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Office of Audit and Investigations

AUDIT

OF

INFORMATION AND COMMUNICATION TECHNOLOGY GOVERNANCE

IN

UNDP

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Report on the Audit of Information and Communication Technology Governance
Executive Summary

The UNDP Office of Audit and Investigations (OAI) conducted an audit of UNDP's information and communication technology governance (ICT governance) from 10 to 27 September 2018. The audit aimed to assess the adequacy and effectiveness of the governance, risk management and control processes relating to the following areas and sub-areas:

(a) Strategic alignment

(b) Risk management

(c) Value delivery

(d) Performance measurement

(e) Resource management

The audit covered the activities regarding ICT governance from 1 January 2017 to 31 July 2018. The last audit regarding ICT governance was conducted by OAI in 2007.

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

Overall audit rating

OAI assessed UNDP's ICT governance as **partially satisfactory/some improvement needed**, which means, "The assessed governance arrangements, risk management practices and controls were generally established and functioning, but need some improvement. Issues identified by the audit do not significantly affect the achievement of the objectives of the audited entity/area."

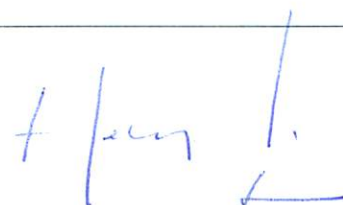**Key recommendations:** Total = **6**, high priority = **0**

The audit did not result in any high (critical) priority recommendations. There are six medium (important) priority recommendations, which means "Action is required to ensure that UNDP is not exposed to risks. Failure to take action could result in negative consequences for UNDP." These recommendations include actions to address: the lack of an approved long-term ICT strategy, unfilled key positions, enhancement of the ICT Governance Group, weaknesses in risk management, and weaknesses in planning of ICT projects/initiatives.

The six recommendations aim to ensure the following: (a) achievement of the organization's strategic objectives (Recommendations 1, 2 and 3) and effectiveness and efficiency of operations (Recommendations 4, 5 and 6).

Management comments and action plan

The Officer-in-Charge of the Office of Information Management and Technology, the Assistant Administrator and Director of the Bureau for Management Services, and the Chief of Staff and Director of the Executive Office accepted all of the recommendations and are in the process of implementing them. Comments and/or additional information provided have been incorporated in the report, where appropriate.

Low risk issues (not included in this report) have been discussed directly with management and actions have been initiated to address them.

Helge S. Osttveiten
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I.   About ICT governance

ICT governance is a sub-discipline of organizational governance that ensures that the enterprise's information technology supports the organization's strategies and objectives. ICT governance supports the organization's regulatory, legal, environmental, and operational requirements to enable the achievement of strategic plans and aspirations. Absent or poor ICT governance can have significant negative impacts on an organization, both financially and reputationally. Recovery from such impacts requires time, energy, and money.

The UNDP ICT governance framework consists of:

- ICT Governance Group – Business-oriented oversight body reporting to the Organizational Performance Group
- Atlas Executive Sponsors Group – Inter-agency executive oversight body
- Atlas and non-Atlas Change Control Boards – Change management and release oversight

The ICT Governance Group established in February 2012 is a sub-group of the Organizational Performance Group and is responsible for information and communication technology (ICT) decision-making for ICT business-related issues across all units. It oversees enterprise project programmes, advising UNDP senior management on priorities for UNDP ICT resource allocations, investments and implementation. It ensures an appropriate and coordinated use of business ICT means and resources across the organization, coordinating with related UNDP and inter-agency ICT governance groups, project boards, and business working groups as needed. The ICT Governance Group is composed of nine members: the Chair, as well as eight other members, including representatives across Central and Regional Bureaux (with at least one non-HQ member from a Regional Centre and/or one Country Office), and a mix of Organizational Performance Group members, all appointed by the Associate Administrator and a secretariat.

