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REPORT OF THE EXTERNAL AUDITOR ON THE UPGRADE OF THE WFP INFORMATION NETWORK AND GLOBAL SYSTEM

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NOTE TO THE EXECUTIVE BOARD

This document is submitted for consideration to the Executive Board.

The Secretariat invites members of the Board who may have questions of a technical nature with regard to this document to contact the WFP staff focal points indicated below, preferably well in advance of the Board's meeting.

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Should you have any questions regarding matters of dispatch of documentation for the Executive Board, please contact the Supervisor, Meeting Servicing and Distribution Unit (tel.: 066513-2328).



REPORT SUMMARY

1. The WFP Information Network and Global System (WINGS) was implemented by the WFP in 2001. WINGS supports the main WFP operations including finance, procurement and human resource activity. It is based on the Systems, Applications and Products in Data Processing software supplied by SAP, integrated to WFP's other systems including the COMPAS commodity tracking application and the Resource Mobilization System which records donor pledged income.
2. Both during and since the implementation of WINGS, the system has undergone extensive modifications to meet business need, which has resulted in an increasingly complex system. From the end of 2003, SAP withdrew support from the version of software currently used by WFP which has forced WFP to consider changes to the system to ensure continued reliance on its operation. The upgrade to a more recent version of SAP software will be funded from the Capital Asset Fund to which the Executive Board approved funding of US\$19 million in May 2004 (WFP/EB.A/2004/6-E/1).
3. The two options considered by senior management for the upgrade were either a purely technical upgrade or a business-driven approach. The technical upgrade improves the performance and functionality of existing systems by the installation of new modules which take advantage of recent software improvements. This upgrade leaves current practices unchanged and may result in users having difficulty in assessing any improvement. The business-driven approach sees the upgrade as an opportunity to improve systems by re-engineering procedures external to WINGS alongside the technical upgrade, with the aim of overall improved business performance.
4. The External Auditor's planning paper for the current biennium, provided to the November 2004 Executive Board, expressed our concerns that any upgrade to the modified system involved a significant degree of risk due to the intricacy of the tasks involved. This report reviews the planned methodology for an upgrade of WINGS, ahead of the actual implementation to provide both the Executive Board and the Secretariat with an independent evaluation which draws attention to current best practices the adoption of which could reduce the risks arising from the upgrade.
5. Our main recommendations are that WFP:
 - ensures that the Phase 1 strategy supports a methodology which encompasses:
 - a. a robust risk assessment of the upgrade;
 - b. quantified estimates of the cost, benefits and an assessment of the associated risks of initiatives such as outsourcing of payroll or accounts payable; and,
 - c. information technology initiatives in accordance with the Management Priorities endorsed by the Executive Board in May 2004;
 - establishes a robust cost estimate of the full costs of the project for informed management assessment of the resources required for the upgrade;
 - directs the customisation of SAP modules to ensure that, wherever possible, business performance improvement results from process changes external to the WINGS system rather than through modifications which adapt standard SAP functionality;
 - plans a user testing methodology that encourages user ownership, leadership, and support of any business process improvement;



- plans effective project monitoring and assessment by considering the:
 - a. establishment of a full baseline cost estimate of the existing system maintenance;
 - b. introduction of a simple time recording mechanism for staff working on the project to assist cost calculation;
 - c. establishment of comprehensive knowledge transfer protocols to maintain the effective post implementation support of WINGS;
 - d. quantification of costs savings expected from reduced Headquarters resource requirements arising from the upgrade and planned outsourcing of activities currently completed in-house;
 - e. preparation of a specific target for cost reduction in system maintenance;
 - considers the implementation of an independent specialist review of Phase 1 of the project; and
 - considers the competitive tender of the full implementation for major information system projects in the future.
6. Following our review, we agree that WFP's business-driven approach provides a greater opportunity of achievement of the management objectives rather than a purely technical upgrade to the current system. However there is an increased risk arising from widespread re-engineering of business processes and associated costs which had not as yet been quantified prior to Phase 1 of the project.
 7. We conclude that WFP had made reasonable progress by the time of our review, in April 2005, in planning a strategy to identify and then address the main risks associated with the reengineering of business processes and the WINGS upgrade. We consider that the planned methodology complies with current best practice in positioning WFP to meet its objectives and that it should allow WFP to identify and mitigate these risks.
 8. We would like to thank the Executive Director and the Secretariat for their assistance in producing this report.



