UNCAP Micro-Unmanned Aerial Systems (M-UAS) Workshop Report

03 to 06 June 2024, Valencia

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MINUTES: THE UNITED NATIONS C4ISR ACADEMY FOR PEACE OPERATIONS (UNCAP) MICRO-UNMANNED AERIAL SYSTEMS (M-UAS) WORKSHOP HELD ON 03 TO 06 JUNE 2024 AT VALENCIA, UNITED NATIONS GLOBAL SERVICE CENTRE (UNGSC)

1. Introduction

A four-day workshop was held in Valencia, Spain to review the training courses, discuss lessons learnt, and evaluate a potential new training site in Valencia the scope was expanded further to enhance the operational capabilities of UAS operators and trainers across UN missions. Sessions held had a focus on the practical aspects of UAS operations, drone digital forensics and counter-UAS programs. The UAS Operator and Trainer of Trainer (TOT) syllabi was refined. The role of ongoing partnerships and international collaboration in achieving peace operations was also addressed.

2. Objectives: The objectives of the workshop were:

a. Enhance the data management and imagery interpretation capabilities for the peace keeping missions and other partnerships within the UN.

b. Address challenges that missions are experiencing with their M-UAS programmes.

c. Introduce attendees to the latest technologies:

   i. Automatic drone control, mapping mission planners, and LiDAR technology.
   ii. Drone Digital Forensics programme.
   iii. Counter UAS programme.
   iv. M- UAS training simulator experience.
   v. M-UAS or related systems being used by member states (e.g., French military or Spanish National Police).

d. Review the UAS Operator and TOT syllabi and suggest changes, if needed.

e. Standardization of the certification process for the M-UAS Operator and TOT Courses across the peace keeping missions. Including standardisation of the assessment standards for both courses.

f. Standardisation of prerequisites for entry into the M-UAS Operator and TOT Courses.

g. Facilitate candidates to sit the European A2 license exam under the supervision of the Civil Aviation Authority of Luxembourg.

3. **Attendance.** In addition to the UN staff from various organizations / agencies / missions, delegates and subject matter experts on M-UAS from France, Spain and Luxembourg also participated in the workshop. A list of attendees is available in **Appendix A.**

4. **Agenda.** The agenda of the conference is attached in **Appendix B.**

5. **Keynote Address by the Spanish Police Department.** The Spanish Police was represented by the Keynote speaker Chief Inspector Jefe Jaime Cuenca Jimenez, of the Spanish National Police. "UAS plays a critical role in cease-fire monitoring, the identification of threats, minimization of personnel risk, and data collection for the environment". He also noted that the partnership between Spain and UNCAP should be pursued.

6. **Key Highlights of Important Points Discussed During the Workshop**

a. Data Management and Imagery Interpretation Capabilities

The PKISR cycle was presented by Mr. Jamie Meighan from the DOS ATS. The analysis draws to two concepts of bringing information together and apply analytical techniques. It was agreed that in addition to our MUAS training program, there is a need to further enhance our capabilities in the areas of data management and imagery interpretation capabilities.

b. UNCAP Database and Flight Logs

For uniformity and standards of **training currency records** in compliance with the DOS policy, a prototype database to track pilots' operational level was demonstrated by UNCAP. This was done via a database that keeps training reporting records.

c. Challenges Experienced by Peacekeeping Missions with the M-UAS Programmes.

S/No	Topic	Discussion Points / Proposals	Recommended Action(s)
a	Students from (TCCs) do not have a license and limited / no access to computers or the internet in their PK missions.	A simile of Transport license being issued based on home country's driver license was discussed and it was agreed that a prior certificate / license for M-UAS operator was required as a pre-requisite. Communications about the policy to these effects must be sent out to all stakeholders. As per the policy, TCC / PCC bringing M-UAS as COE are required to bring certified M-UAS operators. Point also covered in the Policy on 'Certification within the UN System: (Point 9 on Pg 4 of DOS/2022.03)'	UNCAP to add prior certification / license from home country for all participants of the remote pilot and ToT courses.

