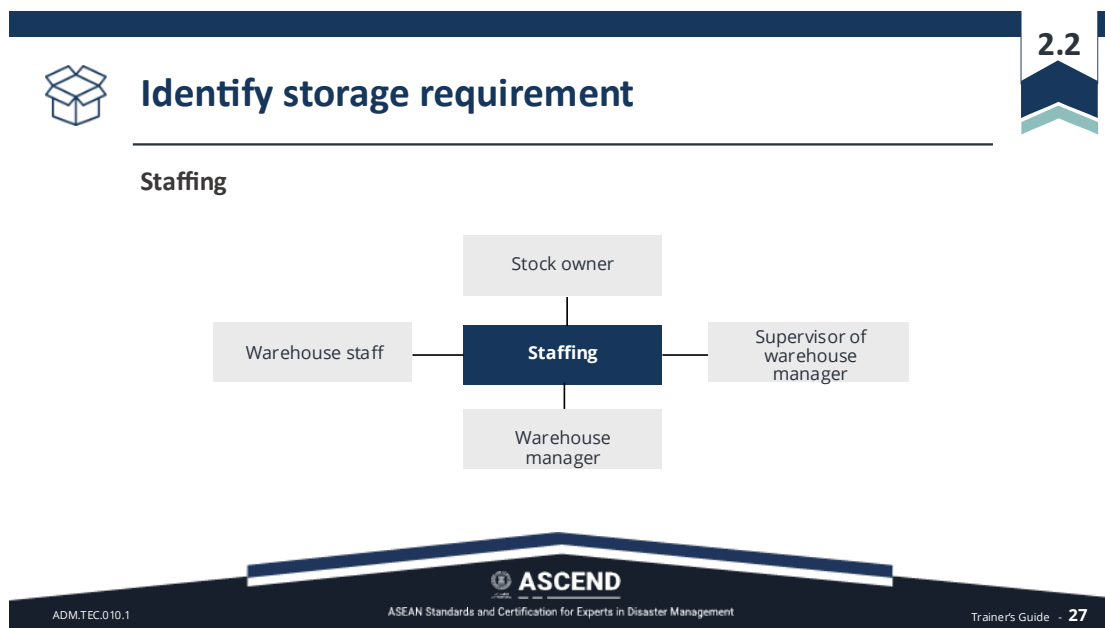
The slide shows criteria that must be considered when selecting an area for an aid warehouse.

- a. **Secure area:** the selected area must be safe from all kinds of threats such as natural hazards or security disturbances
- b. **Contamination free soil:** the land allocated for the food aid warehouse must be free from all kinds of contamination and toxic substances. For example, the area allocated should never be used by a cement factory.
- c. **Open ground:** it must be an open ground area and must not be around a busy community area
- d. **Clean:** it must be clean from trash, bushes, pollution, and contamination
- e. **Solid structure, firm floor:** a solid structure building for warehouse
- f. **Vented and dry:** the warehouse must have adequate ventilation and no leaks when it rains
- g. **Protection against extreme weather:** the warehouse must have good ventilation for dry seasons and provide adequate equipment such as tarps and pallets.
- h. **Protection against animals insects:** the warehouse must be free from infestation from common pests such as rodents, weevils, and other pests usually found in and around food aid warehouses.
- i. **Accessible to trucks:** the warehouse must be in an open area or in an industrial area with good road access for heavy vehicles to come into and exit the warehouse compound. Also, there should be enough space to manoeuvre in the warehouse compound.



