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INTEROFFICE MEMORANDUM

MEMORANDUM INTERIEUR

INTERNAL AUDIT DIVISION I
OFFICE OF INTERNAL OVERSIGHT SERVICES

TO: Mr. William Swing
A: Special Representative of the Secretary-General
MONUC

DATE: ²⁹20 April 2005

REFERENCE: AUD- (0259/05)

FROM: Patricia Azarias, Director
DE: Internal Audit Division I, OIOS

P. Azarias

SUBJECT: **OIOS Audit No. AP2004/620/18: The Beni-Bunia Road Project in**
OBJET: **MONUC**

1. I am pleased to present herewith the final report on the above-mentioned audit, which was conducted during August to October 2004.
2. We note from the response to the draft report that with the completion of the project on 2 January 2005, most of the recommendations have been overtaken by events. Based on the response, we have withdrawn recommendations 2, 3, 4, 5, 6 and 7. In order for us to close out the remaining recommendations (1 and 7) we request that you provide us with additional information as indicated in the text of the report and a time schedule for implementing each of the recommendations. Please refer to the recommendation number concerned to facilitate monitoring of their implementation status.
3. IAD is assessing the overall quality of its audit process and kindly requests that you consult with your managers who dealt directly with the auditors and complete the attached client satisfaction survey form.
4. I take this opportunity to thank the management and staff of MONUC for the assistance and cooperation provided to the auditors in connection with this assignment.

Copy to: Mr. Jean-Marie Guéhenno, Under-Secretary-General for Peacekeeping Operations
Ms. Hazel Scott, Director, ASD/DPKO
Mr. Marcel Savard, Director of Administration, MONUC
UN Board of Auditors
Programme Officer, OIOS
Mr. Muhammad Akram Khan, Chief Resident Auditor, MONUC

Office of Internal Oversight Services

Internal Audit Division I



Audit of the Beni-Bunia Road Project in MONUC

Audit no: AP2004/620/18
Report date: 20 April 2005
Audit team: Iba Gueye, Auditor-in-Charge

EXECUTIVE SUMMARY
Audit of the Beni-Bunia Road Project in MONUC (AP2004/620/18)

OIOS conducted audit of the Beni-Bunia road project in MONUC during August-October 2004. The objectives of the audit were to examine and analyze: (i) causes of delay in completion of the Beni-Bunia Road, although it was started as an Immediate Operational Requirement project; and if possible, cost over-runs, due to the delay in implementing the project.

The Ituri Brigade of MONUC, stationed in the eastern part of the Democratic Republic of the Congo, had to secure Bunia as a weapon-free zone. MONUC was to proceed with complete demilitarization of Bunia. Under these considerations, the MONUC Administration determined that a viable surface road would be critical for logistics support in Ituri. For this purpose, the Mission decided that the old Beni-Bunia road, which had become unserviceable, could be repaired to make it serviceable. However, the required repairs involved clearing of mines, bushes, trees and earth filling of ditches. It was like constructing a new road on an old alignment. This road, which is around 200 kilometers long, would also open access to the neighboring Uganda. Implementation of the project started in October 2003 with a planned completion date of May 2004. The road was actually completed on 2 January 2005.

MONUC did not prepare realistic cost estimates at the planning stage. It estimated that the road would cost \$1.26 million in terms of construction material and small equipment. These estimates did not include the cost of troops working on the project or the cost of de-mining. OIOS found that the cost of troops, which could have been \$3.01 million if the work was completed on time, had escalated to about \$6.02 million. Actual costs for equipment/material and de-mining were \$1.4 million as compared to the estimated cost of \$1.26 million. Besides, there were real costs due to benefits lost that would have accrued by way of lower transportation costs by road instead of air, between Entebbe and Bunia.

The main reason for delay in the project completion was lack of security to the staff and labor working on the project. The Mission could not provide the security due to resource constraints. The other reason was that the project suffered from lack of ownership. No single authority had clear responsibility to steer the project through. Project planning was not done in a professional manner by carrying out such exercises as feasibility study, cost-benefit analysis, and critical path analysis or PERT chart for controlling the project.

