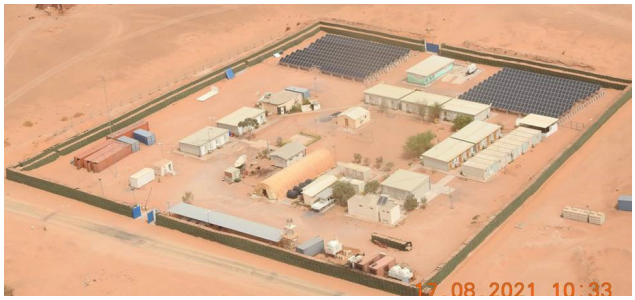
DEPARTMENT OF OPERATIONAL SUPPORT

ENVIRONMENTAL GOOD PRACTICE

2022 ANNUAL COLLECTION OF CASE STUDIES FROM FIELD MISSIONS

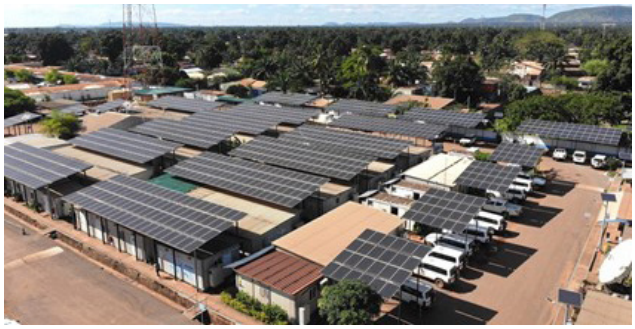
ENERGY

MINURSO COMMISSIONS AN ADDITIONAL 100 kW SOLAR PLANT



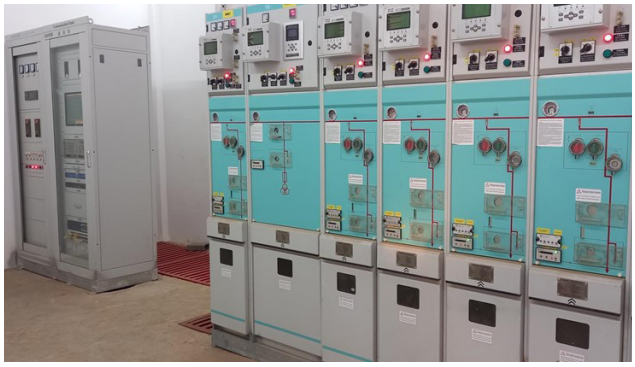
MINURSO continues to implement its multi-year environmental plan (2020-2025), which includes the installation of solar photovoltaic (PV) - diesel hybrid power generation systems in 9 remote UNMO Team Sites, that are currently powered by diesel generators. The Mission commissioned a 100 kW hybrid PV solar-diesel power system at Team Site Mahbas, while a second system is being installed at Team Site Awsard and is expected to be commissioned around mid-December 2022. Five more systems were received and preparation is being made for their installation. One of the kits has been ordered against the current 2022-23 budget year and the last is proposed for the next budget year. Once the project is completed, the mission expects a reduction of fuel consumption and greenhouse gas emission by 90 percent.

MINUSCA INSTALLS TWO 300kW SOLAR PV SYSTEM IN BANGUI



MINUSCA has embarked on a three-year project to install solar PV – diesel hybrid power generation systems in main operating sites in Bangui and the regions. The Mission has completed the installation and commissioning of two 300kWp solar PV systems at the Logistic Base and at UCATEX operating sites in Bangui in 2021, leading to an average daily production of 1,500 kWh. The transition to renewable energy is one of the Mission's top priority projects, with the overall goal of reducing the dependency on generators, and eliminating the problems associated with regularly refueling the plants in some locations. Next steps are the planned installation of solar PV systems in Bossangoa, Bambari, Kaga Bandoro, Bouar, Bria, Bangui M'poko green Field, Paoua, Ndele, and Bangassou.

