



INTERNAL AUDIT DIVISION

REPORT 2019/053

Audit of implementation of the environmental action plan in the United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic

The Mission needed to improve the implementation of the environmental action plan to minimize environmental risks

25 June 2019
Assignment No. AP2018/637/07

Audit of implementation of the environmental action plan in the United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic

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 Central African Republic (MINUSCA). The objective of the audit was to assess the adequacy and effectiveness of MINUSCA environmental plans, actions and systems that were in place to achieve maximum efficiency in its use of natural resources and operate at a minimum risk to personnel, local communities and the ecosystem. The audit covered the period from 1 July 2017 to 31 December 2018 and included a review of the five pillars of the Mission's environmental action plan comprising environmental management system, water and wastewater management, solid waste, energy management and wider impact.

MINUSCA had established the required system for managing the Mission's environmental risks, including promulgation of relevant policy and procedures, and provided training and awareness briefings to staff on the Mission's environmental objectives. However, the Mission needed to improve the implementation of the environmental action plan to minimize environmental risks.

OIOS made six recommendations. To address the issues identified in the audit, MINUSCA needed to:

- Develop and implement an effective monitoring mechanism to capture and follow-up on the status of recommendations of site inspections, including assigning responsible units/individuals and target completion dates, to ensure timely and full implementation of recommendations;
- Develop and implement a water supply concept and water conservation programme, and install water meters at all water sources and regularly monitor water consumption to mitigate water wastage;
- Regularly conduct laboratory testing of effluent samples from all wastewater treatment plants;
- Address the lack of engineered landfill and recycling facilities; take necessary action to ensure all dumping sites used for the disposal of the Mission waste are adequate, secured and environmentally acceptable; and expedite the acquisition, installation and training of operators for incinerators to improve the disposal of the Mission's solid waste;
- Issue guidance to all Mission personnel including contingents on handling and disposal of hazardous waste and raise awareness of contingents about the take-back solution for disposing hazardous waste; and
- Finalize its energy management plan to ensure effective and efficient implementation of all planned energy conservation measures in all Mission locations to monitor and reduce its environmental footprint.

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

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Audit of implementation of environmental action plan in the United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic

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 Central African Republic (MINUSCA).
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 MINUSCA was responsible for coordinating with the Head of Mission, Director of Mission Support (DMS), Force Commander, Police Commissioner and the chiefs of implementing sections/units regularly to develop the MEAP and review its performance against established indicators. The Unit was headed by a Chief Environmental Officer at the P-4 level and supported by one national professional officer and three United Nations volunteers. The Chief of Unit reported to the Chief Operations and Resource Management in the Mission Support Division. The approved operating budget for environmental activities was \$1.7 million for 2017/18 and due to more projects undertaken and additional equipment purchased, increased to \$8.8 million for 2018/19.
4. Comments provided by MINUSCA are incorporated in italics.

II. AUDIT OBJECTIVE, SCOPE AND METHODOLOGY

5. The objective of the audit was to assess the adequacy and effectiveness of MINUSCA environmental plans, actions and systems that were in place to achieve maximum efficiency in its use of natural resources and operate at a minimum risk 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 weakness in MINUSCA's environmental practices could have an adverse impact on the environment, health of local population and the Mission's personnel, operations and reputation.
7. OIOS conducted this audit from December 2018 to March 2019. The audit covered the period from 1 July 2017 to 31 December 2018. Based on an activity-level risk assessment, the audit covered higher and medium risk areas in the implementation of the MEAP, which included the five-pillars of MEAP.
8. The audit methodology included: (a) interviews of key personnel, (b) reviews of relevant documentation, (c) analytical reviews of data, and (d) visits to 20 of the Mission's 74 sites.
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's MEAP

10. MINUSCA is required to establish an environmental management system (EMS) to reduce its environmental impact and increase its operational efficiency.

11. The Mission had established the required EMS for managing the Mission's environmental risks, which included: an updated comprehensive environmental compliance policy; standard operating procedures on solid waste, water and wastewater; and annual site inspection plans. The MEAPs for 2017 and 2018 specified the Mission's environmental objectives, goals, and targets to reduce environmental impact and delineated responsibilities of the units involved. The Mission designated an environmental officer and environmental focal point for each contingent and formed police unit. Additionally, MINUSCA had developed a training module on environmental issues which was presented at the Mission's induction training.

