# Cost Recovery
# Moroccan
# Aviation Weather Services

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# Introduction

The official meteorological administration in Morocco is:
**DMN (Direction de la Météorologie Nationale :**
*Directorate of National Meteorology*)

The agency responsible for aviation assistance is:
**ONDA (Office National Des Aéroports**
*National Office of Airports*)

**ONDA** is responsible for recovering the costs of aeronautical assistance from aeronautical users

**Aviation weather service is organized under agreements between DMN and ONDA**

# Convention DMN-ONDA

## historical

| | |
|---|---|
| 1992 | A convention was signed between the two parties, under which ONDA undertook into account the costs of certain equipment and related charges. The total amount reserved for this purpose was approximately **15% of the overflight fee** and **4% of the landing fee**<br>= **21 MDH /year** |

# Convention DMN-ONDA

## historique

| | |
|---|---|
| 1996déb | A consulting firm mandated by the DMN estimated that the aeronautique services rendered by the DMN are estimated at about *60 million* dirhams (amount not suitable for the ONDA). |
| 1996/06 | In response to a request of the Moroccan authorities, an **ICAO mission was sent to Morocco** to allow the DMN and ONDA to agree on the reimbursement of the costs of aeronautical meteorology.<br>*Result: some conclusions of the report could not be implemented due to **lack of mutual agreement*** |
| 1996/10 | Signature of a convention which fixed the remuneration of the meteorological services at **30 MDH / year** |

# Convention DMN-ONDA

## historique

| | |
|---|---|
| 2001/11<br>20-23 nov | **ICAO** and **WMO** have undertaken a joint **mission** to Morocco to assist ONDA and DMN to reach agreement on the costing of aeronautical meteorological services to international civil aviation=> a **report** issued detailed the **method** and its **results** |
| 2002 | Several **meetings** were held between DMN and ONDA to implement the **recommendations of the ICAO-WMO** report:<br>The only agreement is : **the fixing of aeronautical factors** |
| 2004/01 | Signature of a convention between DMN and ONDA on the basis of the following annual amounts:<br>Forty Million Dirhams (**40 MDH**) for the year **2004**.<br>Forty Million Dirhams (**40 MDH**) for the year **2005**.<br>Forty Five Million Dirhams (**45 MDH**) for the year **2006**.<br>Fifty Million Dirhams (**50 MDH**) for the year **2007**.<br>Fifty Five Million Dirhams (**55 MDH**) for the year **2008**. |
| 2009 | Signature of a DMN-ONDA agreement, valid for the year 2009 with a lump sum of **55MDH** |

# Convention DMN-ONDA

## historique

| | |
|---|---|
| 2010 | Failure to negotiate a convention on the basis of the ICAO ***Manual on the Economics of Air Navigation Services (Doc 9161/3***),<br>And Signature of the convention n°4/2010 DMN-ONDA on the basis of the following annual amounts:<br>**60 MDH** for the year 2010<br>**65 MDH** for the year 2011<br>**70 MDH** for the year 2012<br>**75 MDH** for the year 2013<br>**80 MDH** for the year 2014 |
| 2015 | Signature of an amendment to the convention n ° 4/2010 DMN-ONDA, valid for the year 2015 with a lump sum of **80** MDH |
| 2016 | Failure to negotiate a convention on the basis of the ICAO ***Manual on the Economics of Air Navigation Services (Doc 9161/3),***<br>And Signature of the convention n°5/2016 DMN-ONDA valid for 5 years on the **basis of international commercial air movements: 550DH per movement**:<br>2016 : **71 MDH**<br>2017 : **77 MDH** |

