



UNITED NATION'S MISSION'S IMPACT ON THE  
DEVELOPMENT OF CIVIL AVIATION IN THE DEMOGRAPHIC  
REPUBLIC OF THE CONGO

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A DISSERTATION REPORT SUBMITTED IN PARTIAL FULFILLMENT  
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### Declaration by the Guide

This is to certify that Mr Gassim Nabil, a student of (Program), SAP ID 500070020 of UPES has successfully completed this dissertation report on "UNITED NATIONS MISSION'S IMPACT ON THE DEVELOPMENT OF CIVIL AVIATION IN THE DEMOCRATIC REPUBLIC OF THE CONGO" under my supervision.

Further, I certify that the work is based on the investigation made, data collected and analyzed by him and it has not been submitted in any other University or Institution for award of any degree. In my opinion it is fully adequate, in scope and utility, as a dissertation towards partial fulfillment for the award of degree of MBA.

Nizar Allani, 28/01/2020

*Nizar Allani*  
A handwritten signature in blue ink, appearing to read "Nizar Allani", with a horizontal line drawn through it.

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Signature



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## **Abbreviations**

<b>AFLS</b>	<b>-Airfield Lightning System</b>
<b>ATC</b>	<b>-Air Traffic Control/Controller</b>
<b>ATS</b>	<b>-Air Transport Section, UNHQ</b>
<b>ASU</b>	<b>-Airfield Support Unit</b>
<b>AWOS</b>	<b>- Automatic Weather Observing System and Doppler Radar</b>
<b>CAA</b>	<b>- Civil Aviation Authority</b>
<b>CAVO</b>	<b>- Chief Aviation Officer</b>
<b>DPKO</b>	<b>- Department of Peacekeeping Operations</b>
<b>DRC</b>	<b>- Democratic Republic of the Congo</b>
<b>FIR</b>	<b>- Flight Information region</b>
<b>IFR</b>	<b>- Instrument Flight Rules</b>
<b>IATA</b>	<b>- International Air Transport Association</b>
<b>ICAO</b>	<b>- International Civil Aviation Organization</b>
<b>LOA</b>	<b>- Letter of Agreement</b>
<b>MAOC</b>	<b>-Mission Air Operations Center</b>
<b>MONUSCO</b>	<b>-UN Stabilization Mission in the DRC</b>
<b>NOTAM</b>	<b>- Notice to Airmen</b>
<b>PASAG</b>	<b>- Projet d'Amelioration de la Sécurité à l'Aéroport International de Goma</b>



QASU	– Quality Assurance and Standards Unit
RW	– Rotary-Wing Aircraft
RVA	– La Régie des Voies Aériennes
SAOC	– Strategic Air Operations Center
SAR	– Search and Rescue
SARPS	– Standards and Recommended Practices
SOP	– Standard Operating Procedure
SOW	– Statement of Work
SRSG	– Special Representative of the Secretary General
SID	–Standard Instrument Departure
STAR	–Standards Arrivals
TMA	–Terminal area
UAV	-Unmanned Aerial vehicle
UN	– United Nations
UNHAS	– United Nations Humanitarian Air Service
UNHQ	– United Nations Headquarters
VFR	-Visual Flight Rules
WFP	– World Food Program

## **Abstract**

Aviation activities within the United Nations have a significant impact on the various levels of the development of the counties in which it operates. This research aims to find out the ways via which the United Nations Mission's Aviation can be extended to the advancement and of the local sustainable development especially the Air transport's infrastructure development.

This research further aims to find out how United Nations Missions in Congo has contributed and is still contributing to the economic enhancement of local Aviation's infrastructure through its Aviation Section activities.

Due to the difficulty to collect data and information from different all United Nations missions worldwide, I took as sample the United Nations Organization stabilization mission in the Congo (MONUSCO) being the biggest United Nations peacekeeping Mission in the world (2019).

In my dissertation, I am exploring more on how has MONUSCO Participated in the development of Civil Aviation in Democratic Republic of the Congo at multidimensional levels by establishing a link between MONUSCO Aviation's main task to support the implementation of the United Nation mandate as per Security Council resolution and the development of the local Civil Aviation at multidimensional levels:

- Infrastructure
- Air Navigation:
- Aeronautical Information Services (AIS)
- Others

## Chapter 1: Introduction

### Background

*“UN Security Council stresses the need to gradually transfer the tasks of MONUSCO to the Congolese government and the United Nations country team, so that the Mission can, “with favorable progress, leave the country according to a responsible withdrawal plan and sustainable”<sup>1</sup>.*

In October 2014, Ban Ki-moon, the Secretary-General, developed a High-level Independent Panel on the Peace Operations of United Nations (UN) for assessing the condition of UN peace operations. The report tends to reflect that the *“equitable and inclusive economic development acts as a pillar for making the peace sustain”<sup>2</sup>*

As part of its support to local economy development, the United Nations Organization Stabilization Mission in the Democratic Republic of Congo (MONUSCO), through its service delivery pillar (Aviation section, Engineering section, Transport, Medical and Logistics), has enabled international and national actors to stimulate and promote the local economy. It has contributed to the functioning and the developing of vital infrastructures, such as major airports, roads, health facilities and telecommunications.

Since its creation in 2010, MONUSCO has participated in the development of Aviation infrastructure in Congo by rehabilitation of major airports and investing in multidimensional projects to enhance safety and efficiency of air transport which plays a major role in promoting the socio-economic development, trade, tourism and many other sectors<sup>2</sup>.

Among the most significant positive impacts, it is essential to mention the creation of jobs, the improvement of the national and local economy, the enhancement the air navigation, aviation infrastructure conditions, as well as aviation safety.

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<sup>1</sup> United Nations Resolution number 2463 (2019) <https://peacekeeping.un.org/en/high-level-independent-panel-peace>

<sup>2</sup> <https://www.icao.int/sustainability/Documents/AVIATION-BENEFITS-2017-web.pdf>

Some researches and studies were done in the past to assess the overall effectiveness and efficiency of MONUSCO in a general manner without highlighting the direct impact on development local Aviation which is considered the most reliable and practicable mean of transportation in this very vast country (second biggest country in Africa, area 2,345,409 km, population more than 85 million).

Roads rail and even maritime networks that had been set up by the Belgium colonizers have become obsolete, in a very degraded status, thus air transport alternative is a very effective to move quickly throughout the national territory and is considered the main factor of growth<sup>3</sup>.

### **1.1. Purpose of the study**

Many studies and researches were done on impact of United Nations in Democratic Republic of the Congo<sup>4</sup>, nevertheless, none of the those studies has put in evidence and quantify the impact of MONUSCO in the long-lasting development of Civil Aviation in the Democratic Republic of the Congo, aiming to provide local population with access to health care, food, education, safe communities and to provide urgent humanitarian assistance caused by disasters (Goma Volcano eruption, EBOLA outbreak), famine or war especially in isolated and remote communities.

The availability of reliable air transportation services is by far the safest and most efficient mode of long-range transport in the world. In the DRC, Aviation is often the only fast and reliable means of transportation available to provide health care and food to many isolated populations.

In my dissertation, am exploring more on how has MONUSCO Participated in the development of Civil Aviation in DRC at multidimensional levels in the last Six years, even though United Nations is present in Congo for almost 20 years.

### **1.2. Statement of the Problem**

My question of research is “How does UN Mission’ Aviation in Congo contribute to the local development? mainly by investing in aviation infrastructure”

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<sup>3</sup> Logistics Capacity Assessment, World Food Program (WFP).

<sup>4</sup> Assessing the effectiveness of the United Nations in the DRC. *Norwegian Institute of International Affairs*

Despite United Nation's determination to promoting the national socio-economy and participating in the sustainable development of DRC, MONUSCO is facing a main strategic constraint which is the degree of cooperation of the host country.

Many interlocutors and stakeholders observed that, for many years, MONUSCO has been working with a government that does not cooperate in many areas. Nevertheless, MONUSCO continued contributing towards the reunification of the country and preventing a recurrence of a major violent conflict.

In addition to the issue of Host Country cooperation, MONUSCO Aviation is encountering serious challenges and constraints at various levels:

- **Operational:** Poor infrastructure of air transport facilities; Inadequate airfields preparation (poor surfaces with lack of Aprons and congestion, ATC, Meteorology services),
- **Financial:** UN General Assembly has reduced MONUSCO's budget by more than 8%.
- **Legal:** Liability issue when performing some sensitive tasks by MONUSCO (ATC, Meteorology services, Firefighting).
- **Environmental:** Unforgiving terrain and weather conditions with limited Aviation weather services, birds and wildlife hazard.
- **Organizational:** Fleet composition of military and civilian air carriers from different countries with diverse regulations relevant to their respective Civil Aviation Authorities (CAA).

### **1.3. Limitations**

Every study has limitations, therefore, there were two major limitations that potentially impacted my study:

The first limitation is the lack of prior research and studies on the topic. All researches already done on the impact of MONUSCO on local development were non-specific and generally oriented, I couldn't find any study talking about the direct impact of the United Nation's presence on the development of local Civil Aviation.

The Second Limitation concerns the access to data. Sometimes, it was difficult for me to obtain some critical data that are considered as classified and a prior permission is required from UN and/or Congo Officials. Other constraint is the security and safety situation in in eastern part of DRC which is unstable due to the presence of armed groups, ongoing military operations, and

recent EBOLA outbreak. All these factors have limited my mobility and access to data from remote locations

#### **1.4. Expected outcome of the study**

The Major outcome is to establish the correlation and the link between the fulfillment of the mandate of the United Nations Stabilization Mission in the Democratic Republic of the Congo (MONUSCO) and development of the local Civil Aviation.

## **Chapter 2: Review of literature**

The United Nations (UN) in the Democratic Republic of the Congo (DRC) comprises a peacekeeping mission (MONUSCO) and, twenty-two programs, funds and specialized agencies (WFP, PNUD, UNHCR, UNICEF, ...) working together with the Congolese government for the stabilization and the development of the DRC while providing humanitarian assistance to local population<sup>5</sup>.

United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO) was established in 2010 following the adoption of the UN Security Council Resolution number 1925. It was mandated to support various civilian, military and police operational and logistics activities with two priorities:

- I. To contribute to the protection of civilians,
- II. Stabilization and strengthening of State institutions.

MONUC, the predecessor to MONUSCO, was established on 30 November 1999 by Security Council Resolution number 1279, after the DRC, Angola, Namibia, Rwanda, Uganda, and Zimbabwe signed the Lusaka Ceasefire Agreement in July 1999 for a cessation of hostilities between all belligerent forces in the DRC.

**“Aviation is the safest and most efficient mode of long-range transport in the world”<sup>6</sup>.**

Among MONUSCO’s civilian components, Aviation Section is considered as the backbone of the Service Delivery pillar,

Aviation is the biggest section in the United Nations system worldwide with an approved budget of \$140,803,200 for fiscal year 2019-2020, the fleet is composed of 42 Aircraft supported by more than 500 Aviation professional and assistant personnel.

Aviation Section’s mission is to deliver safe, secure, effective and efficient air transport services to support the implementation of MONUSCO’s mandate, leaving behind an important impact on

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<sup>5</sup> *Logistics Capacity Assessment, World Food Program (WFP).*

<sup>6</sup> *ICAO Aviation Benefits Report- 2019*

the development of local Aviation infrastructure in line with the strategic plan of a responsible withdrawal and sustainable developments.

In my dissertation, I am exploring more on how has MONUSCO's Aviation participated in Sustainable Local Development at multidimensional levels:

- Infrastructure
- Air Navigation:
- Aeronautical Information Services (AIS)
- Others



## Chapter 3: Research methodology

In this Study, I adopted Statistic, Descriptive and analytic research methods through collection of primary and secondary data with a thorough cost-effectiveness analysis.

The selection of the topic was based on **SMART** methodology:

- **Specific**: valorize the impact of MONUSCO on impact on the development of Civil Aviation in Democratic Republic of the Congo.
- **Measurable**: Provide statistics and quantify MONUSCO's achievement in promotion of the local Civil Aviation.
- **Attainable**: My title as Chief Aviation Quality Assurance in MONUSCO helped me a lot in my research and achieving my goal.
- **Relevant**: The topic is relevant to my MBA study in Aviation Management.
- **Timely**: Respect deadline for submission synopsis and dissertation.

### 3.1. Sources of data

In order to gather the appropriate data, the methods that are being generally utilized include primary data collection method and secondary data collection method. The primary data collection method has been considered to have more advantage as it provides reliable and precise data. Primary data is basically the information that has been collected as nobody has the accumulated and issued the information in the accessible form to the public. It has been obtained via numerous methods including questionnaire, surveys interviewing a variety of relevant stakeholders:

- Aviation Section,
- Budget and finance Section,
- National Civil Aviation officers,
- Procurement department,
- International and regional organizations engaged in Democratic Republic of the Congo theatre of operations such as World bank and World Food Program.

Secondary data encompasses the gathering of the research articles and reports related to How does MONUSCO contribute to local development in Congo.

Data were collected through MONUSCO's archive, finance performance reports and Aviation statistics data base.

### **3.2. Research Design**

The methods of research are divided broadly into three type's i.e. quantitative research, qualitative research and mixed research. The choice of a research method depends on the research question and the philosophy underlying in it as well as the skills and preferences of an individual<sup>7</sup>.

Qualitative data aims to seek answers to questions that are related to how and why people behave in a certain way. It explores and describes behavior with in-depth information.

In this dissertation quantitative is used, research includes explaining a certain phenomenon through the collection of numerical or numbered data which is then analyzed with the help of mathematical methods such as the use of statistical tools<sup>8</sup>.

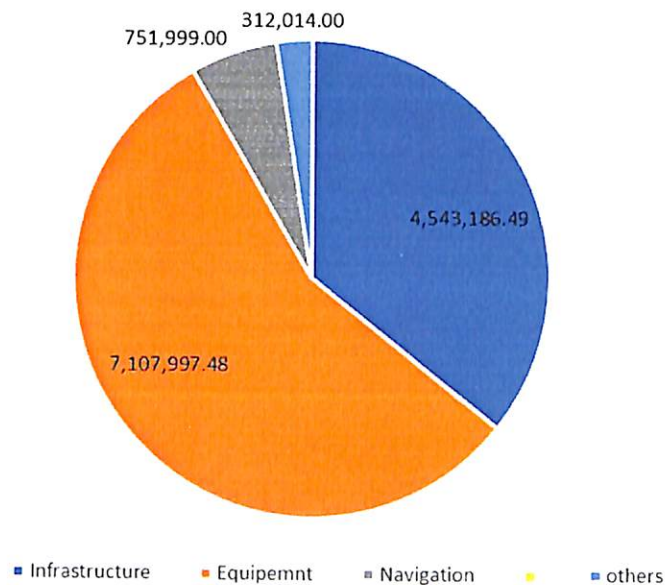
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<sup>7</sup> UN Missions' Procurement for Sustainable Local Development, Lala Fatima

<sup>8</sup> StephenKwadwo Antwi and Hamza kasim, 'Qualitative and quantitative research paradigms in business research A philosophical reflection' [2015] 7(3) European Journal of Business and Management 217-225

## Chapter 4: Result

Part of MONUSCO's Aviation expenditure in USD, 2014 to 2019



*Fig 1 MONUSCO's Aviation expenses with direct impact on local Aviation development*

The above graph represents a summary of part of MONUSCO Aviation's expenditure which has a direct impact on local development.

