



INTERNAL AUDIT DIVISION

REPORT 2017/145

Audit of the United Nations Support
Office in Somalia's waste management
activities

There was a need to address poor waste
management practices in Somalia

18 December 2017

Assignment No. AP2017/638/07

Audit of the United Nations Support Office in Somalia's waste management activities

EXECUTIVE SUMMARY

The Office of Internal Oversight Services (OIOS) conducted an audit of the United Nations Support Office in Somalia's waste management activities. The objective of the audit was to assess the adequacy and effectiveness of the planning, storage, handling, treatment and disposal of waste by the United Nations Support Office in Somalia (UNSOS). The audit covered the period from 1 January 2015 to 30 June 2017 and included: (a) waste management policies, procedures and plans; (b) waste segregation, treatment and disposal; (c) training on waste management; (d) monitoring of waste management; and (e) resources for waste management.

UNSOS established a laboratory that was operated by a contractor to test and monitor the quality of treated wastewater at the UNSOS and the United Nations Assistance Mission in Somalia headquarters in Mogadishu. Also, UNSOS established wastewater treatment plants at the main camp in Mogadishu and the regional office in Baidoa, and three plants were under construction at regional offices and sector hubs in Somalia. However, UNSOS needed to improve its waste management practices.

OIOS made two critical and six important recommendations. To address issues identified in the audit, UNSOS needed to:

- Develop and implement a waste management plan and establish a mechanism to ensure that waste management best practices are implemented consistently;
- Take steps to reduce and recycle waste;
- Develop and implement an action plan to properly segregate and dispose of solid waste (**critical**);
- Develop and implement a comprehensive action plan and mechanisms to ensure: treated wastewater is tested and meets minimum quality standards prior to discharge into the environment; regular inspection of wastewater treatment facilities and infrastructure systems; and there are sufficiently trained personnel to operate and maintain wastewater treatment plants (**critical**);
- Establish procedures to appropriately collect, store, handle and dispose of all categories of hazardous waste in an environmentally friendly and legally acceptable way;
- Train and raise the awareness of Mission personnel on waste management policies, goals and practices;
- Establish effective procedures to monitor and report its waste management activities, including the performance of contractors; and
- Assess its waste management requirements and prioritize resources to ensure that it is managing waste effectively.

UNSOS accepted the recommendations and has initiated action to implement them.

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Audit of the United Nations Support Office in Somalia's waste management activities

I. BACKGROUND

1. The Office of Internal Oversight Services (OIOS) conducted an audit of the United Nations Support Office in Somalia's waste management.
2. The United Nations Support Office in Somalia (UNSOS) is mandated by the Security Council to provide logistical support to the African Union Mission in Somalia (AMISOM), and administrative and logistical support to the United Nations Assistance Mission in Somalia (UNSOM). This support includes the management of waste generated in the areas of operation of AMISOM, UNSOM and UNSOS in Somalia. In this respect, UNSOS is required to provide waste management support including treatment and disposal of liquid and solid waste.
3. UNSOS and UNSOM headquarters are in Mogadishu, and have offices in five regional states. AMISOM has six sector headquarters and around 80 troop locations throughout South Central Somalia. UNSOS operates in challenging conditions marked by depleted waste management infrastructure in the host country and in circumstances of active combat and security threats. The security restrictions impeded the inspection of waste management activities outside of UNSOS and UNSOM camps and sector hubs. The total approved civilian and uniformed personnel of AMISOM, UNSOM and UNSOS were: 22,126; 283; and 574 respectively.
4. The Departments of Peacekeeping Operations and Field Support (DPKO/DFS) Environmental Policy for United Nations Field Missions (the environmental policy) and DPKO/DFS Waste Management Policy for United Nations Field Missions (the waste management policy) and Support Implementation Agreement (SIA) between AMISOM and UNSOS govern policies, procedures and practices aimed to reduce, manage, control and monitor waste generation and proper disposal of such waste in the Mission operational area in Somalia. The Director of UNSOS, under the direction of the Head of Mission, is responsible for ensuring compliance with these policies. The Environmental Officer in the Office of the Director is responsible for oversight over the implementation of waste and environmental policies, while the Chief Service Delivery is responsible for coordination of waste and environmental management activities, installation, maintenance of waste management equipment, facilities and infrastructure.
5. Comments provided by UNSOS are incorporated in italics.

II. AUDIT OBJECTIVE, SCOPE AND METHODOLOGY

6. The objective of the audit was to assess the adequacy and effectiveness of the planning, storage, handling, treatment and disposal of waste by UNSOS.
7. This audit was included in the 2017 risk-based work plan of OIOS due to the operational, environmental, health and safety and reputational risks related to UNSOS waste management activities.
8. OIOS conducted this audit from July to October 2017. The audit covered the period from 1 January 2015 to 30 June 2017. Based on an activity-level risk assessment, the audit covered higher and medium risk areas in the management of waste, which included: (a) policies, procedures and plans to manage waste; (b) wastewater treatment and disposal; (c) solid waste segregation, storage and disposal; (d) resources and training; and (e) monitoring and reporting of waste management.