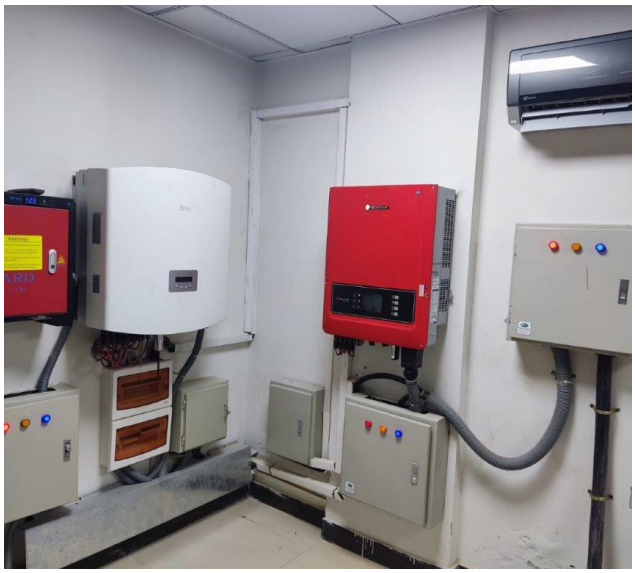
UNMISS CENTRALIZES UN POWER-HOUSES IN TOMPING & UN HOUSE



On 7 December 2021, UNMISS successfully centralized all UN Powerhouses in Tomping and at the UN House, and linked the Troop- and Police-Contributing Country units to the UN energy distribution grid. This project brings in a modern control system that establishes a 11KV medium voltage transmission line, produces a ring system network with transformers along the ring, and ensures minimal voltage drop and an easy means of fault isolation within the network. UNMISS, along with UNFPA, FAO, UNESCO, Rwanbatt FPU and the Nepalese Battalion camp now enjoy a significant reduction of noise, which the previous

three generator houses largely produced. Other benefits include the centralization of an initial 19 X 500KVA generators to an ideal common location, a large reduction of CO2 emission, and a new power generation operating system that requires less manpower. UNMISS expects that the centralization of the powerhouses will lead to measurable reduction in the use of diesel generators for power generation, from COE diesel generators in particular.

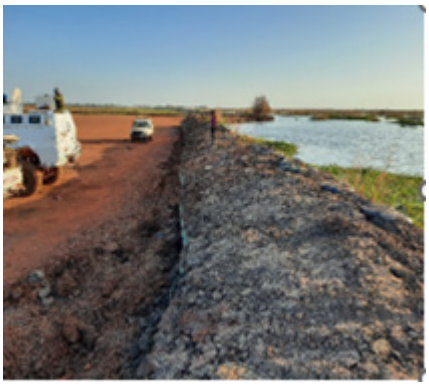
UNMOGIP IMPROVES ITS ENERGY EFFICIENCY

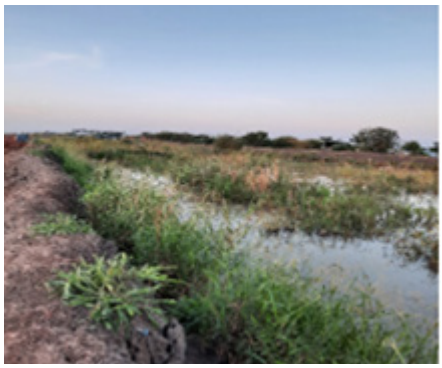


UNMOGIP is in a unique situation where it does not fully manage its own facilities, however the mission is actively working to reduce its demand for energy through various projects. One such project includes the installation of a 60 kW solar system with 161 PV panels on the roof top of the HQ building. The system contributes for around 10% of the monthly electricity power consumption in HQ. The Mission plans to add more systems in HQ and at the field stations in the future. In addition to the solar PV system, UNMOGIP has installed motion sensors for lights, dark sensors for perimeter lights, and reverse cycle inverter HVAC systems in the HQ building and at the field stations to save electricity. The mission has also installed separate 50-kva transformer stations at 80% of the field stations to get the stable in-coming power supply to the buildings, reducing the usage of diesel generator sets. This helps a lot in reducing CO2 emission, fuel, maintenance and repair costs for generators. The mission is also planning to purchase a CO2 emission analyser to monitor the carbon dioxide and other gases from the exhausts of generators; and if not up to an acceptable standard, necessary measures will be taken to reduce the drain of harmful gases from engines, in order to protect the environment.