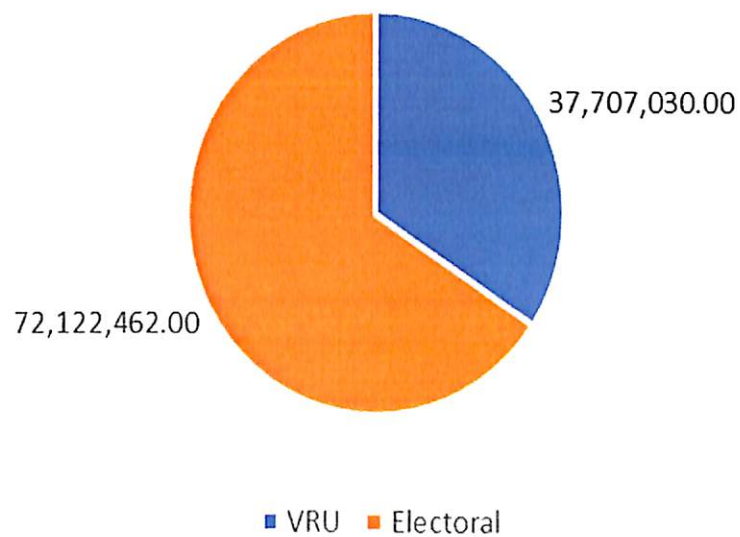
Information has been extracted from the MONUSCO Aviation's Budget Unit Database/Share-portal, unfortunately due to the nature of confidentiality of the information; I was not able to include the breakdown of figures.

I summarized the information and interpreted into excel sheets then I converted to above chart to reflect the percentage of expenditure by sectors/activity.

It is too long to do the analysis for all the period of United Nation Mission's existence in DRC (More than Twenty years), therefore, I focused on the last Six years (2014-2019).

In addition to the expenses above (related to Aviation Infrastructure and equipment), MONUSCO Aviation has participated in supporting the elections process by providing logistical support of more than **\$100 Million USD**.

### *MONUSCO's Aviation expenses for Election logistical support, in USD*



*Fig 1A: MONUSCO's Aviation expenses for Election logistical support*

## **Chapter 5: MONUSCO's Aviation impact on local development in the Democratic Republic of the Congo**

Peace operations of the United Nations are not only restricted to the role of the ceasefire and peacekeeping, rather they have seen dramatic changes into their mandate that now consists of development assistance, institution building and economic recovery<sup>9</sup>.

### **Background**

The United Nations is an international organization founded in 1945 the aftermath of the Second World War. Today, it has 193 Member States. The mission and work of the United Nations are guided by the objectives and principles set out in its Founding Charter.

## **5.1 United Nations System**

### **5.1.1 Main organs**

The main organs of the United Nations are the General Assembly, the Security Council, the Economic and Social Council, the International Court of Justice and the Secretariat<sup>10</sup>.

#### **a) General Assembly**

193 Member States of the United Nations are represented in the General Assembly to discuss numerous international questions and to cooperate in areas covered by the Charter of the United Nations, such as development, peace and security, international law, etc.

All Member States meet in September at the opening of the annual session, in the General Assembly Hall at United Nations Headquarters in New York.

#### **b) Security Council**

The overall role of the UN Security Council is to maintain international peace and security.

This body is made up of fifteen members, five of whom are permanent (the United States, China, Russia, the United Kingdom and France).

The other ten members are elected by the United Nations General Assembly for a two-year term.

#### **c) The Economic and Social Council**

Brings people together and centralizes issues to promote collective action for a sustainable world.

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<sup>9</sup> UN Missions' Procurement for Sustainable Local Development, P4. Lalla Fatima Zahra Yousfi

<sup>10</sup> <https://www.un.org/fr/about-un/>

By acting at the heart of the United Nations development system, Economic and Social Council set international standards and support progress. His collective solutions contribute to sustainable development.

**d) International Court of Justice**

The Court has its seat in The Hague (Netherlands). It is the only one of the six principal organs of the United Nations outside New York.

The mission of the Court is to settle, in accordance with international law, disputes of a legal nature submitted to it by States and to give advisory opinions on legal questions which may be raised by the organs and specialized agencies of the United Nations authorized to do so.

**e) Secretariat**

The Secretariat is one of the main bodies of the United Nations. It is composed of departments and offices each with specific responsibilities and expertise but coordinating their work to ensure the day-to-day cohesion of the Organization's work at headquarters and in offices and offices around the world. Headed by the Secretary-General, appointed by the General Assembly for a renewable five-year term, on the recommendation of the Security Council.

As of 31 December 2018, the Secretariat employed 37,505 staff worldwide.

As international officials, UN staff and the Secretary-General report their activities only to the United Nations and take an oath not to seek or receive instructions from any government or outside authority.

**f) Secretary General**

Secretary General is "Head of the Administration of the Organization.

The current and ninth Secretary-General of the United Nations is Mr. António Guterres from Portugal. He took office on January 1, 2017.

**g) Funds, programs, institutions**

The United Nations system, which is also often unofficially called the "United Nations family," is made up of the United Nations and many programs, funds and specialized agencies. Each of these entities has its own management, its own budget and its own Member States.



# The United Nations System

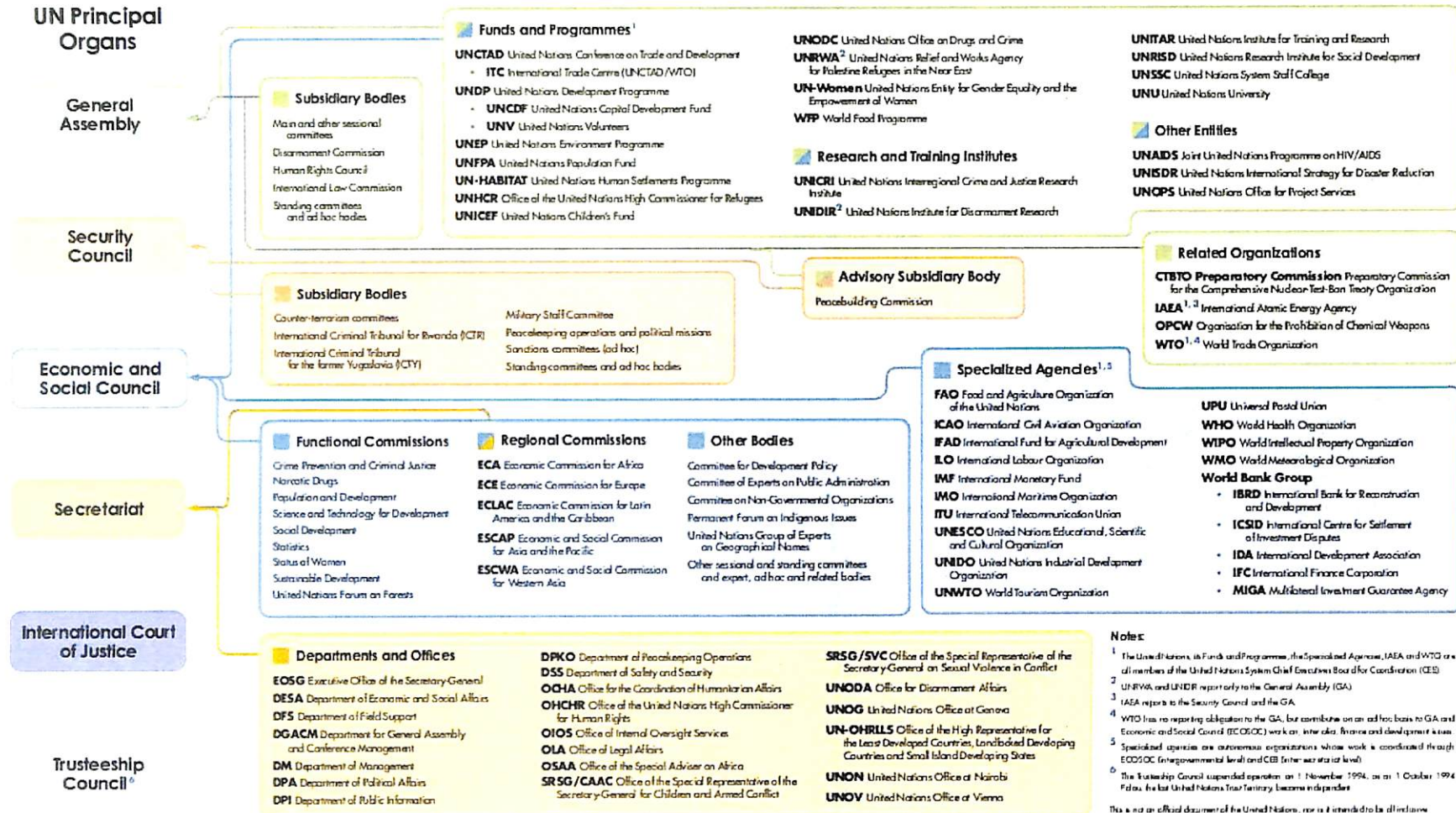


Fig2: UN System  
[www.un.org/org\\_chart](http://www.un.org/org_chart)

### 5.1.2 Air Transportation in United Nations System

*“Deliver safe, secure, effective and efficient aviation services.”<sup>11</sup>*

#### ➔ Air Transport Section (ATS)

Air Transport Service (ATS), part of the Department of Operational Support (DOS), oversees the supervision, governance and contract management for the fleet of more than **200 planes**, helicopters and drones, and a budget of **\$ 800 million**. The objective of this fleet is to support United Nations operations on the ground.

UN Mission	Country	Number of Aircraft
<b>UNSMIL</b>	Libya	1
<b>UNVMC</b>	Colombia	1
<b>UNAMI</b>	Irak	2
<b>UNFICYP</b>	Cyprus	3
<b>UNAMA</b>	Afganistan	4
<b>MINURSO</b>	Morocco/WS	5
<b>UNISFA</b>	Abyei	6
<b>UNIFIL</b>	Libanon	7
<b>MINUSCA</b>	C.Africa	15
<b>UNAMID</b>	Sudan/Darfur	15
<b>UNSOS</b>	Somalia	23
<b>UNMISS</b>	Sout Sudan	32
<b>MINUSMA</b>	Mali	49
<b>MONUSCO</b>	DRC	46
<b>Total Fleet</b>		<b>209</b>

Table 1: *Air Transport Service/ December 2019*  
*Air Operation Strategic Center*

Because Aviation plays a crucial and costly role in operational support, Air Transport Section (ATS) places great importance on working with its partners to ensure the most agile and efficient operation.

Air Transport Section (ATS) is responsible for the management of the air fleet of the Department of peace keeping and political affairs. It provides advice and technical expertise to senior

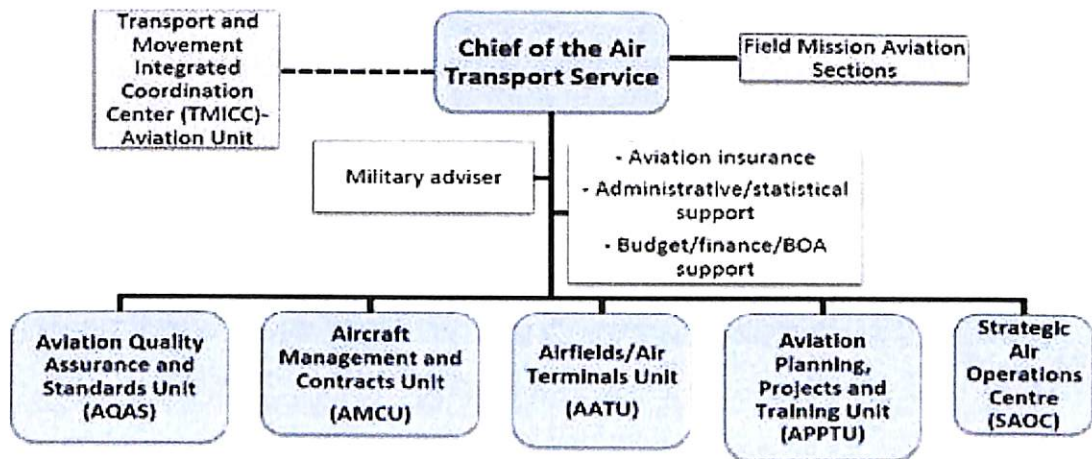
<sup>11</sup> *Aviation Manual. 2018*



management, and it plays predominant role in planning strategic and operational, in the organization and training of peacekeeping missions of the UN and in the provision of aeronautical resources, personnel and services aeronautics required.

Air transport section's participation in a UN mission begins with the evaluation technique prior to the mandate, followed by the evaluation of the initial size and composition of the fleet, and ends when the mission is liquidated.

➔ **Organization of ATS Section**



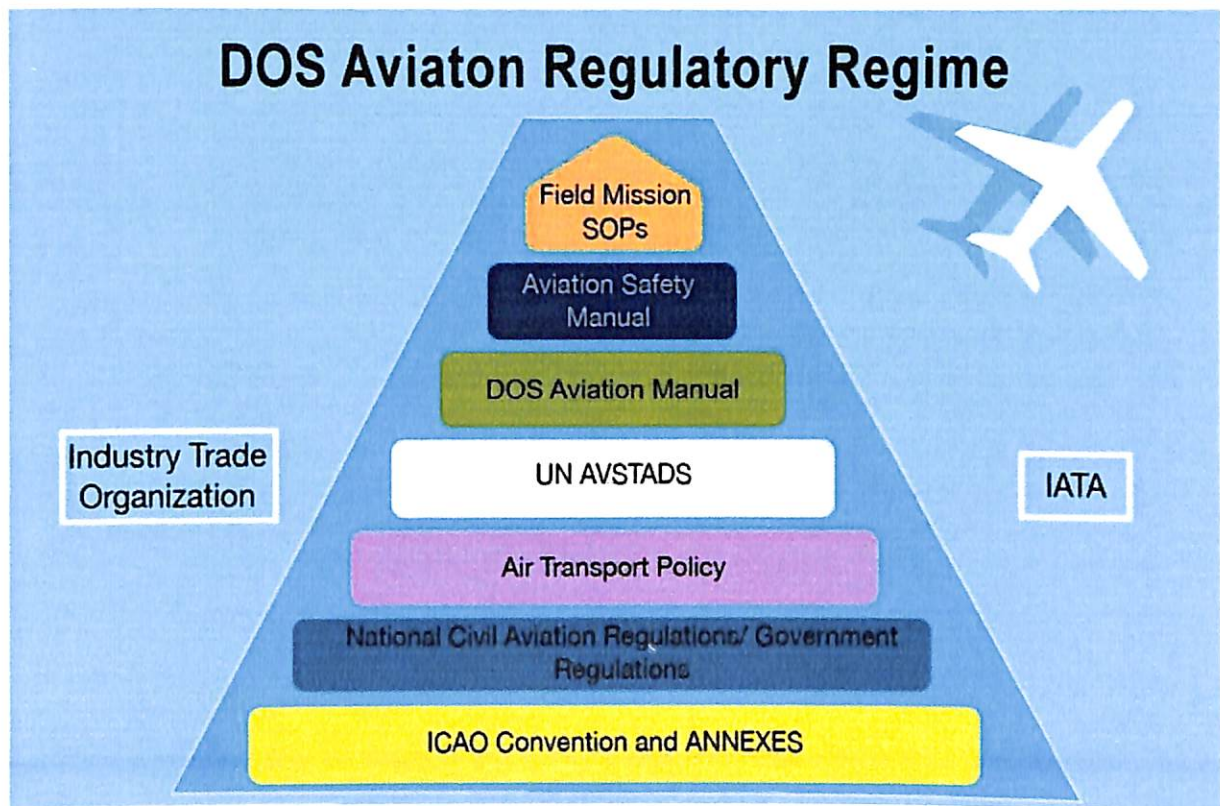
*Fig 3: Structure of Air Transport Section in United Nations Head Quarters Aviation Manual-2019*

➔ **Regulatory**

Air Transport Section reports directly to the Office of the Director of the Logistics Division (LD), Office of Supply Chain Management (OSCM) in DOS, Headquarters in New York.

ATS establishes standards, policies, procedures and practices for the entire air operation in order to safely carry out the mission-mandated objectives authorized by the Security Council resolutions and in compliance with the International Civil Aviation Organization (ICAO) Convention on International Civil Aviation (Chicago Convention) and its Annexes<sup>12</sup>.

<sup>12</sup> DOS Aviation Manual 2019



*Fig 4: Aviation Regulatory regime  
Aviation Manual, 2018 P47*

### ➔ Aircraft contracts and management

*“Aviation Suppliers must be registered in United Nation Procurement system to be awarded contracts for Long-Term Aircraft Charter Agreements, Short-Term Aircraft Charter Agreements or Stand-by Aircraft Charter Agreements”<sup>13</sup>*

ATS participates, along other HQs stakeholders, in the acquisition of aircraft contracts, equipment and support services. ATS acts as the contract manager of the said contracts while delegating the daily monitoring to the filed missions.