9. The methodology included: (a) interviews of key staff; (b) analytical reviews of data and reports; (c) review of policies, procedures and plans on the management of waste; and (d) visits and spot checks at waste generating sites in four out of six sector headquarters of AMISOM and four out of seven main Mission bases.

10. The audit was conducted in accordance with the International Standards for the Professional Practice of Internal Auditing.

III. AUDIT RESULTS

A. Waste management policies, procedures and plans

Need to develop and implement a waste management plan

11. In accordance with the SIA between UNSOS and AMISOM, UNSOS is required to support AMISOM in its waste management practices, including those related to wastewater disposal, as well as solid and medical waste management. In line with the waste management policy, UNSOS needs to establish a plan to support AMISOM in implementing waste management activities that is based on an assessment of environmental conditions and local waste management capabilities. The plan should include those waste management activities to be conducted directly by UNSOS and UNSOM at their operational areas in Somalia.

12. UNSOS had not yet developed a waste management plan outlining its support to AMISOM in this area, as well as for its direct activities and those of other United Nations entities for which it provides support. This was because UNSOS had not: (a) conducted assessments for five out of six AMISOM sector headquarters and six out of seven main Mission office locations in Somalia to determine the level of support and work required in order to develop and implement a waste management plan; and (b) identified roles and responsibilities for those assigned waste management activities to be able to coordinate better its activities going forward. This resulted due to conflicting priorities by UNSOS management, as well as the security situation in Somalia. As a result, there were a number of poor waste management practices, as observed by OIOS and highlighted below.

(1) UNSOS should develop and implement a waste management plan and establish a coordination mechanism to facilitate the sharing of information, promote waste management best practices among Mission staff and AMISOM and ensure these practices are implemented consistently.

UNSOS accepted recommendation 1 and stated that quarterly coordination meeting between UNSOS and UNSOM were scheduled to begin in January 2018. Also, foreign government agency provided environmental experts were expected to be on board within the first quarter of 2018. The current interim risk management plan established in March 2017 in cooperation with Office of the Under Secretary-General of DFS and the United Nations Global Service Centre for the management of wastewater was being revised. Recommendation 1 remains open pending receipt of a copy of the waste management plan and evidence of its implementation and monitoring, as well as that of the coordination mechanism.

Need for action to reduce and recycle waste

13. The DPKO/DFS waste management policy requires UNSOS to establish processes and procedures for effective reduction and recycling of waste.

14. UNSOS implemented some positive actions to raise awareness on environmental issues such as the production and distribution of posters aimed at reducing water usage at UNSOS/UNSOM headquarters in Mogadishu. However, additional action was required to reduce and/or recycle waste, as advised in an assessment undertaken in June 2009 at the request of the DPKO/DFS by the United Nations Environmental Programme (UNEP), which was completed in collaboration with UNSOS. The objective of the assessment was to review energy, water and waste reduction options for UNSOS, UNSOM and AMISOM headquarters in Mogadishu, Somalia. The assessment compared the existing design and operational specifications for the site against 132 resource efficiency measures (48 on solid waste; 2 on liquid waste; 18 on water; and 64 on energy) that could be applied to achieve a reduction in energy and water consumption, and waste production and disposal. For instance, solid waste could be reduced by 61 per cent with the adoption of waste management measures such as segregating and recycling waste, composting and incineration. The assessment provided a set of immediate, medium and long-term recommendations which could reduce resource consumption and waste production of UNSOS, UNSOM and AMISOM operations.

15. UNSOS had not taken steps to implement the UNEP recommendations due to the lack of sufficient resources such as a full-time waste management officer, and retrofitting of existing facilities was highly expensive and could cause unaffordable, long delays for buildings already designed. Instead, UNSOS had instructed all concerned to include the Environmental Officer in the early design stages of new projects in order to provide viable environmental inputs.

(2) UNSOS should take steps to reduce and recycle waste.

UNSOS accepted recommendation 2 and stated that a new waste management contractor was being mobilized. Enhanced waste segregation at source and increased recycling were integral parts of the new contract. A meeting with the contractor was scheduled before the end of 2017 to discuss recycling options. Recommendation 2 remains open pending receipt of evidence of implementation of processes and procedures for effective reduction and recycling of waste.

B. Waste segregation, treatment and disposal

Solid waste was not segregated at source and properly disposed

16. The DPKO/DFS environmental policy requires UNSOS to take practical measures to segregate solid waste at source, specifically: (a) solid waste into hazardous and non-hazardous waste; (b) non-hazardous into general waste and write-off equipment; (c) general waste into biodegradable and non-biodegradable waste; and (d) non-biodegradable material into recyclable and non-recyclable. The policy also requires UNSOS to establish procedures for solid waste collection and disposal and prohibits open burning of waste. The SIA between UNSOS and AMISOM requires UNSOS to provide AMISOM with adequate means of separating, processing and disposing of solid waste.

