



INTERNAL AUDIT DIVISION

REPORT 2019/016

Audit of implementation of the environmental action plan in the United Nations Multidimensional Integrated Stabilization Mission in Mali

**The Mission needed to improve the
implementation of its environmental action
plan to achieve efficiency in its use of
natural resources and minimize
environmental risks**

**21 March 2019
Assignment No. AP2017/641/07**

Audit of implementation of the environmental action plan in the United Nations Multidimensional Integrated Stabilization Mission in Mali

EXECUTIVE SUMMARY

The Office of Internal Oversight Services (OIOS) conducted an audit of implementation of the environmental action plan in the United Nations Multidimensional Integrated Stabilization Mission in Mali (MINUSMA). The objective of the audit was to assess the adequacy and effectiveness of the Mission's environmental plans, actions and systems in ensuring efficient and effective use of natural resources and mitigating the related risks to personnel, local communities and the ecosystem. The audit covered the period from 1 July 2017 to 30 June 2018 and included a review of the five pillars of the Mission Environmental Action Plan (MEAP) comprising environmental management system, water and wastewater management, solid waste, energy management and wider impact.

MINUSMA had established the required environmental management system including regional environmental committees and applicable policies and standard operating procedures. The Mission also provided training and awareness briefings to staff on the Mission's environmental objectives. However, the Mission needed to improve the implementation of MEAP to achieve efficiency in its use of natural resources and minimize environmental risks.

OIOS made 10 recommendations. To address the issues identified in the audit, MINUSMA needed to:

- Expedite recruitment of staff with environmental responsibilities; ensure monthly regional environmental committee meetings are convened to review environmental risks and assess and report on regional environmental issues in the regions; and monitor implementation of planned actions included in the environmental management system;
- Develop a monitoring mechanism to ensure timely implementation of recommendations from site/camp inspections and technical assistance visits;
- Implement a system to periodically verify the accuracy and completeness of the environmental action plan and performance data reported to the Department of Operational Support;
- Prioritize the development and implementation of a water supply concept and water conservation programme;
- Implement a monitoring mechanism and allocate staff to ensure that all locations regularly submit water consumption reports to the Engineering Section for analysis and remedial action to mitigate water wastage;
- Allocate resources to assess the risks and expedite the separation of grey and black water at all of its wastewater sites; conduct laboratory testing of effluents; and improve supervision of the contractors' wastewater treatment process;
- Place recycling bins differentiated by waste types next to each other at accessible locations to segregate non-hazardous waste at source;

- Develop an energy management plan to monitor and reduce its environmental footprint;
- Expedite the delivery of generator spare parts to complete the synchronization of generators in all regions of the Mission and provide adequate guidance to contingents to construct concrete slabs to mount their generators on to prevent soil contamination; and
- Conduct environmental impact assessments of all its sites/camps to identify and address practices that are harmful to the local communities and ecosystems and environmental baseline studies for all future locations before occupation.

MINUSMA accepted the recommendations and has initiated actions to implement them.

CONTENTS

	<i>Page</i>
I. BACKGROUND	1
II. AUDIT OBJECTIVE, SCOPE AND METHODOLOGY	1
III. AUDIT RESULTS	2-10
A. Environmental management system	2-4
B. Water and wastewater management	4-7
C. Solid waste	7-8
D. Energy management	8-9
E. Wider impact	9-10
IV. ACKNOWLEDGEMENT	11
ANNEX I Status of audit recommendations	
APPENDIX I Management response	

Audit of implementation of the environmental action plan in the United Nations Multidimensional Integrated Stabilization Mission in Mali

I. BACKGROUND

1. The Office of Internal Oversight Services (OIOS) conducted an audit of implementation of the environmental action plan in the United Nations Multidimensional Integrated Stabilization Mission in Mali (MINUSMA).
2. In terms of its environmental strategy, the Department of Operational Support (DOS) had developed the Mission Environmental Action Plan (MEAP) to assess and monitor missions' environmental activities to reduce risks and improve efficiency in the use of natural resources. MEAP consists of five pillars: environmental management system; water and wastewater management; solid waste; energy management; and wider impact.
3. The Environmental Unit of MINUSMA is responsible for coordinating with the Head of Mission, Director of Mission Support (DMS), Force Commander, Police Commissioner and other managers to review the implementation status of MEAP and its performance against established indicators every six months. The Unit is headed by a Chief Environmental Officer at the P-4 level who reports to the DMS through the Senior Administrative Officer in the Office of Mission Support. The Unit had six authorized posts consisting of one international and five national professional staff. The approved budget for environmental management projects for the financial years 2016/17 and 2017/18 were \$12 million and \$15 million, respectively.
4. Comments provided by MINUSMA are incorporated in italics.