The main recommendations by OIOS pertain to the need for establishing guidelines for assigning projects beyond a certain monetary limit to a full-time project manager and, as part of the lessons-learned exercise, carrying out an analysis of the cost over-run and the benefits lost due to delay in completion of the project.

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I. INTRODUCTION

1. OIOS conducted audit of the Beni-Bunia road project in MONUC during August to October 2004. The audit was conducted in accordance with the standards for the professional practice of internal auditing in United Nations organizations.
2. The current mandate of MONUC was provided by Resolution 1565 dated 1 October 2004 whereby the Security Council, acting under Chapter VII of the United Nations Charter, authorized MONUC to increase its military strength to 16,800 troops. One-third of MONUC's current budget (2004-05) of \$709 million is dedicated to the Mission's logistical operations. The current budget is now under review and may increase significantly to meet the requirements for the increased troop strength.
3. The Ituri Brigade, which took over from the France Artemis multinational force in Bunia had to secure Bunia as a weapon-free zone. The Brigade, which was initially composed of troops from India, Pakistan, Bangladesh, Nepal and Indonesia, reached the 5,000-mark by the end of November 2003. MONUC was to proceed with complete demilitarization of Bunia as part of the operation "Bunia, weapon-free zone".
4. Under the concept of operations in Ituri, the Mission Support Plan highlighted the requirement to establish a viable surface road from Beni to Bunia in order to guarantee the uninterrupted sustainment of Task Force 2. It was visualized that the opening of this road would lead to significant savings by using road transportation instead of air transportation from Entebbe (Uganda) to Bunia (DRC). It was also anticipated that the opening of this road could have a positive effect on the local economy and overall perception of MONUC in the region. As stated in the concept paper, "weapons were to be traded for shovels and an immediate source of income, from the repairs and maintenance of the road is made available to ex-combatants."
5. With these considerations, the MONUC Administration determined that a viable surface road would be critical for logistic support in Ituri. To this end, MONUC decided in September 2003 to quickly repair the existing unserviceable Beni-Bunia road. This road, which is around 200 kilometers long, runs through 40 major villages. The road would open access to the neighboring Uganda also.
6. The implementation of the project started on 21 October 2003 and had a target completion date of 31 May 2004. However, the project was actually completed on 2 January 2005, with a delay of seven months or in double the time originally planned. The comments made by the Management of MONUC on the draft audit report have been included in the report as appropriate and are shown in italics.

II. AUDIT OBJECTIVES

7. The objectives of this audit were to examine and analyze:
 - (a) causes of delay in completion of the Beni-Bunia Road project, although it was started as an Immediate Operational Requirement project; and
 - (b) if possible, cost over-runs, due to the delay in implementing the project.

III. AUDIT SCOPE AND METHODOLOGY

8. The audit reviewed actual implementation of the project in light of the assumptions made in the project plan and tried to determine the reasons for time and cost over-runs in completing the project. OIOS undertook such audit procedures as file review, site visits, analysis of data and interviews with key military and civilian personnel. The audit took place in Kinshasa, Bunia and Entebbe.

IV. OVERALL ASSESSMENT

9. The project took fourteen months to complete although it was planned to complete in seven months. The main reasons for the delay were non-availability of security to the staff and labor on site, lack of project ownership, poor planning and weak control. Other reasons included the lengthy process of combining the de-mining and the construction work, and a difficult work terrain not visualized at the time of planning.

V. AUDIT FINDINGS AND RECOMMENDATIONS

A. Planning

Project did not realistically reflect costs

10. There were two options to build a motor-able route from Beni to Bunia: either to repair the Bunia-Komanda-Beni stretch (Option 1) or to repair the Bunia-Komanda-Mambassa-Beni road (Option 2) (See map at Appendix A). An air reconnaissance was performed to assess both options. Finally the first option was selected for the main reason that the second route was longer. For this selected option, the Mission expected to “marshal available engineering assets with appropriate security component to urgently reconnoiter and repair the road”. The repairs were to be finished in nearly seven months, before the beginning of the rainy season. The Mission anticipated utilizing the Indonesian and Chinese Military Engineering Groups, working from both ends of the road in order to expedite the work. The de-mining function was to be performed by a contractor, MECHEM. The planning team estimated the cost of the project as \$1,265,230. However, this was not realistic, as it did not include the cost of de-mining and the cost of troops for seven months (\$3.01 million).