12. In June 2016, MINUSCA constituted a waste management committee which convened once every four months and provided the required strategic oversight of the Mission's waste management arrangements and was required to periodically advise the Special Representative of Secretary-General on the Mission's environmental status and proposed actions. The Mission had also been working in collaboration with a Rapid Environment and Climate Technical Assistance team, sponsored by the United Nations Environmental Programme and the United Nations Global Service Centre, to implement the six-year strategy to improve the Mission's environmental footprint in the Central African Republic and provide onsite technical assistance and solutions.

13. However, the Mission needed to make additional efforts to fully implement EMS as the follow up mechanism for environmental inspections were not always effective as noted throughout this report. Incomplete implementation of Mission's environmental policy and action plan could reduce its ability to mitigate its environmental risks and the Mission may fall short of its six-year strategy to improve its environmental footprint.

Staff were provided training and awareness briefings on the Mission's environmental objectives

14. To keep staff up-dated on the Mission's environment policy, guidelines and objectives, MINUSCA sent regular email broadcasts and displayed posters to encourage environmental-friendly practices. The Environmental Unit provided briefings during induction training to new Mission personnel on subjects such as waste segregation, reduction of paper consumption and prudent use of energy. The Unit staff also visited civilian and uniformed personnel at sites in Bangui and some of the sectors to provide training for personnel with environmental responsibilities and to create awareness on environmental issues. Additionally, the Unit developed a three-day training programme for military and police focal points, which included topics such as the key performance indicators of MEAP and drafting of inspection reports. During visits to Bouar, Kaga-Bandoro and Bria, OIOS noticed the impact of the awareness training, as environmental activities were being implemented such as the re-planting of indigenous trees and plants to improve reforestation.

Need to improve the implementation of recommendations of the site/camp inspections

15. The MINUSCA Environmental Unit was conducting site/camp inspections at least annually depending on a risk assessment and during troop rotations. These inspections assessed whether the

site/camp was complying with established Mission standards. Following these inspections, recommendations were made to improve the environment. However, further efforts were required to ensure recommendations were implemented. For instance, from July 2017 to March 2018, the Environmental Unit conducted 74 inspections covering all 74 sites and made 272 recommendations. These recommendations included the need to: remediate soil that had been contaminated by petrochemicals; install concrete surfaces under power generator areas to avoid soil/groundwater contamination; treat hazardous waste; segregate black and grey water to reduce the quantity of wastewater to be treated and avoid overflow; regularly maintain and repair ablutions; and install incinerators to dispose of medical waste.

16. However, in OIOS' view, these 74 inspections were not fully effective as:

- Many recommendations were repeated as in previous inspections, without assessing the implementation status of similar recommendations previously made and, analyzing causes and identifying remedial action;
- For 79 of the 272 (29 per cent) recommendations, no units/individuals were assigned the responsibility to implement them; and
- Target dates to complete the required actions were not specified for 142 recommendations.

17. The above occurred as MINUSCA had not yet developed an adequate mechanism to: record recommendations of inspections; systematically assign responsibility and target dates for completion; and track and monitor implementation status. Therefore, although the Mission stated that it was following up on the implementation of recommendations during weekly meetings, the repetitive pattern of the recommendations indicated that some of the underlying environmental problems remained unaddressed. This could result in further environmental damage, as well as health and safety risks to the Mission personnel and local community.

(1) MINUSCA should develop and implement an effective monitoring mechanism to capture and follow-up on the status of recommendations of site inspections, including assigning responsible units/individuals and target dates for completion to ensure timely and full implementation of recommendations.

MINUSCA accepted recommendation 1 and stated that it was developing a database to track environmental conditions mission-wide and to monitor the status of recommendations made during inspections, and take corrective actions. The tool was expected to be fully implemented by 31 August 2019. Recommendation 1 remains open pending receipt of evidence that an effective monitoring mechanism has been implemented to capture and track the status of recommendations of site inspections.

MINUSCA reported timely and accurately on the Mission's environmental action plan and performance data

18. The Mission is required to submit biannual reports to DOS on its MEAP and performance data on its achievements. The Mission is also required to include indicative plans to be included in the budget submission for the subsequent year.