WATER & WASTEWATER

UNMISS BUILDS DYKES TO PREVENT FLOODING IN BENTIU POC AND RUBKONA AIRPORT



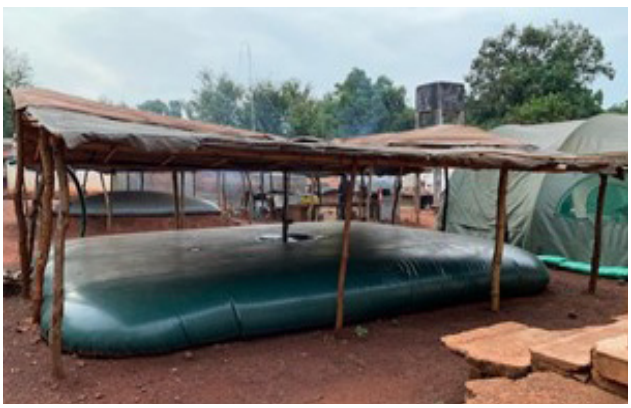


As part of its efforts to protect the environment and manage risks to personnel, local communities and the ecosystems, UNMISS has built flood prevention dykes. These structures help mitigate the risk of flooding and water surges, and protect assets such as wastewater treatment facilities, properties and lives. The dykes that were built in Bentiu are the first and last line of defence against flooding. Due to the swift action and decision made by Bentiu's Field Office management to build a dyke, the surging floods of September 2021 were easily contained on both sides of the HQ Field office, the IDP camp, Rubkona runway, Movcon terminal, and the MSR. UNMISS maintains the dyke routinely to prevent and avoid breach and seepage by the Pakistan Military Force Task Engineer (PakMETF).

PORTABLE DRY TOILETS AT THE ATMIS FORWARD OPERATING BASES

Use of standard UN containerized Wastewater Treatment Plants (WWTPs) can be a challenge in remote locations where water supply is scarce and water supply infrastructures are lacking. This is typical for the Forward Operating Bases (FOBs) in Somalia, for example. The fact that these FOBs are temporary also makes it impractical to install a piped water supply system. In view of the water scarcity and temporal setting of the FOBs, UNSOS procured 50 portable dry toilets for managing human waste generated within the African Union Transition Mission in Somalia (ATMIS) deployed in the FOBs. Each toilet serves 10 people. These portable toilets use bacteria to break down the waste into liquid fraction with very minimal solid residue that is easy to dispose of in an environmentally acceptable manner. This has resulted in minimal risk associated to wastewater management at the FOBs. UNSOS plans to procure additional portable toilets to deploy in other FOBs and units established along the coast of Somalia in Mogadishu to ensure that no wastewater is discharged into the marine environment by ATMIS military personnel. UNSOS will also continue to train ATMIS in the management of these portable dry toilets.

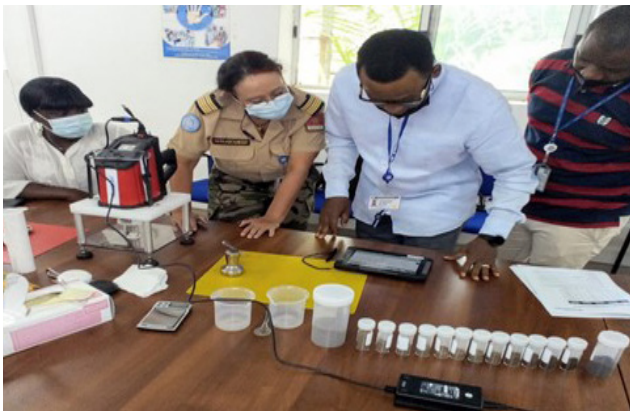
MINUSCA MITIGATES RISK AT TEMPORARY AND PERMANENT OPERATING BASES

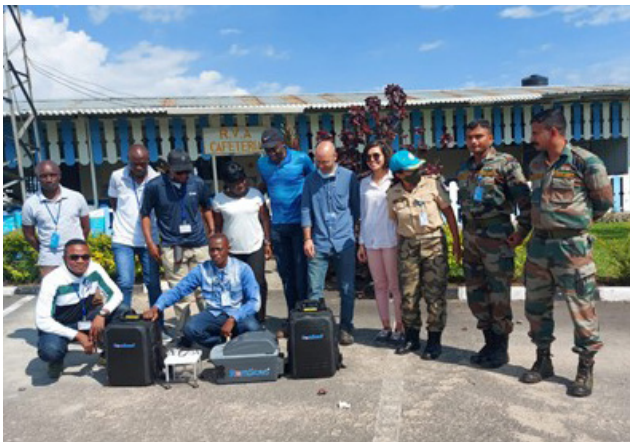


In November 2021, five bases in MINUSCA were found to be operating at significant wastewater risk level; 4 temporary bases, and one permanent base. Significant risk triggers included discharge of untreated wastewater from ablutions facilities and kitchens outside of the camps (blackwater and/or greywater). A senior wastewater engineer from the Rapid Environmental and Climate Technical Assistance (REACT) was deployed to support the mission's effort to implement immediate risk mitigation measures and to improve wastewater management practices at the mission. With the help of the REACT engineer, the Mission made the improvements needed to mitigate the risk by 31 December 2021, resulting in the elimination of untreated wastewater discharge off-site. The Mission and REACT also prepared a wastewater risk mitigation plan to implement sustainable measures to prevent the recurrence of significant risk.