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<sup>13</sup> Procurement Division, <https://www.un.org/Depts/ptd/aviation>

*Aviation services are to be acquired through Invitation to Bid (ITB) when the envisioned aviation tasks are clearly defined by the mission Aviation Section. The Request for Proposals (RFP) procurement methodology should apply when the scope of the logistical and administrative tasks cannot be defined, and a solution is required for achieving the best value for money*

## 5.2 United Nations Organization Stabilization Mission in the DRC (MONUSCO)

### → Background

After the genocide perpetrated in Rwanda in 1994 and the formation in this country of a new Government, nearly 1.2 million Rwandan Hutus, some of whom had taken part in the massacres, fled to North Kivu and South Kivu, two neighboring provinces located east of what is now the Democratic Republic of the Congo (DRC) (formerly Zaire) and populated by other ethnic groups, in particular Tutsis. In 1996, an insurrection in this region led to clashes between the forces led by Laurent-Désiré Kabila and the army of Zairian President Mobutu Seko. Kabila's forces, supported by Rwanda and Uganda, captured the capital, Kinshasa, in 1997 and renamed the country the Democratic Republic of the Congo.

In 1998, an uprising against the Kabila government broke out in the two provinces of Kivu. A few weeks later, the rebels had occupied a large part of the country. Angola, Namibia, Chad and Zimbabwe offered military support to President Kabila, but the rebels retained their grip on the eastern provinces. Rwanda and Uganda supported the rebel movement.

The Security Council called for a ceasefire, demanded the withdrawal of foreign forces, and urged states not to interfere in the country's internal affairs.

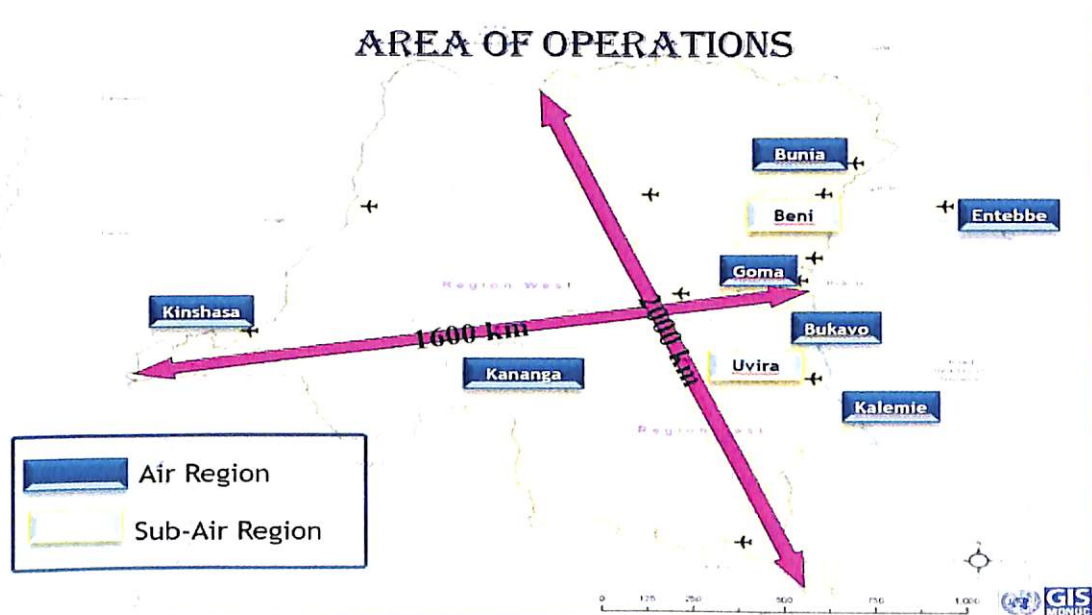


Fig 5: MONUSCO Area of operations  
MONUSCO GIS maps 2019

### ➔ **MONUSCO's mandate**

On July 1, 2010, in resolution 1925 (2010), the Security Council renamed the United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO).

The Mission has been authorized to use any means necessary to fulfill its mandate, including ensuring the protection of civilians, humanitarian workers and human rights defenders exposed to an imminent threat of physical violence, and assist the government of the DRC to stabilize and consolidate peace.

MONUSCO's Mandate supports various civilian, military and police operational and logistics activities and security reform, including the integration of the national security forces, disarmament, demobilization and reintegration of combatants and, the training and monitoring of the police.

The UN Security Council decided to extend MONUSCO's mandate until 20 December 2020. Maximum authorized strength is 14,000 soldiers, 660 military officers, 591 police officers and 1,050 members of formed police units, approves the deployment, on a temporary basis, of 360 additional members police units formed. <sup>14</sup>

The strategic priorities of MONUSCO are:

- a) To ensure the protection of civilians, as described in paragraph
- b) To support the stabilization and strengthening of State institutions in the Democratic Republic of the Congo as well as the main governance and security reforms.

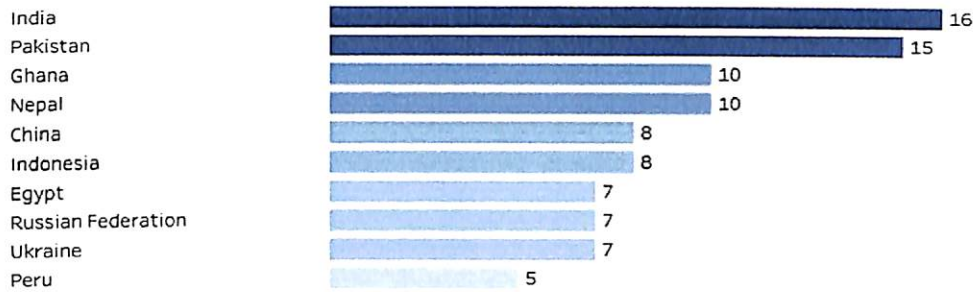
### ➔ **Contributing Countries**

There are more than Ten countries contributing to MONUSCO forces. The top ten troop and police contributing countries to the mission are listed below:

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<sup>14</sup> UN Resolution 2502 (2019) / adopted by the Security Council on 19 December 2019

### Top ten troop contributors (as of November 2019)



### Top ten police contributors (as of November 2019)

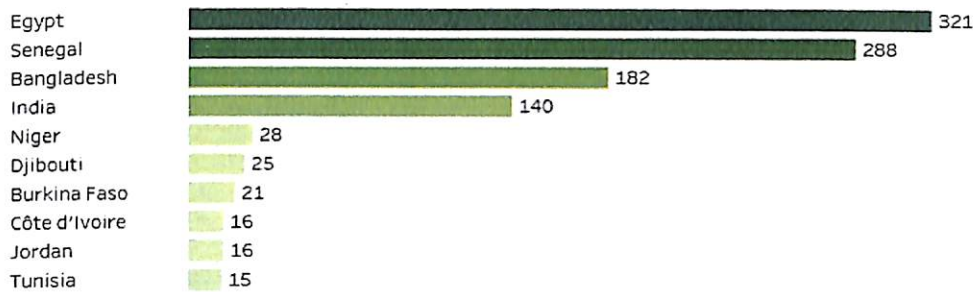


Fig 6: Top Ten Contributors to MONUSCO's forces, <https://peacekeeping.un.org/en/mission/monusco>





### ➔ MONUSC's Strength

Deployed number of personnel as of November 2019 <sup>15</sup>

 **20,063**  
Total personnel

 **2,970** Civilians  
 **175** Experts on Mission  
 **1,199** Police  
 **280** Staff Officer  
 **15,113** Troops  
 **326** UN Volunteers

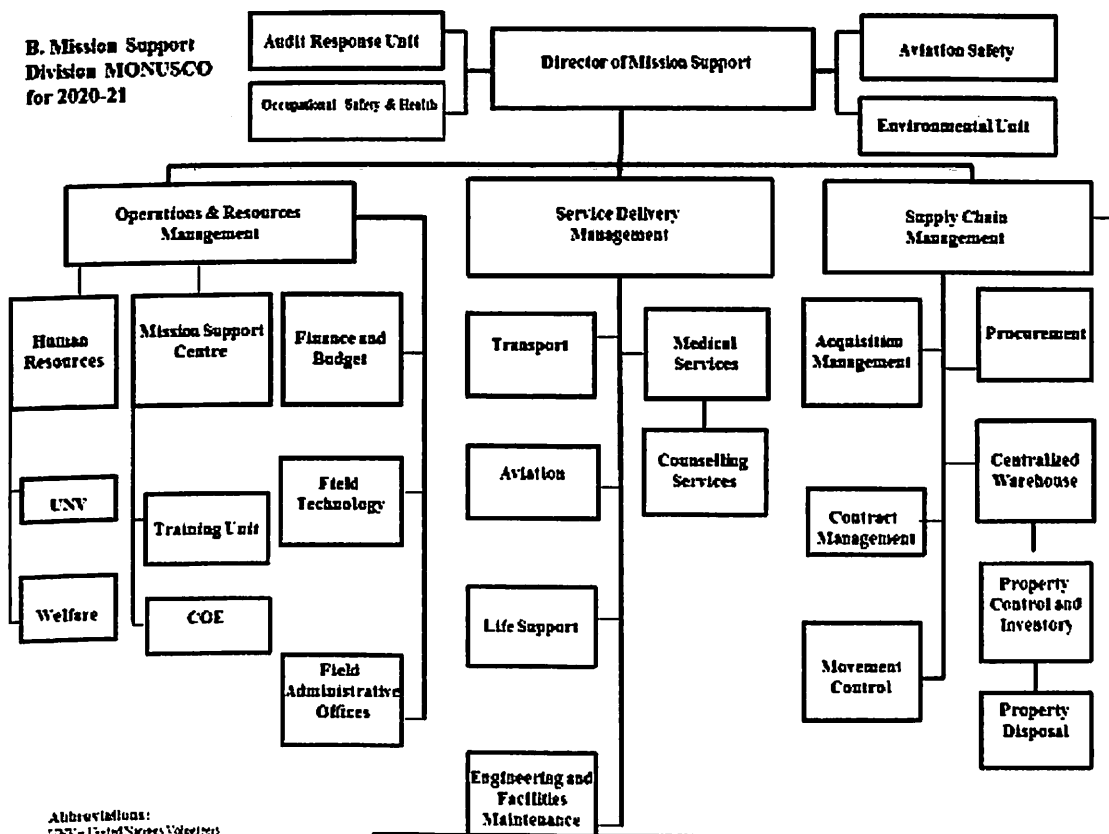
**Authorised number personnel**  
 **18,316**  
Total uniformed personnel

 **16,215** Military personnel\*  
 **660** Military observers  
 **391** Police  
 **1,050** Personnel of formed police units

<sup>15</sup> <https://peacekeeping.un.org/en/mission/monusco>



**B. Mission Support  
Division MONUSCO  
for 2020-21**



Abbreviations:  
UNV - United Nations Volunteers

**Fig 7: MONUSCO Org Chart  
MONUSCO Budget and Finance Section/2019**

**TOTAL : 1,673**

### → MONUSCO's Funding

MONUSCO is one of the biggest UN peacekeeping operations ever deployed and the smallest when compared to the size of the territory it has been assigned to cover.

Its total approved budget for fiscal year 2019-2020 is **\$1.01 billion**.

The Fifth Committee responsible for administrative and budgetary matters was seized of a budget proposal of approximately \$ 1 billion for the UN operations in the Democratic Republic of the Congo (DRC), a significant drop compared to in the previous exercise.

The Secretary-General said that this envelope had obtained the planned reduction in the mission's staff and the closure of several of its offices in favor of the "*first peaceful transfer of power in the history of the country*"<sup>16</sup>.

The Budget cut of 8.2% compared to the 2018/19 financial year would put MONUSCO in third position, behind missions in Mali and South Sudan.

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<sup>16</sup> General Assembly/Fifth Committee/66<sup>th</sup> Session. <https://www.un.org/press/fr/2019/agab4324.doc.htm>



## 5.2.1 MONUSCO Aviation Section

*“Aviation continues to remain the safest means of transport. Great strides have been made by aviation community in reducing accident rates over last few decades”<sup>17</sup>*

### ➔ Background

Among MONUSCO’s civilian components, Aviation section is considered as the backbone of the Service Delivery pillar.

It is the biggest Aviation Section in the United Nations system worldwide with an approved budget of **\$140,803,200** for fiscal year 2019-2020, the fleet is composed of **42** Aircraft supported by 154 regular staff and more than 400 Aviation professional and assistant personnel.

Aviation Section’s mission is to deliver safe, secure, effective and efficient air transport services to support the implementation of MONUSCO’s mandate, leaving behind an important impact on the development of local aviation infrastructure in line with the strategic plan of a responsible withdrawal and sustainable developments. To achieve this goal, *“the Security Council has called for a progressively transfer MONUSCO tasks to the Congolese Government so that the United Nations Mission can leave the country according to a phased, progressive and comprehensive withdrawal plan”<sup>18</sup>.*

### ➔ MONUSCO Aviation fleet

<b>MONUSCO FLEET</b>			
<b>Acft Type</b>	<b>Civilian</b>	<b>Military</b>	<b>Total</b>
FIXED WING	8	1	9
ROTARY WING	5	27	32
UAV	1	0	1
<b>TOTAL</b>	<b>14</b>	<b>28</b>	<b>42</b>

*Table 2: MONUSCO Fleet composition / MONUSCO Aviation TCU-2019*

<sup>17</sup> MONUSCO Aviation Safety Bulletin 13-12-2018

<sup>18</sup> UN Resolution#2463 (2019)

➔ **MONUSCO Aviation Funding**

MONUSCO Aviation's budget is the biggest one among all MONUSCO's components.

<b>MONUSCO Aviation Approved Budget</b>		
<b>FY 2019-2020</b>		
<b>Srl</b>	<b>Description</b>	<b><u>Approved Budget</u></b>
1	Equipment	\$1,410,119.00
2	Services	\$14,180,853.00
3	Aircrew	\$423,100.00
4	Landing fees	\$1,107,900.00
6	Fixed Wings	\$31,986,946.17
7	Rotary Wings	\$67,119,505.69
8	Fuel	\$24,230,103.00
9	Air Travel Insurance	\$344,700.02
<b>Grand. Total</b>		<b>\$140,803,226.88</b>

*Table 3: MONUSCO Aviation Budget Report 2019-2020  
MONUSCO Aviation Budget Unit database*

*"I decided to launch an initiative to increase the efficiency in the use of United Nations air assets"<sup>19</sup>*

Since 2013, MONUSCO Aviation Budget has been scientifically reduced due to the economic situation of contributing countries and to be in line with the UN Secretary General Initiative of cost effectiveness of UN Aviation.