INTRODUCTION

9. The WINGS system installed in 2001 introduced greater integration and improved financial control at WFP. WINGS originally encompassed finance, procurement and human resource functionality, subsequently this was extended to include resource mobilisation, programme project management and logistics modules.
10. Since the go-live date, modifications introducing additional functionality to meet user-defined need resulted in an increasingly complex system which by September 2005 had resulted in 45 per cent of its SAP modular structure being customised (2,505 of the 5,622 separately identifiable items of software). Senior management recognise that this significant level of customisation has led to increased in-house software development and difficulties associated with subsequent upgrading of the software to meet business needs. To make the introduction of new software versions less problematic and less costly, senior management plan to ensure that the current upgrade significantly reduces the extent of customisation of standard SAP modules.
11. The primary motivation for the selection of the SAP software was that it would evolve over time and that any extensions and improvements would be handled by the vendor. WFP implemented version 4.5b of the SAP R/3 software, the most current version available at the time. However, since the inception of the WINGS system WFP had not taken advantage of new SAP developments by upgrading the system, mainly because management gave higher priority to the roll-out of WINGS to country offices and its customisation to meet identified user requirements. The extent of system modifications arose in part because the initial implementation did not re-engineer WFP processes to allow the utilisation of SAP standard functionality wherever possible.
12. Support to the SAP version 4.5b currently used by WFP officially ceased at the end of 2003. Extended SAP support to the version then increased software licence costs by between two to four per cent per annum (to a total of US\$372,599 in 2004)
13. Senior management consider that the development and enhancement of WINGS forms part of WFP's response to United Nations moves towards increased transparency, accountability and cost effectiveness. The Secretariat initially planned the upgrade as a technical enhancement but decided to adopt a more ambitious policy of business process development with the ultimate objectives of improving business performance; introducing new operating models, and enabling the measurement of results.
14. WFP contracted a supplier in March 2005 to complete a Strategy and Scope definition, known as Phase 1, for the WINGS upgrade to version 4.7 of the SAP R/3 software. Phase 1 of the project has deliverables to clearly identify the complexity and risks of the SAP upgrade and to define:
 - in a clear and understandable manner an agreed strategy, scope and approach for the upgrade;
 - a workable plan for the upgrade, including scope, timeline and effort; and
 - the project organisation required to implement the proposed plan.



15. Under the contractual arrangements Phase 1 deliverables were to be completed by 23 May 2005, after the preparation of our WINGS review in April.

SCOPE OF THE REVIEW

16. In our audit planning paper provided to the November 2004 Executive Board, we noted that given the extent of the customisation of WINGS, any subsequent upgrades involved a significant degree of risk due to the complexity of the tasks involved. Given the field structure of WFP, there would be significant risks to financial control, business continuity and to the completeness, accuracy and integrity of the financial statements, if the system upgrade failed to operate as envisaged. We therefore had advised the Secretariat on the desirability of establishing a systematic change methodology to address the risks; and discussed the requirements with management staff responsible for the upgrade process. We had also proposed that we would prepare a report to the June 2005 Board which would assess WFP's preparedness to undertake the upgrade of the system and the methodology to be adopted.
17. Our report utilises an internationally acknowledged methodology, the Controls Objectives for Information and related Technology (COBIT). This sets out a systematic framework of good practices across specific areas for addressing business risks, control needs and technical issues. The COBIT methodology has four focused domains which provide the basis for the evaluation of systems throughout their lifecycles, these are: the planning and organisation phase; the acquisition and implementation phase; the delivery and support phase and monitoring.
18. Planning effective corporate governance, organisation and assessment for the upgrade is an essential requirement to achieve the ultimate business objectives. We have therefore assessed the planning and organisation of Phase 1 of the upgrade by considering the following COBIT processes:
 - Assessment of risks;
 - Communicating management aims and direction;
 - Ensure compliance with external requirements;
 - Managing the IT investment;
 - Managing human resources; and
 - Managing projects and quality.

ASSESSMENT OF RISK AND COMMUNICATING MANAGEMENT AIMS AND DIRECTION

19. The WINGS upgrade forms one of the many initiatives authorised by senior management which will impact on all operational activity. The project is not isolated from the organisation as an information technology activity but represents an integral part of the management reform process aimed at the achievement of organisational objectives. The simplification of procedures within WINGS will require external process developments which are difficult to achieve without the proactive leadership of senior management and the support of both management and staff.