II. AUDIT OBJECTIVE, SCOPE AND METHODOLOGY

5. The objective of the audit was to assess the adequacy and effectiveness of MINUSMA's environmental plans, actions and systems in ensuring efficient and effective use of natural resources and mitigating the related risks to personnel, local communities and the ecosystem.
6. This audit was included in the 2018 risk-based work plan of OIOS due to the risk that potential weaknesses in MINUSMA's environmental practices could have an adverse impact on the environment, the Mission's operations, and its reputation.
7. OIOS conducted this audit from July to November 2018. The audit covered the period from 1 July 2017 to 30 June 2018. Based on an activity-level risk assessment, the audit reviewed the five pillars of MEAP comprising environmental management system, water and wastewater management, solid waste, energy management and wider impact. Medical waste had been covered recently in a separate assignment, i.e., audit of medical services in MINUSMA (Report 2018/027).
8. The audit methodology included: (a) interviews with key personnel; (b) review of relevant documentation; (c) analytical review of data; (d) visits to five sites (Mopti, Timbuktu, Gao, Kidal and Bamako) out of the 13 sites in the Mission; and (e) physical inspection of water and generator meters and wastewater treatment plants.

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

III. AUDIT RESULTS

A. Environmental management system

Need to strengthen the implementation of the Mission environmental action plan

10. MINUSMA had established the required environmental management system (EMS) for managing its environmental risks. EMS included an updated, comprehensive environmental compliance policy and standard operating procedures on solid waste, water and wastewater, site inspections, and establishment of a MEAP for 2017 and 2018. Also, each contingent and formed police unit in the Mission had an environmental officer and environmental focal point, and regional environmental committees (REC) were established in 4 out of 13 locations where representatives of the Mission Support Division were present. A module on environmental issues was developed and presented at staff induction trainings and to designated military and police focal points.

11. However, OIOS is of the view that the Mission needed to make further efforts to fully implement EMS. For example: (a) only 8 of the 14 EMS actions planned to be implemented by June 2018 had been completed; (b) REC meetings were not held regularly; and (c) the 2019/20 budget submission included a provision for only some, but not all, of the Mission's requirements since it did not adequately analyze the capacity gap in terms of resources and staff expertise.

12. The Mission's capacity to implement EMS was affected by vacancies in the Environmental Unit. The post of the Chief Environmental Officer had been vacant for eight months until January 2018, and two other posts were still vacant at the time of the audit. The Mission needs to fill these vacancies and strengthen the monitoring of its environmental activities to ensure effective implementation of EMS.

(1) MINUSMA should: (a) expedite the recruitment of staff with environmental responsibilities; (b) ensure that monthly meetings of regional environmental committees are convened to review and report on environmental issues in the regions; and (c) monitor implementation of planned actions included in the environmental management system.

MINUSMA accepted recommendation 1 and stated that it had completed the selection process for the vacant posts of associate environmental officers. The Mission would convene REC meetings on a monthly basis. Also, the Environment Unit would review every six months the implementation of MEAP for appropriate actions. Recommendation 1 remains open pending confirmation of completion of recruitment for the vacant posts, receipt of minutes of REC meetings and evidence of regular monitoring of planned EMS actions.

MINUSMA provided training and raised the awareness of its staff on environmental issues

13. The MEAP requires MINUSMA to keep staff updated on the Mission's environmental policies, guidelines and objectives.

14. MINUSMA sent regular broadcasts through emails and displayed posters in suitable places to encourage environmentally friendly practices in the Mission. The Environmental Unit was systematically providing briefings during the induction trainings to all new civilian staff and uniformed personnel and the Unit staff also visited uniformed personnel in regions to brief them and create awareness on environmental issues. The Environmental Unit held a MEAP development workshop with all the 26 Mission personnel

responsible for reporting on the MEAP and performance data. Additionally, the Mission held events such as the World Water Day and World Environment Day and planted indigenous trees and plants to aid reforestation in field locations. OIOS therefore concluded that MINUSMA had made adequate efforts to train its staff and raise their awareness on environmental policies, guidelines and objectives.

Need to ensure timely implementation of recommendations of site/camp inspections and assessment visits

15. MINUSMA is required to conduct site/camp inspections at least annually depending on the assessed risk and during troop rotations. The Environmental Technical Support Unit (ETSU) of DOS provides support and assessment in implementing the Missions' environmental mandates.

16. The Mission's Environmental Unit undertook 91 inspections at all sites/camps during the audit period and ETSU conducted two technical assessment visits in October 2017 and June 2018. However, the Mission had not implemented their recommendations in a timely manner. Sixty-two (50 per cent) of the 122 recommendations raised by the Unit's site inspections had been outstanding for an average of 10 months. Those outstanding recommendations included the ones for contingents to: properly dispose of construction waste stockpiled in a camp; collect and treat wastewater from ablution units; place oil drums on a raised concrete platform and clean up oil spillage; treat sewage and discontinue cooking with firewood. Also, 9 (40 per cent) of the 23 recommendations made by ETSU were outstanding for an average of seven months. The main outstanding recommendations related to: installing remote control energy meters on all diesel generators that would enable remote management of energy consumption over the internet and mobile phones; establishing an energy management plan; and providing property disposal yards at all main Mission locations.

17. The above occurred because the Environmental Unit was not regularly providing status reports to the Office of the DMS, and there was no follow up to ensure that timely action was taken to implement the recommendations. Delays in implementing the recommendations may result in further environmental damage and expose Mission personnel and the local population to environmental risks.