19. During the audit period, MINUSCA submitted the required MEAP reports and data to DOS. For 2017/18, MINUSCA obtained an overall score of 43 per cent, against field missions' average of 57 per cent. The below average score was mainly because it had not yet established an adequate environmental infrastructure such as wastewater treatment plants (WWTPs) due to the challenging operating environment, including security issues, unfavorable terrain and poor infrastructure. For the next period, from July to

December 2018, the Mission's score increased to 59 per cent, as further measures were implemented, including completion of a risk assessment at its 74 sites, the construction of standardized sewers, soak pits and boreholes, and installation of additional WWTPs. MINUSCA reported accurately on the number and location of United Nations-owned equipment (UNOE) and contingent-owned equipment (COE) that had an environmental impact in the MEAP, after reconciling the data with underlying records from relevant technical units. The 2018/19 MEAP report also provided an update of progress on the implementation of MEAP and its plans for future environmental activities to be included in the budget.

20. OIOS concluded that MINUSCA had reported timely and accurately on the Mission's MEAP and performance data. Exception was for water consumption and extraction levels, as the data reported was based on estimates due to lack of devices installed to accurately measure performance as reported later in this report.

B. Water and wastewater management

Water conservation programme was not developed and the Mission did not monitor water consumption and ground water extraction level

21. The Mission is required to monitor its water extraction and consumption and implement measures to conserve water and mitigate environmental risks. MINUSCA is also required to establish a water supply concept and conservation programme to provide strategic and operational direction to plan, develop, manage, monitor and evaluate recycling options in all field locations.

22. The Environmental Unit provided water and wastewater awareness training and included related material in the induction training package for all staff. To conserve water, MINUSCA installed devices controlling the amount of water disbursed from taps and ablutions. However, MINUSCA had not established a comprehensive water conservation programme with goals, objectives, targets and required actions for water resources management. For instance, as of March 2019, 60 out of 74 sites did not have water meters, and those locations that had meters, the Facilities and Engineering Management Section (FEMS) was not taking readings to monitor water consumption and make recommendations to mitigate wastage. Accordingly, water consumption data reported in the 2018/19 MEAP was an estimated figure based on data collected in a few locations visited by the Environmental Unit staff. The Environmental Unit and FEMS advised that water meters were being procured to be installed.

23. The above occurred due to other competing priorities and staff not being designated to take water readings and prepare water consumption reports, posing a risk of water wastage and excessive extraction and drying up of groundwater resources causing adverse impact on the local community.

24. The required groundwater level monitors had also not been installed at any of its 31 boreholes, but the Mission planned to procure equipment to monitor ground water table and establish a position of a hydrogeologist as part of its 2020/21 budget. Therefore, OIOS did not make a recommendation on this aspect.

(2) MINUSCA should: (a) develop and implement a water supply concept and water conservation programme; and (b) install water meters at all water sources and regularly monitor water consumption to mitigate water wastage.

MINUSCA accepted recommendation 2 and stated that it was preparing a water supply concept incorporating water conservation aspects to be finalized by 31 August 2019. It had put in place some water conservation practices such as installation of water efficient fixtures in all ablution

units. Further, it had installed water meters in some locations and 220 additional water meters were being procured to be installed by October 2019. An installation plan would be developed, as well as a monitoring procedure at each location. Recommendation 2 remains open pending receipt of an approved water supply concept and conservation programme, confirmation of installation of water meters at all water sources and evidence that water consumption is being monitored by the Mission.

MINUSCA needed to further improve wastewater treatment practices

25. The Mission is required to install and maintain WWTPs at all Mission’s camps/sites to treat its wastewater, conduct laboratory testing of its effluent, and regularly inspect pipes, tanks, wastewater treatment systems and disposal sites.

26. In December 2016, MINUSCA established an Interim Risk Mitigation Plan (IRM) to identify and address deficiencies in wastewater management and started installing WWTPs at all 37 priority Mission camps/sites. As of March 2019, MINUSCA had a total of 43 WWTPs of which 39 were fully operational and 4 were being installed. Additionally, wastewater management projects were ongoing in Bangui, Bria, Kaga-Bandoro, and Bouar. These projects included the construction of standardized sewers, platforms, manholes, soak pits, grease traps and connections to WWTPs. During 2018, the Mission had installed 10 out of 14 planned stand-alone septic modules/septic tanks as part of its IRM. For the remaining four modules, brick septic tanks, soak pits and grease traps were being installed for better efficiency.