# Convention DMN-ONDA

## historique

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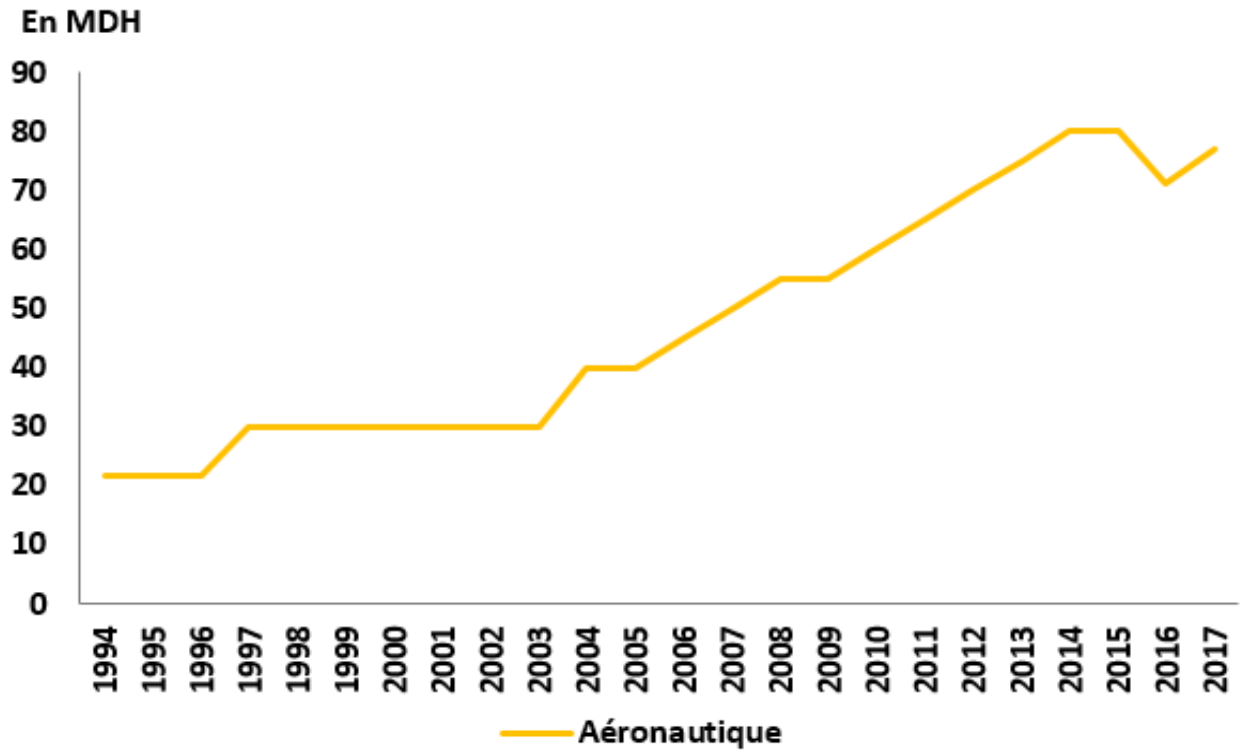
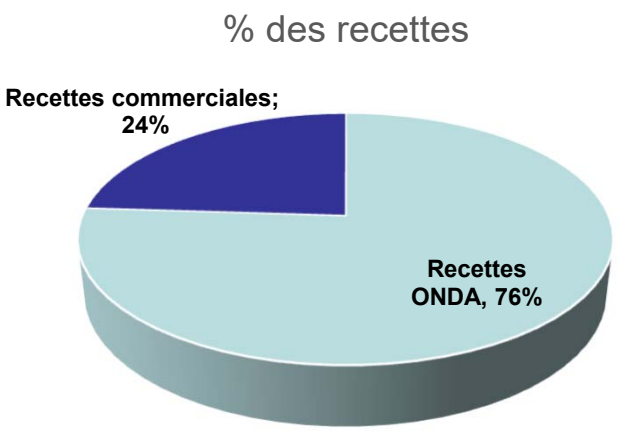
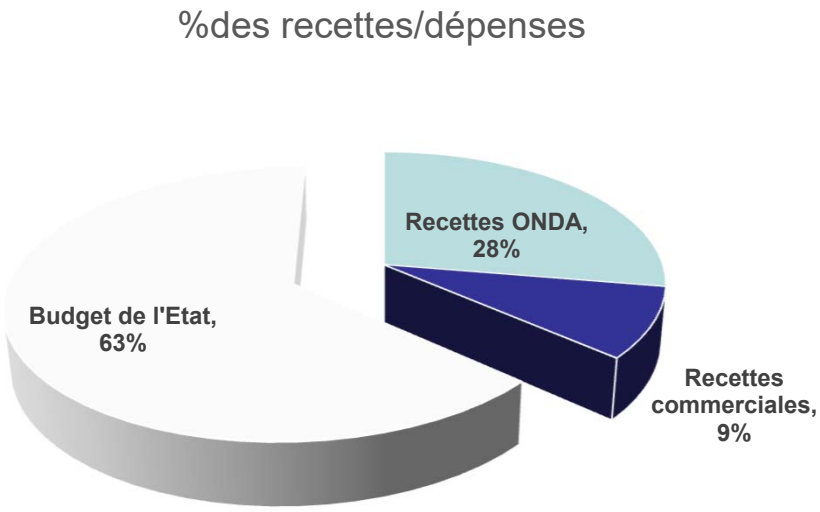
# Convention DMN-ONDA

## historique



# Percentage of revenue



# Approximate method in 2001 and 2010 (no success)

ICAO references:

•*Article 15 of the Convention on International Civil Aviation (the Chicago Convention (Doc 7300/8))*