11. Although the cost of troops for seven months was \$3.01million, it had escalated to \$6.02 million in 14 months. The total cost over-run for the project was \$3.15 million.

12. In the Mission’s concept of operation, the project had a high priority as it could substantially save costs through flight reduction and optimization of Mission support in other areas of the DRC. The project was also to minimize the Mission vulnerability since alternate travel modes would become available. It was also expected to provide an economic stimulus to the local economy.

Lack of ownership

13. OIOS found that the project suffered from lack of ownership. There was no single authority that was responsible to steer the project through. The work was not conceived as a stand-alone project under a full time manager with clear budgetary allocations, delegation of powers and appropriate status to interact freely with all levels of the Mission. Nor was project planning done in

a professional manner by carrying out such exercises as feasibility study, options analysis, cost-benefit analysis and sensitivity testing. There was no Critical Path Analysis or PERT chart for controlling the project. The project was taken as a routine work of several scattered sections, with no one to coordinate and control.

14. As a consequence, the project took double the time initially visualized. The Engineers, Mission Support and Planning Unit, other Mission offices and MECHEM (the mine action contractor) gave different reasons for delay. Among those, lack of support from the Ituri Brigade in providing security was a significant factor in delaying execution. Although, lack of security was stated to be the significant stumbling block for slow progress of the work, OIOS could not see any action taken to hold anyone accountable for non-provision of security. Other reasons included a somewhat lengthy process of combining the de-mining and the construction work. The average progress rate of the road construction was 14 kilometers per month. Speed depended on the quality of terrain and availability of material. Limonite, which was the material used to build the road, was not always immediately available. Mission was not able to deploy all the resources it had originally planned to deploy. For example, the Chinese Military Engineering Group did not commence work from the Bunia side on the grounds that sufficient security was not available. That being the case, there was no evidence of any remedial steps taken by the Mission or to hold anyone accountable.

15. Most of the personnel interviewed acknowledged the qualitative and professional work of the Indonesian Military Engineering group. The Indonesian Command stated that the road needed a high tonnage capacity (20 tons) with a strong structure and good compacting, which was not visualized at the time of planning. A definition of the quality and type of road at the planning stage could have helped in assessing the time requirements realistically for completion of the road. For example: whether a passable road would suffice, what axle load was anticipated, and how maintenance was going to be performed, what part of the road should be started first, etc. were not given a serious consideration at the planning stage.

Recommendation 1

OIOS recommends that the MONUC Administration draw lessons from the Beni-Bunia road project with a view to ensuring that future projects of strategic importance involving considerable financial outlays are assigned a Project Manager with adequate expertise and authority, as well as a framework for accountability (AP2004/620/18/001).

16. *MONUC did not accept recommendation 1. The Mission commented that completion of the project remained at the forefront of the Administration's priorities, and that the designation of a project manager would not have added any value to the project's completion. The limiting factor was the provision of security to the military engineers and civilian deminers. There was never any problem with engineer or demining manpower or equipment. The coordination between the Force Engineer and Chief Engineer's office was close and efficient, the Sector Head engineer gave special attention, and the Indonesian Company Commanders and demining team were especially cooperative. Without disagreeing with the Mission's analysis that the main reason for delay was lack of security, OIOS considers that even that factor could have been overcome if the project implementation had been efficient and under control. OIOS considers that the Mission should adopt it as a matter of good practice that projects beyond a certain monetary limit would be assigned to a project manager with clear lines of authority, earmarked budget and responsibility to ensure*

accountability. Recommendation 1, therefore, remains open in OIOS' recommendations database pending its implementation by MONUC.