27. The Mission had a fully equipped laboratory in Bangui, operated by qualified personnel, to test the quality of wastewater discharged to the environment. Laboratory testing of effluent samples from 14 of the 39 operational WWTPs was conducted bi-monthly. However, testing of effluent samples from the remaining plants was not regularly conducted. As a result, environmental risks due to untreated wastewater were not adequately mitigated.

28. Although the Environmental Unit periodically inspected and reported about issues related to wastewater infrastructure and management practices in selected site visits, there was no evidence of regular inspections of piping, tanks and WWTPs in all MINUSCA and contingent sites. Interviews with Mission personnel in these sites indicated that FEMS had generally acted based on maintenance service requests. OIOS observed several instances of inappropriate disposal of wastewater due to inadequate or faulty pipes, septic tanks and soak pits. During the audit, the Mission allocated its personnel to regularly inspect pipes, tanks and treatment systems in Bangui and all sectors and take remedial actions. Hence, OIOS did not make a recommendation on this issue.

(3) MINUSCA should establish and implement procedures to regularly conduct laboratory testing of effluent samples from all wastewater treatment plants.

MINUSCA accepted recommendation 3 and stated that effluents samples from wastewater plants from some field locations were currently tested and that an instruction had been issued to all field locations to collect samples and send them to the central laboratory for testing. Testing would be conducted every two months or earlier depending on the performance of plants. Recommendation 3 remains open pending receipt of evidence that effluents from all locations are regularly collected and tested.

C. Solid waste

Need to implement adequate waste management measures for solid waste

29. MINUSCA is required to develop and implement a waste management plan to properly control and reduce waste and its impact on the environment. The Mission is also required to dispose of medical waste through incineration or other suitable methods, to prevent immediate and future danger to personnel and the local population.

30. The Environmental Unit regularly conducted non-hazardous solid waste awareness campaigns. In December 2018, the Mission initiated a pilot project to compost biodegradable food waste at a site to reduce the volume of waste to be disposed and produce organic fertilizer for gardening. Initiatives to segregate non-hazardous solid waste were also observed in a few locations like the Integrated Personnel Accommodation Camp in Bouar and the Aviation Camp in Bria, where separate bins were used for papers, plastic bottles and general waste.

31. OIOS visits to 20 sites, however, observed weaknesses in waste management. For example: (a) segregated waste was not recycled due to the absence of engineered landfill recycling facilities in the country; (b) there were delays in collecting solid waste, due to unavailability of garbage collection trucks, and this led to overflowing waste containers and excessive accumulation of trash and disposal in an uncontrolled manner; and (c) in three sites, solid waste generated by MINUSCA was burnt in an unfenced public dumping places in proximity of a local community. In addition, the only government approved solid waste disposal site in Bangui was in poor condition. At the time of the field visit, mixed waste was scattered widely across the site and not compacted or covered, attracting vermin and spreading strong odors across the neighborhood. As part of its waste management master plan, MINUSCA had approved \$2.5 million for remedial civil engineering works at the municipality landfill in its 2018/19 budget, however, the remedial works had not begun.

32. To partly address this, the Mission had approved \$2.2 million in its 2018/19 budget for the acquisition and installation of 54 incinerators to improve the disposal of its non-hazardous solid waste. However, there were delays in the procurement process and consequently the necessary incinerators were yet to be acquired and installed.

33. Additionally, visits to 10 medical facilities noted that in general there were insufficient incinerators to deal with medical waste in an environmentally friendly and safe manner. For instance: (a) in seven contingent-owned clinics, medical staff were accumulating waste of sharp objects in boxes and plastic bottles; (b) in six contingent-owned clinics, medical waste was either burnt in ditches or buried within their respective camps; and (c) at one contingent-owned level-2 clinic, mixed medical waste was found discarded in open plastic bags near the incinerator area. Also, records at one United Nations-owned level-1 clinic indicated complaints from nearby local community that some local children were found holding used syringes. Temporary measures were taken to keep used syringes safe from the local community, pending installation of an incinerator.

34. The above resulted due to: (a) the absence of an action plan to address engineered landfill and recycling facilities; (b) lack of adequate, secured and environmentally acceptable sites for waste disposal; and (c) lack of incinerators, spare parts and trained operators. Due to inadequate environmental practices, and equipment, Mission personnel and the local population were exposed to increased health and safety risks. The lack of trained operators could lead to installed incinerators not being operational, thereby leading to unsafe disposal of medical waste.