(2) MINUSMA should develop a monitoring mechanism to ensure timely implementation of recommendations from site/camp inspections and technical assessment visits.

MINUSMA accepted recommendation 2 and stated that it would empower the Environmental Unit to fulfil its oversight roles to monitor timely implementation of the recommendations from site/camp inspections and technical assessment visits. It further stated that those recommendations were sent to military and police leadership and relevant Mission components, and their implementation status was followed up during subsequent inspections and visits. Recommendation 2 remains open pending receipt of evidence of a mechanism in place to ensure timely implementation of the recommendations of site/camp inspections and technical assessment visits.

Need to improve reporting on environmental action plan and performance data

18. The Mission is required to biannually submit to ETSU its MEAP and performance data on its achievements related to the five pillars.

19. OIOS review of MEAP Excel workbooks from July 2017 to June 2018 and the 2018/19 budget for environmental activities identified that the Mission had reported its progress on the implementation of the MEAP to ETSU by the established deadlines. However, the following weaknesses were observed:

- The MEAP workbooks contained discrepancies aggregating about 200,000 litres in fuel consumed by United Nations-owned equipment (UNOE) and contingent-owned equipment (COE) vehicles

and generators in Mopti. Also, the workbooks had errors in reporting the number of operational Wastewater Treatment Plants (WWTPs) in Gao and Kidal by a margin of 3 WWTPs.

- Some important environmental data and actions were not reported in the MEAP for monitoring. These included water consumption rate per person per day, ground water extraction level, issuance of environmental clearance certificates for the Mission's vacated sites and reports on hazardous substances held by various sections.
- As described later in the report, the quantity of water consumed at 12 out of 13 locations totaling 95 million litres was estimated based on historical water consumption for the location of Bamako. The water consumption data reported in the MEAP for these 12 locations may not be accurate.

20. The above occurred due to a lack of oversight of the Life Support Section, Engineering Section and Environmental Unit on reporting of the MEAP and performance data. Consequently, the reliability of the reports and their usefulness to Management were significantly diminished.

(3) MINUSMA should implement a system to periodically verify the accuracy and completeness of the environmental action plan and performance data reported to the Department of Operational Support.

MINUSMA accepted recommendation 3 and stated that the Environmental Unit in coordination with other sections would implement a system to periodically verify the accuracy and completeness of MEAP and performance data. The Unit would archive evidence supporting the data. Recommendation 3 remains open pending receipt of evidence of implementation of a system to periodically verify accuracy and completeness of the MEAP and performance data.

B. Water and wastewater management

The Mission needed to develop and implement a water supply concept and conservation programme

21. MINUSMA is required to establish a water supply concept and water conservation programme to provide strategic and operational direction to plan, develop, manage, monitor and evaluate water supply options in field locations.

22. However, the Mission was yet to do so. This matter was not prioritized by the Engineering Section which was of the view that the water supply concept and conservation programme would be developed once DOS finalized the draft policy on water for field missions. The draft policy had been circulated to the missions in August 2017. The Mission needs to prioritize the development of the concept and conservation programme to ensure efficiency and effectiveness of its water supply and conservation practices.

(4) MINUSMA should prioritize the development and implementation of a water supply concept and water conservation programme.

MINUSMA accepted recommendation 4 and stated that the Engineering Section was reviewing a draft water concept to be shared with the United Nations Global Service Centre. The water concept would be submitted to the Mission's senior management for approval by April 2019. Recommendation 4 remains open pending the receipt of the approved water supply concept and water conservation programme.

Need to improve the Mission's monitoring of water consumption

23. The Mission's Engineering Section is required to: install water meters at all water sources to monitor the Mission's water consumption rate of 80 litre per person per day; and implement measures to monitor the Mission's water demand.

24. The Engineering Section had installed all the required devices and equipment to monitor the Mission's water consumption and water demand. These included: water meters installed on each borehole pump to monitor water supply from the municipal water source and the Mission's water abstraction and consumption; dual flushing toilets at the five sites visited; and internal bulk water distribution in four super camps in Kidal, Timbuktu, Gao and Mopti.

25. However, water consumption reports for Bamako for the audit period indicated over-consumption of an average 160 litres compared to the prescribed 80 litres per person per day. For the other 12 Mission sites, the Engineering Section had no records but estimated their water consumption based on historical data for Bamako. The water consumption data for these locations might not be accurate, for which recommendation 3 above described the required corrective actions.

26. These occurred because: (a) the Engineering Section did not prioritize the implementation of a mechanism to monitor the Mission's water consumption and take remedial actions to mitigate water wastage; and (b) staffing constraints in the other 12 sites to prepare water consumption records. In the absence of a monitoring mechanism, there was a risk of water wastage in the Mission.

(5) MINUSMA should implement a monitoring mechanism and allocate staff to ensure that all locations regularly submit water consumption reports to the Engineering Section for analysis and remedial action to mitigate any water wastage.

MINUSMA accepted recommendation 5 and stated that a common reporting framework was agreed with all sectors, and weekly water meter readings from all Mission locations had been shared with the Engineering Section in Bamako since November 2018. Recommendation 5 remains open pending receipt of evidence that the Mission implemented a mechanism that all locations submit weekly water consumption reports to Engineering Section for analysis and appropriate remedial action.