17. In all locations visited (UNSOS/UNSOM and AMISOM), waste-generating facilities, offices and units were not segregating their solid waste at source and were not complying with established practices when disposing of waste. OIOS site visits and observation identified the following poor practices:

- There was accumulated solid waste, especially at sector headquarters' accommodations and kitchen areas, resulting in a bad odor and attracting disease-carrying vermin and wildlife;
- The solid waste disposal yard at the UNSOS/UNSOM main offices in Mogadishu was adjacent to staff accommodation units and around 50 metres from offices, posing health risks to staff due to a discomforting smell, smoke from an incinerator and fumes from accumulating ash residue. During the period of the audit, UNSOS relocated the waste disposal yard to another location within the Mogadishu International Airport. However, this new location was less than 200 metres from the runway, posing aviation hazard, and adjacent to a local market and the UNSOS Mogadishu Logistics Base, also posing a health risk to staff and local population;
- The unsecured waste disposal yards in Kismayo, and Jowhar allowed scavenging by local children, dogs and birds, posing health risks to the local population and wildlife. The waste disposal yard in Kismayo was less than the required 150 metres from the airport runway representing a hazard to aircraft. There had been two incidents of bird strikes at airports in Kismayo and Mogadishu in May and August 2017, respectively;
- There was no record of the volume of waste arriving at solid waste yards as per agreements with contractors. The only weighbridge in place at the solid waste yard at the Mogadishu International Airport was not in use during the audit;
- There was a lack of solid waste infrastructure and equipment causing leachate before waste was removed from collection points and waste yards. There were no concrete floors to prevent soil pollution, roofing from the sun, and protection from rain water in all areas where waste was handled; and
- There was comingling of waste including hazardous and non-hazardous, and biodegradable and non-biodegradable waste that were either disposed of by burning in the open air or incinerated together increasing the risk of air pollution or adverse environmental and health effects. For example, all waste (including medical waste) from the Sector 6 headquarters near the airport in Kismayo and Sector 5 headquarters in Jowhar were collected together and burned in open air. Also, all waste from Sector 1 headquarter, AMISOM headquarter and UNSOS/UNSOM headquarter at the Mogadishu International Airport were incinerated together, as the medical incinerator was out of order.

18. The large volume of waste being incinerated caused frequent breakdown of incinerators increasing maintenance costs, as well as a large volume of ash residue that required further disposal. At the time of the audit, the chimneys of the only two functioning incinerators in Somalia at the Mogadishu International Airport and in Baidoa showed carbon deposits at the top and were emitting black smoke indicating the need for better filter systems and further maintenance. OIOS observed ash residue from the incinerator in Mogadishu piled up about four metres high and covering an area of about 250 square metres. There was no protective layer at the bottom of the pit to prevent penetration into the soil and subsequent ground water contamination especially during the rainy season. There were no side walls or top cover to prevent ash from being blown away by wind.

19. Lack of waste segregation at source and inappropriate disposal practices resulted because UNSOS had not provided adequate infrastructure, equipment and supplies for proper segregation and disposal of solid waste. For example, UNSOS had not: (a) provided suitable containers and colour-coded bin liners to segregate solid waste, particularly medical waste; (b) ensured personnel were aware of and complied with waste segregation and disposal policies; (c) implemented procedures to monitor and inspect waste disposal

practices of contractors; and (d) developed a plan to dispose ashes from incinerators. These lapses exposed Mission personnel and local population to adverse health and environmental risks and increased reputational risk for the United Nations.

20. UNSOS indicated that: it had recently selected a new contractor for waste management, including segregation of solid waste at source; and the Environmental Officer had started to inspect waste collection and disposal facilities at the Mogadishu International Airport and sector hubs. However, the security situation precluded the inspection of contractor's facilities outside of UNSOS camps and sector hubs.

(3) UNSOS should develop and implement an action plan to properly segregate and dispose of solid waste including: (a) provision of adequate infrastructure, equipment and supplies at waste-generating and disposal sites; (b) identification of a suitable method for the disposal of ashes from incinerators; (c) proper waste segregation and disposal by all staff; and (d) regular inspection of solid waste collection and disposal facilities including waste disposal practices of contractors.

UNSOS accepted recommendation 3 and stated that a new waste management contractor was being mobilized. Enhanced waste segregation at source and increased recycling were integral parts of the new contract. Improved opportunities for disposal of ashes were being considered. Recommendation 3 remains open pending OIOS verification of action taken by UNSOS and the contractor to properly segregate and dispose of solid waste.

Need for effective controls over wastewater treatment and disposal

(a) Wastewater was not adequately treated prior to disposal

21. The DPKO/DFS waste management and environmental policies require UNSOS to: (a) take measures to ensure that there is no discharge of untreated wastewater into the environment; and (b) establish minimum wastewater quality standards and conduct regular tests to monitor the quality of treated wastewater. The DPKO/DFS environmental guidelines prescribe the most important wastewater standards to be monitored including: faecal coliforms, oils and greases, biochemical oxygen demand, chemical oxygen demand, and suspended solids.