II.   Audit results

OAI made six recommendations ranked medium (important) priority.

Low priority issues/recommendations were discussed directly and agreed with the Office and are not included in this report.

Medium priority recommendations, arranged according to significance:
(a) Update the UNDP ICT Strategy 2018-2019 (Recommendation 1).
(b) Recruit an appropriately qualified Chief Technology Officer (Recommendation 2).
(c) Appoint a new Chair for the ICT Governance Group (Recommendation 3).
(d) Comply with UNDP's Enterprise Risk Management Policy regarding reporting and escalating of project risks (Recommendation 5).
(e) Improve the planning process of ICT projects/initiatives (Recommendation 6).
(f) Update the Terms of Reference of the ICT Governance Group (Recommendation 4).

The detailed assessment is presented below, per audit area:

A. Strategic alignment

Issue 1 <u>Lack of an approved long-term ICT strategy impacting resource investments</u>

According to the Institute of Internal Auditors, an ICT strategic plan, which lays out organizational dependencies on ICT as well as ICT's role in achieving the organization's strategic objectives, is a crucial component of effective ICT governance.

The Office of Information Management and Technology (OIMT) had prepared an ICT strategy called the 'UNDP ICT Strategy 2018-2019', which was linked to UNDP's 2018-2021 Strategic Plan. While the strategy included performance metrics enabling organizational tracking of business benefits (intended and unintended) from the proposed technology programmes, it did not include any data regarding possible long-term investment consequences associated with the implementation of the proposed technology programmes.

A summarized version of the ICT strategy (referenced by the ICT Governance Group as the '2018-19 Digital Strategy Outline') was endorsed by the ICT Governance Group in their meeting of 27 February 2018 together with the 2018 ICT Roadmap, consisting of a list of ICT projects linked to the various digital goals defined in the ICT strategy. Subsequently, the ICT Governance Group submitted the summarized ICT strategy together with the 2018 ICT Roadmap to the Organizational Performance Group.

The Organizational Performance Group commented that the document received by them did not clearly indicate how it would support implementation of UNDP's 2018-2021 Strategic Plan. Furthermore, the concept of the document that was submitted was found to be unclear. According to the Organizational Performance Group, the document referenced an ICT strategy, an ICT Roadmap and a digital strategy (all of which are very different concepts), but none of them were clearly spelled out. The ICT Governance Group tasked OIMT with the development of a digital strategy.

At the time of the audit, the digital strategy had not yet been approved and was still a work in progress.

In OAI's opinion, endorsement of the document referred to by the ICT Governance Group as the 2018-19 Digital Strategy Outline could not really be considered as an endorsement of the ICT strategy given its lack of detail. Furthermore, the development of a digital strategy would not negate the need for an ICT strategy, whether as a separate document or as part of a digital strategy. The ICT strategy would focus on how ICT could support the implementation of the business strategy, whereas the digital strategy would involve multiple parts of the organization and would focus on ensuring that all aspects of the business strategy are informed by digital considerations.

Without an ICT strategy, there is a risk that ICT priorities will not be aligned with those of senior management, resulting in the ineffective use of ICT capital and other resources needed to achieve UNDP's strategic goals.

Priority	Medium (Important)
Recommendation 1:	
The Office of Information Management and Technology should update the UNDP ICT Strategy 2018-2019 with information regarding potential long-term investment consequences and either submit it to the ICT Governance Group for endorsement or ensure that this information is incorporated in the approved digital strategy.	