The Mission's ground water extraction level was not adequately monitored

27. The MEAP requires the Mission to install groundwater level monitors to monitor ground water extraction level from boreholes and take action to mitigate risk of long-term sustainability of groundwater resources. MINUSMA had not installed groundwater level monitors at any of its 32 boreholes to monitor and address any risk of long-term sustainability of groundwater resources. This may result in over-extraction and depletion of water sources. For instance, in 2016, the local community in Kidal had held demonstrations against MINUSMA for depleting their water sources.

28. The Engineering Section stated that it had requested for funds to purchase groundwater monitoring tools in the Mission's 2019/20 budget proposals. In view of the action taken, OIOS did not make a recommendation on this issue.

Need to improve the installation and maintenance of wastewater facilities

29. MINUSMA is required to install and maintain WWTPs at all Mission's camps to treat the Mission's wastewater. The Mission had installed 42 out of the estimated requirement of 75 WWTPs to treat wastewater at the Mission's 13 locations. The Mission was undertaking necessary procurement actions to

purchase additional WWTPs to complete installation by June 2019. However, 6 of the 42 WWTPs were not operational, including the one in Mopti that was installed a year ago costing \$240,000. Consequently, the Mission was still relying on a contractor to remove and dispose of wastewater in locations where WWTPs had not yet been installed or operational.

30. The Mission lacked skilled personnel to operate WWTPs, and there were delays in delivery of necessary spare parts. For example, two purchase orders for spare parts, issued in June 2018 totaling \$2 million, were not delivered to the Mission at the time of the audit due to a freight delay. As a result, the Mission incurred cost of about \$3 million paid to a contractor during the audit period to remove and dispose wastewater in the regions where WWTPs had been installed but were not operational. As at November 2018, a qualified staff was recruited to operate the WWTPs and spare parts were delivered in January 2019. In view of these developments, OIOS did not make a recommendation on this issue.

Need to improve wastewater treatment and disposal

31. The Mission is required to separate greywater and blackwater, conduct laboratory testing of effluents, regularly inspect pipes, tanks and treatment systems, recycle and reuse wastewater, and inspect contractors' disposal sites.

32. MINUSMA was conducting weekly inspections of pipes, tanks and treatment systems of WWTPs to check for leakage, overflow or other problems and taking remedial action as necessary. Two teams in each super camp were constituted to patrol around the bulk water and wastewater networks and the required weekly inspection forms were completed and sent to the Engineering Section. The Mission in all five sites visited was also recycling treated wastewater for gardening, car washing and dust management. The Facilities Management Unit was regularly inspecting the two contractors' disposal sites and assessing their various waste management activities such as general site cleanliness, storage of recyclable waste and incinerator operations.

33. However, the Engineering Section had not yet fully implemented its planned project to separate grey and black water by June 2018. At the time of the audit, only 3 of 13 sites (Bamako, Gao and Timbuktu) had a fully operational separation process, and the project was on-going for the remaining 10 sites. The Engineering Section advised that delays were mainly due to lack of manpower to carry out the separation process.

34. The Engineering Section was testing daily the quality of effluents for total suspended solids in four locations with operational WWTPs. However, detailed laboratory testing of effluents for biochemical oxygen demand and chemical oxygen demand was not being done because the Mission lacked the expertise to conduct the tests. Consequently, Mission personnel and the local community may be exposed to environmental and health risks from the wastewater disposed into the surrounding soil. Additionally, there was no evidence of strict supervision, such as signed wastewater collection forms, to show that contractors properly treated wastewater collected from the camps before disposal.

35. Furthermore, the Mission was required to conduct a comprehensive risk assessment of all sites whether they were UNOE, COE or managed by government or contractor, to assess the risk of black water discharge, septic tank overflow, potential hydrological connection and septic hydraulic retention in accordance with methodology provided by DOS. However, due to staffing constraint, the risk assessment had not been done. Instead, the Engineering Section and Environment Unit, only assessed the risk of hydrological connection of wastewater disposal during inspection visits to the contractors' disposal sites.

36. Without adequate separation of grey and black water, comprehensive risk assessment and testing the quality of wastewater released into the ground, there was increased chance of environmental contamination and health and reputational risks.

(6) MINUSMA should: (a) allocate resources to assess the risks and expedite the separation of grey and black water at all of its wastewater sites; (b) conduct laboratory testing of effluents; and (c) improve supervision of the contractors' wastewater treatment process.

MINUSMA accepted recommendation 6 and stated that the Environmental Unit was working with Engineering Section to conduct risk assessment for each site as proposed in the new risk management framework and were planning to report the results in the next MEAP report. Plumbing work to separate grey and black water would be completed at all sites by 31 March 2019. Recommendation 6 remains open pending receipt of the risk assessment conducted for each site and evidence on the completion of grey/black water separation for all sites.

C. Solid waste

Need to appropriately segregate non-hazardous solid waste

37. Each office or unit generating non-hazardous waste in the Mission is required to take practicable measures to segregate such waste at source based on their characteristics for example, glass, paper and plastic.