20. Phase 1 will require effective coordination of the upgrade with 13 other significant initiatives under way or considered at the same time; including the business process review, electronic procurement, relocation of outsourced computer support to Geneva and the impact of the introduction of international accounting standards. In April 2005, the Secretariat appointed a Change Management Director to overview WFP's management of change, and address risks of conflict or inconsistency between the initiatives.
21. Senior management are encouraging the consideration of innovative approaches during the development of a Strategy for Phase 1 to achieve the objective of improvement of business performance and the introduction of new operating models. Under consideration is the outsourcing of accounts payable operations and the payroll through the use of other United Nations payroll systems such as that developed by the United Nations Children's Fund, or by the appointment of a supplier able to prepare payrolls of WFP and other United Nations organisations allowing cost reduction through economies of scale.
22. Our review found that WFP had considered alternative strategies to the business-driven upgrade methodology selected for SAP, but we found little evidence of a fully-documented, formal business analysis of the costs, benefits and risk associated with these alternative strategies. The main ideas proposed were:
 - to introduce a new field-based decentralised recording system;
 - to continue to operate the existing versions of the SAP software; or
 - to restrict the project to a technical upgrade.
23. Our own analysis found that these options clearly had cost implications in respect of the replacement of system, or represented short term solutions in continuing with the existing system which had no technical longevity, or would not lead to the business process improvement objective set out by management.
24. In view of the potential impact of the upgrade approach endorsed by management, we **recommend** that WFP ensures that the Phase 1 strategy supports a methodology for the implementation which encompasses:
 - a robust risk assessment of the upgrade which takes into account the impact of other concurrent business initiatives;
 - quantified estimates of the cost, benefits and an assessment of the associated risks of initiatives such as outsourcing of payroll or accounts payable; and
 - information technology initiatives in accordance with the Management Priorities endorsed by the Executive Board in May 2004.
25. In view of a recent release of SAP version 5, we understand that the Phase 1 project team will assess the business case for directly upgrading to version 5, before the final recommendation of an appropriate SAP version for installation. The risks and costs associated with version 5 implementation arise through the additional business reengineering required to incorporate newer software and the possible exposure to unforeseen risks or problems because of the early adoption of recently developed software. We **recommend** that WFP determine the proposed duration of SAP support for the software version 4.7, to allow an informed risk and cost comparison of the alternatives of upgrading to SAP version 4.7 or 5 at this time.



ENSURE COMPLIANCE WITH EXTERNAL REQUIREMENTS

26. During our financial audit in the past biennium and our current review we found evidence from users that they had retained concerns that the existing WINGS system did not meet their basic business requirements. For example, country offices and regional bureaux reported being unable to readily report their expenditure against budget for their respective localities. One country office estimated that to obtain a report of its financial position required one full working day's efforts and the transfer of WINGS records to Microsoft Excel spreadsheets for analysis.
27. We have found that all of the nine country offices and associated regional bureaux that we have visited as part of our audit in 2004-2005 have maintained peripheral spreadsheets or reports outside the WINGS system. The external processes addressed office business needs in cases where WINGS did not provide the available functionality or the office was unaware of it. In one of these offices, staff recorded transactions to a completely separate accounting package with which they were familiar to allow the printing of cheques and recording of accounts payable. The transactions were subsequently transferred to WINGS, and the system totals reconciled to address the risk of inconsistency. Staff compared the availability of their local system to that of WINGS which they observed was occasionally slow in operation and, as a result of the six-hour time difference with Headquarters, could not be accessed during those mornings which coincided with the regular Headquarters WINGS maintenance, during the evening in Rome.
28. During 2004, senior management requested the finance division to prepare monthly management accounts monitoring actual expenditure against budget during the year and comparing the current year expenditure to that of the prior years for the same period. Such monitoring reports inform management and allow timely decision-making and prompt action to address any risks to operations. To ensure that all obligations are recorded, the current WINGS modular framework identifies purchase orders which have been sent out but await the receipt of, or matching to, evidence of delivery. Our review revealed that, of over 3.1 million recorded transactions in the system during 2004, 1 million (32 per cent) arose not from new recordings but from the transfer of information to and from the same accounting codes as part of the collection of full monthly expenditure records. We consider this process is inefficient, and that as data stored by the system increases, it may adversely impact the speed and reliability of the system's operation.
29. As we indicated in our report to the February 2005 Executive Board, the introduction of international accounting standards would require additional WINGS modules but would assist in reducing the future customisation and maintenance costs of WINGS as the SAP software in its basic form was designed for private sector accounting and compliance with such standards. In accordance with these standards, expenditure could be recorded on receipt of evidence of satisfactory delivery, reducing the extent to which records had to be transferred for the purposes of management reporting.