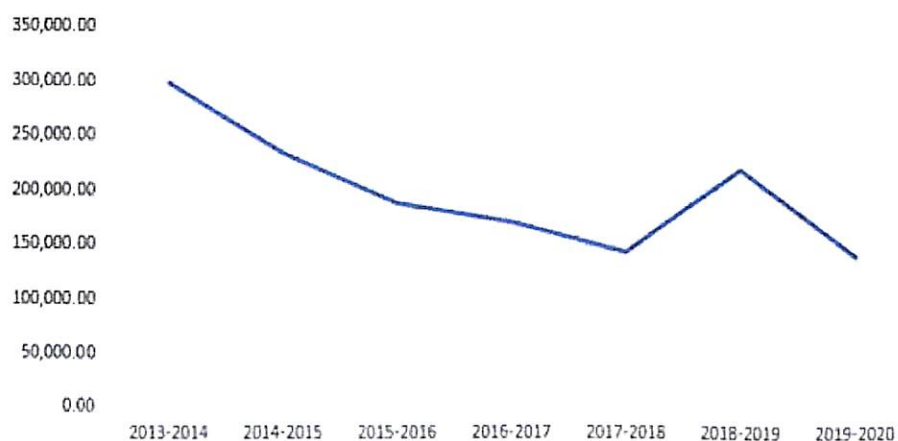
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<sup>19</sup> *UN Secretary General António Guterres.*

**MONUSCO**  
**Detailed Financial Performance**

<b>Fiscal Year 1 July to 30 June</b>	<b>2013-2014</b>	<b>2014-2015</b>	<b>2015-2016</b>	<b>2016-2017</b>	<b>2017-2018</b>	<b>2018-2019</b>	<b>2019-2020</b>
<b>Total (Thousands of USD, rounded)</b>	<b>298,740.00</b>	<b>233,712.80</b>	<b>188,292.10</b>	<b>171,760.90</b>	<b>143,246.60</b>	<b>219,387.40</b>	<b>140,619.20</b>

MONUSCO Aviation Financial Performance

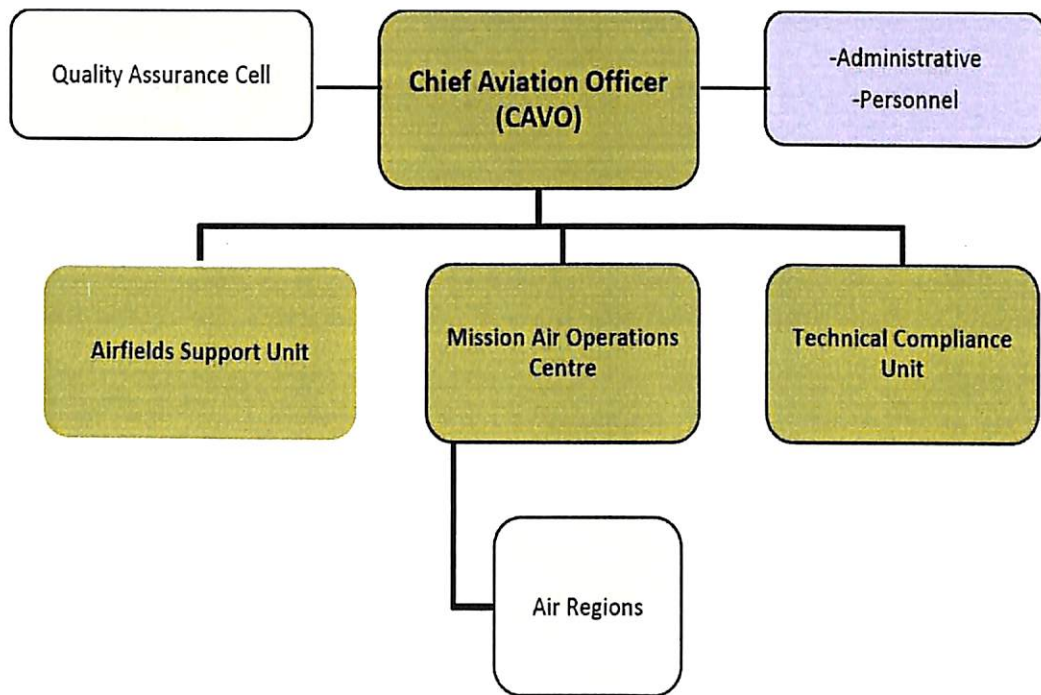


*Fig8: MONUSCO Aviation Budget report /2020*

➔ **MONUSCO Aviation Organization**

The MONUSCO Aviation Section is established within the Service Delivery of the Mission Support Division.

The organizational structure of the Aviation Section is depicted below:



*Fig 9: Model structure of a field mission Aviation Section  
DOS Aviation manual 2019.*

**Chief Aviation Officer (CAVO):** is directly responsible to the Air Transport Section (ATS) at UNHQ for all aspects of air operations, including the overall management of the aircraft assigned to the mission.

**Mission Air Operations Center (MAOC):** Manage and supervise the Mission Air Operations Center and administer activities related to the air operations and use of MONUSCO air assets.

**Technical Compliance Unit (TCU):** Monitor and supervise the use of air assets assigned to MONUSCO to ensure air operators comply with the contract agreements.

**Airfields Support Unit (ASU)** is tasked by the Chief Aviation Officer to provide a safe, efficient and cost-effective airfield services. Manage airfield operations and ensure that airfield services are provided to all UN aircraft in accordance with UN Aviation Manuals, and ICAO SARPS.

**Air Regions:** In United Nations, Airports are called air regions. Each air region is responsible for managing air asst assigned to them under direct supervision of Chief Air region.

**Quality Assurance & Standards Unit (QASU):** is responsible of the development, implementation and continual improvement of the MONUSCO Aviation Section's quality management system.

**Budget Unit:** provides the continuous supply of aviation resources (aviation staff, travel, training, goods and services) that dovetail with the mandated objectives of the Mission and its approved budgets.

## **5.3 Democratic Republic of the Congo (DRC)**

### **5.3.1 Overview**

#### **→ Economic aspect**

After a period of relative economic dynamism, the Democratic Republic of Congo suffered a severe depression between the mid-1980s and the mid-2000s, linked to the political war that ravaged the country. With economic growth of 8.2% in 2008 and 9.2 % in 2009.

With relative peace in the country since 2003, the DRC plans to increase its exports of electricity and minerals in the world<sup>20</sup>.

Mining production, which began over a century ago, has played an important role in the economic management of the Democratic Republic of the Congo. In fact, the ground floor of the DRC is counted among the richest in the world in terms of geology and mineralogy.

#### **→ Demographic aspect**

DRC population is about 60,000,000 inhabitants divided into Bantus and Hamites (45%), others (55%), plus at least 200 ethnic groups.

#### **→ Administrative and political aspects**

According to the constitution of 2006 DRC is subdivided into 26 provinces plus the city of Kinshasa (capital), It celebrates every June 30 the day of its independence from Belgium in 1960.

#### **→ Climate**

DRC has a humid tropical climate.

The average temperature is 25 ° C with rainfall of 1,200 mm to 1,600 mm per year. There are two seasons, the thermal amplitude is 5 °<sup>21</sup>.

#### **→ Infrastructure**

The Democratic Republic of the Congo (DRC) faces what is probably the most intimidating infrastructure challenge on the African continent. Following the armed conflict, natural disaster and diseases, networks were badly damaged and in need of rehabilitation and maintenance.

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<sup>20</sup> Jean de Dieu CIDEKA / La problématique de transport aérien en RD Congo, <https://www.hauniversity.org/fr/RDCongo-Transport.shtml>

<sup>21</sup> <https://www.climatsetvoyages.com/climat/republique-democratique-congo>

The vast territory of the country geography, low population density, vast forest lands and more crisscrossing rivers complicate the development of infrastructure networks.

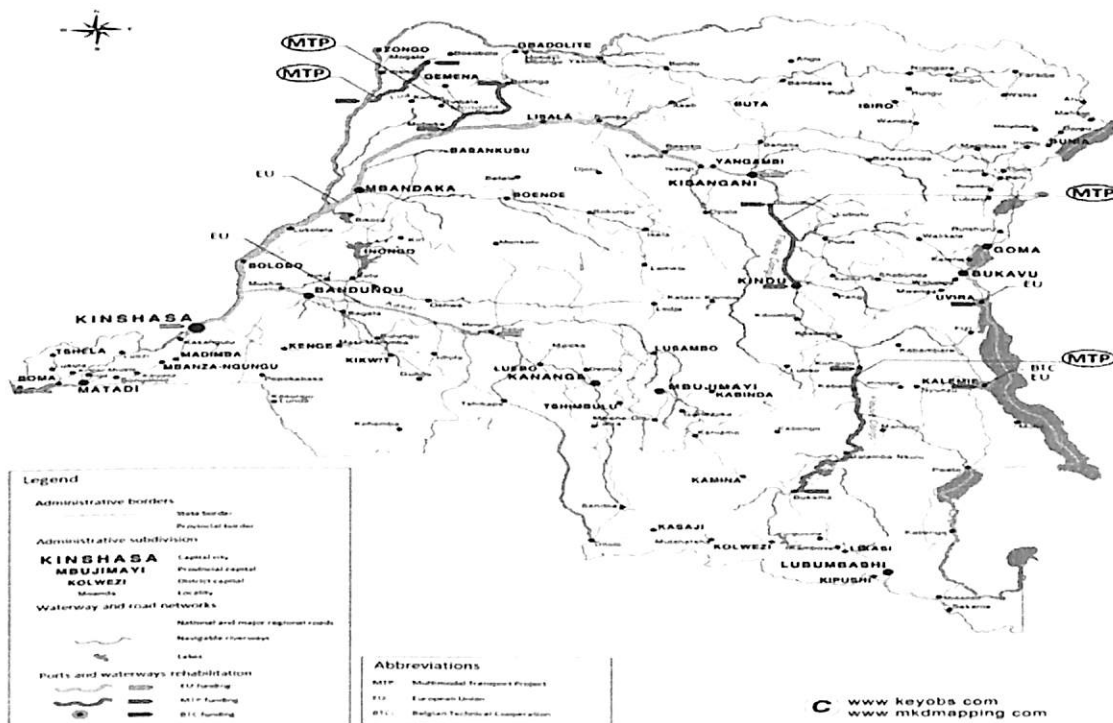


Fig10: DRC Map  
RVF, 2010

### 5.3.2 Aviation in the Democratic Republic of the Congo

*“Air transport is the business of freedom, bringing tremendous benefits to the world. With the right policy framework from governments, air connectivity can grow stronger, driving even greater social and economic progress.”*<sup>22</sup>

#### → Background

In the Democratic Republic of Congo, the road, air, rail and even maritime networks which had been set up by the colonizers have become dilapidated and their renewal becomes an imperative necessity.

The means of transport in DRC include Road transport which has 52,400 km of road networks including the two main highways; the national route number 1, which connects the Atlantic seaport

<sup>22</sup> Alexandra de Juniac, Director General & CEO, IATA

to Kinshasa and south-east of Katanga, which are the most important economic zones of the country and the national route number 2; (Kisangani, Goma, Bukavu) which connects the main waterways of the country.<sup>23</sup>.

As for rail transport, DR Congo has non-interconnected railways along 5033km.

Three non-interconnected railways are only partially used because of the dilapidated state of the railway infrastructure and the poorly carried out clearance works, the absence of an uninterrupted railway line due, among other things, to the difference in spacing between the rows and the rails. The project to standardize the spacing of the rails as part of the reconstruction of the railway infrastructure is therefore awaited. This network has the advantage of meeting the needs of multiple people at once.

Maritime transport with its network of inland waterways stretching over 16238km, the longest in Africa includes the Banana maritime reach to Matadi (150km), the eastern reach from Kisangani to Kinshasa, the Kassaï river (13458km). On this network, forty rivers are arranged, it also extends to other regions, it allows to make practicable the places which are isolated by roads and rails.

Air transport remains another alternative which seems very effective for moving quickly across the whole of the national territory. It allows the movement of goods and people at lower cost and that at any time wanted by the transport requester, it also reduces the unemployment rate.

Air transport has not been able to fulfill its functions due to the very degraded state of the airport infrastructure.

The DRC has 54 airports, including six international airports, but most Airports are in dilapidated states. And due to the lack of navigation aids (Radar, VOR, VHF Radio Communication) the airspace of the DRC presents high risk for air navigation, many accidents and incidents have occurred in recent years<sup>24</sup>.

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<sup>23</sup> Jean de Dieu CIDEKA / *La problématique de transport aérien en RD Congo*

<sup>24</sup> *Logistics Capacity Assessment/WFP 24-Apr-2019*



## → Organization of air transport in DRC

### a) Civil Aviation Authority (CAA)

Under the terms of article 3 of the decree n ° 011/29 of 06/10/2011 relating to the statutes of a public establishment called "Civil Aviation Authority of the Democratic Republic of Congo", in acronym "CAA / DRC".

DRC CAA is the government's adviser on civil aviation; it is responsible for administering, regulating and supervising the safety and security of civil aviation:

### b) Régie des Voies Aérienne (RVA)

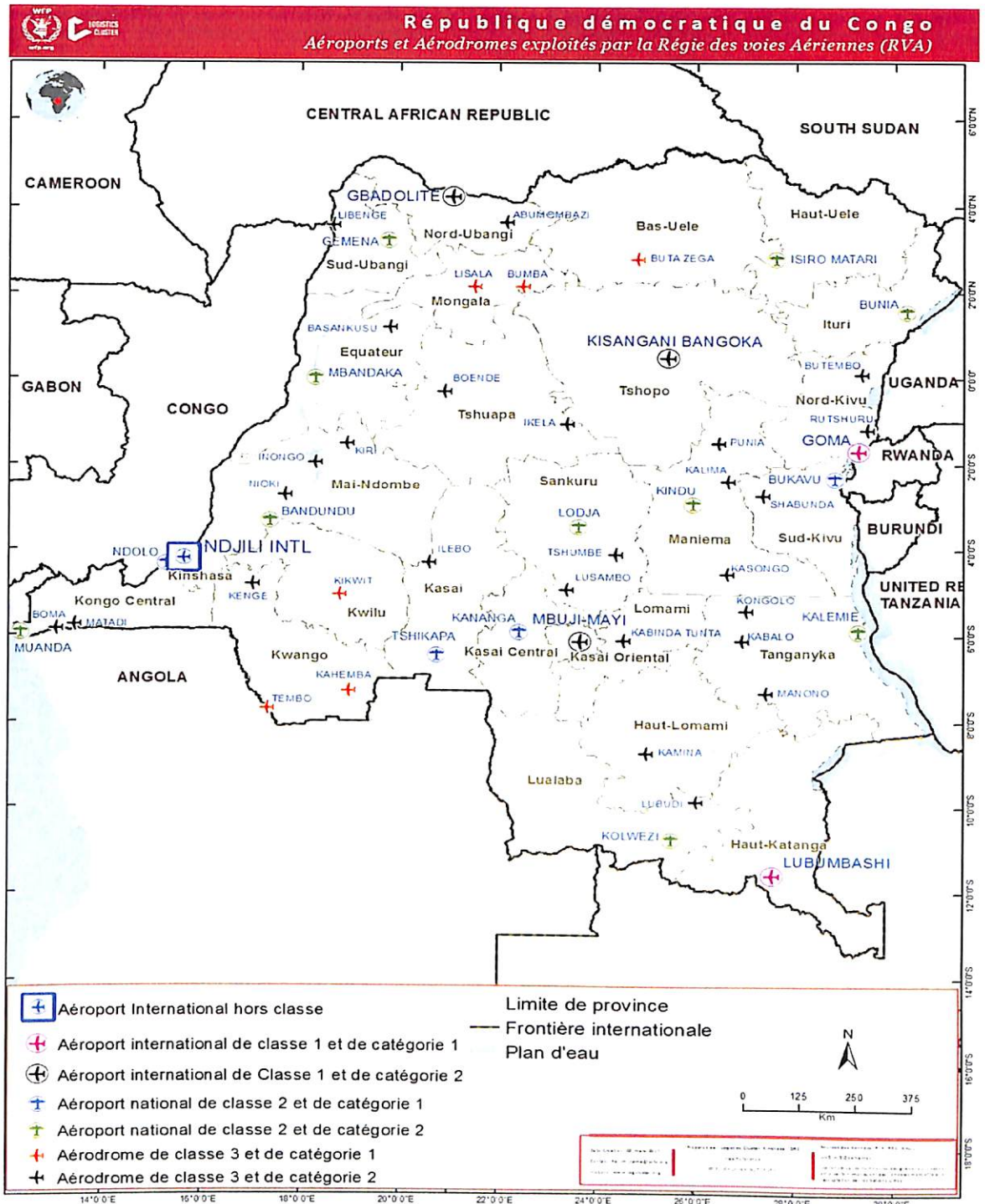
RVA is created in 1972, It is the airports authority that oversees rehabilitation of the country's airport infrastructure, by renovating existing airport and airfield, training and managing Air Traffic Controllers (ATC).

In accordance with law # 78-200 of 5 May 1978, establishing the statute of RVA as an autonomous public enterprise placed under the supervision of the ministry of transport with an objective to design, build, develop, operate and develop the airport and ATC infrastructure.