S/No	Topic	Discussion Points / Proposals	Recommended Action(s)
b	How do we remain Current?	Put a condition on the UNCAP Certificate, that the remote pilots (including trainers) must re-certify after a specific period. Instructors must attend an annual workshop which can be online. Tracking all M-UAS in Unite Aware.	UNCAP and the SMEs to work-out the terms of maintaining currency. UNCAP and UNGSC for organizing the workshop. Point to be discussed with Unite Aware Program

d. Highlights of the Break-out Sessions the following challenges were selected by four break-out groups to identify the way forward.

(1). ***Problem Statement 1*:** How might we improve the success rate in the Remote Pilot and TOT M-UAS training courses? The ***Recommendations*** are:

(a) Licenses: Come with license or certificates from home country (as per COE policy for the TCC / PCC) or do A1/A3 as part of the UNCAP Operator Training. Make sure our training covers all components.

(b) Theoretical knowledge and practical skills must be assessed separately. Passing in both as per the benchmarks separately must be maintained as the standard. E.g., if pass marks for both parts is 60% in the Remote Pilots course, a student securing 80% in Theory but only 50% in Practical examination should not be allowed to qualify as a remote pilot.

(c) For the practical assessment, trainers also maintain a diligent record of daily progress for all students in the same format as the final assessment – same must be referred to in case of an eventuality where the final practical test is not possible.

(d) UNCAP must update its SOP on the conduct of the course and assessments and share it with all stakeholders and missions for transparency and better management of expectations.

(e) Explore possibilities of provision of licenses for online simulator applications (even if these belong to one / more specific OEM) and / or also set up a Simulator Centre at Entebbe and Valence.

(2). ***Problem Statement 2***: How can we improve and expand students' feedback and implement the recommendations in future training? The ***Recommendations*** are:

(a) Increase annual visits to assess the impact of MUAS on PK Operations
(b) Measuring the impact of training (who / how it should be done - kindly see my comments on the point a. above)
(c) Retention and extension of trainee and trainers' contracts to retain capacity.

(3). ***Problem Statement* 3:** How might we ensure every student has the course material (lectures, annuals, SOPs, international regulations at the beginning of the course? The ***Recommendations*** are to have a focal point in all missions / organisations to be identified and be part of the UNCAP-UNGSC M-UAS activities. The focal point must assist the UNCAP for the following:

(a) Currency / Updating of Trainers within the mission.
(b) Raise awareness within the mission about M-UAS activities / training / trends based on communications received from the UNCAP.
(c) Communication and follow-up with senior management.
(d) This proposal may be presented in the Client Board Meeting of the DMSs and CMSs.
(e) Follow up on M-UAS training/ Certification Requirements.
(f) Introduction of information related to MUAS/ Counter-UAS/ Digital Forensics.

e. UNCAP Update the MUAS Operator and ToT Syllabi (Development of CCD II & III)

UNCAP's system approach to training (SAT) was presented. A comprehensive methodology was used to design already existing content using CCD process to implement, evaluate and improve training courses systematically. The goal is to ensure that training is effective and aligned with the organisational goals and performance requirements.

(1). Good progress has been made in the development of CCDs.
(2). To formalise the documentation and maintenance of the standards of MUAS course in future, following is recommended:
(a) UNCAP to share the CCDs with all trainers / any SMEs (subject matter experts) for review and update of the documents.
(b) A follow-up workshop to be held in conjunction with any MUAS course which UNCAP conducts, either at Entebbe or Valencia, where additional trainers can be called in for a 2 / 3 days detailed discussions and finalisation of the CCDs.
(c) Once, agreed upon and finalised, UNCAP can formally get the same approved and disseminate to all concerned.