Simplification of WINGS

30. In September 2004, WFP set out one of the objectives of Phase 1 of the upgrade to be the simplification of WINGS through minimising the modification to standard SAP modules and reducing customised objects to under 1,500 (a fall of 40 per cent). To identify user concerns, WFP introduced standard forms for the request of additional functionality prior to commencement of Phase 1. WFP recorded the extent of access to customised WINGS items to assist the prioritisation and determination of those to be discarded and replaced by standard SAP functions with related process changes outside the system. In accordance with the business-driven focus of the upgrade, the Secretariat requested divisional management to prioritise – by impact on business operations – the 90 requests for modification to WINGS functionality received from 12 Divisions.
31. We **endorse** this WFP approach and the objectives set out for Phase 1 to define the project clearly by establishing plans to ensure that the adaptation of business processes wherever possible enable the use of standard software functionality. Phase 1 aims to establish a clear vision for the upgrade which we consider should include the introduction of a streamlined financial organisation and processes supported by simple, flexible, transparent and integrated financial systems, in accordance with currently accepted best practice.
32. We **recommend** that senior management direct the prioritisation procedure to ensure that the objective of improvement of business performance results either from process changes external to the WINGS system or a robust justification of the need for modifications which adapt standard SAP functionality.

Selection of partner in upgrade

33. The widespread use of SAP systems has resulted in an extensive network of companies with SAP upgrade experience, many of whom work in partnership with SAP. For Phase 1, WFP invited six companies to complete a request for proposals to undertake the upgrade, four of whom responded. Although the evaluation procedure to be adopted was finalised only after the receipt of the four responses, we found reasonable evidence of a weighted assessment of the applicants against technology (weighting 70 per cent) and financial consideration (30 per cent). Regardless of being the more expensive quotation of the two final candidates, the successful candidate had proposed a business-driven methodology and had extensive experience of the installation of public sector SAP systems.
34. Since Phase 1 of the project is limited to its aims, WFP intends to re-tender for Phase II of the upgrade. We **encourage** WFP to ensure transparency and provide greater assurance to donors and management that the selection procedures resulted in the appointment of the best candidates, by extending the tendering process for implementations of Phase II and similar major system changes to a wider selection of suppliers than the six candidates sent requests for proposals for Phase 1.
35. In the current process it is clear that the successful Phase 1 contractor has an advantage in subsequent phases having prepared an approved planning strategy for the upgrade. We consider that the likelihood of achievement of business objectives following competitive selection of suppliers for major process changes may be increased by a contractual arrangement covering the combined planning and implementation stages. Longer-term



development of a partnership with WFP recognises the mutual benefit of stability during the full implementation and assists joint understanding, knowledge transfer and stakeholding in the implementation. For the upgrade, such an approach could have avoided the costs, time delay and a second selection procedure for Phase 2 provided the selected supplier met predetermined and clearly established objectives and milestones during Phase 1.

36. Though this may initially be a more comprehensive task, we **recommend** that WFP consider the competitive tender of the full implementation for future major changes to information systems.

MANAGING THE IT INVESTMENT

37. One of the key criteria for the success of the upgrade is the availability of adequate resources, insufficient resource allocation at the planning stage may lead to late cutbacks in functionality, which reduces the business benefits planned from the upgrade. In February 2005, the Capital Asset Fund retained US\$14.7 million of the budget of US\$19 million as unobligated funding, and of the budgeted US\$4.9 million related to Phase 1, US\$1.5 million had been disbursed or committed.
38. One of the objectives of the upgrade approved by senior management is to reduce the total cost of ownership of WINGS via a more maintainable solution. The cost of maintenance staffing and the software licence fee, alone, provide an estimate of the costs of ownership of WINGS in excess of US\$2 million in 2004, of which licence costs amounted to US\$372,599. Current estimates of the staffing costs of maintenance of the WINGS system (US\$1.67 million per annum) relied on the assumption that 12 staff (US\$760,000) and 12 consultants (US\$905,000), would spend approximately 70 per cent of their time on maintenance as opposed to new software development.
39. Our review revealed that prior to Phase 1 WFP had not fully estimated the costs of changes to current business processes which could result from reduced customisation. Without a robust cost estimation that includes costs of the implementation, staff training and revisions to current business processes, senior management cannot ensure that the current capital investment funding provides the resources required for the significant business process changes arising from the full upgrade.
40. We **recommend** that WFP consider the establishment of a full baseline cost estimate of the existing system maintenance, and, for informed management assessment of the resources required for the upgrade, that the Secretariat ensure that Phase 1 establishes a robust cost estimate of the full costs of the project.