- j. **Access for loading unloading:** the warehouse must provide the facilities for loading and offloading activities (Loading and offloading docks must be available). It is also advisable that the warehouse gate be at least 6 (six) meters wide.
- k. **Storage capacity:** the warehouse must have an elevation of between 1 and 1.5 meters from the ground. It should also have an adequate storage capacity to accommodate the incoming commodities. During the peak operation period, there will be a high and continuous flow of incoming commodities into the warehouse. Warehouse managers and storekeepers must calculate the warehouse's storage capacity and inform senior management about the available storage capacity.
- l. **Sanitary facilities:** facilities such as toilets are considered very IMPORTANT for warehouse activities for hygiene purposes. Adequate and clean warehouse toilets for staff, warehouse labourers, and transporters/truckers must always be available within the warehouse compound.
- m. **Electricity:** provision of adequate lighting is essential for warehouse security. It facilitates the operation of electricity-powered equipment such as computers and storage and handling equipment if available.
- n. **Secure from thefts:** the warehouse must be secure from thefts with sufficient security guards, adequate lighting, and a strong perimeter fence/wall.
- It is challenging to find an ideal warehouse that matches all of the points above, especially during the emergency phase. Sometimes we have to weigh which points are more critical and sacrifice one criterion to get the other.



**Slide No. 28****Trainer Notes**

- The staff positions listed are either directly or indirectly responsible for running operations in the warehouse.
- After choosing the right location and infrastructure for a warehouse, the next step is to operate the warehouse optimally. The warehouse needs to have proper staffing and suitable equipment to function well.





## Identify storage requirement

2.2

### Equipment and material required in the warehouse

Item No.	Description: Storage and Handling	Remarks
1	Platform scale (500kg non-digital)	Recommended for transshipment point
2	Platform scale (300kg non-digital)	Recommended for EDP quality control
3	Scale (25-50kg)	Recommended for reconditioning/packing
4	Forklift or GRT (Counter Balance Truck)	(Electrodesised 2.5 to 3 MT)
5	Hand pallet	1-2 MT
6	Wheelbarrow	
7	Hand Trolley	
8	Pallets	(Standard size 0.9 x 1.2 m or 1.23m x 1.23 m)
9	Plastic sheeting	
10	Storage cabinets with locks	Security of valuable equipment and chemicals
11	Tarpaulins	To collect spillage and for reconditioning
12	Ladders	Industrial type, metal, avoid locally made wooden ones
14	Storage tents	
15	Bolt cutters	To remove customs seals from containers
Item No.	Description: Reconditioning Equipment and Supplies	Remarks
1	Empty plastic bags	Different sizes for sugars, etc.
2	Empty jute bags	Different sizes
3	Hand-held stitching machine	Electric with spare part and thread
4	Needles and thread	
5	Brooms	
6	Buckets	
7	Shovel	
8	Funnels	
9	Liquid containers (Jerry cans)	Plastic
10	Sieve/screens	
11	Scrapers	
12	Rubber gloves	
13	Scale	Platform: 300 kg
14	Tarpaulins	For work area to collect spillage
Item No.	Description: Cleaning Equipment	Remarks
1	Brooms	
2	Brushes	
3	Shovel/Outpan	Square
4	Waste Disposal/Carbage bags	
5	Work gloves	
6	Dust Mask	Disposable
7	Soap and Detergent	
8	Dust cloth	
Item No.	Description: Maintenance Tools	Remarks
1	Toolbox	
2	Measuring tapes	Hammer, screw drivers, pliers, etc.
3	Electric drill	Different length
4	Saw	
5	Safety goggles	Cotton
6	Work gloves	
Item No.	Description: Exterior Cleaning Equipment	Remarks
1	Lawn mowers	Gasoline
2	Power grass cutters	
3	Manual cutters	
4	Safety goggles	
5	Work gloves	
6	Wheelbarrow	
7	Poles	
8	Shovel	
9	Prick	
10	Machetes	
11	Axes	
Item No.	Description: Quality Control Equipment and Supplies	Remarks
1	Sampling Spoons	
2	Measuring meters	
3	Sampling bags	
4	Liquid containers	
5	Thermometer	
Item No.	Description: Pest Control Equipment and Supplies	Remarks
1	Fungicide/Tarpaulins	Made locally (e.g. from old tarpaulins)
2	Sand material	
3	Spraying machines	
4	Respirator/face masks	
5	Spraying chemicals and	
6	other fumigations chemicals	
7	Protective clothing and other	
8	Fumigation equipment	
Item No.	Description: Safety Equipment and Supplies	Remarks

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Trainer's Guide - 28

## Slide No. 29

### Trainer Notes

- Some basic equipment and materials are required to ensure that the warehouse functions properly. It is essential to understand that the selection of any warehouse equipment must balance the operational efficiency and the cost to obtain the equipment.
- At the same time, there is a need to meet the overall requirements of the operation within constraints imposed by warehouse size, warehouse layout, product, and processes. The following are some examples.