7. Introduction to Latest Technologies and Capabilities Related to MUAS

a. Latest Software for Automatic Drone Control, Mapping Mission Planners, LiDAR Technology for Digital Twins

The UAS software for automation and mapping Lidar technology was presented by UNGSC. It was discussed - how important the automated tasks within UN context are? It was acknowledged that the technology and methods can find some usage in fields of engineering support, safety and security within the camp.

b. Introduction to the Drone Forensic Programme

Technology on Digital Forensics- Micro Unmanned Aircraft systems were show-cased by UNGSC team. Operations evolve around Flight, environment, safety compliance and predictive analytics.

Recommendation: UNCAP can consider introducing the topic during ToT course but develop a separate specialisation course around this capability.

c. Introduction to Counter UAS Programme

Counter UAS was presented by UNGSC team describing it in the global context i.e. threats, challenges, solutions, and partnerships. In addition, the UN context was also described, includes threats and incident.

Recommendation: UNCAP can consider introducing the topic during ToT course but develop a separate specialisation course around this capability.

d. UAS Training Simulator

Participants were introduced to the MUAS simulators which can aid not only during the training courses, but also for subsequent maintenance of currency by the remote pilots.

Recommendation: UNCAP and UNGSC to follow-up on the possibility of establishing simulator centers at respective locations. Also, explore the feasibility of provisioning of licenses (either pooled or individual missions / organization).

e. Introduction to the Technologies or Innovative Solution

(1). **The Government of France**: Captain Frederic Dumont and Captain Thomas Violot presented a brief on certain innovative techniques used by French Army for effectively using the MUAS in their operational activities, which could benefit the peace operations.

(2). **The Kingdom of Spain**: Chief Inspector Ivan Rafael Pascual Fernandez and team presented and showed a demonstration on different MUAS and the counter-UAS systems which are deployed by the Spanish National Police and the challenges faced.

(3). **UNGSC**. As part of the practical demonstration, UNGSC team showcased different MUAS systems being utilised, and trainings being extended to other partners.

8. Partnership Initiatives and Activities

a. Member State Presentations

(1). **The Government of France**: The French army training framework for the UAS (specially MUAS) was presented by Captain Fredric Dumont and Captain Thomas Violot. He highlighted that the Government of France has a dedicated and specialised school for Drones for the armed forces. France via a technical agreement has provided experts, trainers, and mentorship to UNCAP since 2021.

(2) **The Grand Duchy of Luxembourg**: Ms Irina Teodorescu from the Civil Aviation Authority of Luxembourg presented the initiatives undertaken by the organization with regards to UAS with specific focus on MUAS. She highlighted that currently CAA, Luxembourg holds the chair of EASA and has done pioneering work on the policies related to the UAS. She also highlighted the large catalogue of trainings offered by the organization and how it uses the feedback from the online courses every 3 months to analyze and improve the course.

(3) **The Kingdom of Spain**: The Chief Inspector Ivan Rafael Pascual Fernandez and team presented the modalities of how the UAS units are organized within the Aviation sections in the Spanish National Police. He shared their experience and showcased different use cases in which the Police uses the UAS / MUAS of different capabilities. The team not only shared their challenges but the best practices which can be incorporated by UNCAP / UNGSC trainers.

b. Triangular Partnership Programme

The office of Triangular Partnership Program (TPP) from DSA / UNHQ presented various engagements and initiatives being led by TPP pillars. It was brought out that troops from TCC / PCC are trained in certain disciplines before they join the UN. It was agreed that UNCAP could consider a similar approach after assessing the procedures followed by TPP.

c. UNCAP Partnerships

UNCAP is a direct outcome of the 1st Partnership for Technology in Peacekeeping held in Italy in 2014. Other key partners supporting UNCAP are the Governments of Canada, Denmark, India, and Japan. UNCAP has also forged important technical partnerships are with French Army (Micro-UAS & CIS), Germany, NATO CI Academy and Uganda/UPDF

According to the UN and Government of France Technical Agreement, the proposed training sites will include two courses in Entebbe, one in Valencia, and one in a PKO location to be determined

d. UN UAS Community of Practice

Mr Jamie Meighan from the Aviation Projects, Planning and Training Unit, Air Transport Service (OSCM), UNHQ, highlighted the ongoing initiatives at the UNHQ level with respect to UAS including MUAS.