22. At the time of the audit, UNSOS had wastewater treatment plants in three out of seven regional offices, one in Mogadishu and another in Baidoa. UNSOS was in the process of constructing three wastewater treatment plants in three other regions. UNSOS had a centralized wastewater treatment system in the main UNSOS and UNSOM headquarters in Mogadishu. This system also serviced AMISOM headquarters and 7,431 AMISOM uniformed personnel in Sector 1 located in the Mogadishu International Airport. UNSOS had one laboratory operated by a contractor to test and monitor the quality of treated wastewater at the UNSOS and UNSOM headquarters in the Mogadishu International Airport. UNSOS required the contractor to conduct daily tests on suspended solids and chemical oxygen demand. The results of these tests indicated that wastewater quality was within the prescribed limits.

23. However, the UNSOS contractor was not conducting other important tests such as faecal coliforms, oils and greases, and biological oxygen demand as required by the DPKO/DFS environmental guidelines. This was because UNSOS had not provided the necessary equipment and re-agents to the contractor. UNSOS explained that it did not consider biological oxygen demand test to be critical as the treated wastewater from the wastewater treatment plant in Mogadishu was being discharged into the sea and posed less danger to fishes and other living organisms in the sea, given the size of the sea water.

24. There was no laboratory established to test the quality of treated wastewater from the wastewater treatment plant at the UNSOS and UNSOM regional office in Baidoa. Instead, OIOS was advised that wastewater samples were sent to Mogadishu for testing. However, neither UNSOS nor the contractor maintained records of results of samples tested to determine whether the quality of treated wastewater was within prescribed limits. In Baidoa, the treated wastewater was emptied on the ground in the UNSOS and UNSOM headquarters area.

(b) Sewage sludge was not removed from septic tanks

25. From the installation of the Mogadishu wastewater treatment plant in 2011, UNSOS had not removed and disposed of sewage sludge. It was a similar situation for the other wastewater treatment plant installed in Baidoa. This has the potential to block the sewage treatment system if not removed from the bottom of the septic tanks.

(c) Inadequate wastewater infrastructure for AMISOM personnel

26. The SIA requires UNSOS to provide wastewater disposal, sewage treatment plants and septic systems at centralized locations to service AMISOM camps. The DPKO/DFS waste management policy requires UNSOS to ensure that oxidation ponds are only used after prescribed criteria have been met. DFS instructions on wastewater management requires UNSOS to regularly inspect its wastewater collection and treatment sites to ensure proper operation.

27. UNSOS had not provided sewage treatment and infrastructure systems to service three out of four AMISOM sector headquarters visited. The following was observed:

- There were no sewage treatment and infrastructure systems at Sector 6 headquarters in Kismayo, which had 2,188 uniformed AMISOM personnel and Sector 3 headquarters in Baidoa with 3,570 uniformed AMISOM personnel. At both these locations, simple makeshift latrines made from trenches, roofing steel sheets and wood were in use. As a result, untreated grey¹ and black² wastewater from the base camps, including clinical waste such as chemicals from the Level 1 hospital in Kismayo flowed out through rainwater drains and trenches into the surrounding environment. UNSOS was constructing a new UNSOS and UNSOM regional office in Kismayo with a wastewater treatment infrastructure, but the construction plan did not include sewage treatment plants and septic systems for the AMISOM Sector 6 headquarters; and
- For Sector 5 headquarters in Jowhar with 4,031 uniformed AMISOM personnel, UNSOS had not provided sewage treatment plants and septic systems. As a result, untreated wastewater was discharged into an oxidation pond, but UNSOS/AMISOM had not conducted an investigative study and environmental impact assessment to determine whether the oxidation pond met the required criteria, even though an internally displaced persons' camp was close to the oxidation pond. The oxidation pond also attracted birds posing risks of disease and endangering wildlife. UNSOS was addressing the identified risks by building a new UNSOS and UNSOM regional office inside the Sector 5 headquarters and constructing/installing a new septic infrastructure and wastewater treatment plant.

28. For Sector 1 headquarters troop accommodation area in Mogadishu, UNSOS had not provided ablution units at Sector 1 headquarters troop accommodation area in Mogadishu. As a result, makeshift latrines, which were all in extremely poor conditions, were used by the troops.

¹ "Grey water" is waste water generated from domestic activities such as laundry, dish washing and bathing.

² "Black water" is water containing fecal matter and urine.

29. UNSOS was also not regularly inspecting wastewater collection and treatment sites operated by contractors to ensure proper operation. As a result, untreated grey and black wastewater from accommodation units was inappropriately discharged into the environment. OIOS observed the need for urgent repairs and maintenance of broken and/or blocked wastewater pipes from AMISOM Level 2 hospital and Sector 1 headquarter kitchen. As a result, clinical waste such as chemicals from the Level 2 hospital laboratory, and grey wastewater from the main Sector 1 headquarters kitchen were spilled into the environment. Responsible personnel at the hospital and troop accommodation units confirmed that they made repeated requests for repairs to no avail. However, they could not provide evidence to support the requests made to UNSOS.

(d) Inadequate maintenance of wastewater treatment plants

30. The DPKO/DFS waste management policy requires UNSOS to ensure that wastewater treatment facilities are properly operated and adequately maintained by trained personnel.