B. Coordination

Coordination with the Military

17. While tasking the Military Engineering Groups in Ituri, the Mission anticipated that the Indonesian Engineering Group would work from the Beni end and the Chinese Engineer Group from the Bunia side. MECHEM, the mine action contractor, was to do the de-mining work to clear the path. Military security personnel under the command of the Ituri Brigade were to guard all teams working at the project site. Other assumptions were that civilian engineers would provide support in making camps and other logistical requirements and finally the Integrated Engineering Section would supervise the project as being implemented by military engineers. Military engineers were under the direct command of the Force Engineer who reported to the Force Commander through Chief of Staff.

18. The Ituri Brigade was tasked to facilitate the Chinese Engineer Group installation in Ituri. The Office of the Force Engineer was tasked primarily to make all arrangements for ground reconnaissance and de-mining of the Mombassa-Beni tract before 27 December 2003 on which date the Chinese Group was to commence the work. However, the Chinese Group never moved to Ituri, apparently due to security concerns and interpretation of the Memorandum of Understanding. Movement Control (MOVCON), Air Operations and Air Safety Sections were tasked to provide support and sustainment during the operation with Joint Logistics Operation Center (JLOC) to specifically provide food, accommodation, water, fuel etc.

19. On the security issue, the Ituri Brigade commented that the "people were obsessed with target date rather than the ground reality." The Brigade also stated that they did not have any operational control over the Engineering Groups. The Brigade Command, headed by a Brigadier General, argued that its control was only tactical, meaning that it did not have authority to give orders to the Engineering Group who was responding to the Force Engineer in Kinshasa. The provision of security, according to Ituri Brigade command, had to follow operational priorities, which were not always defined. The Brigade expressed its resource constraint in providing security at all times. For example, it cited Bukavu crisis in June 2004 when security could not be provided to the road project despite all efforts to keep the project going.

20. OIOS noted that over 70 per cent of the military engineers were stationed in Ituri and yet the command was in Kinshasa. The coordinator of the Force Engineer's Office in Bunia was a Staff Officer of the Indonesian Military Engineering Group. In OIOS' opinion, if the Force Engineer's office had been fully present in Bunia, things would have been much different. The very fact that these engineers were not under the direct command of the Ituri Brigade created difficulties in project implementation.

21. The Brigade did not have much interest in the project since they felt they did not own the process. They were not involved in the planning process. This was a situation where clear authority should have been given to the field. Both operational and tactical control should have been with the Ituri Brigade command. The poor support from the military was mainly justified by this lack of delegation. There had been over 3,000 troops in Bunia at any given time but security was not fully provided to the construction workers.

22. OIOS also learned that of the 175 troops of the Indonesian Engineer Group, only 68 were available on ground for most of the time, with some performing security functions. These troops not only were performing construction work but also maintaining the already constructed road to avoid destruction by rain.

Recommendations 2, 3 and 4

OIOS recommends that:

- (i) the MONUC Force Commander request the Ituri Brigade to undertake all necessary efforts to immediately provide the necessary security for completing the project (AP2004/620/18/002);
- (ii) the MONUC Force Commander make available, to the Ituri Brigade at Bunia, the services of the Force Engineer's office till the project is completed (AP2004/620/18/003); and
- (iii) the MONUC Chief of Mission task the Chinese Engineering Group, if still needed, to cooperate in any operational effort to have the road completed as soon as possible (AP2004/620/18/004).

23. *The MONUC Administration commented that the project has since been completed (on 2 January 2005) and therefore recommendations 2, 3 and 4 are no longer valid.* Since the project was finally completed, OIOS acknowledges that no further action is necessary. Accordingly, recommendations 2, 3 and 4 have been withdrawn.

Coordination between the Chief Engineer's Office and Force Engineer's Office

24. At MONUC, both Chief Engineer's Office and Force Engineer's Office work closely since they usually have to implement some projects together. The Chief Engineer's Office reports to the Chief Integrated Support Services and the Director of Administration, while the Force Engineer's Office is under Chief of Staff and the Force Commander. OIOS found that these two offices, as far as this project was concerned, were working more in parallel rather than as an integrated team. The Force Engineer was the main party responsible for the project. However, since the Chief Engineer's office was to provide all logistical support such as building camps, the project would have greatly benefited from teaming them together on site. In light of the problems identified in implementing this project, OIOS believes that coordination between the Chief Engineer's Office and the Force Engineer's Office needs further improvement.