He brought fore ongoing planning for the UAS/RPAS and Airborne ISR (Intelligence, Surveillance and Reconnaissance) training which will further the actual utilisation of the information being gathered by the onboard sensors on different UAS.

He highlighted, how, organisations utilising the UAS (larger drones) and MUAS need to collaborate, not only for synergy during operations, but also for a better understanding of the timebound and optimum exploitation of each asset at different level of their application in the field.

e. Facilitate Candidates to Undertake the European A2 License Exam

Inspector, Ms. Irina Teodorescu, from the Civil Aviation Authority of the Grand Duchy of Luxembourg presented the initiatives undertaken by the organization with regards to UAS with specific focus on MUAS within Europe. She also highlighted the possible collaboration with the United Nation in terms of capacity building.

Recommendation*:* A partnership technical agreement with the government of Luxembourg to facilitate the OPEN A2 License exam. A tri-party technical agreement between the UNCAP, UNGSC and Government of Luxembourg can be explored. The inspector also conducted the OPEN A2 License exam for 10 candidates. A photo and list of the candidates is given in **Appendix C**.

f. Highlights from the Missions

Three missions presented briefs highlights with respect to the MUAS - important projects, modern technologies/innovations, and challenges technologies/innovations faced as indicated below:

S/No	Mission	Highlights
1	UNSOS (United Nations Support Office for Somalia)	UNSOS shared its experience in implementing UAS operations at the mission level and in Combat and Humanitarian Operations
2	MONUSCO	Presented wide geographical demographic of the mission and MUAS user cases. Raised issues arising because of lack of control of MUAS deployed by the TCC at FHQ. Challenging to coordinate the training.
3	MINUSCA	Shared details of MUAS training activities that have been implemented in the mission.

9. Summary of Recommendations and Action Points

The Important points discussed during the workshop have been organized at Appendix D, under following four heads for ease of reference: People & Culture, Policy and Processes, Technology and Partnerships. The following points have been recommended for further action:

S/No	Item	Topic	Action by	Expected Completion
a.	M-UAS Trainings	Every year, one course at UNGSC, two courses at RSCE and one in a peacekeeping mission. Technical Agreements to include the suggestion	UNCAP UNGSC	Q4 2024
b.	For rotating TCCs and PCCs	Take ToT upstream to the TCC member states such that we have a percentage of TCCs & PCCs sent being specifically M-UAS.	UNCAP TPP DPO/OMA	Q4 2025
c.	TPP (Triangular Partnership Programme)	More **participation of AU**, hence, need to establish more partnership with AU. (SC Resolution 2719)	UNCAP/OICT, TPP	Q2 2025
d.	M-UAS Patrol plan	Should be added to Unite Aware.	UNCAP	Q4 2024

S/No	Item	Topic	Acton by	Expected Completion
e.	Community of Practice	Cohesion & collaboration between different Missions, Sections and Stakeholders	Aviation Projects, Planning and Training Unit (UNHQ) UNCAP UNGSC	Ongoing
f.	Mission Level SOPs	Missions to develop and promulgate SOPs for ensuring only qualified remote pilots are allowed to operate the MUAS. There is a need for a common understanding of the policy on the subject including the COE policy on the TCC / PCC owned MUAS and associated conditions for their operation. Missions must be informed about the policy on the subject and the authority vested (only) in UNCAP to issue / validate certificates.	UNCAP	Initiate communicat ions by Q4 2024
g.	Expanding the Partnership	UNCAP through the PM of the Kingdom of Spain to negotiate a new Technical Agreements for MUAS trainings. Also, update all documentation / presentations of UNCAP to include The Kingdom of Spain as a Partner	UNCAP	Q3 2025
h.	Counter UAS Operators	Take the issue to Higher Management for how to build and maintain capacity for counter UAS Operators: Should we train FTS (Field Technology Services), TCCs & PCCs? Like the way we asked the TCCs to come with their drones and we re-imburse them, can we also ask them to come with their own Counter-UAS and we re-imburse them?	UNGSC UNCAP	Q4 2025 Initiate Communicat ions by Q4 2024