The mission of RVA is to manage the entire heritage of the country under its jurisdiction with a view to ensuring the safety, efficiency and economy of air transport in the DRC

There are Seven organizations transporting humanitarian workers. They all operate in different ways and rules:

1. MONUSCO
2. UN Humanitarian Air Service / UNHAS(WFP)
3. Aviation Fellowship / MAF
4. ICRC
5. MSF Flight
6. Aviation Sans Frontières
7. Echo Flight



*Fig11: Democratic Republic of Congo Airports*  
[www.rva.cd](http://www.rva.cd)

## **5.4 United Nations Mission's impact on the development of Civil Aviation in the Democratic Republic of the Congo**

### **➔ Background**

*“Aviation plays a critical role in sustainable development. Although the core economic, social and environmental elements of sustainability have long been understood, the United Nations 2030 Agenda for Sustainable Development set 17 more specific sustainable development goals”<sup>25</sup>.*

As part of its support to local economy development, the United Nations Stabilization Mission in the Democratic Republic of the Congo (MONUSCO), through its Service delivery pillar (Aviation section, Engineering section, Transport, Medical and Logistics), has enabled international and national actors to stimulate and promote the local economy. It has contributed to the functioning and the developing of vital infrastructures, such as major airports, roads, health facilities and telecommunications.

Since its creation in 2010, MONUSCO has participated in the development of Aviation infrastructure in Congo by the rehabilitation of major airports and investing in multidimensional projects to enhance safety and efficiency of air transport which plays a major role in promoting the socio-economic development, trade, tourism and many other sectors.

Among the most significant positive impacts, it is essential to mention the creation of jobs, the improvement of the national and local economy, the enhancement of the air navigation, aviation infrastructure conditions, as well as Aviation safety.

Some researches and studies were done in the past to assess the overall effectiveness and efficiency of MONUSCO in a general manner without highlighting the direct impact on local air transportation which is the most reliable and practicable mean of transportation in this very vast country (second biggest country in Africa, area 2,345,409 km<sup>2</sup>).

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<sup>25</sup> AVIATION BENEFITS BEYOND BORDERS, P 12

Roads rail and even maritime networks that had been set up by the Belgium colonizers have become obsolete, in a very degraded status, thus air transport alternative is a very effective to move quickly throughout the national territory and is considered the main factor of growth<sup>26</sup>.

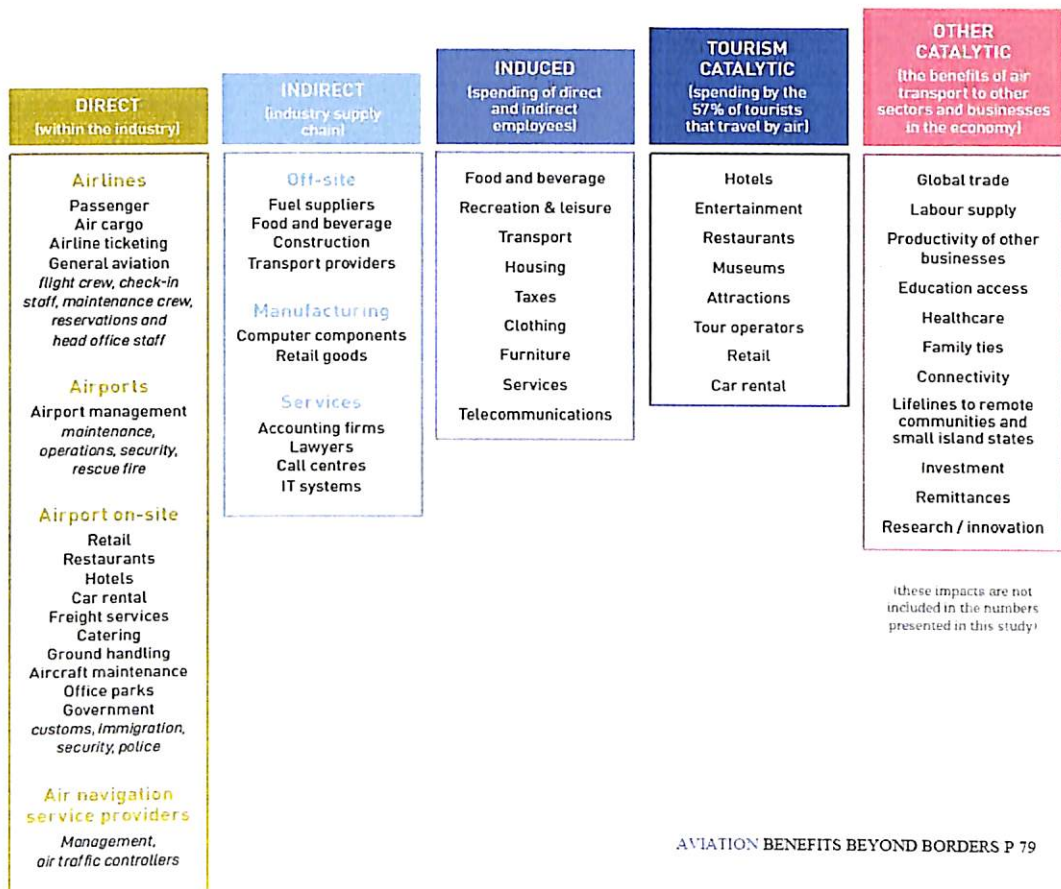


Fig 12: Aviation Benefits

<sup>26</sup> Aviation Benefits Beyond borders

### 5.4.1 Rehabilitation of major airports in DRC

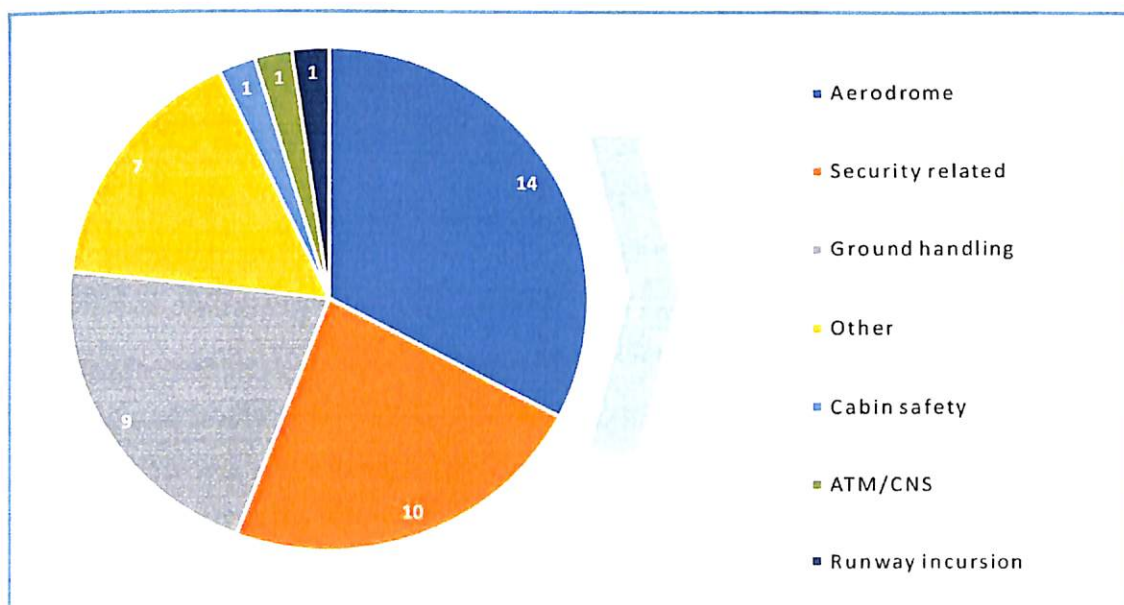
Airports are an important link in the air transport system, and they must adapt to its evolution. Their essential missions are the establishment of the infrastructures necessary for air carriers and the planning, organization and management of the interface with other modes of transport.<sup>27</sup>

Based on the MOU signed on the 10<sup>th</sup> of January 2012, MONUSCO and RVA agreed to merge their efforts on the rehabilitation of major airports in DRC.

Several projects funded by UN and joint projects managed by UN and other entity such as DRC government and World Bank. The main goal of those project initiated by Aviation section is to improve aviation safety and security in various airports of DRC.

As per United Nation Aviation Safety statistics on hazard details in area of UN Peace operations. Aerodrome related hazards represents 14% of all known hazard, therefore, MONUSCO management consider the rehabilitation of major airports in DRC as a priority.

#### Hazard Details And Analysis



*Fig 13: Hazard details and analysis*

*MONUSCO Aviation Safety Bulletin, 12/12/2018*

<sup>27</sup> <https://www.universalis.fr/encyclopedie/aeroports/1-le-role-economique/>

Referring to the MOU signed between MONUSCO and RVA, several equipment were purchased in order to support to air operations according to Standards And Recommendation Practices (SARPS) laid down in ICAO annexes<sup>28</sup>.

To enhance the safety of navigation, MONUSCO Aviation through Airfield Support Unit (ASU) initiates procurement process after the identification of the requirements and elaboration Scope of Work (SOW). Requisitions, or direct purchase are then raised depending on each case to initiate the procurement process in time during a given financial year.

Once acquired, MONUSCO Airfield Support Unit has the responsibility to follow up and maintain serviceability of airfield equipment throughout the mission at all time.

In March 2015, UN contract of value of \$377,314.29\$USD has been awarded to Aeronav lmd. For provision of ATC mobile towers spare part.

## **I. Goma Airport**

IATA Code : GOM

ICAO Code : FZNA

Goma airport is considered the main air hub for MONUSCO air assets in DRC.

After the eruption of the Nyiragongo volcano in 2002, the airport of Goma was ravaged by lava. In 2015, most of the lava was removed from the runway.

### **→ Improvement of airport infrastructures**

The DR Congo government in accordance with World Bank has put in place a huge project on the improvement of airport infrastructures and facilities.

DRC-Goma airport safety improvement project (PASAG) consists of following activities:

- ✓ Rehabilitation and extension of existing runway;
- ✓ Rehabilitation and extension of existing apron;
- ✓ Rehabilitation of the airport's electrical systems;
- ✓ Rehabilitation and supply of ATC tower;
- ✓ Construction of the airport's security fence;

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<sup>28</sup> *MOU between MONUSCO and RVA on the rehabilitation of major airports in DR Congo*

- ✓ Support to airport rescue and fire-fighting services;
- ✓ Rehabilitation of the existing passenger terminal;
- ✓ Rehabilitation of the existing cargo area;
- ✓ Implementation of the environmental and social management plans.



**Fig 14:** Goma Airport maintenance/AU/Spark

#### ➔ **Airfield Lightning System (AFLS)**

In order to provide the required logistic and operational support needed to achieve UN’s mandate, MONUSCO planned to equip Goma International airport with a visual aid for navigation in particular the airfield lighting system to enhance the night capability operations and improve the flight safety in dusk or poor visibility conditions by the day following the Standard and Recommended Practice laid down in the ICAO annexes.<sup>29</sup>

The purchase cost is **\$516,415.33**, it was fully acquired from the funds of the Nations United in 2015. The installation works were executed in partnership with the Congolese Government through RVA as well as the World Bank, had an overall cost of **\$ 1,777,084.33**.

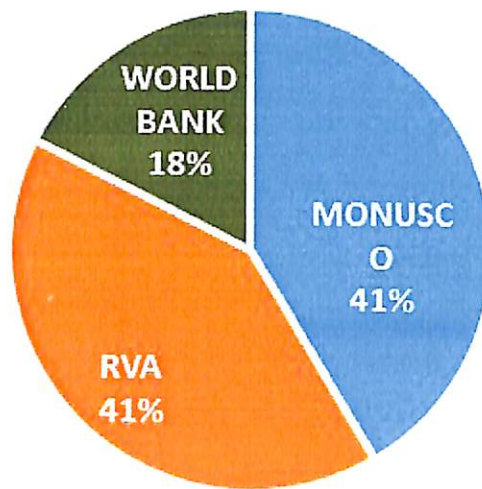
It should be noted that the United Nations has covered 41% of all expenses related to this project, which ended with resounding success in July 2017.

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<sup>29</sup> *annex 14 Aerodromes Vol.1 in its chapter 5: Visual Aids for Navigation.*

This project was funded by MONUSCO, World Bank Group and DR Congolese Government in different ways.

The financial participation of each partner in this project can be summarized in below diagram.



**Fig 15:** Financial participation in AFLS Project  
MONUSCO Aviation ASU





*Photo 3: Goma airport ALS  
MONUSCO ASU*

➔ **Flight Following s and ATC towers in Goma**

Below equipment have been set by MONUSCO in Goma ATC tower in order improve airborne communications:

<b>Description of Equipment</b>	<b>Quantity</b>
Transceiver ICOM A-110	One (1)
Transceiver Jotron TR-810	One (1)
Signal Gun	One (1)
Rotating beacon	One (1)
VHF Antennas	Two (2)
Battery	One (1)
<b>Total Cost: 24,723.10\$USD.</b>	

*Table 4: Equipment for ATC tower*

### ➔ Building and equipping Goma Approach Control

Following Aviation Safety recommendation, MONUSCO assisted Goma ATC in the separation of frequencies in Goma TMA, by construction new Approach control unit and equip it with all necessary tools (VHF, HF Radios, Clocks, Maps, Phones).<sup>30</sup>



*Photo2: New Goma Approach Control  
Gassim Nabil/QASU 2019*

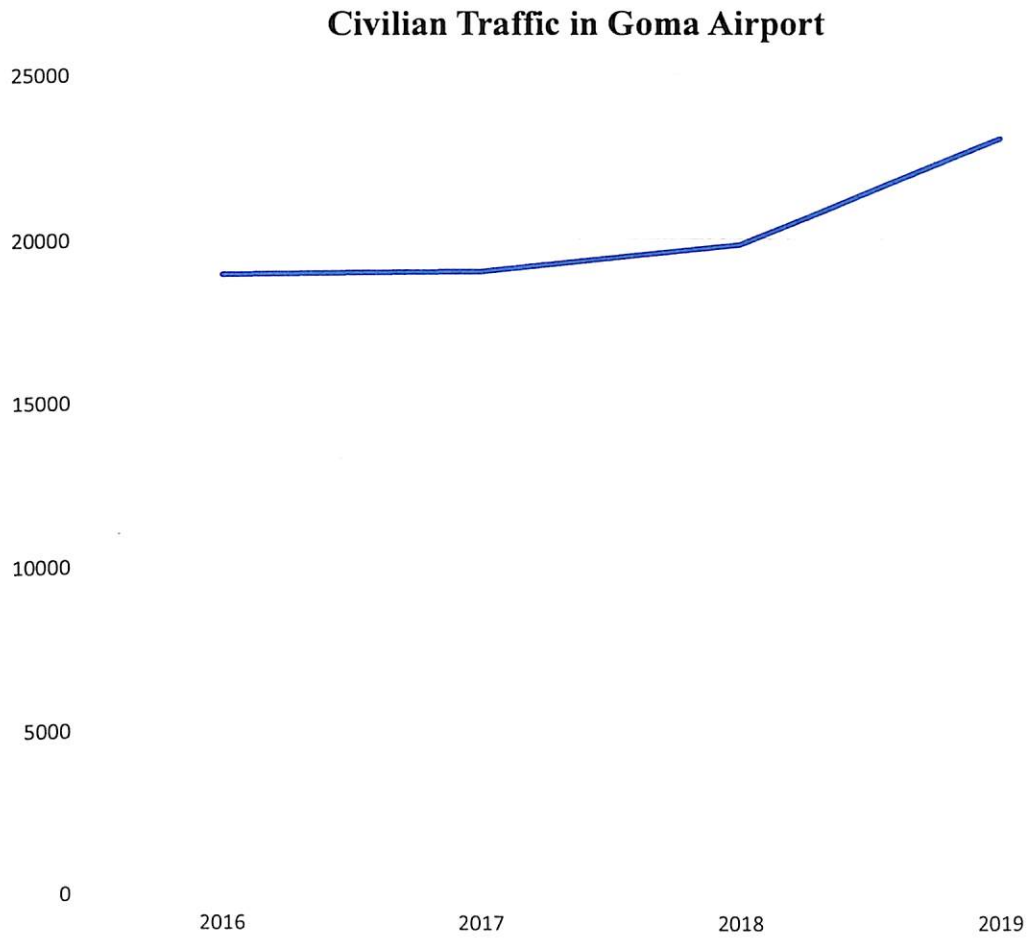
➔ Estimated total Cost: \$607,438 USD

➔ Out comes

- Goma Airports became International Airport, operating on 24/7 basis.
- Regular connections between Goma and Addis Ababa with Ethiopian Airlines started in July 2015. Other international airlines are also expected to arrive in future.
- Safety of flights is enhanced, and number of accidents / incidents was scientifically reduced.
- Number of traffic was scientifically increased in the last three years.