SOLID WASTE

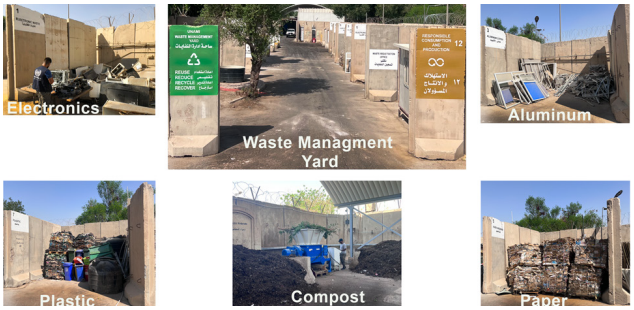
MONUSCO BUILDS ITS CAPACITY FOR SOIL REMEDIATION





From October 27 to November 5, 2021, the Environmental Protection Unit (EPU), the Engineering Section, the Asset Disposal Unit, and the Military Component, were trained on the use the new MONUSCO equipment intended for the treatment of contaminated soils. Since its inception, EPU has worked with other sections to enhance the Mission's environmental legacy. This is even more important, given that MONUSCO is undertaking a significant transition that will substantially change the mission's footprint throughout the Democratic Republic of Congo (DRC). With support from MONUSCO management, and REACT, who provided technical advice, EPU recently acquired two sets of scanners to detect hydrocarbon-contaminated soils and bioremediation components for effective remediation of the hydrocarbon-contaminated soils. Bioremediation consists of the decontamination of polluted environments, using techniques able to deal with chemical degradation or any other living organs' activity. This equipment determines the severity of the soil contamination and effectively monitors the soil bioremediation process. MONUSCO will proactively clean up contaminated sites before effective close-downs of its sites, using the newly acquired equipment and its well-trained staff.

OVERHAUL OF WASTE MANAGEMENT IN UNAMI



In its continuous effort to transition to sustainable waste management practices in order to reduce risks to personnel, host communities, and the ecosystem, UNAMI established a full-scale waste management yard (WMY) in Baghdad, and introduced a solid waste segregation process at the source. Following the pilot project, the opportunity to scale up the segregation process into eight waste streams and enhance the reuse, recycling, and recovery of segregated waste will be explored. The organic waste, that accounts for 40 percent of general waste, is converted into compost and is used in the UN compound as a soil fertilizer. So far, the pilot project has resulted in a 65 percent reduction of residual waste (from the Baghdad HQ site) sent to a municipal landfill. In addition, the Mission is expanding its program by procuring and installing waste management equipment (shredders, compactors, incinerators) and establishing WMYs in all UNAMI managed compounds. Finally the Mission intends to eliminate the transfer of solid waste to landfills by the end of 2023 through in-house processing.

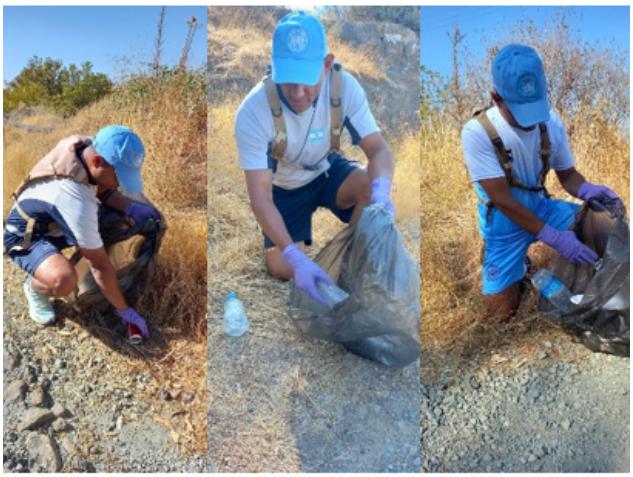
APPLICATION OF COST-BENEFIT ANALYSIS FOR A WASTE PROJECT IN UNIFIL

Before giving the green light to an environmental project aimed at improving the mission's performance on food waste management - highlighted in the Environmental Action Planning and Performance tool (eAPP) as an area for improvement - UNIFIL arranged for a cost benefit analysis to help make an informed decision on the best approach to this waste activity.