Recommendation 5

OIOS recommends that the MONUC Director of Administration and the Force Commander review and rationalize the framework for collaboration between the Force Engineer's office and

the Civilian Engineering Section for all future projects that require a joint effort (AP2004/620/18/005).

25. *The MONUC Administration did not accept recommendation 5. The Mission stated that the framework for collaboration between the Force Engineer's office and the Civilian Engineering Section is very good, and that there was no problem of coordination between them on a day-to-day basis. Since the project was finally completed in January 2005, OIOS acknowledges that no further action is necessary. Recommendation 5 has accordingly been withdrawn.*

Coordination with de-miners

26. MECHEM, the de-mining contractor, was to do the de-mining work to clear the path to be rebuilt. The de-mining process, which included sample testing in South Africa, also impacted somewhat on the delays. Also, the re-negotiation of the MECHEM contract caused further delays since it lasted over 5 weeks. OIOS did not find problems of coordination between MECHEM and the Military Engineers. However, this coordination could be improved. Since de-miners had to work first in order to clear the path, the rhythm of the work schedule did not always coincide. At times, MECHEM was working too slowly as compared to the Engineering Group. At the time of audit, some delays occurred because the de-miners could not have access to a bulldozer. MECHEM had to order the blades of the bulldozer from South Africa to continue its work. However, it was MECHEM's responsibility to have a bulldozer on site.

Recommendation 6

OIOS recommends that the MONUC Director of Administration and the Force Commander task the Chief Engineer's Office to review the work coordination between MECHEM and the Military Engineers for more efficient collaboration in completing the remaining part of the road (AP2004/620/18/006).

27. *MONUC Administration replied that the project had since been completed. OIOS acknowledges that no further action is necessary in the circumstances. Recommendation 6 has accordingly been withdrawn.*

C. Financial impact

28. OIOS tried to compute the cost borne by the Mission in constructing the Beni-Bunia road. MONUC projected the estimated cost as \$1,265,350 on equipment and supplies. However, this estimate was not realistic, as it did not include the cost of de-mining, and \$3.01 million towards reimbursement to troop contributing countries. Since the project has taken longer than the estimated time, all these cost components have gone up as compared to the original estimates.

29. Following is the cost breakdown during 14 months of project implementation:

Cost Breakdown (in US\$)				
Indonesian Military Engineers' Monthly Costs	Planned for 1 month	Planned for 7 months	Actual for 14 months	Cost over-run
Major Equipment	87,613	613,291	1,226,582	613,291
Self Sustainment	75,398	527,786	1,055,572	527,786
Food	31,937	223,559	447,118	223,559
Diesel	32,287	226,009	452,018	226,009
Troop Reimbursement	203,382	1,423,674	2,847,348	1,423,674
Subtotal	430,617	301,319	6,028,638	3,013,319
Total projected costs of project (materials)*	1,265,350	1,265,350	1,403,026	137,676
Cost overruns for 7 months delay				3,150,995

* One time cost only

30. The figure of \$3.15 million represents only cost overrun on compensation to Indonesian Engineer Group since they had worked for an extra seven months, plus excess costs towards materials, over and above the estimated cost.

Recommendation 7

OIOS recommends that as a part of lessons learned from the implementation of the Beni-Bunia road project, MONUC undertake a comprehensive exercise to calculate the marginal costs borne and the marginal benefits foregone due to delay in completing the project (AP2004/620/18/007).

31. *MONUC Administration did not accept recommendation 7, stating that the quantification of marginal costs would be extremely difficult to establish with any degree of precision. It would be very labour-intensive to attempt to establish the opportunity cost of having the Military tasked longer than should have been necessary. The same applies to direct cost of transporting fuel and rations utilizing commercial means of ground transportation. The Mission concluded that all concerned are now sensitized to the financial implication of delaying projects of this nature, and a costing exercise would have limited value in terms of additional lessons learned. Based on the Mission's comments, OIOS has withdrawn recommendation 7.*

VI. ACKNOWLEDGEMENT

32. We wish to express our appreciation to the Management and staff of MONUC for the assistance and cooperation extended to the auditors during this assignment.



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