---

<sup>30</sup> MONUSCO Aviation ASU/Eng Jacques Tshimpanga



*Fig16: Traffic evolution in Goma airport  
RVA statistics*

## II. Kalemi Airport

IATA Code : FMI

ICAO Code : FZRF

### ➔ Project of Asphaltting Runway, Apron and construction of drainage

RVA approached MONUSCO to request assistance on the asphaltting of 2100 meters length of runway and construction of drainage.

The project is performed in phases:

- ✓ Asphaltting of 1400meters of length of runway as 1<sup>st</sup> phase;
- ✓ Construction of drainage
- ✓ Asphaltting of Apron

### ➔ Project of relocation and high extension of ATC cabinet

*“the tower must permit the controller to survey those portions of an aerodrome and its vicinity over which he exercises control.”<sup>31</sup>*

In order to meet this above recommendation and to make the Air Traffic controllers' work more efficient, the MONUSCO Aviation and Engineering sections conducted several ATC tower cabinet lifts in various locations.

After the maintenance performed by Aviation Engineer Mr. Jacques Tshimpanga, the recommendation on relocation of ATC cabinet was raised through the report issued in June 2013.

on 17 October 2015, the ATC cabinet was relocated and placed upon the new platform.



*Photo 4: Relocation of Kalemie ATC tower/MONUSCO ASU*

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<sup>31</sup> Part III “Facilities required by Air Traffic Service Planning Manual Doc 9426-AN/924

### III. Beni Aerodrome

IATA Code : BNC

ICAO Code : FZNP

*Beni "Remains the epicenter of the EBOLA epidemic,"*<sup>32</sup>

The actual security situation Beni and the EBOLA outbreak has pushed the President of the DRC to launch a joint military operations between the army and the UN peacekeepers in the region of Beni, in the east of the country, to face the recurrent massacres of civilians and health professionals.

MONUSCO has deployed Military troops and air asset. helicopters and drones (UAV) to Beni to face the armed group and to assist the professional of health in the fight against EBOLA virus.

To achieve this, MONUSCO needs to construct Beni Airfield from scratch and upgrade it to an established airport



*Photo5: WFP/Plivier Nkakudulu, EBOLA fight in DRC Mai 2018.*

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<sup>32</sup> Dr Michael Ryan, Executive Director, WHO Program.

The project of Beni Airport rehabilitation consists of following:

- ✓ Asphalting and extension of Runway length from 2,100 up to 3,000 meters and extension of Runway width from 30 up 45 meters
- ✓ Asphalting of Main Tarmac and Taxiway
- ✓ Construction and provision of equipment for ATC tower
- ✓ Construction of Fire station
- ✓ Construction of Cargo Area
- ✓ Construction Passengers' Air Terminal
- ✓ Installation of Airfield Lighting system
- ✓ Construction of Water Plant
- ✓ Provision and installation of Automatic Weather Observing System and Doppler Radar(AWOS)
- ✓ Provision and installation of Doppler VHF-Omnidirectional Range (DVOR-DME)
- ✓ Provision of Navigation procedure

→ **Runway Asphalting**

Dimension: 1100 x 30 meters

Two contracts were awarded for provision of Asphalting work services in two phases:

- Contract # 1, progress: 33.33%, Cost \$ 1,899,600 .
- Contract #2, progress: 55.56%, Cost: \$ 638,252.

→ **Construction of Boundary Wall**

- Current progress 95%, Total cost: \$1,732,434.

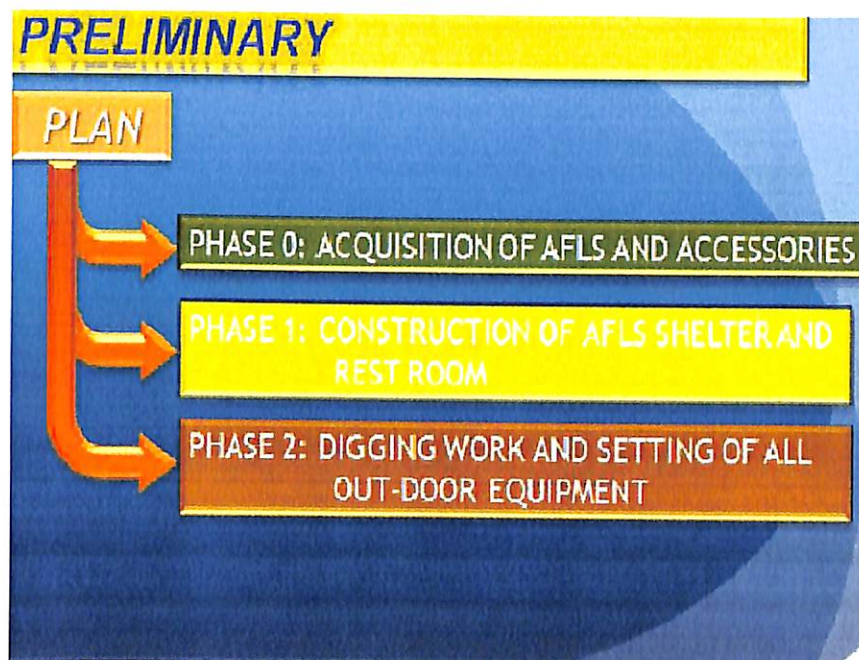


*Photo6: Beni Runway Asphaltting  
ASU/MONUSCO AVIATION*

➔ **Installation of Airfield Lighting System (AFLS)**

MONUSCO is responsible for acquiring and installing AFLS in Beni.

There are Three phases for this projects:



*Fig 17: Beni AFLS project phases MONUSCO Aviation ASU/2020*

**Cost: \$836,000**

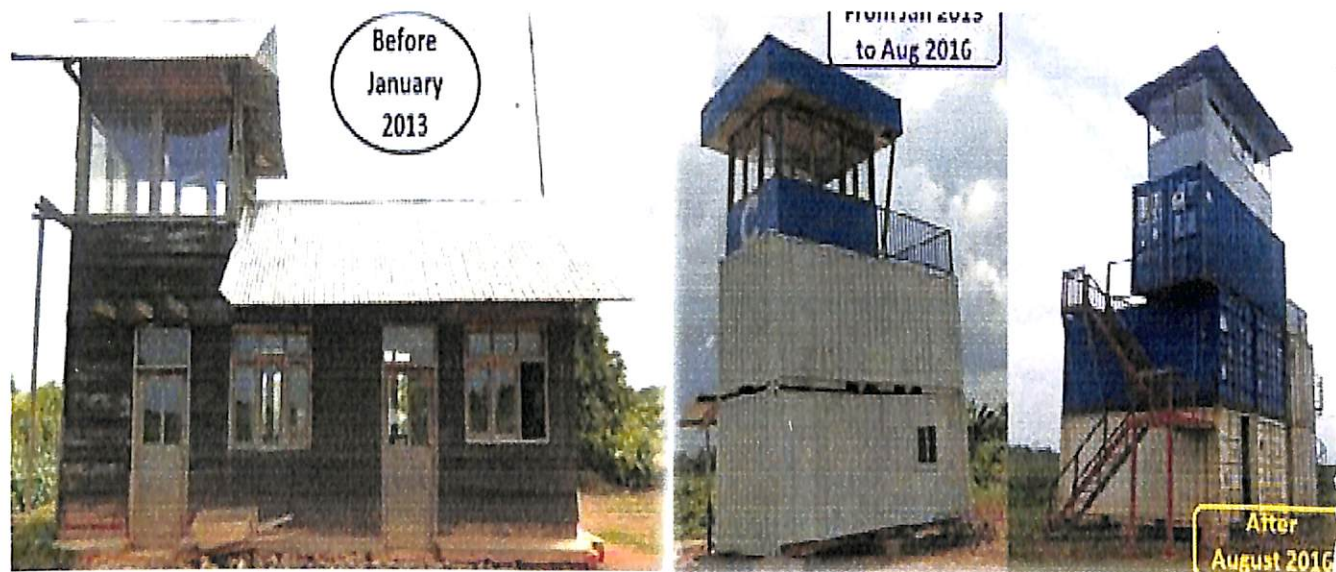
**Outcomes:**

Beni will be operational on 24/7 basis for emergency flights (Medevac, SAR, Military operations)

➔ **Construction of new ATC cabinet**

*Total cost is \$15,709.00USD.*

The construction of the new ATC tower started in February 2016 and was completed on August 2016.



*Photo: 7: Beni ATC Tower  
MONUSCO Aviation ASU 2016*

➔ **Building a Fire fighting station and hangars**

The construction of new fire station started on July 2016 and was finalized on September 2016.

The cost estimation for the construction of fire station and a hangar is **241,314.00\$USD**.

This includes the work of leveling, compacting and asphaltting of the surrounding area as well as making of access roads to the runway.



#### IV. Bunia airport

IATA Code : BUX

ICAO Code : FZKA

MONUSCO Aviation Section through Airfields Support Unit (ASU), provides maintenance and repair services on mobile ATC Tower and Flight Following Unit located in Bunia Airport.

#### → Relocation and maintenance of ATC tower in Bunia Airport

The cost estimation is \$15,316.49.

Engineering work started the work of relocation of ATC tower on the 03<sup>rd</sup> of December 2015 and the work has been completed on the 07<sup>th</sup> of January 2016.



*Photo 8: Bunia, Relocation of ATC Cabinet on new platform/MONUSCO ASU*

## V. Dungu Airfield (non-established airfield)

Dungu airfield was constructed by MONUSCO.

### → ATC tower

In September 2016, the Dungu new tower erection work was completed.

The estimated cost about *\$16,270.50US*.



*Photo 9: Dungu, Erection of new ATC tower MONUSCO Aviation ASU/2016*

Below listed brand new equipment are set after the relocation of Dungu ATC cabinet:

Description of Equipment	Quantity
Rotating Beacon	One (1)
VHF Transceiver Technisonic	One (1)
Weather Station	One (1)
Voice recorder	
VHF Transceivers Technisonic	Two (2)
Desktop computer	One (1)
Total Cost: <i>\$32,690.08USD</i> .	

*Table 6: Dungu, equipment of new ATC tower*

## 5.4.2 Enhancement of Air navigation

### → Regional Control Centers coordination

MONUSCO has organized and facilitated the Regional Coordination Meeting between Uganda (Entebbe FIR) and DRC (Kinshasa FIR).

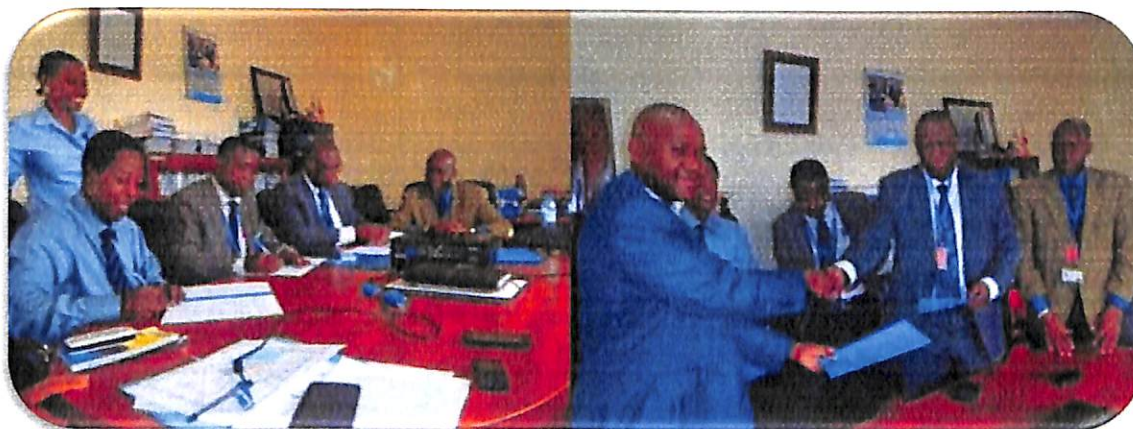
Uganda Civil Aviation Authority was officially invited to attend the meeting from Wednesday 06<sup>th</sup> to Thursday 07<sup>th</sup> of April 2016.

Conflicts at entry points in the boundaries of the two airspaces were emphasized by Entebbe CAA representatives.

Below are listed proposed solutions to sort out this mentioned concern:

- i) Delegation of the management of the lower airspace under the flight level FL245 to Goma Approach Control.
- ii) Improving the coordination between the Goma Approach Control and Entebbe ATC tower by installing the MONUSCO telephone extensions in the two ATS organs.

The Letter of Agreement (LOA) between Entebbe area control center and Goma approach control was signed on the 07<sup>th</sup> of April 2016<sup>33</sup>.



*Photo 10: Signature of LOA between Ugandan CAA and RVA  
MONUSCO ASU*

<sup>33</sup> MONUSCo ASU report, Eng Jacques Tshimpanga

➔ **Project of setting telephone in Entebbe ATC tower, Goma ATC tower and Approach**

The project of installing a telephone line in Entebbe ATC tower and Goma ATC tower and Goma Approach control was successful managed by MONUSCO Aviation-ASU.

**Cost: \$5,580**

➔ **Purchase and Installation of Distance To Go Markers (DTGM)**

The Airfield Signs shall be installed at precise sites of the aerodrome to convey a mandatory instruction/information on a specific location or destination on a movement area or to provide other information to meet the requirements of ICAO<sup>34</sup>

Distance-To-Go Marker (DTGM) sign is marked on both sides, and has two numbers describing the runway distance remaining in thousands of feet;

MONUSCO acquired one hundred thirty-eight (138) Distance To Go Markers (DTGM)

Cost is: **\$95,220.00USD.**



*Photo 11: Distance To Go Markers /MONUSCO QASU/ASU 2017*

<sup>34</sup> ICAO Annex 14, chapter 5.4.

### ➔ **Procedures for Air Navigation Services-Aircraft Operations (PANS-OPS)**

“States shall ensure that the level of air traffic services (ATS) and communications, navigation and surveillance, as well as the ATS procedures applicable to the airspace or aerodrome concerned, are appropriate and adequate for maintaining an acceptable level of safety in the provision of ATS”<sup>35</sup>.

As per ICAO provision, host state is responsible for establishing and maintaining Procedures for Air Navigation Services-Aircraft Operations (PANS-OPS), however MONUSCO is helping local authorities to implement such services by providing logistics support and payment of vendors.

As traffic is increasing due to relocation of 70% of UN air assets including fixed and rotating wings to Goma airport, a better air traffic management is required in order to improve the safety and efficiency of operations in several airports.

RVA and the DRC Government urged MONUSCO to fund below project:

- Design of new flight procedure in Bunia airport
- Provision of VFR procedures and charts for Goma airport
- Design of GNSS for specified airports in DRC based on WGS-84 surveys

### ➔ **Design of new IFR chart in Bunia airport**

Due to the relocation of VOR-DME in Bunia during the beginning of 2013, RVA requested MONUSCO’s assistance on the designing of new IFR procedure.

From the 16<sup>th</sup> to 22<sup>nd</sup> of February 2015, A team of two RVA PANS-OPS experts sojourned in Bunia for surveying prior to establish IAP and produce new charts including SIDs and STARs path.

The amount of *3,000.00USD* has been paid to RVA for this mentioned task.