MANAGING HUMAN RESOURCES

41. WFP plans that key staff are to be seconded from within the organisation to the project for a stated percentage of their work throughout Phase 1 alongside the staff of the contractor. However the absence of established staff time recording procedures at WFP limits reliable monitoring of the actual costs of the upgrade for comparison to the planned resource allocation. There is a risk that staff individually working on the upgrade part-time may not be recorded to the upgrade, understating the actual upgrade cost. This would be also important if in the course of the project, the work assigned to these staff members had to be undertaken by external consultants.
42. There are also risks associated with such technical projects, in that much of the work is undertaken by external or short term staff. This is notwithstanding the production of new systems documentation which would be produced as part of good project procedures and governance. There remains a risk that the corporate knowledge gained by the individual project team members will be lost after the project is implemented, as the consultants and short-term staff leave and other staff return full-time to their original posts. We consider this to be a real risk that should be addressed at this point to ensure WFP's ability to maintain and operate the system effectively after the consultants are no longer employed.
43. We **recommend** that the Secretariat consider the introduction of a simple time recording mechanism for staff working on the project to assist cost calculation and the establishment of comprehensive knowledge transfer protocols to maintain the effective post implementation support of WINGS.

MONITORING THE PROJECT AND ASSESSING THE RESULTS

Organisation of Phase 1 of the SAP upgrade

44. One of the planned outcomes from Phase 1 is to propose the project organisation to implement the recommended planned approach to Phase 2 of the upgrade. For Phase 1, a steering committee of senior management, business members from Headquarters' divisions, a regional bureau, country office representatives and technical support have the responsibility to ensure proposed solutions are appropriately aligned with the WFP objectives and to resolve critical issues.
45. A process owners' board comprising divisional managers has responsibility for ensuring appropriate alignment of proposed solutions with functional objectives, availability of key business users as necessary and the resolution of cross-functional problems.
46. We consider that this structure recognises that development of an upgrade strategy requires involvement and leadership by senior management and an organisational arrangement of a critical mass. This structure should ensure progress in meeting the Phase 1 objectives, through effective direct decision-making based on assessment and prioritisation of all identified solutions.



User system ownership and acceptance testing procedures

47. One of the key aspects of the successful implementation of a project that impacts so significantly on existing operations is to ensure that the affected users fully understand, learn and embrace the new way of doing their business to ensure that WFP fully realises the overall project benefits. We consider that achievement of the business goal of enhanced operations will require worldwide users to support proactively the establishment of a well-planned system that:
- holds all WFP information in one place without duplication and with easy access;
 - allows faster implementation of organisation-wide activities; and
 - encourages compatible technology and skills enabling the ready exchange of hardware, software and staff between organisational units.
48. To achieve these objectives, we **recommend** that Phase 1 includes plans for a robust user testing methodology in both Headquarters and country offices, that encourages user ownership, leadership and support of any related business process improvement. The approval process of changes after user acceptance testing should be on the basis of support for any related business changes.
49. To enable a result-based assessment of the effectiveness by which the upgrade meets its objective to reduce overall maintenance costs, we **recommend** that WFP consider the:
- quantification of the costs savings expected from reduced Headquarters resource requirements arising from the upgrade and planned outsourcing of activities currently completed in-house; and
 - preparation of a specific target for cost reduction in system maintenance against which the upgrade can be assessed.
50. We **endorse** the Phase 1 approach to prepare a timescale and milestones for the complete implementation to allow ongoing assessment against project milestones and timely appropriate action to be taken in the event of slippage or other implementation difficulty.
51. In accordance with good practice, we **recommend** that prior to the selection of a future contractor/partner and the further implementation of the upgrade process, the WFP undertakes an independent implementation review of lessons learned from Phase 1 by a specialist in the Information Technology field. We believe the implementation of the upgrade and the degree of achievement of the ultimate objectives can be assessed by addressing six main areas, these being:
- a clearly defined scope for the project;
 - management of WFP's culture to accept change;
 - ongoing commitment of Senior Management;
 - changes in the business processes to match the new functionality;
 - management of the technology used in the project; and
 - the extent to which the project achieved the ultimate business objectives.