•*Document: ICAO Policy on Charges for Airports and Air Navigation Services (Doc 9082/6)*

*These two documents state the principle that the cost to be shared by users is the total cost of providing air navigation services, including the aeronautical meteorological service.*

•***(ICAO) Manual on the Economics of Air Navigation Services (Doc 9161/3)***

•*Annex 3 - Meteorological Services for International Air Navigation, and in the Air Navigation Plan - Africa-Indian Ocean (Doc 7474)*

# COST RECOVERY
## relating to aeronautical weather services

*(approached 2001 and 2010 but not implemented)*

**Ref : Doc 9161/3**

Methodology used:

Determination of annual **meteorological costs**
attributable to **aeronautical use**

# COST RECOVERY
# relating to aeronautical weather services

3 phases :

**A** : **Establishment of an inventory** of installations and services provided by DMN in response to aeronautical requirements refer to the various ICAO documents;

**B** : **Identifying**, for each installation and service, the **ratio of its use for aeronautical requirements**, and in the case of mixed use (or shared), determining an **aeronautical coefficient,** that is to say a percentage of the use of the facility or service in the aeronautics,

**C**: **Examining**, for each installation & Service, the **nature of the costs**:

- Capital cost and amortisation schedule
- Operating (or running) costs *(operation and maintenance): determination of the elements components (personnel, consumables, spare parts, premises, type of equipment, etc.).).*

# COST RECOVERY
## relating to aeronautical weather services

**A** : **Establishment of an inventory** of installations(facilities) and services provided by DMN in response to aeronautical requirements refer to the various ICAO documents;

*The 27 installations and services are defined in the Doc 9161/3 on 3 types :*

A1: **Not applicable** in Morocco

A2: Meteorological facilities and services needed to serve **exclusively** aeronautical requirements

A3 Facilities and services which may be needed to serve **both aeronautical and non-aeronautical Requirements**

| # | Installation ou service<br>Doc 9161/3 | application |
|---|---|---|
| 1 | World Area Forecast Centre | |
| 2 | Regional Specialized Meteorological Centre (VAAC, TCAC and_monitoring radioactive material releases centre) | |
| 3 | Meteorological watch office | |
| 4 | Aerodrome meteorological office | |
| 5 | Aeronautical meteorological station | |
| 6 | Operation of a regional OPMET databank | |
| 7 | Aeronautical fixed service (AFS) telecommunications for aeronautical meteorological purposes | |
| 8 | Facilities to provide meteorological data processing of WAFS products | |
| 9 | Provision of D-VOLMET or VOLMET broadcasts | |
| 10 | Observing instruments provided for aeronautical purposes | |
| 11 | Specific aeronautical meteorological research | |
| 12 | Specific aeronautical meteorological training | |
| 13 | Specific aeronautical technical support | |
| 14 | General analysis and forecast offices | |
| 15 | Meteorological data processing | |
| 16 | Commonly used meteorological telecommunications facilities and services | |
| 17 | Climatological observation stations | |
| 18 | Upper-air observation stations | |
| 19 | Surface synoptic observation stations | |
| 20 | Weather radar | |
| 21 | Meteorological satellite image reception | |
| 22 | Core training | |
| 23 | Core research | |
| 24 | Core technical support | |
| 25 | SADIS | |
| 26 | Aeronautical Website | |
| 27 | World Area Forecast Centre | |

# COST RECOVERY
## relating to aeronautical weather services

**B** : **Identifying**, for each installation and service, the **ratio of its use for aeronautical requirements**, and in the case of mixed use (or shared), determining an **aeronautical coefficient,** that is to say a percentage of the use of the facility or service in the aeronautics,

•Facilities and services to be used exclusively for aeronautical requirements: **aeronautical factor = 1 (100%)**

• Installations and services intended to serve both aeronautical and non-aeronautical needs: **aeronautical factor <1**

# COST RECOVERY
## relating to aeronautical weather services

Phase C: consideration of the **nature of the costs**

| | | | | Cost of Invested Capital (en KDH) | | | Running cost (en KDH) | |
|---|---|---|---|---|---|---|---|---|
| N° Id | Installations &services | Section | Aero. fact | Cost of Invested | Annual amor | Annual aero cost | Annual cost | Annual aero cost |
| | | | | | | | | |
| | | | | | | | | |

*Principles of cost calculation :*

a) Staff costs are based on the pay structure of the civil service in Morocco and include bonuses and social charges

b) the maintenance costs are:
- the **actual costs** when the information is available,
- if not **15% of the depreciation cost** of the invested capital.

c) Amortization periods:
- Buildings: 20 years;
- Other fixed assets: variables from 2 to 15 years, depending on the lifespans

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Thank you

Merci