## Identify storage requirement

2.2

### Equipment and material required in the warehouse (continued)

1	First aid kits	
2	Stretcher	
3	Safety harnesses	
Item No	Description: Safety/Firefighting Equipment	Remarks
1	Generators	As main/back up supply
2	Spotlights	
3	Fencing	
4	Door Locks/Padlocks	
5	Security Alarms	
6	Flashlight/Torches	With Battery
7	VHF radios w/Battery	Battery charges
8	Fire extinguishers	
9	Smoke Detectors	
10	Water supply	
Item No	Description: Other Equipment and supplies	Remarks
1	Water Tanks-Drinking water	For drinking and nondrinking supplies
2	Toilets	
3	Fuel Tanks	Standby Fuel supply in Drum
4	Heaters	For cold weather conditions to keep liquid commodities from freezing

ADM.TEC.010.1

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### Slide No. 30

#### Trainer Notes

- Some basic equipment and materials are required to ensure that the warehouse functions properly. It is important to understand that the selection of any warehouse equipment must balance the operational efficiency and the cost to obtain the equipment.
- At the same time, there is a need to meet the overall requirements of the operation within constraints imposed by warehouse size, warehouse layout, product, and processes. The following are some examples.







## Apply warehouse management standard

2.3

### Introduction

A warehouse needs to have a sound management system and ensure that all activities in the warehouse support the organisation's objectives. This often requires implementing structured and standardised rules.



Good warehouse and storage management practices provide the conditions for running efficient warehouse operations.



The security and safety of staff, facilities, assets, and goods must be maintained. Storage facilities have to be kept clean, and stock records should be accurate.



ADM.TEC.010.1

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Trainer's Guide - 30

**Slide No. 31**

### Trainer Notes

#### Objectives of warehouse and stores management:

- Security of stores and warehouses as well as stored goods.
- Safety of staff and prevention of accidents.
- Availability of qualified staff and maintaining adequate staffing levels.
- Cleanliness of stores and warehouses.
- Keeping good order of stock.
- Protection of goods from vermin and pests.
- Maintenance of building, facilities, storage, and materials handling equipment.
- Accurate record-keeping.
- Preventing theft of goods.
- Preventing deterioration of goods caused by inappropriate storage conditions.
- Preventing expiry of goods in stock.



**Slide No. 32****Trainer Notes**

- Good safety and security measures in the warehouse can enhance productivity, reduce accidents, increase donor trust, and reduce operational costs.
- **Safety:** Safety is often not taken as seriously as it should until an accident occurs. National regulations on safety may not be existent or not be enforced. Nevertheless, it is the responsibility of warehouse managers to prevent staff injuries as far as possible. In many countries in which humanitarian organisations work, staff are not covered by health insurance. Apart from the injury and possible disabilities, injuries, which lead to the loss of capacity to work, can lead to the loss of livelihood for the staff member and her/his family.
- **Security:** Attempts should be made not to attract unnecessary attention. Avoid placing large signboards if the risk of theft is high. The challenge is how to balance security and visibility (the organisation's presence and their work). The logistics team should coordinate with the security team in determining the optimal arrangements to ensure that the staff, premises, and commodities are safe.
- **Warehouse maintenance:** All productive, well-run warehouses have one thing in common: regularly maintained. Like a clean household, every warehouse needs some sort of regular schedule to keep everything on track. This means routine inspections, regular cleanings, safety checks, and much more for warehouses.



- Carrying out regular inspections and maintenance help determine the condition of buildings, particularly their electrical installations, locks, roof, and structural integrity. Conduct the necessary repairs or replacements as soon as possible to prevent damages or losses from getting worse



Image 33: Slide 33



**Slide No.**      **33**

**Trainer Notes**      Close presentation and thank the participants.





# ASCEND

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