31. UNSOS regularly maintained the wastewater treatment plant in Mogadishu and it was fully functioning. However, the wastewater treatment facility in Baidoa, which was operated by a contractor, did not have sufficiently trained personnel to ensure the plant was properly operated and maintained. For instance, one of the two lift stations to pump wastewater from the septic tank to the treatment plant was out of service, and contractor staff were unable to inform OIOS how long the equipment had been out of service. With the plant operating only one lift station meant that if this lift station failed, the system would be shut down.

32. The above resulted as UNSOS had not developed and implemented a comprehensive action plan and put mechanisms in place to ensure appropriate treatment and disposal of wastewater. UNSOS also explained that security restrictions hampered and prevented staff from carrying out the required work.

33. While UNSOS was in the process of constructing new wastewater treatment infrastructure, the improper treatment and disposal of wastewater identified during the audit exposed the Mission to the risk of polluting the environment, including water resources and causing health problems for local population and mission personnel.

34. UNSOS indicated that subsequent to the audit, it had completed the installation of wastewater treatment system in Jowhar and Belatweyn, and the infrastructure works in Kismayo, Dhobley and Baledogle were underway. UNSOS was also enhancing wastewater treatment systems at the Mogadishu International Airport to ensure that treated effluent met the international standards, which would be verified once all laboratory equipment arrived in Mogadishu.

(4) UNSOS should develop and implement a comprehensive action plan and mechanisms to ensure: (a) treated wastewater is tested and meets minimum quality standards prior to discharge into the environment; (b) regular inspection of wastewater treatment facilities and infrastructure systems including those operated by contractors; (c) broken and/or blocked wastewater pipes are repaired; (d) sewage sludge is removed and disposed of; and (e) there are sufficiently trained personnel to operate and maintain wastewater treatment plants.

UNSOS accepted recommendation 4 and stated that the current interim risk management plan would reflect planned actions and progress, including: more wastewater laboratories; inspections and monitoring of wastewater facilities; repairing broken and/or blocked wastewater pipes once reported/observed; and sewage in wastewater treatment plants removed and disposed of. A new

contractor would start operation on 1 February 2018 and UNSOS will review and monitor the presence of qualified operators as necessary. Recommendation 4 remains open pending receipt of evidence that UNSOS has developed and implemented a comprehensive action plan and mechanisms to ensure proper treatment and disposal of wastewater.

Controls over hazardous waste needed to be strengthened

35. The DPKO/DFS waste management policy requires UNSOS to establish adequate procedures to store, handle, and dispose of hazardous³ waste. The DPKO/DFS guidelines for the management of hazardous waste requires UNSOS to seek environmentally friendly and legally acceptable disposal methods.

36. UNSOS did not have adequate processes in place to appropriately store, handle and dispose of hazardous waste as detailed below.

(a) Petroleum, oils and lubricants waste

37. UNSOS had engaged a contractor that was required to: (a) provide UNSOS with appropriate containers for the monthly collection of used oils from each distribution point; (b) safely dispose of waste in compliance with applicable law and industry standards; and (c) to maintain complete and accurate records of the volume of waste collected and disposed.

38. In all locations visited, used oil was stored in deteriorated drums, which were not labelled to identify the contents, and had no protective wall to reduce soil contamination from spills and leaks. Due to the lack of clean-up or absorbent materials such as rags, sand, booms and clay, the oil and fuel spills observed at AMISOM workshops and fuel areas were not contained. UNSOS did not have records on the volume of used oil collected by the contractor. UNSOS explained that all records were maintained at the contractor's main office outside of the Mogadishu International Airport and could not be accessed due to security restrictions.

39. The UNSOS contractor had sub-contracted a local company to dispose used oil collected from UNSOS and this was evidenced by disposal certificates provided by the sub-contractor. A review of all the available disposal certificates for the period from July 2016 to June 2017 showed that the sub-contractor disposed: 308 drums of used oil; 37 jerry cans of battery acid; and 873 oil-contaminated materials such as used spill pads and rugs. However, OIOS was unable to assess completeness of the disposed waste as records on the volume of used oil collected from waste-generating sources were not available for review. As the host country did not have adequate local infrastructure for environmentally acceptable disposal methods of used oil, there was a risk that the local contractor was not disposing of all the used oil collected from UNSOS locations in an environmentally friendly manner.

(b) Other hazardous waste materials

40. In all locations visited, there were stockpiles of electrical waste, used tyres, batteries and vehicle spare parts and scrap metals from damaged vehicles and prefabricated accommodation units that had been abandoned in the camps and stored haphazardly on the ground without proper shade or in sea containers. UNSOS did not have accurate records of all such items that had accumulated since the start of the United Nations Office to Support AMISOM's mandate. There were at least 264 sea containers at the Mogadishu

³ Hazardous waste includes: (a) used engine/gear oils, oil lubricant contaminated parts; (b) used batteries and battery acid; (c) used tyres; (d) scrap metals; (e) electronic and electrical waste; (f) medical waste; (g) sewage sludge; and (h) paints, solvents and other industrial chemical liquids.

Logistics Base area which contained: about 211,612 litres of hazardous liquid waste such as insect killers; 2,246 used tyres; 989 tons of scrap metals; and 246 used vehicle batteries.