38. OIOS visit to five sites identified that non-hazardous waste such as plastics, paper, glass and cans generated in MINUSMA were not segregated at source locations into the labelled recycling bins that the Mission had provided. This occurred because even though staff were sensitized on waste segregation, the Facilities Management Unit had not placed the required bins for each type of non-hazardous waste at accessible locations. As a result, there was indiscriminate disposal of non-hazardous waste within the Mission, and it negated the possibility to recycle waste, which if implemented would reduce the amount of waste incinerated.

(7) MINUSMA should place recycling bins differentiated by waste types next to each other at accessible locations to segregate non-hazardous waste at source.

MINUSMA accepted recommendation 7 and stated that the Engineering Section had included this requirement for all locations in the next contract for solid waste management. The contract was expected to be in place by 1 May 2019. Recommendation 7 remains open pending receipt of evidence that the Mission has taken measures to segregate non-hazardous waste at source.

Need for disposal of hazardous waste and unserviceable contingent owned equipment

39. The Mission is required to segregate hazardous waste from other waste and dispose of it in an environmentally friendly manner. Also, the waste generated by uniformed personnel should be disposed of in safe and proper manner to protect the health, safety and security of its personnel and the local population and local environment.

40. MINUSMA had established a mechanism to ensure segregation of hazardous waste, including batteries, used tires, toner cartridges and clinical waste. For instance, used toner cartridges from printers were disposed of through a take-back solutions contract, medical waste was disposed through an incinerator and the main fuel contractor disposed of used oil and lubricants that it supplied as required.

41. However, the Mission had not procured services for the disposal of used tires and vehicle batteries. In addition, the Mission had no arrangement to dispose of the oil and lubricants that other fuel contractors supplied. As a result, waste had accumulated, and this included hazardous waste materials comprising 2,615 kg of used battery cells, 1,442 used lead acid batteries, 1,203 used tires and 2,770 litres of used oil were stored in containers at 11 locations awaiting disposal.

42. The above occurred because of delays in procurement of waste disposal services. As of February 2019, the Procurement Section had issued a request for proposal for this requirement with a target of establishing a contract by July 2019. In view of the actions taken, OIOS did not make a recommendation.

43. Additionally, OIOS review of data held by the COE Unit relating to unserviceable equipment and visits to 10 contingent camps showed that troop- and police-contributing countries were stockpiling non-functional COE for more than 12 months without taking measures to repair or dispose of it. The equipment and materials included stationary and mobile generators, trucks, police crowd control vehicles, ambulances, armored personnel carriers and truck refrigerators. Some of the equipment had been unserviceable since 2013 and 2014. The contingents explained that they were awaiting instructions from their home countries prior to taking action. OIOS is not making a recommendation in this report as this issue will be comprehensively reviewed in an upcoming audit of COE.

D. Energy management

Need to develop a Mission energy management plan

44. The Mission is required to conduct a comprehensive energy consumption analysis and energy production analysis at key sites and establish a Mission-specific energy management plan to effectively and efficiently manage the Mission's demand for energy.

45. MINUSMA had neither conducted any energy consumption analysis and production analysis at key sites nor established a mission energy management plan. This was due to other competing priorities and lack of capability within the Engineering Section. The Chief of the Engineering Section explained that the Mission's energy management plan would be developed during fiscal year 2018/19 in collaboration with a consultant. In the absence of an energy management plan, there was no assurance that the Mission's demand for energy was managed efficiently to reduce its environmental footprint.

(8) MINUSMA should develop an energy management plan to monitor and reduce its environmental footprint.

MINUSMA accepted recommendation 8 and stated that the draft energy management plan would be finalized by March 2019. Recommendation 8 remains open pending receipt of the Mission's energy management plan.

Need for more efficient power generation and better environment protection from generators

46. The environmental policies require MINUSMA to take measures to minimize the Mission's greenhouse gas emissions where possible without impacting the effectiveness of operations. Those measures included right sizing and synchronization of generators, ground covering to safeguard the soil below generators and installation of meters to measure production of energy.

47. OIOS inspection of 16 of the 228 generators located in the five sites visited identified that the Mission had generators with pre-installed manual meters to measure energy production and readings were

taken daily by the Engineering Section. The Mission was also in the process of procuring a remote monitoring meter system that would be installed on generators to enable the Engineering Section to centrally monitor energy production data from generators especially for remote locations. However, right sizing and synchronization of generators had been completed for only 3 of 13 sites. Further, generators for nine contingent camps were on the floor without being mounted on concrete slabs, as they had yet to be constructed.

48. The above was due to a protracted procurement process delaying the delivery of the necessary spare parts for generator right sizing and synchronization. Purchase orders were issued in June 2018, but spare parts had not been delivered at the time of the audit. The Mission had also not provided adequate guidance to contingents to construct concrete slabs to mount generators on to prevent soil contamination. As a result, there was an unmitigated risk that generators in 10 of 13 locations were not running at optimum efficiency, and soil was contaminated with engine oil from contingents' generators.