The new approach is intended to help reduce stress on dumpsites, thus reducing UNIFIL environmental footprint, in line with United Nations and Lebanon environmental standards. UNIFIL Environment and Occupational Safety and Health Unit (EOSHU) OSH Unit appointed Liban consult to conduct a cost benefit analysis of organic waste treatment alternatives, and as a result, launched a pilot project for a "Rapid Compact Composting Machine for Onsite Food Waste Volume Reduction" (RCCVR) for 100 Kg of food waste at Naqoura HQ International mess. The project will be evaluated one year after the installation and commissioning, and pros and cons will be shared with decision makers on whether to replicate the project or not. UNIFIL's approach is an excellent example of planning and informed decision-making for environmental projects and activities.

WIDER IMPACT

UNFICYP SUPPORTS ENVIRONMENTAL MANAGEMENT AND BIODIVERSITY IN THE BUFFER ZONE



UNFICYP patrols the United Nations Buffer Zone in Cyprus, a 180-kilometer demilitarized zone that varies in width from less than 20 meters in certain parts to more than seven kilometers in others. Part of UNIFICYP's support directly aids the protection of the environment and biodiversity in the Buffer Zone, by facilitating access and providing escorts to government entities working on forest, environment, water and biodiversity protection. These entities implement activities that help to prevent fires, floods, illegal hunting, logging, as well as help protect animal populations that are under threat, such as turtles. Furthermore, UNFICYP patrols in the various sectors help identify and record incidents of unauthorized waste dumping, logging, hunting, as well as negative environmental impacts from agricultural and mining activities, in order to support remediation. Records of these incidents, as well as incidents reported through phone calls from citizens, are prepared and regularly communicated to - and discussed with - municipalities, district offices, and the Ministry of Foreign Affairs. On average, UNFICYP provides this type of support around 600 times a year, contributing to the efforts of citizens and government to protect the Buffer Zone from environmental harm.

UNISFA PROVIDES DRINKING WATER AND WASTEWATER TREATMENT SERVICES TO THE COMMUNITY

The absence of municipal treatment facilities, due to historical unrest in Abyei and to its remote location, contributes to the community's lack of infrastructure for treatment of wastewater. As a result, there is a high risk of water source contamination, increasing the communities' vulnerability to waterborne diseases. UNISFA has been helping the local community with its water and sanitation needs by collecting sewage from the local hospitals and prisons. The Mission transports sewage from septic tanks, and lines pit latrines in local public facilities, like hospitals and prisons, and brings them to UNISFA camps for proper treatment in the Mission's wastewater treatment plants (WWTPS). This assists the communities to deal with potential health hazards and in turn helps UNISFA build trust and secure good cooperation from the communities. UNISFA collects around 140 cubic meter of wastewater per week from the local facilities.

WORLD ENVIRONMENT DAY 2022-SUPPORTING EQUITABLE ACCESS TO CLEAN WATER

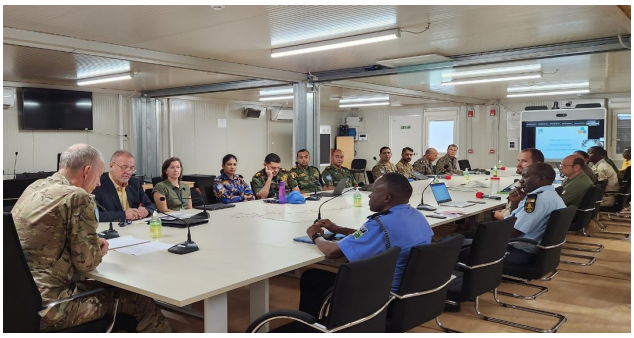
For UNMIK, the overall goal of the project "World Environment Day 2022 – Supporting Equitable Access to Clean Water" was to ensure good water quality for children through the distribution and installation of ultra-filtration units, to raise environmental awareness among children, and to reduce plastic waste. To achieve this goal, UNMIK purchased and installed 90 ultra-filtration system units in 64 schools. In addition, the mission promoted UN World Environment Day, and inspired action toward UN Sustainable Development Goals (SDG) through different environmental activities, including distributing posters that were translated in both Albanian and Serbian language, facilitating discussions on environmental awareness with students, and distributing reusable bottles to schools.