41. The above conditions resulted as UNSOS did not have procedures and mechanisms in place to ensure that hazardous waste was appropriately stored, handled and disposed of. The lack of environmentally friendly methods and infrastructure in the host country to handle such waste also presented a challenge for the Mission

42. The inappropriate handling of hazardous waste posed health and environmental risks to the local population and exposed the Mission to reputational risks. Also, scrap metal and used tyres and batteries were stolen from the Mogadishu Logistics Base at the Airport and could be sold in the local market or presented to UNSOS for new items as UNSOS, for example, required old tyres and batteries to supply new ones, resulting in financial loss.

(5) UNSOS should establish procedures to appropriately collect, store, handle and dispose of all categories of hazardous waste in an environmentally friendly and legally acceptable way.

UNSOS accepted recommendation 5 and stated that the procedures mentioned in this recommendation were part of the scope of work of the new contractor that was being mobilized. Recommendation 5 remains open pending OIOS verification of actions taken by UNSOS and/or the contractor to appropriately collect, store, handle and dispose of all hazardous waste.

C. Training on waste management

Training and awareness on waste management needed to be improved

43. The DPKO/DFS waste management and environmental policies require the Head of UNSOS to: (a) issue to all Mission personnel an annual signed statement advising/reminding them of the Mission's environmental policy, objectives and goals; and (b) provide staff with adequate training and briefings on waste and environmental matters.

44. UNSOS did not issue the required annual statement to remind staff of environmental policies and goals and objectives and did not conduct periodic awareness training or provide required briefings to staff during induction training. UNSOS conducted some awareness raising activities, including the production and distribution of posters to reduce water usage at UNSOS/UNSOM headquarters in Mogadishu, but not in the regional offices and sector headquarters.

45. UNSOS did not have a waste management officer and the position of environmental officer with the responsibility for overseeing the Mission's overall environmental issues was only filled in June 2017. UNSOS advised it did not have the necessary resources to train and raise the awareness of Mission personnel on appropriate waste management practices. As a result, there was an increased risk that staff were not familiar with waste management policies, guidelines and instructions, particularly as they relate to management of waste in Somalia.

(6) UNSOS should take steps to regularly train and raise the awareness of Mission personnel on waste management policies, goals and practices.

UNSOS accepted recommendation 6 and stated that the environmental awareness training was being conducted as part of pre-deployment and induction. Recommendation 6 remains open pending

receipt of evidence of regular training on waste management provided to UNSOS, UNSOM and AMISOM personnel.

D. Monitoring of waste management activities

Waste management activities needed to be monitored

46. The DPKO/DFS waste management policy requires UNSOS to monitor waste management activities including regular inspections of contractors' waste disposal processes and practices, report quarterly to the United Nations Global Service Centre on their waste management activities, and prepare and sign an annual waste management progress and status report and submit to the Under-Secretaries-General of DPKO and DFS. The DPKO/DFS waste management policy also requires UNSOS to periodically report to the Logistics Support Division, DFS, on the status of the Mission's wastewater systems.

47. UNSOS had not put in place procedures to monitor and report on its waste management activities and operations. Therefore, UNSOS was not complying with the requirements to: (a) provide the necessary data on waste generated and methods of disposal to the United Nations Global Service Centre, or to submit annual and status reports to the Under-Secretaries-General of DPKO and DFS on its waste management activities; and (b) was not adequately monitoring waste disposal activities undertaken by contractors to ensure that they comply with established environmental standards.

48. The above occurred because UNSOS had not established effective procedures and allocated sufficient resources to monitor its waste management activities and operations, including the performance of contractors. Inadequate monitoring and reporting of waste management activities resulted in inadequate attention to high-risk health and environmental issues.

(7) UNSOS should establish procedures to monitor and report its waste management activities, including the performance of contractors.

UNSOS accepted recommendation and stated the new waste management contract would also cover hazardous waste, such as medical waste and car batteries. Recommendation 7 remains open pending OIOS verification of monitoring and reporting of waste management activities.

E. Resources for waste management

Need to assess resources required to ensure proper management of waste in Somalia

49. The DPKO/DFS waste management policy requires UNSOS to ensure there is adequate financial and staffing resources to support effective waste management. This includes the hiring of a full-time waste management officer and appointment of waste management focal points in various sections, units and formed contingent and police units to support the waste management officer.

50. UNSOS had not recruited a full-time waste management officer and had not appointed focal points. This was because UNSOS had not yet assessed its waste management resource requirements and therefore, had not assigned the necessary resources or included such requests in its budget proposals. As a result, there continued to be unmitigated health and environmental risks to United Nations and AMISOM personnel as well as the local population, and exposed the United Nations to reputational risk.

(8) UNSOS should assess its waste management requirements and prioritize resources to ensure that it is managing waste effectively.

UNSOS accepted recommendation 8 and stated that it had allocated resources to ensure the effective management of waste and it had raised requisitions for key solid and liquid waste management equipment such as incinerators and wastewater treatment plants. Recommendation 8 remains open pending receipt of evidence of resources allocated and equipment purchased for managing waste.

IV. ACKNOWLEDGEMENT

51. OIOS wishes to express its appreciation to the management and staff of UNSOS for the assistance and cooperation extended to the auditors during this assignment.