(4) MINUSCA should: (a) develop and implement an action plan to address the lack of engineered landfill and recycling facilities; (b) take necessary action to ensure all dumping sites used for the disposal of the Mission waste are adequate, secured and environmentally acceptable; and (c) expedite the acquisition, installation and training of operators for the incinerators to improve the disposal of the Mission's solid waste.

MINUSCA accepted recommendation 4 and stated that a waste management plan was being developed and was expected to be completed by 30 September 2019. The Mission would implement waste management yards encompassing all elements of waste management such as proper disposal of medical waste, possible recycling options, incineration, and composting. The procurement process for the incinerators was ongoing and their commissioning would be completed by 31 January 2020. Recommendation 4 remains open pending receipt of: (a) a copy of the approved action plan to address the lack of engineered landfill and recycling facilities; (b) evidence of adequate dumping sites arranged; and (c) evidence of acquisition and installation of incinerators.

Need to issue guidance to appropriately contain, store and dispose hazardous waste

35. MINUSCA is required to properly segregate hazardous waste such as used batteries, tires and scrap metals prior to disposing of them in an environmentally friendly manner.

36. The Mission properly managed and disposed of hazardous waste generated by its technical units in Bangui through a local contractor. However, OIOS visits to 20 civilian and contingent sites across the Mission observed weakness by FEMS, in managing hazardous waste generated by the technical units in the field offices and by contingents. In 18 sites, piles of used tires, batteries, oil filters, used vehicle spare parts and scrap metals were stored haphazardly on the ground, and the Mission had no plan for their proper disposal. In the transport workshops and generator areas at 16 sites, used oil drums were kept on the ground and were not mounted on concrete floors with oil and water separator channels, posing the risk of soil contamination in the event of oil spillage. OIOS in its audit of fuel management made a recommendation to mitigate the risk of soil contamination by improving handling and disposal of petroleum, oil and lubricants.

37. The above resulted due to inadequate follow up on the results of site inspections and lack of guidance on handling and disposing of hazardous waste. The lack of awareness on the existing contractual take-back solution, which was an arrangement to hand back to waste to the contractor for recycling, only a few contingents were using the solution. The Chief of Property Disposal Unit advised that in the absence of guidelines/instructions to provide support to contingents, the Unit was only able to informally assist two contingents with the disposal of a small amount of used batteries and tires.

(5) MINUSCA should issue adequate guidance to all Mission personnel including contingents on handling and disposal of hazardous waste and raise awareness of contingents about the take-back solution for disposing hazardous waste.

MINUSCA accepted recommendation 5 and stated that relevant standard operating procedures on management and safe disposal of hazardous waste were being drafted to be completed by 31 December 2019. Recommendation 5 remains open pending receipt of evidence of guidance on handling and disposal of hazardous waste and actions taken to raise awareness about the take-back solution.

D. Energy management

MINUSCA was implementing measures for more efficient power generation and energy savings but there was a need to finalize the Mission energy management plan

38. MINUSCA is required to conduct an energy consumption and production analysis at key sites and establish a plan to effectively and efficiently manage the Mission's demand for energy, as well as ensure more efficient power generation to increase energy savings.

39. OIOS visits to 24 UNOE generator sites noted that: (a) a remote monitoring system for energy production/consumption had been installed in one site; (b) right sizing and synchronization of UNOE generators had been completed for eight sites; (c) the replacement of conventional street lights with solar light-emitting diode (LED) bulbs was completed in one out of the seven planned sites; and (d) regular readings of energy production/consumption were not conducted for all UNOE generators.

40. MINUSCA subsequently indicated that it had allocated resources for monitoring equipment with delivery expected by 1 July 2019, and synchronization of generators for other UNOE sites was ongoing. The Mission was also conducting surveys at all UNOE locations to manually collect data from meters on energy production and a mobile application has been developed to facilitate the process. Additionally, MINUSCA implemented several measures to improve energy efficiencies including: (a) installation of LED bulbs in offices and staff accommodations as well as shutters and blinds on office and staff accommodation windows to reduce the amount of sunlight coming into offices; (b) the use of more efficient insulation materials in new hard-wall contingent accommodations; and (c) replacement of older types of air conditioners with more energy-efficient ones. The Mission also issued a broadcast reminding staff to turn off air conditioners and lights in their offices after office hours and conducted follow-up surveys indicating significant reduction in the number of air conditioners left on. Based on actions taken by MINUSCA, OIOS did not make a recommendation on energy savings and efficiency