Management action plan:
The Bureau for Management Services comments on the draft report have been presented to the ICT Governance Group during its regular meeting on 19 December 2018. In the meeting, the ICT Governance Group agreed with the Bureau for Management Services that the ICT strategy had been endorsed already in February 2018. However, the UNDP 2018-2019 ICT Strategy will be updated following the direction established in UNDP's digital strategy, which is currently being developed. The update will also include potential long-term investments. **Estimated completion date:** September 2019

Issue 2   Corporate issue: Key positions not filled

A strong tone at the top and executive leadership plays an important role in ensuring alignment between ICT and the wider organizational objectives. The Institute of Internal Auditors promotes the following leading practices:

- Senior management should clearly define and communicate roles and responsibilities for the ICT function with respect to the achievement of strategic and tactical goals.
- The roles and responsibilities of the Chief Information Officer/Chief Technology Officer (CIO/CTO) should be clearly defined and communicated within a reasonable period of time after a new CIO/CTO is selected.
- The CIO/CTO should meet with senior management on a regular basis to discuss ICT service delivery related to strategic and tactical plans.

The role of the CIO/CTO is pivotal in both strategic planning and in the management and implementation of ICT solutions. Formulation of an ICT strategy is normally led by the CIO/CTO, ensuring that business requirements are met using technology that can address an organization's needs both now and in the future.

The position of CTO had been vacant since November 2016 and had not been filled at the time of the audit. One of the reasons the position of CTO had not been filled had to do with the fact that UNDP senior management wanted to have an ICT strategy in place before appointing a CTO. The new CTO would then be tasked with the implementation of the ICT strategy. Besides not having a CTO, the position of Chair of the ICT Governance Group had been vacant since March 2018. It was not clear why the position of Chair had not been filled.

Generally, not having a CTO negatively impacts the effectiveness of the ICT governance framework and increases the risk that ICT will not be used as a strategic tool. The absence of a proper Chair could negatively affect the functioning of the ICT Governance Group, reducing its effectiveness.

Priority	Medium (Important)
Corporate Recommendation 2:	
The Bureau for Management Services should recruit an appropriately qualified and experienced Chief Technology Officer.	

Management action plan:

Under the guidance of the Executive Office and supported by a Digital Advisor who will serve as an Officer-in-Charge of the Office of Information Management and Technology for a period of up to three months, starting as soon as possible, the Bureau for Management Services will work on the conceptualization, advertisement, and selection of the Chief Digital Officer (CDO) position by April 2019.

Estimated completion date: April 2019

Priority	Medium (Important)

Corporate Recommendation 3:

The Associate Administrator should appoint a new Chair for the ICT Governance Group.

Management action plan:

The appointment of a new Chair of the ICT Governance Group will be subject to the outcomes of the business process review and the digitalization strategy, which will result in this appointment being revisited and finally confirmed at that time.

Estimated completion date: June 2019

Issue 3   Set-up of the ICT Governance Group can be enhanced

An effective committee can be described as an interdependent team, comprising a Chair, members, and executive officer, which has a clear role and keeps a critical eye on its own performance. Factors influencing the effectiveness of a committee include:

- Having clear Terms of Reference.
- Having a Chair that is well informed about the latest developments.
- Providing an orientation for new committee members.

Even though the ICT Governance Group generally functioned well, staff interviewed mentioned that in some areas the effectiveness of the ICT Governance Group could have been improved. For instance, the membership of the ICT Governance Group was regarded a positive experience; however, it was not something to be done for an indefinite period of time. An appointment for a set (limited) period would have been preferred. Furthermore, having a member of the Organizational Performance Group serve as Chair of the ICT Governance Group was considered as something very positive since it ensured that the ICT Governance Group was aware of the latest developments within UNDP and it made it easier for the ICT Governance Group to present their cases to the Organizational Performance Group. However, this set-up was not mandatory since it was not specifically defined in the Terms of Reference of the ICT Governance Group. Additionally, staff interviewed mentioned that it was a difficult transition for new members of the ICT Governance Group since there was no real introduction explaining what was expected of them and no background provided regarding ICT in UNDP and its potential issues.

An inefficient and ineffective ICT Governance Group could have a negative effect on the whole ICT governance framework in place and lead to a waste of resources. Furthermore, keeping the same members for an indefinite period of time could lead to a loss of interest and may negatively affect members' performance. It also prevents other stakeholders across the organization, who may have new ideas, from serving on the ICT Governance Group.