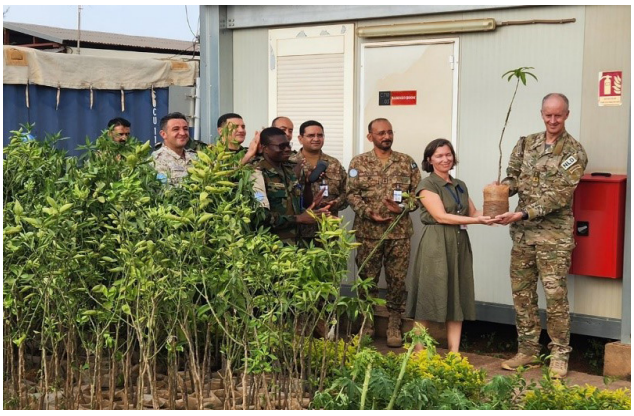
EMS

UNSOS' JOINT EXECUTIVE ENVIRONMENT COMMITTEE

The United Nations Assistance Mission in Somalia (UNSOM), United Nations Support Office in Somalia (UNSOS) and the African Union Transition Mission in Somalia (ATMIS) are working jointly to promote peace in Somalia. The three entities all depend on Somalia's ground aquifers and generate substantial volumes of waste that need to be adequately managed to minimise environmental impacts. The combined carbon emissions are significant, on par with other large UN peacekeeping missions. Cooperation among the three entities in progressing improvements and enforcing environmental compliance is critical. To ensure both co-operation and top-level leadership and commitment, the missions have established a Joint Executive Environment Committee (JEEC) to provide guidance and oversight on environmental and climate change related matters. The JEEC is composed of senior leadership, including the Special Representative of Secretary-General. With the committee in place, environmental performance for the three missions continues to improve. Going forward, it will facilitate the missions leaving behind a positive legacy while contributing towards their collective efforts to realize peace in Somalia.

MINUSMA CIVIL-MILITARY COOPERATION ON ENVIRONMENTAL MANAGEMENT





Force Commander, Lieutenant General C.J. Kees Matthijssen launched the initiative 'Greening MINUSMA, a healthy environment starts with you', during a seminar with representatives from different sectors and units, the Police environmental focal point and the environment unit. During his address, the Force Commander said, "MINUSMA's footprint, and thus the way we look at the environment and deal with environmental challenges, is one of my priorities, on a small scale, you can think about things such as waste disposal, vehicle emissions, water use, etc. On a large scale, we are talking about loss of biodiversity, desertification, global warming,

etc..." The Force Commander has introduced Force Environment Day among other initiatives to create awareness and stimulate interest among uniformed personnel across the Mission. The Mission has recruited a full-time environmental advisor within the force, who together with the network of Sector military environmental focal points, works hand in hand with the environment unit to improve contingents' environmental performance across the entire mission area, and increase the mission's annual environmental score.

UNISFA ORGANIZES AN ENVIRONMENTAL WORKSHOP

UNISFA successfully organised an annual Environmental Workshop in Abyei HQ from November 28 to 29, 2022. Environmental focal points from all Troop Contributing Countries representing different team sites, UN Police, UN Military Observers, third-party contractor representatives, as well as relevant mission support units. During the two day workshop, the focal points presented the Missions' environmental challenges, considered tangible solutions and planned the way forward as UNISFA is gradually transitioning to SMART Camps. The workshop successfully identified challenges and opportunities for the transition and concluded that these outcomes would be incorporated into the renewed Mission Environmental Action Plan. In addition, the workshop successfully served as a forum where all stakeholders expressed their concerns and brought about tangible solutions and innovative ideas that could lead to a better environment for UNISFA and the area it serves.

CONSULTATION ON THE WAY FORWARD FOR THE ENVIRONMENT STRATEGY

The Environment Strategy for Peace Operations (2017 – 2023) is in its final phase of implementation. A review will be conducted following the completion of the strategy implementation period in June 2023, including performance data for the sixth and final implementation cycle.

Meanwhile, the resolution adopted by the General Assembly on 29 June 2022 (A/RES/76/274), requests the Secretary-General to develop, in consultation with Member States, a way forward, following the end of the Strategy. In order to inform these consultations, DOS has undertaken preliminary engagement with mission leadership, as well as with working level mission and headquarters staff, to solicit input on the progress of the Strategy to-date and on future priorities beyond June 2023. The main outcomes of the preliminary consultation have been shared with Member States, as they prepare to convene and make final decisions on the best way forward.