41. In August 2018, the Mission prepared a comprehensive draft energy management plan indicating comprehensive measures for analyzing, managing and improving its energy performance for next two fiscal periods and submitted it to the Environmental Technical Support Unit (ETSU) of DOS in October 2018. At the time of the audit, this plan had not yet been finalized and approved. The Environmental Unit advised that it was in the process of finalizing the plan with inputs from ETSU received in March 2019, for submission to the DMS for approval and promulgation. The absence of an approved energy management plan may impede the Mission's effort to improve energy efficiency and minimize negative footprints on the local environment.

(6) MINUSCA should finalize its energy management plan to ensure effective and efficient implementation of all planned energy conservation measures in all Mission locations to monitor and reduce its environmental footprint.

MINUSCA accepted recommendation 6 and stated that that the Mission was currently revising the Mission Energy Management Plan after expert review by the Rapid Environmental and Climate Technical Assistance team. The Mission was taking action for energy conservation and adoption of renewable energy, including the procurement of fuel monitoring and remote monitoring systems, acquisition of solar systems to reduce dependency on generator power in the logistics base in Bangui, the synchronization and right sizing of generators, and the installation of solar LED street lighting in the sectors and field offices. Recommendation 6 remains open pending receipt of the approved energy management plan ensuring effective and efficient implementation of all planned energy conservation measures in all Mission locations.

E. Wider impact

MINUSCA completed environmental baseline study, and was preparing clearance certificates for vacated sites and conducting outreach to the local communities

42. MINUSCA is required, to assess potential environmental impact of its operation, conduct baseline studies for all new sites and inspections when closing its sites and put in place a system to engage with communities and integrate their concerns and priorities related to the environmental impact of the Mission.

43. In June 2016, MINUSCA engaged a professional agency to conduct a comprehensive environmental baseline study of all sites to assess the state of the environment and determine actions to be taken when the sites are vacated or closed. The results of the study were used as reference points for the Mission's subsequent Environmental and Social Impact Assessments (EIA). As of March 2019, MINUSCA completed nine EIAs.

44. Between October 2018 and February 2019, the Environment Unit had conducted four closure inspections with other Mission units. However, due to troop relocations without adequate notification in April 2018, one temporary operating base was vacated without the required site inspection or formal handover/takeover of the vacated site or clean up certificate. At the time of the audit, no complaint had been filed on environmental contamination, and MINUSCA was taking corrective action. As this was an isolated case, which was being addressed, OIOS did not make a recommendation.

45. MINUSCA observed the World Environment Day on 5 June 2018 with the participation of civilians, police and military personnel and initiated some procedures to detract stray animals in its camps. However, the Mission had not been formally outreaching to local communities or completing surveys on the impact of Mission's physical footprint. Further, the Mission had not yet required its components to conduct an environmental impact assessment as part of all quick impact projects and trust fund project proposals. MINUSCA stated that it was establishing a mechanism, including awareness programmes, to address community concerns with the environmental impact of physical deployment of the Mission. As the Mission was taking action, OIOS did not make a recommendation to strengthen its outreach activities to the local communities.

IV. ACKNOWLEDGEMENT

46. OIOS wishes to express its appreciation to the management and staff of MINUSCA 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 implementation of environmental action plan in the United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic

Rec. no.	Recommendation	Critical/ Important ²	C/ O ³	Actions needed to close recommendation	Implementation date ⁴
1	MINUSCA should develop and implement an effective monitoring mechanism to capture and follow-up on the status of recommendations of site inspections, including assigning responsible units/individuals and target dates for completion to ensure timely and full implementation of recommendations.	Important	O	Receipt of evidence that an effective monitoring mechanism has been implemented to capture and track the status of recommendations of site inspections.	31 August 2019
2	MINUSCA should: (a) develop and implement a water supply concept and water conservation programme; and (b) install water meters at all water sources and regularly monitor water consumption to mitigate water wastage.	Important	O	Receipt of an approved water supply concept and conservation programme, confirmation of installation of water meters at all water sources and evidence that water consumption is being monitored by the Mission.	31 October 2019
3	MINUSCA should establish and implement procedures to regularly conduct laboratory testing of effluent samples from all wastewater treatment plants.	Important	O	Receipt of evidence that effluents from all locations are regularly collected and tested.	31 December 2019
4	MINUSCA should: (a) develop and implement an action plan to address the lack of engineered landfill and recycling facilities; (b) take necessary action to ensure all dumping sites used for the disposal of the Mission waste are adequate, secured and environmentally acceptable; and (c) expedite the acquisition, installation and training of operators for the incinerators to improve the disposal of the Mission's solid waste.	Important	O	Receipt of: (a) copy of the approved action plan to address the lack of engineered landfill and recycling facilities; (b) evidence of adequate dumping sites arranged; and (c) evidence of acquisition and installation of incinerators.	31 January 2020

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 MINUSCA in response to recommendations.