Priority	Medium (Important)

Recommendation 4:

The Office of Information Management and Technology should:

   (a)   Update the Terms of Reference of the ICT Governance Group to include the following:

      i.   At least 60 percent of the members of the ICT Governance Group to be appointed on a rotational basis and for a fixed period between three and five years.
      ii.   The Chief Technology Officer to be included as ex-officio member of the ICT Governance Group.
      iii.   The Chair of the ICT Governance Group should either be an existing member of the Organizational Performance Group, or if not, should be made ex-officio member of the Organizational Performance Group.
      iv.   A representative number of representatives from Country Offices should be included as member(s) of the ICT Governance Group.

   (b)   In collaboration with the ICT Governance Group, provide training and documented guidelines to new ICT Governance Group members.

Management action plan:

On 2 October 2018, a revised Terms of Reference of the ICT Governance Group was submitted to the ICT Governance Group addressing items iii and iv of the recommendation. The Terms of Reference will be further amended by Q2 2019 to address all the remaining parts of this recommendation.

A training package and documented guidelines will also be prepared for future members of the ICT Governance Group by Q2 2019.

Estimated completion date: July 2019

B.   Risk management

Issue 4   Weaknesses in risk management process

Risks should be identified, reported and managed in accordance with applicable policies and procedures. UNDP's Enterprise Risk Management Policy of 2016 provides guidance on the conduct and application of enterprise risk management and defines roles and responsibilities. It is designed to help UNDP staff and partners identify, analyse, monitor and report on existing and emerging risks.

Most ICT-related risks were identified on a project by project basis. The majority of these project risks were not linked to the organizational risks and did not allow for the identification of systemic risks. Furthermore, it was not clear how these ICT project risk assessments informed the decisions of investing in critical ICT-related services at different levels of the organization.

The lack of risk-related information could negatively affect the decision-making process of the ICT Governance Group and subsequently that of the Organizational Performance Group and could, from a risk perspective, lead to the selection of less relevant projects and to decisions outside of UNDP's risk tolerance.

Priority	Medium (Important)
Recommendation 5: The Office of Information Management and Technology should comply with the procedures as described in UNDP's Enterprise Risk Management Policy regarding reporting and escalating of project risks, which, *inter alia,* could be done through the ICT Governance Group.	
Management action plan: The Bureau for Management Services will propose to the Associate Administrator to nominate the Corporate Enterprise Risk Manager as an ex-officio member of the ICT Governance Group. **Estimated completion date:** June 2019	

C. Value delivery

Issue 5 Weaknesses in planning of ICT projects/initiatives

According to ISACA, an effective ICT governance structure establishes performance measures supporting the achievement of business goals. Performance indicators/metrics also help to evaluate the effectiveness and efficiency of business processes. Performance metrics require a measurement baseline (e.g., user satisfaction has increased by 25 percent or costs have been reduced by $20,000).

The final selection of ICT projects was carried out by the Organizational Performance Group on the basis of a list of categorized and ranked projects prepared by OIMT and endorsed by the ICT Governance Group. This list, the so-called ICT Roadmap, included ICT projects proposed by OIMT as well as suggestions for ICT projects solicited by OIMT from other UNDP units and consisted of initiatives/projects that varied considerably in yearly budget, in type (transformation vs maintenance activities) and in level of completion.

The audit team noted that despite guidance provided by OIMT, the proposed ICT initiatives:

   i)   did not always include a proper business case;
   ii)   lacked details of criticality of need; and
   iii)   were not always fully costed (e.g., project did not include future year license costs).

Furthermore, the criteria used to score proposed projects were not SMART (specific, measurable, achievable, relevant and time-bound). For example, projects were scored on a scale of 1 (low) to 5 (high) regarding the

project's potential for cost reduction or revenue generation. However, the scoring was not based on specific information regarding the amounts saved or generated and the time-frame in which this would be achieved.