(Signed) Eleanor T. Burns
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STATUS OF AUDIT RECOMMENDATIONS

Audit of the United Nations Support Office in Somalia's waste management activities

Rec. no.	Recommendation	Critical ¹ / Important ²	C/ O ³	Actions needed to close recommendation	Implementation date ⁴
1	UNSOS should develop and implement a waste management plan and establish a coordination mechanism to facilitate the sharing of information, promote waste management best practices among Mission staff and AMISOM and ensure these practices are implemented consistently.	Important	O	Receipt of a copy of the waste management plan and evidence of its implementation and monitoring, as well as that of the coordination mechanism.	1 December 2018
2	UNSOS should take steps to reduce and recycle waste.	Important	O	Receipt of evidence of implementation of processes and procedures for effective reduction and recycling of waste.	1 December 2018
3	UNSOS should develop and implement an action plan to properly segregate and dispose of solid waste including: (a) provision of adequate infrastructure, equipment and supplies at waste-generating and disposal sites; (b) identification of a suitable method for the disposal of ashes from incinerators; (c) proper waste segregation and disposal by all staff; and (d) regular inspection of solid waste collection and disposal facilities including waste disposal practices of contractors.	Critical	O	OIOS verification of action taken by UNSOS and the contractor to properly segregate and dispose of solid waste.	1 December 2018
4	UNSOS should develop and implement a comprehensive action plan and mechanisms to ensure: (a) treated wastewater is tested and meets minimum quality standards prior to discharge into the environment; (b) regular inspection of wastewater treatment facilities and infrastructure systems including those operated by contractors; (c) broken and/or blocked wastewater pipes are	Critical	O	Receipt of evidence that UNSOS has developed and implemented a comprehensive action plan and mechanisms to ensure proper treatment and disposal of wastewater.	1 December 2018

¹ Critical recommendations address critical and/or pervasive deficiencies in governance, risk management or control processes, such that reasonable assurance cannot be provided with regard to the achievement of control and/or business objectives under review.

² Important recommendations address important (but not critical or pervasive) deficiencies in governance, risk management or control processes, such that reasonable assurance may be at risk regarding the achievement of control and/or business objectives under review.

³ C = closed, O = open

⁴ Date provided by UNSOS in response to recommendations.

STATUS OF AUDIT RECOMMENDATIONS

Audit of the United Nations Support Office in Somalia's waste management activities

Rec. no.	Recommendation	Critical ¹ / Important ²	C/ O ³	Actions needed to close recommendation	Implementation date ⁴
	repaired; (d) sewage sludge is removed and disposed of; and (e) there are sufficiently trained personnel to operate and maintain wastewater treatment plants.				
5	UNSOS should establish procedures to appropriately collect, store, handle and dispose of all categories of hazardous waste in an environmentally friendly and legally acceptable way.	Important	O	OIOS verification of actions taken by UNSOS and/or contractor to appropriately collect, store, handle and dispose of all hazardous waste.	1 December 2018
6	UNSOS should take steps to regularly train and raise the awareness of Mission personnel on waste management policies, goals and practices.	Important	O	Receipt of evidence of regular training on waste management provided to UNSOS, UNSOM and AMISOM personnel.	1 June 2018
7	UNSOS should establish effective procedures to monitor and report its waste management activities, including the performance of contractors.	Important	O	OIOS verification of monitoring and reporting of waste management activities.	1 December 2018
8	UNSOS should assess its waste management requirements and prioritize resources to ensure that it is managing waste effectively.	Important	O	Receipt of evidence of resources allocated and equipment purchased for managing waste.	1 June 2018

APPENDIX I

Management Response



Interoffice Memorandum

To: Mr. Arnold Valdez, Officer-in-Charge
Peacekeeping Audit Service
Internal Audit Division, OIOS

Ref: UNSOS/1217/M.047

From:  Hubert Price, Head
United Nations Support Office in Somalia

Date: 13 December 2017

Subject: UNSO Response –Draft report on an audit of waste management activities in UNSOS (Assignment No. AP2017/638/07)

1. Further to your memorandum of 6 December 2017 Reference IAD: 17-639-28, please find attached the UNSOS response to the subject draft audit report.
2. We thank you for your continued support to the work of UNSOS.

Best regards.

cc: Mr. James Suglo, Chief Resident Auditor, Internal Audit Division, OIOS
Ms. Cynthia Avena-Castillo, Professional Practices Section, Internal Audit Division, OIOS
Mr. Amadu Kamara, Director, UNSOS
Mr. Harjit Dhindsa, Deputy Director, UNSOS
Mr. Clark Toes, Chief, Service Delivery, UNSOS
Mr. Herbert Pechek, Chief Supply Chain Management, UNSOS
Mr. Dolapo Kuteyi, Senior Administrative Officer, UNSOS
Ms. Rosalie Piezas, Chief, Risk Management and Audit Response, UNSOS