STATUS OF AUDIT RECOMMENDATIONS

Audit of implementation of environmental action plan in the United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic

Rec. no.	Recommendation	Critical¹/ Important²	C/ O³	Actions needed to close recommendation	Implementation date⁴
5	MINUSCA should issue adequate guidance to all Mission personnel including contingents on handling and disposal of hazardous waste and raise awareness of contingents about the take-back solution for disposing hazardous waste.	Important	O	Receipt of evidence of guidance on handling and disposal of hazardous waste and actions taken to raise awareness about the take-back solution.	31 December 2019
6	MINUSCA should finalize its energy management plan to ensure effective and efficient implementation of all planned energy conservation measures in all Mission locations to monitor and reduce its environmental footprint.	Important	O	Receipt of the approved energy management plan ensuring effective and efficient implementation of all planned energy conservation measures in all Mission locations.	31 December 2019

APPENDIX I

Management Response

Management Response

**Audit of implementation of environmental action plan in the United Nations Multidimensional Integrated Stabilization Mission
in the Central African Republic**

Rec. no.	Recommendation	Critical ¹ / Important ²	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
1	MINUSCA should develop and implement an effective monitoring mechanism to capture and take follow-up action on the status of recommendations of site inspections, including assigning responsible units/individuals and target completion dates to ensure timely and full implementation of recommendations.	Important	Yes	Chief Environmental Affairs Officer	31 August 2019	A database that helps to track environmental conditions of sites mission-wide is being developed and will centralize information gathered during environmental inspections and field visits. In collaboration with Field Technology Service (FTS), this tool will be reviewed to add the capability to track specific recommendations made during inspections and technical assessment visits, monitor their status of implementation, and take corrective actions in real time. It is expected that the tool will be fully implemented by 31 August 2019.
2	MINUSCA should: (a) develop and implement a water supply concept and water conservation programme; and (b) install water meters at all water sources and regularly monitor water consumption to mitigate water wastage.	Important	Yes	Chief Engineer	31 August 2019	Water supply and conservation: The Mission is preparing a Water Supply Concept that will incorporate water conservation aspects. It is expected that the document will be finalized by 31 August 2019. To date, water conservation practices such as installation of water efficient fixtures

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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

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					31 October 2019	<p>like self-stopping taps, dual flushing tanks mechanism, etc., are already in place at all ablution units. Also, recycled water from wastewater treatment plants is utilized for non-drinking purposes, such as gardening.</p> <p>Installation of water meters: The Mission has currently installed some water meters in various locations (Senegal Aviation – M’Poko, Pakistan Aviation – M’Poko, Combatant, Ucatex, Ouango, Mission HQ, Morava, Logbase, Niger Signal, Integrated Warehouse at PK4, Mamica, and Badica). Two hundred and twenty (220) additional water meters are under procurement and will be installed by end of October 2019. To that end, an installation plan along with a monitoring procedure at each location will be in place by same date.</p>
3	MINUSCA should establish and implement procedures to regularly conduct laboratory testing of effluent samples from all waste water treatment plants.	Important	Yes	Chief Engineer	31 December 2019	Effluent samples from wastewater plants from some field locations (Bria, Kaga Bandoro and Bangassou) are currently tested and this will be extended to all locations by end of December 2019. An instruction has already been issued to all field locations to collect the samples and send them to the central laboratory in Bangui for testing. Effluents of plants