### ➔ **Design of VFR procedures and charts for Goma airport**

The increase of traffic in the Goma TMA bring up several concerns on air traffic control especially for rotary wings flying VFR, this issue led to an increase number of Air-mises reported by Crew to Aviation safety. Thus, MONUSCO invited RVA PAN OPS experts from 22<sup>nd</sup> of February

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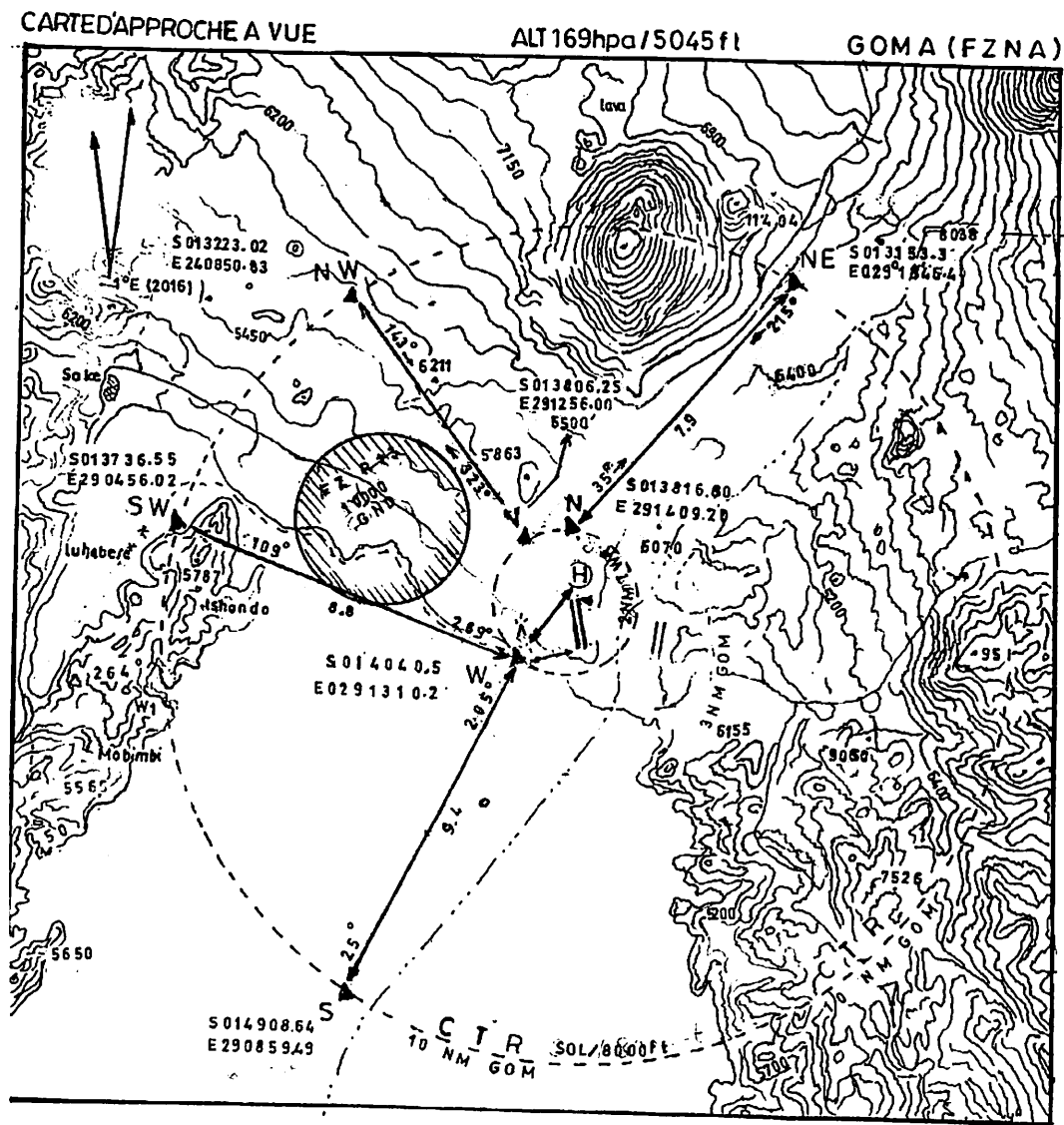
<sup>35</sup> 2.1.1 of Chapter 2. ATS Safety Management from ICAO Document 4444

to the 02<sup>nd</sup> of March 2016 to produce VFR procedure for Goma Airport and accepted to take charge of their travel and stay in Goma.

**Cost: 2,250.00\$USD.**

**Out Come:**

VFR chart was produced and published in DRC AIP which lead to significant decrease number of Air-mises between VFR and IFR flight.



**Fig18: Goma VFR Approach chart published/ DRC AIP**

➔ **Design of GNSS procedure for specified airports in DR Congo**

*“GNSS. A worldwide position and time determination system that includes one or more satellite constellations, aircraft receivers and system integrity monitoring, augmented as necessary to support the required navigation performance for the intended operation.”<sup>36</sup>*

Based on the request from General Director of RVA and the chief Aviation Safety Officer, to enhance and augment safe flight operations. MONUSCO’s Director approved on 28th of May 2015, the sourcing of GNSS maintenance program for six airports in DRC at an estimated cost of \$600,000.00 USD.

Memorandum Of Understanding (MOU) was signed on the 13th of June 2016 between RVA and MONUSCO.

**Background**

GNSS procedures and other systems and equipment relating to air navigation services at several airports in the DRC require maintenance, and the DRC, through RVA, has requested support from MONUSCO for this project and considering that MONUSCO, who uses the airports in the framework of its operations, is ready to support the DRC for the realization of this project which has positive impact on enhancing safety and fluidity of air traffic with accurate RNAV GNSS instrument flight procedures such as the non-precision, SID and STAR.

The contract was awarded to Air Traffic Navigation Services SOC Ltd ATNS as per terms below:

- Design of new procedures
- Excluding ground validation of the procedure
- Excluding flight validation of the procedure
- WGS-84 survey

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<sup>36</sup> ICAO Annex 10, Volume I

ICAO Global Provisions and Regional Developments related to GNSS, November 2017.

**GNSS elements:**

- GPS
- GLONASS,
- Augmentation Systems:
  - ABAS: Aircraft-Based Augmentation System
  - SBAS: Space-Based Augmentation System
  - GBAS: Ground-Based Augmentation System

- Electronic Maps (50k, 250k, 500k, 1000k),
- Digital Terrain Models
- Airspace and Air Traffic Services requirements/limitations
- Airport specific considerations including environmental

### **WGS-84 Survey**

The purpose of this survey was to connect entities on and in the vicinity of airport, to the WGS-84 datum.<sup>37</sup>with the intention of publishing such co-ordinates for insertion into aircraft flight management systems (as an integral component of GNSS and RNAV operations).

MONUSCO has bearded the travel and accommodation cost of experts using special flights at a total cost of \$143,242

### **Expected Outcomes**

- Development of GNSS should make it possible to eliminate part of the current aeronautical radio navigation facilities (VOR, ILS, DME, NDB)
- Flight operations safety will be enhanced and number of Air-misses/ Airproxes will be scientifically reduced.
- Many Air Careers will be encouraged to fly to DRC airports after implementation of GNSS procedures.
- Saving fuel costs, reducing carbon emission, and relieving congestion in air corridors and terminals by reducing flying time.

### **➔ Update DRC Aeronautical Information Publication (AIP).**

DRC AIP last update was in 2015 and only French version is available.

MONUSCO Aviation decided to assist DRC Aeronautical Information Services (AIS) to update the AIP and to translate it to English language.

As of March 2019, 90% of the AIP update was done.

MONUSCO is taking charge of travel expenses of all AIS experts as well as the translation fees.

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<sup>37</sup> ICAO Doc 9674 AN/946 World Geodesic System-1984 (WGS-84) Manuel 9674,



### **5.4.3 Wildlife hazard Mitigation**

*“The appropriate authority shall take action to eliminate or to prevent the establishment of garbage disposal dumps or any other source which may attract wildlife to the aerodrome, or its vicinity, unless an appropriate wildlife assessment indicates that they are unlikely”<sup>38</sup>.*

MONUSCO is the main user of many airports in DRC, therefore, Aviation Section decided to put in place measures to mitigate wildlife hazard at airfield in close collaboration with local Aviation authorities as per ICAO provision.

Traditionally, airports mitigate wildlife hazards with technologies such as game monitors, noise makers, lights and sirens, traps, pyrotechnics and habitat modification such as removing food and water. But over time.

#### **Bird hazard**

Bird Hazard designates in aeronautics the risk of collision between birds and aircraft. These shocks, almost always fatal for birds, can also be fatal for aircraft, and cause air disasters.

Birds are a serious hazard to Aviation. A bird or a flock of birds that suddenly rises from a runway or surrounding area may collide with incoming or departing aircraft and cause the aircraft to crash, possibility resulting in the loss of human life. Bird collision with aircraft is commonly known as “bird strike”

#### **Wildlife Management Techniques**

Birds are not the only wildlife problem for aircraft. Mammals have been found wandering into runways and creating serious problems for departing and landing aircraft.

Generally, there are tools and techniques available to manage wildlife hazards associated with aerodromes at an acceptable risk level. Approaches to minimizing the potential for serious strikes at aerodromes have focused on three primary areas.

These are three main techniques:

- a) Manipulating habitat and access to habitat at or near aerodrome (“passive methods”);

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<sup>38</sup> Annex 14 to ICAO convention, Aerodrome paragraph 9.4.4

- b) Dispersing, removing or excluding wildlife from the aerodrome (“active methods”); and
- c) Influencing land use decision around the aerodrome where they may increase the hazard to aircraft.

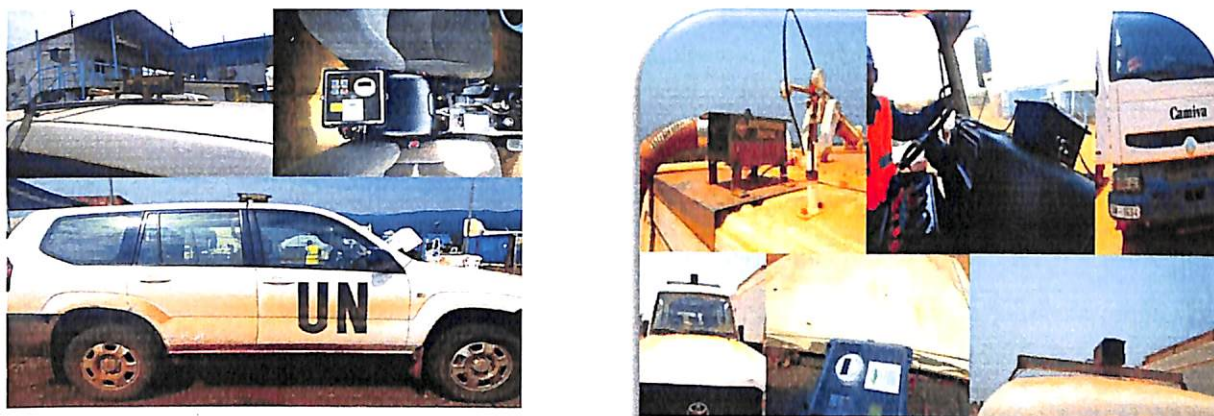


*Photo 12: Goma MONUSCO ASU team training in Bird Hazard mitigation at Entebbe Airport.*

Regular efforts are made to cut grass using grass cut machines. contractors are hired and fuel is provided by MONUSCO.

MONUSCO acquired bird audio scaring devices and gas scare gun.

The estimated cost for this acquisition is **\$3,507.00\$USD**.



*Photo 13; bird audio scaring devices mounted on MONUSCO cars*

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Annex 14. *Aerodromes* to ICAO Convention at paragraph 9.4.1 *The wildlife strike hazard on, or in the vicinity of, on aerodromes shall be assessed through:*

- a) The establishment of a national procedure for recording and reporting wildlife strikes to aircraft;*
- b) The collection of information from aircraft operators, aerodrome personnel and other sources on the presence of wildlife on or around the aerodrome constituting a potential hazard to aircraft operations; and*
- c) An ongoing evaluation of the wildlife hazard by competent personnel.*

#### 5.4.4 Provision of Aerodrome Rescue and Fire Fighting Service

*“The International Civil Aviation Organization (ICAO) defines the requirements for aerodrome Rescue and Fire Fighting Service (RFFS) in Annex 14, Volume 1 - Aerodrome Design and Operations. In accordance with this Annex, it is a requirement for Member States to provide rescue and fire-fighting services and equipment at airports under their jurisdiction”<sup>39</sup>*

As per ICAO’s provision stated above, it is the responsibility of the host country to provide and maintain rescue and fire-fighting services and equipment at airports under its jurisdiction, but in our case, MONUSCO is helping host country to provide such services due to the economic situation of DRC that prevent it from offering rescue and fire-fighting services and equipment as per international standards.

MONUSCO Aviation rescue and fire-fighting unit, within the Airfield Support Unit, is responsible of fire prevention, fire protection and related safety services for both aircraft and infrastructure at landing sites where MONUSCO is operating.



*Photo 14: MONUSCO Aviation Rescue and Fire Fighting Service  
Aviation ASU 2019*

<sup>39</sup> [https://www.skybrary.aero/index.php/Rescue\\_and\\_Fire\\_Fighting\\_Services](https://www.skybrary.aero/index.php/Rescue_and_Fire_Fighting_Services)

➔ **MONUSCO Aerodrome Rescue and Fire Fighting Service**

<b>Airport</b>	<b>MONUSCO Fire Fighters</b>	<b>MONUSCO FIRE TRUCKS</b>	<b>Cost in \$</b>	<b>ICAO FIRE PROTECTION CATEGORY</b>
GOMA	33	4	1,272,000.00	7
KALEMIE	11	3	954,000.00	5
KANANGA	1	2	636,000.00	6
BENI	14	3	954,000.00	6
BUNIA	22	3	954,000.00	6
BUKAU	12	1	318,000.00	5
UVIRA	3	01 x Fire Trailer	50,000.00	H-2(Helipad)
<b>Total Cost in \$</b>	5,138,000.00			

*Table 7: MONUSCO Fire Services by airports/ASU ECR 2020*

➔ **Cost**

- Cost of Fire trucks (Fixed charge) is: **\$5,138,000.00 USD**.
- Staffing cost per year: **\$91,200 USD**
- Fuel and spare part per year is: **\$200,000 USD**

**5.4.5 Search and Rescue (SAR)**

*“Contracting States shall, individually or in cooperation with other States, arrange for the establishment and prompt provision of search and rescue services within their territories to ensure that assistance is rendered to persons in distress. Such services shall be provided on a 24-hour basis”.*<sup>40</sup>

<sup>40</sup> Annex 12 of the Convention on International Civil Aviation/2.1 Search and rescue services

In accordance with Annex 12 of the Convention on International Civil Aviation, search and rescue is the responsibility of the Host Nation. However, since the Democratic Republic of the Congo does not have a functioning SAR capability, search and rescue operations has been delegated MONUSCO in full coordination with the host nation. This coordination extends to adjacent countries where UN aircraft operate (Uganda, Angola, Rwanda, Centrale Africa, South Sudan). MONUSCO coordinates its Aviation SAR Plan with the CAA of the Democratic Republic of the Congo.

➔ **Concept of operation**

All Search and Rescue operations in the MONUSCO Mission Area are coordinated from the Air Operations Center (MAOC) in Goma. The Search and Rescue Committee is comprised of:

- MONUSCO Chief Aviation Section
- Chief Air Operations
- Chief of Planning
- Chief of Flight Following
- Planning duty officer

➔ **Organization**

Organization comprises of the geographically defined areas of SAR responsibility, the centralized control and co-ordination to ensure effectiveness use of the available facilities for all types of SAR missions. This includes the briefing and activating the following Centers and posts:

- (a) The Search and Rescue Coordinators;
- (b) Rescue Coordination Center;
- (c) Rescue Sub-Centers;
- (d) SAR Mission Coordinators;
- (e) On Scene Commanders.