(9) MINUSMA should expedite the delivery of spare parts to complete the synchronization of generators in all regions of the Mission and provide adequate guidance to contingents on the need to construct concrete slabs to mount their generators on to prevent soil contamination.

MINUSMA accepted recommendation 9 and stated that the synchronization of generators had been completed for Bamako, Timbuktu and Gao and would be completed for the generators located in Mopti and Kidal once the Mission receives the related 163 items of spare parts. Also, COE external fuel tanks and generators would be connected directly with a pipe for fuel refill according to the Mission standards, instead of manually refilling with jerrycans which resulted in leakages. Recommendation 9 remains open pending receipt of evidence that synchronization has been completed and guidance has been provided to contingents to construct concrete slabs to mount their generators on.

The Mission made good efforts for energy efficiency in its offices and accommodation buildings

49. The MEAP requires the Mission to regulate minimum and maximum temperatures and analyze energy savings to improve energy efficiencies through conducting assessment of use of lights in buildings, installing occupancy sensors and ensuring proper insulation against the heat. Also, use of air conditioners were to be monitored and kept at a minimum operating temperature of not less than 24 degrees Celsius.

50. OIOS visits to 5 of 13 sites indicated that some good efforts had been made regarding energy efficiencies in offices and accommodation buildings. This included conducting a lighting assessment in buildings that resulted in the installation of light bulbs, automatic sensors for external night lighting and light-emitting diodes in approximately 80 per cent of prefabricated office buildings. The Mission had also entered into a system contract for prefabricated office buildings to install double roofing and installed shutters on windows of office and accommodation buildings to keep them cool.

51. However, many air conditioners were found to be set at temperatures below the required 24 degrees Celsius, as there was no monitoring mechanism to periodically check compliance with the Mission's directive on this. As a result, there were further opportunities to increase energy savings. The Mission intends to correct this through the integration of a mechanism in the above-mentioned energy management plan. As the Mission was implementing appropriate measures, OIOS did not make a recommendation on this issue.

E. Wider impact

Environmental impact assessment was not being conducted

52. MINUSMA is required to conduct: (a) an impact assessment of mission-wide environmental activities including cultural, historical, animal, plants, and socioeconomic aspects in all sites/camps; and (b) environmental baseline studies for all Mission locations.

53. MINUSMA had not conducted an environmental impact assessment at any of its 13 sites to identify and address environmental practices that were harmful to local communities and ecosystems. The Mission had also not conducted environmental baseline studies for any of its 13 sites during its start-up phase, apparently to focus on other operational priorities, and did not take any corrective actions thereafter. As a result, the Mission may not adequately consider its environmental impact on the country and restore sites to their original or improved condition.

(10) MINUSMA should conduct: (a) environmental impact assessments of all its sites/camps to identify and address practices that are harmful to the local communities and ecosystems; and (b) environmental baseline studies for all future locations before occupation.

MINUSMA accepted recommendation 10 and stated that Environmental Unit will conduct environmental baseline studies for new site/camps and an environmental impact assessment in consultation with environmental peacekeeping community. Recommendation 10 remains open pending receipt of evidence of conduct of environmental impact assessment for all new sites/camps.

The Mission was taking measures to prepare environmental clearance certificates for vacated sites

54. The United Nations Liquidation Manual requires field missions to ensure that all vacated mission locations are restored, as much as possible, to their original environmental condition. The activities required to restore vacated sites should be properly documented and clean up certificates prepared for the closed sites by the Environmental Unit and signed by the site owners.

55. Due to troop relocations, MINUSMA had vacated three government-owned sites, one in September 2017 and two in July 2018. MINUSMA handed over the sites to the Malian Forces without preparing clean up certificates. This was due to an oversight as MINUSMA Mission Support Center conducted the camp closure process without involving the Environmental Unit to assess the environmental conditions of the closed sites. As a result, possible damage or contamination caused by the occupation and activities of MINUSMA on soil and/or water, on and off the closed site could not be established. Although at the time of the audit no complaint had been filed on environmental contamination, the lack of proper clearance and inadequate handover procedures increases the reputational risk of the United Nations if environmental contamination is detected later because the site had been used by MINUSMA. As the Mission was implementing appropriate measures, OIOS did not make a recommendation.

IV. ACKNOWLEDGEMENT

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

(Signed) Eleanor T. Burns
Director, Internal Audit Division
Office of Internal Oversight Services

STATUS OF AUDIT RECOMMENDATIONS

Audit of implementation of the environmental action plan in the United Nations Multidimensional Integrated Stabilization Mission in Mali