	Item	Topic	Action By	Expected Completion
i.	Currency of the Remote Pilots and Validity of Certificates	Annual workshop / meet of MUAS trainers. (Can be clubbed with any course at Entebbe / UNGSC) UNCAP Certificate to clearly state the duration of the validity of the certificate (Policy states Refresher workshop every year that UAS Operators remain current **Point 25 on Pg. 6 of DOS/2022.03** A platform to manage the information about the flying details of all MUAS remote pilots.	UNCAP UNGSC	Q2 2024
j.	Data Management	Two-fold need was identified: a. A system for management of the assets / remote pilots and trainings being conducted. b. A system to manage the MUAS operations at mission level with repository of the data gathered and information generated.	UNCAP, UNGSC, Aviation Projects, Planning and Training Unit (UNHQ),	**Q2 2026**
k.	Standardisation of the Course Content and Assessment	Need to review and standardise the Remote Pilots Course and ToT courses as per the new methodology being adopted by UNCAP. Also need to standardise the assessment standards and methods. Same to be disseminated to the field missions for incorporation in their MUAS trainings.	UNCAP	**Q2 2025**
l.	Enhance the Awareness about MUAS Training and Control of Certification	There is a need to enhance the awareness about MUAS use cases / training and certification programs and the policy for better participation and accountability.	UNCAP, UNGSC	Q2 2024 UNCAP to present efforts undertaken in next workshop

10. Conclusion

The workshop's purpose was rooted in the DOS policy document on Unmanned Aircraft Systems (UAS) Class I Training guidelines. It focused on the implementation of these guidelines and outlined the next strategic steps. Additionally, according to policy, UNCAP is mandated to train pilots and issue certificates. Building on this foundation, UNCAP collaborated with UNGSC to develop and implement the agenda for the MUAS workshop.

The objectives included setting standards for UAS operator syllabi, standardizing entry prerequisites and assessments, and addressing operational challenges faced during MUAS missions. Collectively, the workshop was instrumental in defining a path forward for integrating efforts to standardize procedures, aligning with ICAO, CAA, EASA, or FAA programs to ensure proficiency. It also emphasized implementing systems for performance tracking, technology upgrades, and establishing a framework for data analysis and risk management.

Furthermore, there was a commitment to integrating innovative technologies into peacekeeping operations and highlighting the role of ongoing partnerships and international collaboration in achieving peace operation objectives.