Without proper metrics it is difficult to assess ICT expenditures contributing to UNDP's strategic objectives, and difficult to assess which investments/projects are expected to contribute the most and should therefore be selected for implementation.

ICT projects were only submitted to OIMT for inclusion in the ICT Roadmap in case corporate funding was needed. ICT projects without the need for funding (e.g., project management system [PIMS +] developed for GEF, various applications developed for HDRO, applications developed locally in various Country Offices) were implemented outside of the existing ICT governance structure.

While ICT investment decisions may rest within individual units and are not the sole authority of OIMT, these decisions do not ensure that ICT resources are used effectively. Specifically, resources should be allocated in a manner that: i) minimize duplication and create synergies; ii) reflect decisions that are aligned with common standards; and iii) result in an enterprise architecture that will allow synergies within the organizational ICT infrastructure to better protect UNDP against cyber security threats.

Priority	Medium (Important)

Recommendation 6:
 	
The Office of Information Management and Technology should improve its planning process as follows:
 	
   (a) establish agreed upon SMART (specific, measurable, achievable, relevant and time-bound) criteria to enable the prioritization of ICT activities from a strategic perspective;
   (b) only accept fully completed project proposals for review, and if need be, provide support/training to submitting units that have difficulties submitting proposals; and
   (c) develop a framework for the assessment and approval of ICT projects implemented without direct involvement of the Office of Information Management and Technology and submit this to the ICT Governance Group for endorsement and submission to the Organizational Performance Group for approval.
 	
The framework can, *inter alia,* be used to classify projects and consist of different criteria for different project classes (e.g., corporate, unit, innovative).	

Management action plan:
 	
   (a) Relevant SMART indicators will be added to support the scoring of the 2019 Roadmap.
   (b) Additional outreach efforts are being made in the preparation of the 2019 ICT Roadmap.
   (c) The Bureau for Management Services will propose a framework for the assessment and approval of ICT projects implemented without direct involvement of the Office of Information Management and Technology and will submit this framework to the ICT Governance Group for endorsement and subsequent submission to the Organizational Performance Group for approval.
 	
Estimated completion date: (a) and (b) January 2019, and (c) September 2019	

Definitions of audit terms - ratings and priorities

A. AUDIT RATINGS

▪ **Satisfactory**	The assessed governance arrangements, risk management practices and controls were adequately established and functioning well. Issues identified by the audit, if any, are unlikely to affect the achievement of the objectives of the audited entity/area.
▪ **Partially Satisfactory / Some Improvement Needed**	The assessed governance arrangements, risk management practices and controls were generally established and functioning, but need some improvement. Issues identified by the audit do not significantly affect the achievement of the objectives of the audited entity/area.
▪ **Partially Satisfactory / Major Improvement Needed**	The assessed governance arrangements, risk management practices and controls were established and functioning, but need major improvement. Issues identified by the audit could significantly affect the achievement of the objectives of the audited entity/area.
▪ **Unsatisfactory**	The assessed governance arrangements, risk management practices and controls were either not adequately established or not functioning well. Issues identified by the audit could seriously compromise the achievement of the objectives of the audited entity/area.

B. PRIORITIES OF AUDIT RECOMMENDATIONS

▪ **High (Critical)**	Prompt action is required to ensure that UNDP is not exposed to high risks. Failure to take action could result in major negative consequences for UNDP.
▪ **Medium (Important)**	Action is required to ensure that UNDP is not exposed to risks. Failure to take action could result in negative consequences for UNDP.
▪ **Low**	Action is desirable and should result in enhanced control or better value for money. Low priority recommendations, if any, are dealt with by the audit team directly with the Office management, either during the exit meeting or through a separate memo subsequent to the fieldwork. Therefore, low priority recommendations are not included in this report.