Rec. no.	Recommendation	Critical ¹ / Important ²	C/ O ³	Actions needed to close recommendation	Implementation date ⁴
1	MINUSMA should: (a) expedite the recruitment of staff with environmental responsibilities; (b) ensure that monthly meetings of regional environmental committees are convened to review and report on environmental issues in the regions; and (c) monitor implementation of planned actions included in the environmental management system.	Important	O	Conformation of the completion of recruitment for the vacant posts, receipt of minutes of REC meetings and evidence of regular monitoring of planned EMS actions.	30 September 2019
2	MINUSMA should develop a monitoring mechanism to ensure timely implementation of recommendations from site/camp inspections and technical assessment visits.	Important	O	Receipt of evidence of a mechanism in place to ensure timely implementation of the recommendations of site/camp inspections and technical assessment visits.	30 September 2019
3	MINUSMA should implement a system to periodically verify the accuracy and completeness of the environmental action plan and performance data reported to the Department of Operational Support.	Important	O	Receipt of evidence of implementation of a system to periodically verify accuracy and completeness of the MEAP and performance data.	31 October 2019
4	MINUSMA should prioritize the development and implementation of a water supply concept and water conservation programme.	Important	O	Receipt of the approved water supply concept and water conservation programme	31 October 2019
5	MINUSMA should implement a monitoring mechanism and allocate staff to ensure that all locations regularly submit water consumption reports to the Engineering Section for analysis and remedial action to mitigate any water wastage.	Important	O	Receipt of evidence that the Mission implemented a mechanism that all locations submit weekly water consumption report to Engineering Section for analysis and appropriate remedial actions.	31 October 2019

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 [client] in response to recommendations. [Insert “Implemented” where recommendation is closed; (implementation date) given by the client.]

STATUS OF AUDIT RECOMMENDATIONS

Audit of implementation of the environmental action plan in the United Nations Multidimensional Integrated Stabilization Mission in Mali

Rec. no.	Recommendation	Critical¹/ Important²	C/ O³	Actions needed to close recommendation	Implementation date⁴
6	MINUSMA should: (a) allocate resources to assess the risks and expedite the separation of grey and black water at all of its wastewater sites; (b) conduct laboratory testing of effluents; and (c) improve supervision of the contractors' wastewater treatment process.	Important	O	Receipt of the risk assessment conducted for each site and evidence on the completion of grey/black water separation for all sites.	31 October 2019
7	MINUSMA should place recycling bins differentiated by waste types next to each other at accessible locations to segregate non-hazardous waste at source.	Important	O	Receipt of evidence that the Mission has taken measures to segregate non-hazardous waste at source.	31 January 2020
8	MINUSMA should develop an energy management plan to monitor and reduce its environmental footprint.	Important	O	Receipt of the Mission's energy management plan.	31 December 2019
9	MINUSMA should expedite the delivery of spare parts to complete the synchronization of generators in all regions of the Mission and provide adequate guidance to contingents on the need to construct concrete slabs to mount their generators on to prevent soil contamination.	Important	O	Receipt of evidence that synchronization has been completed and guidance has been provided to contingents to construct concrete slabs to mount their generators on.	31 October 2019
10	MINUSMA should conduct: (a) environmental impact assessments of all its sites/camps to identify and address practices that are harmful to the local communities and ecosystems; and (b) environmental baseline studies for all future locations before occupation.	Important	O	Receipt of evidence of conduct of environmental impact assessment for all new sites/camps.	31 January 2020

APPENDIX I





Management Response



FACSIMILE

13 March 2019

Reference: MINUSMA/ODMS/2019/088

TO: Mr. Daeyoung Park Chief, Peacekeeping Audit Service Internal Audit Division, OIOS, Entebbe	FROM: Michael Mulinge Kitivi Director of Mission Support 
ATTN: Mr. Seydou Sirpe Chief Resident Auditor, Bamako	
INFO:	
FAX #:	FAX #:
TEL #:	TEL #:
SUBJECT: Draft report on an audit of implementation of environmental action in the United Nations Multidimensional Integrated Stabilization Mission in Mali (Assignment No: AP2017/641/07)	
Total number of transmitted pages including this page: 6	
<ol style="list-style-type: none">1. Reference is made to your facsimile: IAD-17/641/07 dated 8 March 2019.2. Please find attached MINUSMA's response to the findings and recommendations that OIOS considered important in the report.3. We have taken note of the mentioned area and are determined to take the necessary actions to improve the efficiency and effectiveness of MINUSMA operations.4. The Mission's comments on OIOS' recommendations are attached herewith.	
Best regards.	
Drafted by: Boniface Mailu 	Authorized by: John Rodopoulos, SAO 
Through: Adja Sakho, OIC/RMCU 	

APPENDIX I

Management Response

Audit of implementation of the environmental action plan in the United Nations Multidimensional Integrated Stabilization Mission in Mali

Rec. no.	Recommendation	Critical ¹ / Important ²	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
1	MINUSMA should: (a) expedite the recruitment of staff with environmental responsibilities; (b) ensure that monthly meetings of regional environmental committees are convened to review and report on environmental issues in the regions; and (c) monitor implementation of planned actions included in the Environmental Management System	Important	Yes	Chief Environment Unit	30 September 2019	<p>The Mission concurs with the recommendation.</p> <p>(i) A recruitment of a candidate against post (31020637) National Professional Officer (NPO) Timbuktu was done and completed, with Entry On Duty 09/07/2018, and the candidate for the NPO position in Mopti post (1347946) was selected on 14/02/2019.</p> <p>(ii) The Mission convenes monthly regional environmental committees, and email reminders are sent monthly so that the committee can circulate the relevant minutes taken.</p> <p>The Environmental Unit (EU) reviews planned actions every six months at each biannual Mission Environmental Action Plan (MEAP) development process with relevant sections and provide inputs for Result Based Budget reports every quarter</p>

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.