Appendix A: LIST OF PARTICIPANTS

No	Name of Official	Mission	Designation	Email
1	Captain Dumont	French Army		
2	Captain Thomas Violot	French Army		
3	Irina TEODORESCU	Luxembourg	Département UAS et Nouvelles Technologies-Luxembourg	irina.teodorescu@av.etat.lu
4	Rami Eid	MINUSCA	Information Systems Assistant	eidr@un.org
5	Stephen Muzigo	MINUSCA/Aviation	Chief Aviation Officer	muzigos@un.org
6	Shankar Raj Bista	MINUSCA/Aviation	Aviation Officer	bista3@un.org
7	Jotinder Singh Sudan	MONUSCO	Chief, Telecomm	jotinder.sudan@un.org
8	Diane Mugamba	RSCE	Programme Management Assistant	mugamba@un.org
9	Emmanuel Ngor	RSCE	Chief, RFTS	ngor@un.org
10	Herbert Kirangwa	RSCE	System Admin	kirangwa@un.org
11	Miriam Nakiya	RSCE	Administrative Assistant	nakiya@un.org
12	Aimy Weesner	Triangular Partnership Programme	Senior Programme Management Officer, Administration , DOS	weesner@un.org
13	Andrew Burke	UNDOC		andrew.burke@un.org
14	Arturo Ojeda	UNGSC	ICT Specialist	arturo.ojedademaria@un.org
15	Declan Keogh	UNGSC		declan.keogh@un.org
16	Emanuel Patrician	UNGSC	Intern	emanuel.boros@un.org
17	Hizkiel Gebreselase	UNGSC	Information Systems Officer	getu@un.org
18	Lino Puertas	UNGSC	Logistics	puertas@un.org
19	Michel Bergeron	UNGSC	Chief, Information Systems & Telecomm	bergeron@un.org
20	Said Ahmed	UNGSC	Information Systems Assistant	ahmed149@un.org
21	Sam Leal	UNGSC	Chief TDDPS	leal1@un.org
22	Marcus Vinicius De Vasconcelos Cardoso	UNGSC	UAS Pilot	marcus.vinicius@un.org
23	Stephen O'Sullivan	UNGSC	Chief TDU	osullivan3@un.org
24	Jonathan Stewart	UNGSC - V	GIS Officer - Analytics & Location Intelligence Unit	stewartj@un.org
25	Aaron David	UNHQ	DOS-OICT Programme Officer	davida@un.org
26	Jamie Meighan	UNHQ	Consultant, Aviation Projects, Planning and Training Unit	jamie.meighan@un.org
27	Josefina Otero	UNODC	UNODC GMCP Caribbean Project Manager	josefina.otero@un.org
28	Aboubakar Diarrassouba	UNSOS	Geographic Admin Assistant	diarrassoubaa@un.org
29	Ernest Manzano	UNSOS	Chief Aviation Services	manzano@un.org
30	Iván-Rafael Pascual Fernández	VLC National Police	Drone Pilot	ir.pascual@policia.es
31	Miguel Angel Almarche Puiz	VLC National Police	Drone Pilot	valencia.seguridadaerea@gmail.com
32	Sergio Rebollo Fernandez	VLC National Police	Drone Pilot	sergiorebollofernandez@gmail.com