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Recommendation. "Contracting States should, whenever necessary, coordinate their search and rescue operations with those of neighboring States especially when these operations are proximate to adjacent search and rescue regions".  
ICAO Annex 12, chapter 3/3.11

→ **Execution**

SAR units are any craft, vehicle or team capable of operating independently.

A thorough knowledge of the capabilities and limitations of facilities normally employed in SAR missions is a prerequisite for the safe efficient and economical execution of SAR missions.

→ **Aircraft types**

**Rotary Wings aircraft.** The helicopter is one of the most efficient SAR craft in use today. Its slow speed and ability to hover make it suitable for search as well as for rescue operations, but it can be severely restricted to limited endurance.

MONUSCO' Helicopters available to perform SAR operations:

- a) Mi-8
- b) Oryx
- c) Puma
- d) Bell212
- e) Mi-26

**Fixed wing aircraft.** Fixed wing aircraft are used for search and rescue operations or for dropping supplies. Where suitable landing strips are not too distant from the distress scene, the aircraft can be used for speeding up the evacuation of survivors who are brought in by helicopters, ground parties or other means.

MONUSCO' Fixed wings aircraft that can perform SAR operations:

- A. CRJ-200
- B. Dash-8
- C. BE1900
- D. 2C-130

→ **Outcomes**

Everyone recognizes the importance of saving lives and the need to participate in the provision of aeronautical search and rescue services, thus, MONUSCO by providing SAR, has participated in saving lives and in recovering human remains and wreckage.

**Case study 1: Crash of an Antonov 72 in DRC and the participation of MONUSCO SAR services.**

In October 12, 2019, two aircraft and one helicopter of the UN mission in the Democratic Republic of the Congo (MONUSCO) were mobilized to locate Antonov 72 cargo plane missing while providing logistical support for ensuring the logistics of the presidency of the Republic.

*“We are supporting the authorities according to developments on the ground to find the missing plane on Thursday. Since this morning (Saturday), one of our planes has been flying over the area. We had sent a second plane which flew over the area, but we could not locate the aircraft”<sup>41</sup>,*

The first bodies, which had been buried in Okoto area the day after the discovery of the debris of the plane, were exhumed and brought back to Kananga 15 October 2019 at the end of the day aboard a MONUSCO helicopter



*Photo 15: MONUSCO in recovery operation/Photo of Radiokapi*

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<sup>41</sup> MONUSCO spokeswoman Florence Marshal told AFP.



## 5.4.6 Politics

*“The Security Council also congratulates the millions of Congolese who went to the polls for their "behavior" during the presidential, national and provincial elections, which led to the first peaceful transfer of power between heads of state in the history of the country”<sup>42</sup>.*

MONUSCO has assisted DRC in two phases, Voters Registration Update VRU and Elections.

### ➔ Voters Registration Update (VRU)

On 1st December 2015, DRC sent an official request to the Head of MONUSCO, for support to the update. Ultimately, MONUSCO and DRC identified the concept and timelines, and agreed upon the sharing of responsibilities.

The objective of the MONUSCO assistance, was the delivery of voter registration materials to 15 hubs and 107 antennas by air and land for the nationwide registration of voters.

Fixed and rotatory wing requirements were identified for delivery to hubs, and antennas of 3,600 tons of electoral materials in 90-100 days.

Delivery of Bulk Cargo by air IL-76 and C-130 1530 tons from Kinshasa to Main hubs, from main hubs to Electoral Regions and further to Sub Electoral Offices in three-month period starting from 1<sup>st</sup> Oct 2016. Mi-8 helicopters distributed the received material to the antennas<sup>43</sup>.

### ➔ Air Assets Requirements for VRU.

- 4 X IL-76
- 2 X C-130
- 16 medium lift helicopters MI-8

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<sup>42</sup> <https://monusco.unmissions.org/en/un-security-council-extends-mandate-monusco-until-20-december>

<sup>43</sup> MONUSCO Electoral report

→ **Cost**

A supplementary budget of **\$53,7 USD Million** was submitted on 12 August 2016 and revised but never voted on. As a result, MONUSCO had to absorb the cost of this operation in its regular budget, with consequences on its mandated activities. Aircrafts and helicopters were contracted and mobilized<sup>44</sup>.

<b>MONUSCO Air operations/ VRU 1 July 2016 to 31 March 2017</b>	
<b>FW Rental and Ops</b>	9,616,106.00
<b>RW Rental and Ops</b>	17,644,154.00
<b>Flight Hours</b>	2,818,000.00
<b>Fuel*</b>	7,403,981.00
<b>Insurance</b>	61,788.00
<b>Navigation</b>	27,800.00
<b>Crew Subsistence</b>	135,201.00
<b>Total</b>	<b>37,707,030.00</b>

Table 9 : MONUSCO Aviation Budget Unit/2017

\*Fuel cost is covered by Fuel Unit not Aviation.

→ **Election**

*"MONUSCO's mandate is not to organize the elections, but to offer support to the Congolese authorities in organizing the elections"*.<sup>45</sup>

Since 2003, the United Nations System has supported the DRC in the organization of elections. Resolution 2098 repeats previous resolutions 2053 and 1991 according to which: MONUSCO is required to *"assist in the organization and holding of provincial and local elections, in the form of technical and logistical support. MONUSCO will transfer technical support to the elections as soon as possible to the United Nations country team."*<sup>46</sup>

<sup>44</sup> MONUSCO Aviation Budget Performance report 2017

<sup>45</sup> Leila Zerrougui, Special Representative of the United Nations Secretary General for MONUSCO.

<sup>46</sup> <https://monusco.unmissions.org/elections>

Security Council asked MONUSCO to the best of its ability, to support the DRC logistically and recommended MONUSCO to do good offices, particularly at political and electoral levels.

➔ **Air Assets Requirements for Elections.**

- Two IL-76
- Two L-382
- Three Mi-8
- Two Mi-26

➔ **Cost**

<b>MONUSCO Air operations/ Electoral Approved 14-08-2018</b>	
<b>FW Rental and Ops</b>	33,271,748.00
<b>RW Rental and Ops</b>	21,299,242.00
<b>Fuel*</b>	17,310,098.00
<b>Insurance</b>	65,527.00
<b>Crew Subsistence</b>	175,847.00
<b>Total</b>	<b>72,122,462.00</b>

*Table 8 : MONUSCO Aviation Budget Unit/2018*

\*Fuel cost is covered by Fuel Unit not Aviation.

➔ **Outcomes**

Elections have been conducted successfully for the first time in DRC modern history and The Security Council congratulated the millions of Congolese who went to the polls for their "behavior" during the presidential, national and provincial elections, leading to the first peaceful transfer of power between presidents in the DRC's history

## 5.4.7 Others

### ➔ **Setting of Migration Offices at MONUSCO Terminal in Goma International Airport** **Background**

It was observed that MONUSCO flights out of Goma to/through international airports were mostly delayed due the lengthy departure immigration procedures. To mitigate this issue, MONUSCO Aviation section sought authorization from immigration authorities, namely “Direction Générale des Migrations”, referred to as DGM, to assign their representatives to MONUSCO terminal to process UN passengers travel documents, to allow a timely departure of UN flights.

### ➔ **Implementation**

MONUSCO Engineering constructed two offices within the Goma air terminal which shall serve as immigration office



*Photo 16: DGM Offices constructed by MONUSCO/ASU photo*

## → Project of Installation of Massive Siren “Observatoire Volcanique de Goma-OVG”

### Background

Nyiragongo Volcano is one of the most active and dangerous volcanoes in Africa is. It is about twenty kilometers north of the Congolese city of Goma.

After its last spectacular eruption on January 17, 2002, the flow of Lava ravaged part of the city, Goma, this city located in the east of the DRC has been able to regenerate and get a facelift, although the same threat still hangs over this " capital city ”of the province of North Kivu.

Everything has changed in Goma, after almost 16 years of the last volcanic eruption. This city, wedged between the lavas of the Nyiragongo volcano and the waters of Lake Kivu



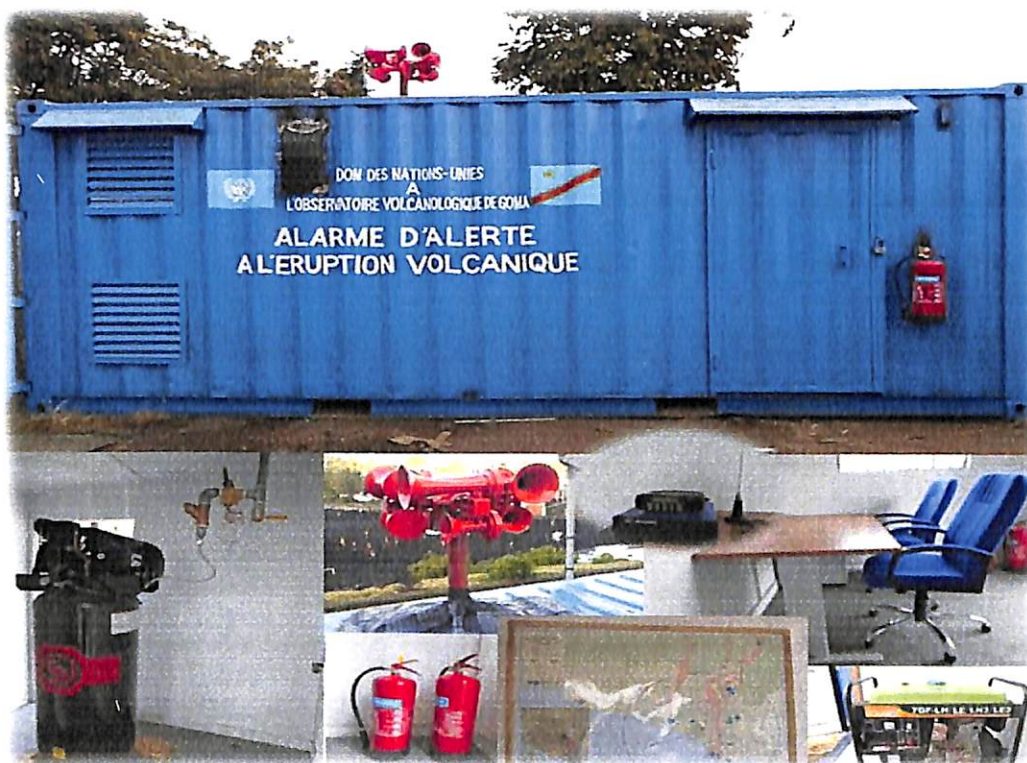
*Photo 17: Goma Volcano,*

*<http://www.forumdesas.org/spip.php?article12533>*

In April 2016, MONUSCO purchased a volcanic warning system. The project was managed by MONUSCO Aviation ASU.

The Massive Volcanic siren is mounted inside a container of 20 feet which was provided and improved by MONUSCO Engineering

volcanic warning system is operational since the 03<sup>rd</sup> of March 2017.



*Photo 18: Mounting of Massive volcanic Siren in Goma Town  
MONUSCO Aviation ASU*

**Total Cost: \$20,814.32**

## **Chapter 6: Conclusion**

The research question of this thesis was aimed at finding how the United Nations Missions in Congo MONUSCO Aviation tends to contribute towards the sustainable local development.

Since its creation in 2010, MONUSCO has participated in the development of Aviation infrastructure in Congo by rehabilitation of major airports and investing in multidimensional projects to enhance safety and efficiency of air transport which plays a major role in promoting the socio-economic development, trade, tourism and many other sectors.

Among the most significant positive impacts, it is essential to mention the creation of jobs, the improvement of the national and local economy, the enhancement the air navigation, aviation infrastructure conditions, as well as Aviation safety.

The activities undertaken by the MONUSCO Aviation tend to have a significant effect at the various levels of lives of the population in the country where United Nations is operating. Additionally, such activities tend to have a significant effect on the wellbeing of the communities.

UN presence in Democratic Republic of Congo dates for more than twenty years, however, in my research, I focused only on the last six years (2014-2019).

MONUSCO Aviation has expended in the local development more than **\$122,544,688 USD** in the last Six years:

- **\$12,715,196** for rehabilitation of Airport, enhancement of navigation's safety and acquisition of specialized equipment.
- **\$109,829,492** for the Logistics support to the conduct of Elections.

This will have a significant direct impact on the local development especially the Aviation Infrastructure and the improvement of flight safety conditions, besides indirect impacts by employment of more than 500 Aviation support staff (regular local staff, handlers, Fuel and good suppliers, etc.)

With a logistics support of MONUSCO to Congolese government during the election, and for the first time in its history the Democratic Republic of the Congo (DRC) has experienced a peaceful

alternation of political power which may lead to a cease of civil war that has destroyed the country for decades.

➔ **Recommendation**

Since 2013, MONUSCO Aviation Budget has been scientifically reduced due to the economic situation of contributing countries and to be in line with the UN Secretary General Initiative of cost effectiveness of UN Aviation. In addition, the Security Council has called for “a progressively transfer MONUSCO tasks to the Congolese Government so that the United Nations Mission can leave the country according to a phased, progressive and comprehensive withdrawal plan, this will leave behind a huge gap in investing in the Aviation field.

Democratic Republic of Congo and the donors should make more effort to improve aviation infrastructure, navigation and air traffic control services, this will have a direct impact on the development of other sectors like tourism, health and wellbeing of population.



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## **Appendix\_1: Charter of the United Nations**

Chapter I: Goals and Principles

Chapter II: Members

Chapter III: Organs

Chapter IV: General Assembly

Chapter V: Security Council

Chapter VI: Peaceful Settlement of Disputes

Chapter VII: Action on threats to peace, peace breaking and aggression

Chapter VIII: Regional Agreements

Chapter IX: International Economic and Social Cooperation

Chapter X: Economic and Social Council

Chapter XI: Declaration on Non-Autonomous Territories

Chapter XII: International Guardianship Regime

Chapter XIII: Guardianship Council

Chapter XIV: International Court of Justice

Chapter XV: Secretariat

Chapter XVI: Various Provisions

Chapter XVII: Transitional Security Arrangements

Chapter XVIII: Amendments

Chapter XIX: Ratification and Signing

## Appendix 2: United Nation Fleet

UN Mission	Country	Number of Aircraft	Type of Aircraft
UNSMIL	Libya	1	1X CRJ-200
UNVMC	Colombia	1	01 Mi-8
UNAMI	Irak	2	01 HAWKER 800
			01 B1900D
UNFICYP	Cyprus	3	02 MD 500D
			01 Bell 212
UNAMA	Afganistan	4	02 Mi-8AMT,
			01 CL604
			01 B-1900D
MINURSO	Morocco/WS	5	03 Mi-8
			01 An-26-100
			01 Let 410
UNISFA	Abyei	6	04 Mi-8 MTV
			01 B-1900D,
			01 CRJ-200LR
UNIFIL	Libanon	7	06 Bell 212
			01 Mi-8
MINUSCA	C.Africa	15	06 MI-17
			06 AN-74T
			02 Let 410
			01 MI-8
UNAMID	Sudan/Darfur	15	04 Mi-17
			09 Mi-8
			02 CRJ-200
UNSOS	Somalia	23	12 Mi-8
			03 H-500MD
			04 DASH8
			02 BE20

			L-382G
			AN-26B
<b>UNMISS</b>	Sout Sudan	32	8 MI-17
			03 MI-26
			12 Mi-8
			01 MI-8
			02 Let 410
			02 AN-26
			HS125
			L-382
			ATR 72
			ERJ-145LR
			<b>MINUSMA</b>
01 Puma			
02 SAAB-34			
03 AN-74			
02 C-130			
15 Mi-8			
1, 06 MD-500E			
04 (UAV)			
11 LUNA			
05 ALADIN			
03 Heron 1			
02 Puma			
<b>MONUSCO</b>	DRC	46	01 CRJ-200
			01 ERJ-145
			02 BE-1900
			03 RVLK
			05 Oryx
			04 Mi-24
			08 Mi-8
			04 UAV
02 DCH-8			

		02 Bell-212
		03 Puma
		01 Mi-26
		06 Mi-17
		02 C-130
		01 L-382G
		01 An-26
<b>Total Fleet</b>		209

**Air Operation Strategic Center, Air Transport Service, December 2019**