APPENDIX I

Management Response

Audit of implementation of the environmental action plan in the United Nations Multidimensional Integrated Stabilization Mission in Mali

Rec. no.	Recommendation	Critical ¹ / Important ²	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
2	MINUSMA should develop a monitoring mechanism to ensure timely implementation of the recommendations from site/camp inspections and technical assessment visits	Important	Yes	Chief Environment Unit	30 September 2019	<p>The Mission concurs with the recommendation and will take steps to empower the EU to fulfill its oversight role in terms of monitoring the timely implementation of recommendations from site/camp inspections and Technical Assistance Summary and Actions Planned reports.</p> <p>Recommendations and findings emanating from environmental inspections are formally submitted to the Force Commander/Police Commissioner and relevant Mission Support Division Sections for implementation action. The implementation status of each previous recommendation is followed up with the relevant Office during each subsequent inspection.</p>
3	MINUSMA should implement a system to periodically verify the accuracy and completeness of the environmental action plan and performance data reported to the Department of Operational Support	Important	Yes	Chief of Environment Unit	31 October 2019	<p>MINUSMA agrees with the recommendation. The EU in coordination with other sections is involved in implementing a system to periodically verify the accuracy and completeness of the environmental action plan by overseeing that implementation is done.</p> <p>Data entered into the MEAP requires proof of evidence to be kept by data holders and the EU will archive proof of evidence received in a separate folder.</p>

APPENDIX I

Management Response

Audit of implementation of the environmental action plan in the United Nations Multidimensional Integrated Stabilization Mission in Mali

Rec. no.	Recommendation	Critical ¹ / Important ²	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
4	MINUSMA should prioritize the development and implementation of a water supply concept and water conservation programme	Important	Yes	Chief of Water & Sanitation unit	31 October 2019	The Mission concurs with the recommendation. The Engineering Section (ES) is reviewing the draft Water Concept to be shared with United Nations Global Service Center (UNGSC) Technical Support Unit and will be ready for submission to the Mission's Senior Management for approval by April 2019.
5	MINUSMA should implement a monitoring mechanism and allocate staff to ensure that all locations regularly submit water consumption reports to the Engineering Section for analysis and remedial action to mitigate any water wastage	Important	Yes	Chief of Water & Sanitation unit	31 October 2019	MINUSMA concurs with the recommendation and implementation is ongoing. A common reporting framework was agreed with all Sectors and weekly water meter reading from all Mission locations are shared with ES in Bamako since November 2018.
6	MINUSMA should: (a) allocate resources to assess the risks and expedite the separation of grey and black water at all of its wastewater sites; (b) conduct laboratory testing of effluents; and (c) improve supervision of the contractors' wastewater treatment process	Important	Yes	Chief of Water & Sanitation unit	31 October 2019	The Missions agrees with the recommendation. The EU is working with the ES to conduct risk assessment for each site as proposed by the new wastewater risk management framework. Results will be reflected in the next MEAP report. Plumbing works on grey/black water separation will be completed at all sites by 31 March 2019
7	MINUSMA should place recycling bins differentiated by waste types next to each other at accessible locations to segregate non-hazardous waste at source	Important	Yes	Head of Facilities management cell	31 January 2020	The Mission concurs with the recommendation. Engineering has included this requirement for all locations in the next contract for solid waste management that is expected to be in place from 01 May 2019. The contractor will provide small bins of 60 liters manufactured and tested to European

APPENDIX I

Management Response

Audit of implementation of the environmental action plan in the United Nations Multidimensional Integrated Stabilization Mission in Mali

Rec. no.	Recommendation	Critical ¹ / Important ²	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
						Norm (EN) 840, swing cover, grouped in metal frame or similar for four (04) colors blue-green-yellow and grey.
8	MINUSMA should develop an energy management plan to monitor and reduce its environmental footprint.	Important	Yes	Chief of Environment Unit	31 December 2019	The Mission concurs with the recommendation. The draft Energy Management Plan (EMP) is in progress, in line with the new deadline of 08/03/2019
9	MINUSMA should expedite the delivery of spare parts to complete the synchronization of generators in all regions of the Mission and provide adequate guidance to contingents on the need to construct concrete slabs to mount their generators on to prevent soil contamination	Important	Yes	Chief of Engineering section	31 October 2019	<p>MINUSMA agrees with the recommendation. Synchronization has been completed for Bamako, Timbuktu and Gao. Regarding Mopti and Kidal, the required spare parts arrived in the Mission on 21/02.2019 and once receiving and inspection is completed, the parts will then be installed by Building Management Unit (BMU)-Generators/Electrical and works are expected to be completed by end of September 2019.</p> <p>Environmental inspections regularly check that generators are located on concrete slabs. Information on the number and dimension of generators is not always provided by contingents to contingent owned equipment (COE), (only kva ranges), which affects the ability of Engineering to build slabs of appropriate size.</p> <p>Connection between contingent external fuel tanks to COE generators should be connected according to MINUSMA</p>