Appendix B AGENDA

<table>
<tr><th></th><th>Day 1 - Monday</th><th>Day 2 - Tuesday</th><th>Day 3 - Wednesday</th><th>Day 4 - Thursday</th></tr>
<tr><td>8:00-8:30</td><td rowspan="2">Transportation to base / settling in</td><td rowspan="2">Transportation to base / settling in</td><td rowspan="2">Transportation to base / settling in</td><td rowspan="2">Transportation to base / settling in</td></tr>
<tr><td>8:30-9:00</td></tr>
<tr><td>9:00-9:30</td><td>Open Session - Welcome
Emmanuel Ngor</td><td>Luxembourg Presentation on Aviation Exam EASA
Irina Teodorescu</td><td rowspan="2">Standardization of Assessment for Operator and TOT Courses Exam
Arturo Ojeda</td><td rowspan="2">Intro to Drone Digital Forensic Programme
Hizkiel Gebreselassie / Declan Keogh</td></tr>
<tr><td>9:30-10:00</td><td>UNCAP Training and Operations
Aaron David</td><td rowspan="3">Civil Aviation Exam (OF 2 Med size meeting room)
//
Bilateral Talks (OF1 Conf room + 2 rooms)</td></tr>
<tr><td>10:00-10:30</td><td>UNCAP Partnerships
Aaron David</td><td rowspan="2">Breakout Session
(Pain Points & Solutions Moving Forward)</td><td rowspan="2">Intro to Counter UAS Programme
Arturo Ojeda</td></tr>
<tr><td>10:30-11:00</td><td>Coffee / Tea Break</td></tr>
<tr><td>11:00-11:30</td><td rowspan="3">UAS as a Service Training Program: Guidelines for the Generation of Mission SOPs
Stephen O'Sullivan</td><td>Coffee / Tea Break</td><td>Coffee / Tea Break</td><td>Coffee / Tea Break</td></tr>
<tr><td>11:30-12:00</td><td rowspan="2">UN UAS Community of Practice
Jamie Meighan</td><td>France Innovation Presentation
TBC</td><td>Valencia Police Presentation on UAS Program
Unidad Aérea Policia Nacional</td></tr>
<tr><td>12:00-12:30</td><td rowspan="2">UAS Training Simulator Experience
Hizkiel Gebreselassie</td><td rowspan="2">Wrap-Up / Closing Ceremony</td></tr>
<tr><td>12:30-13:00</td><td rowspan="2">Member State Presentations
(10 mins each, in alphabetical order)</td><td rowspan="2">MONUSCO - Jotinder Singh
MINUSCA - Rami Eid
UNSOS - TBC</td></tr>
<tr><td>13:00-13:30</td><td>UNCAP Data Panorama + Next Steps in Logging Flights
Diane Mugamba & Herbert Kirangwa</td></tr>
<tr><td>13:30-14:00</td><td rowspan="2">Lunch Break (Self-Funded)</td><td>Lunch Break (Self-Funded)</td><td rowspan="2">Lunch Break (Self-Funded)</td><td rowspan="2">Official Lunch (UNCAP-funding)</td></tr>
<tr><td>14:00-14:30</td><td>Transportation from Base to Pucol</td></tr>
<tr><td>14:30-15:15</td><td>Introduction to CCD process: Collection of inputs to update the UAS Operator and TOT Syllabi (Part 1)
Arturo Ojeda</td><td rowspan="3">UAS Flights at Training Facility
Stephen O'Sullivan / Arturo Ojeda / Iván Pascual (Unidad Aérea Policia Nacional)</td><td>Latest Software for Automatic Drone Control, Mapping Mission Planners, LiDAR Technology
Hizkiel Gebreselassie / Declan Keogh</td><td rowspan="3">Optional: City Tour</td></tr>
<tr><td>15:15-15:30</td><td>Coffee / Tea Break</td><td>Coffee / Tea Break</td></tr>
<tr><td>15:30-16:30</td><td>Introduction to CCD process: Collection of inputs to update the UAS Operator and TOT Syllabi (Part 2)
Herbert Kirangwa</td><td>Data Management and Imagery Interpretation Capabilities
Jamie Meighan</td></tr>
<tr><td>16:30-17:00</td><td>Transport back to hotel</td><td>Transportation from Pucol to Plaza Ayuntamiento</td><td>Transport back to hotel</td><td></td></tr>
<tr><td>20:00-23:00</td><td>Official Dinner (UNCAP Funded)</td><td colspan="3"></td></tr>
</table>

Appendix C: UAS OPEN A2 EXAM CANDIDATES 2024

No	Name of Official	Mission	Designation
1	Rami Eid	MINUSCA	Information Systems Assistant
2	Jotinder Singh Sudan	MONUSCO	Chief, Telecomm
3	Herbert Kirangwa	RSCE	System Admin
4	Andrew Burke	UNDOC	
5	Arturo Ojeda	UNGSC	ICT (Information and Communications Technology) Specialist
6	Emanuel Patrician	UNGSC	Intern
7	Hizkiel Gebreselassie	UNGSC	Information Systems Officer
8	Said Ahmed	UNGSC	Information Systems Assistant
9	Marcus Vinicius De Vasconcelos Cardoso	UNGSC	UAS Pilot
10	Stephen O'Sullivan	UNGSC	Chief TDU (Technical Development Unit)

Appendix D: SUMMARY OF IMPORTANT HIGHLIGHTS OF THE WORKSHOP ORGANISED UNDER FOUR CROSS-CUTTING HEADINGS

1. **People**
   - Currency / Updating of Trainers
   - Raise Awareness about UAS/ MUAS/ Counter-UAS/ Digital Forensics, especially, amongst senior management.
   - Can be presented in the Client Board Meeting of the DMSs (DIR OF MISSION SUPPORT) and CMSs (Conservation of Migratory Species).
   - Training / Certification Requirements.
   - Management of remote pilots and trainers.