UNSO PO Box 4752-New York, NY 10163

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Management Response

Audit of the United Nations Support Office in Somalia's waste management activities

no.	Recommendation	Critical ¹ / Important ²	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
1	UNSOS should develop and implement a waste management plan and establish a coordination mechanism to facilitate the sharing of information, promote waste management best practices among Mission staff and AMISOM and ensure these practices are implemented consistently.	Important	Yes	Environmental Compliance Officer	1 December 2018	Management seeks to inform the auditors that UNSOS-UNSOM coordination meetings are scheduled to begin in January 2018. Swedish-provided environmental experts are expected to be on board within the first quarter of 2018. Furthermore, the current Intermediate Risk Management Plan (IRMP) Established in March 2017 in cooperation with OUSG and UNGSC for the management of wastewater is under revision.
2	UNSOS should take steps to reduce and recycle waste taking into account recommendations made in the United Nations Environmental Programme technical report of February 2010.	Important	Yes	Environmental Compliance Officer	1 December 2018	Management seeks to inform the auditors that a new waste management contractor is currently mobilizing. Enhanced waste segregation at source and increased recycling are integral parts of the new contract. A meeting is scheduled before end-of-the-year with the contractor to discuss recycling options.
3	UNSOS should develop and implement an action plan to properly segregate and dispose of solid waste including: (a) provision of adequate infrastructure, equipment and supplies at waste generating and disposal	Critical	Yes	Environmental Compliance Officer	1 December 2018	A new waste management contractor is currently mobilizing. Enhanced waste segregation at source and increased recycling are integral parts of the new contract. Improved ashes disposal opportunities are currently under investigation.

¹ Critical recommendations address critical and/or pervasive deficiencies in governance, risk management or control processes, such that reasonable assurance cannot be provided with regard to the achievement of control and/or business objectives under review.

² Important recommendations address important (but not critical or pervasive) deficiencies in governance, risk management or control processes, such that reasonable assurance may be at risk regarding the achievement of control and/or business objectives under review.

Management Response

Audit of the United Nations Support Office in Somalia's waste management activities

no.	Recommendation	Critical ¹ / Important ²	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
	sites; (b) identification of a suitable method for the disposal of ashes from incinerators; (c) proper waste segregation and disposal by all staff; and (d) regular inspection of solid waste collection and disposal facilities including waste disposal practices of contractors.					
4	UNSOS should develop and implement a comprehensive action plan and mechanisms to ensure: (a) treated wastewater is tested and meets minimum quality standards prior to discharge into the environment; (b) regular inspection of wastewater treatment facilities and infrastructure systems including those operated by contractors; (c) broken and/or blocked wastewater pipes are repaired; (d) sewage sludge is removed and disposed of; and (e) there are sufficiently trained personnel to operate and maintain wastewater treatment plants.	Critical	Yes	Environmental Compliance Officer	1 December 2018	UNSOS management wishes to draw the attention of the auditors that the current Intermediate Risk Management Plan (IRMP) will be the main dynamic document reflecting planned actions and progress as follows: a) Wastewater labs are in the pipeline b) Inspections and Daily Monitoring of Wastewater facilities have been enhanced. c) broken and/or blocked wastewater pipes are repaired once reported/observed d) sewage is removed and disposed of in Wastewater Treatment plants in most of the locations around UNSOS, Wastewater Treatment plants are currently installed in all locations lacking them, where as a temporary arrangement, wastewater is collected by a contractor and disposed in dumping sites.

Management Response

Audit of the United Nations Support Office in Somalia's waste management activities

no.	Recommendation	Critical ¹ / Important ²	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
						e) The new contractor will start operation on 1 February 2018 and the presence of qualified operators has been articulated as one of the necessities that will be reviewed and monitored by UNSOS
5	UNSOS should establish procedures to appropriately collect, store, handle and dispose of all categories of hazardous waste in an environmentally friendly and legally acceptable way.	Important	Yes	Environmental Compliance Officer; Property Disposal Officer; Fuel Officer	1 December 2018	Management seeks to inform the auditors that the procedures mentioned on this recommendations are part of the scope of work (SOW) of the new contractor that will be mobilized in February 2018. Management will ensure the contractor appropriately collect, store, handle and dispose of all categories of hazardous waste in an environmentally friendly and legally acceptable way.
6	UNSOS should take steps to regularly train and raise the awareness of Mission personnel on waste management policies, goals and practices.	Important	Yes	Environmental Compliance Officer	1 June 2018	Management seeks to inform the auditors that the Environmental awareness trainings are being conducted as part of pre-deployment and induction.
7	UNSOS should establish effective procedures to monitor and report its waste management activities, including the performance of contractors.	Important	Yes	Environmental Compliance Officer; Property Disposal Officer & Fuel Officer	1 December 2018	The new waste management contract will also cover hazardous waste, such as medical waste and car batteries.

Management Response

Audit of the United Nations Support Office in Somalia's waste management activities

no.	Recommendation	Critical ¹ / Important ²	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
8	UNSOS should assess its waste management requirements and prioritize resources to ensure that it is managing waste effectively.	Important	Yes	Environmental Compliance Officer; Chief Human Resources Officer	1 June 2018	Management would like to update the auditors that resources have been allocated to ensure the effective management of waste and requisitions have been made for key elements of solid and liquid waste Management such as incinerators and wastewater Treatment Plants.