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						will be tested every two (2) months or as needed earlier depending on the performance of the plant.
4	MINUSCA should: (a) develop and implement an action plan to address the lack of engineered landfill and recycling facilities; (b) take necessary action to ensure all dumping sites used for the disposal of the Mission waste are adequate, secured and environmentally acceptable; and (c) expedite the acquisition, installation and training of operators for the incinerators to improve the disposal of the Mission's solid waste.	Important	Yes	Chief Engineer and Chief Environmental Affairs Officer	30 September 2019 [<i>Waste management plan</i>] 31 January 2020 [<i>Incinerators</i>]	A Waste Management Plan is currently being developed and will be completed by 30 September 2019. This plan will help alleviate the situation of poorly managed dumping sites across the Mission. It will underline a phased implementation of waste management yards which will encompass all elements of waste management, including proper disposal of medical wastes, possible recycling options, incineration, and composting. As for the incinerators, the procurement process has already started and is ongoing. It is expected that their commissioning would be completed by 31 January 2020.
5	MINUSCA should issue adequate guidance to all Mission personnel including contingents on handling and disposal of hazardous waste and raise awareness of contingents about the take-back solution for disposing hazardous waste.	Important	Yes	Chief Engineer, Chief Environmental Affairs Officer and Chief Property Disposal Unit	31 December 2019	A Standard Operating Procedure (SOP) on Management of Hazardous Waste is in draft stage and will be completed by 31 December 2019. The SOP will include guidance on disposal options through Property Disposal Unit (PDU), and address, at some level, the lack of awareness on

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						hazardous waste management and safe disposal.
6	MINUSCA should finalize its energy management plan to ensure effective and efficient implementation of all planned energy conservation measures in all Mission locations to monitor and reduce its environmental footprint.	Important	Yes	Chief Engineer and Chief Environmental Affairs Officer	Multiple	<p>A first draft of the Mission Energy Management Plan was completed and sent to the Rapid Environmental and Climate Technical Assistance team for an expert review. Based on the feedback received, the Mission is currently revising the initial draft and expects to complete the plan by 31 July 2019.</p> <p>With respect to energy conservation and adoption of renewal energy, the following actions have been taken or are in process:</p> <ul style="list-style-type: none"> •Procurement of fuel monitoring and remote monitoring systems is in progress, and they will be installed upon their arrival by 31 August 2019. •Planned acquisition of a 300 KW Solar Systems to reduce dependency on generator power in Log Base to save fuel consumption. •Planned procurement of spare parts to repair two damaged 80 KW solar system in IPAC camps in Bambari and Bossangoa which will reduce power consumption up to by 20%. Purchase order for these projects was signed on the 19 June 2019.

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						<p>•Synchronization of generators: To date, the Mission has synchronized the main generators in the following locations:</p> <ul style="list-style-type: none"> o Mission HQ, Mission Log Base (Des Jean Compound), Ucatex, Bria, Kaga Bandoro, and Bambari. o To be completed by 31 August 2019: Bouar, and Birao. o Remaining locations run on one generator and one on standby, so there is no need or justification to synchronize these sites. o Rightsizing of generators in a synchronized system was a challenge as the United Nations. However, MINUSCA has budgeted for lower capacity generators (4 units of 250KVA to support the installation in Bangui) with same controllers in the 2019/20 to try to remedy this problem. <p>•Solar Lighting: Of the following locations where solar LED street lighting was delivered, the following was achieved:</p> <table border="1"> <thead> <tr> <th></th> <th>Qty Delivered</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>of completion</td> <td></td> <td></td> </tr> <tr> <td>Des Jean Base</td> <td>55</td> <td>100%</td> </tr> <tr> <td>Mission HQ</td> <td>50</td> <td>60 %</td> </tr> <tr> <td>Bouar</td> <td>55</td> <td>80%</td> </tr> <tr> <td>Bria</td> <td>55</td> <td>80%</td> </tr> <tr> <td>Kagabandoro</td> <td>55</td> <td>80%</td> </tr> </tbody> </table>		Qty Delivered	Status	of completion			Des Jean Base	55	100%	Mission HQ	50	60 %	Bouar	55	80%	Bria	55	80%	Kagabandoro	55	80%
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						<p>Bangassou 55 80%</p> <p>Ndele 55 80%</p> <ul style="list-style-type: none"> •235 LED Street and flood lights have been prepared for second phase distribution to Sectors. •Purchase of 400 LED flood lights in the current budget period 2018/19 and will be distributed on arrival. •Energy-efficient air conditioning units: The mission has begun a program to replace standard ACs with low energy consumption models using the latest technology. 500 Units have been ordered in the current budget period 2018/19 and will phase out old worn out models.
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