2. **Policies & Processes**

   a. **Policies:**

   - Certification within the UN (United Nations) System: (***Point 9 on Pg 4 of DOS/2022.03***)

   - External Certificate/ License:
     - Trainees to come with their valid License certification or do A1/A3 as part of the UNCAP Operator Training. UNCAP to ensure that remote pilot's course covers all components of A1/A3.
     - UNCAP Certificate to clearly state the duration of the validity of the certificate. (Policy states Refresher workshop every year to ensure that UAS (Unmanned Aircraft Systems) Operators remain current - ***Point 25 on Pg 6 of DOS/2022.03***)

   - Uniform Training and Assessment Standards

     - Suggestion was:
       Remote Pilots course to be followed by a specialised training course or a ToT course, depending upon the needs of the organisation(s).

     - As and when Aviation Safety units get the responsibility of inspecting MUAS, there will be a need to train their staff on the MUAS.

   - Validation of remote pilots to be done despite being pre-certified.

     - T/PCCs which come already with Licenses/Certificates should also go through a UN Familiarization training and test for two days.

   - Additional - Specialized trainings.

     - e.g. Digital twinning, Digital forensics with UNCAP Certification. (Refer to the policy)
     - We need the structure and personnel in UNCAP to be able to support and face the demand.

b. Legal Aspects

- We already have policies on **handling Data**, we only need to comply except where it is specific and necessary both now and eventually. The mission has the first responsibility to find out if our activities comply with the legal requirements of both the UN and the country we are operating in. (Stephen)
- It is particularly important for us to be compliant; it is a premise upon which our collaboration where we operate is based and the donors who sponsor the organization.

- We need a standardized SOP (Standard Operating Procedure) and then mission specific SOPs (Standard Operating Procedure) (Standard Operating Procedure) because some of the SOFAs and MOUs (Memoranda of understanding) are incredibly old and not capturing recent developments.

c. Processes

- Selection of participants.
- Set up a Simulator centre.
- Increase annual visits to assess impact of MUAS (Micro Unmanned Aerial Systems) on PK Operations.
- Measuring impact.
- Best Practices
- Economies of scale
- We need ***to implement a lot of these Policies*** that are already there but not implemented or operationalized.
- Challenges faced in Procurement to be reviewed.

3. Technology

- Build a central database for assets as well as operations management of MUAS. ***(Point 26-30 on Pg 6 of DOS/2022.03)***
- Application/ Platforms/ Database for
  - Flying Logs
  - Remote Pilots/ Trainers Database
  - Assets Management
  - Flight Planning/ Tasking: Integrate with Unite-Aware.
  - Flight Patrol Plans
  - Reporting and data gathered.
  - For data, instead of MS use Unite-Aware.

- New MUAS/ FPV
- When purchasing technology, our guiding compass is what business requirement will it solve or meet?
- Explore use cases for Digital Forensics, Counter UAS, Digital Twinning, FPVs
- Simulators
- Online Training Platform/ Assessment like A1/A3. UNCAP already has an online Training platform (***UNCAP online training is not yet Approved and Active***) and there is also the European A1/A3 online License course with an Assessment.

4. Partnerships

- Continuous expansion of partnerships – within and outside the UN system.
- At UNHQ Level: OICT – OSCM (Aviation & Aviation Safety), TPP, UNOCT.
- With member states, CAAs of various countries.